


CANADIAN CONSULTING ENGINEERING AWARDS 2012

SPECIAL PROJECTS

FLIN FLON COMMUNITY HEALTH PROJECT

SUBMITTED BY AECOM CANADA LTD.



THE ONLY
WAY TO DISCOVER
THE LIMITS OF THE
POSSIBLE
IS TO GO BEYOND
THE IMPOSSIBLE

-Arthur C. Clark, Author

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3. Project Highlights

The human dimensions of mining often present challenges to engineers. Finding creative ways to foster dialogue with communities and engage in effective education and outreach programs is an important way that engineers can add value to significant Canadian industries.

According to Paul Murray, P.Eng. and Project Director:

“This project illustrates the value of collaborating with education and outreach specialists to enhance overall public health in mining communities. At AECOM, we are fortunate to have the expertise to provide our clients with community-focused services that can raise our engineering services to a whole new level.”

AECOM assisted HudBay Minerals (HudBay) with the formation of a Community Advisory Committee to facilitate public involvement in the Flin Flon Soils Study a study that examined the potential impact of the company’s historic smelter operations on the surrounding environment and the health of local residents.

One outcome of the Soils Study was a recommendation to implement an education outreach to promote lead exposure reduction strategies. Historic mining communities will often have multiple sources of lead exposure – some related to mining or smelting and some related to the lead paint and caulking products that remain in the older houses that surround mining operations. People who live in older mining communities may have multiple sources of lead exposure.

AECOM conducted an extensive literature review to determine the most effective and evidence-based exposure reduction strategies to build into a lead exposure education outreach program for the Flin Flon area.

AECOM reviewed these findings with the Community Advisory Committee to make sure that any strategies adopted would make sense for this community, and

potential community partners, and fit with the resources available.

Based on the literature review and input from the Community Advisory Committee, AECOM moved forward to develop two specific lead exposure reduction strategies. The two strategies that were presented to, and accepted by, the Community Advisory Committee are improved hand washing and the removal of lead-based paint from older homes. These focus areas are complimented by education on lead in the environment and the various exposure pathways, and support for existing health education outreach programs conducted by community partners.

The team adopted social marketing approaches to present campaign strategies and activities. AECOM took program ideas to the community, speaking to local residents and area experts through focus groups and planning sessions to garner reactions to preliminary plans. Community members provided ideas about how to effectively reach out to local residents to promote our program and build support for our initiatives.

Our success has resulted in a multi-year support from HudBay Minerals to continue to spread the message of health and wellness in Flin Flon through the Community Health Project.

AECOM is further seeking support from other health oriented partners to extend the program to other communities in Canada.

Paul Murray, Project Director (P.Eng.), lent a unique engineering perspective to the project, encouraging the use of innovative technology and communications to foster program support and buy-in.

The human dimensions of mining often present challenges to engineers. Finding creative ways to foster dialogue with communities and engage in effective education and outreach programs is an important way that engineers can add value to significant Canadian industrial operations.

Key community partners include the NOR-MAN Regional Health Authority that serves a population of 26,000 spread across 72,000 square kilometres, including the communities of Flin Flon, Snow Lake, The Pas and several First Nations, together with the Flin Flon School Division, the Creighton School Board in neighbouring Saskatchewan and radio station CFAR 590.

AECOM's review of education and outreach for lead-based paint focused attention on the U.S. Environmental Protection Agency (EPA) and its extensive Lead-based Paint Program. EPA officials provided AECOM with a new home paint testing technology previously available only in the United States. The use of this paint testing technology with the Flin Flon Community Health Project is the first known use of this technology in Canada.

To bring about a change in hand washing behaviour, particularly amongst young children, AECOM developed an innovative and creative hand washing campaign that combines traditional print materials with music, interactive dance, comic books, home experiments and community outreach visits by NOR-MAN Regional Health Authority staff to schools, daycares and parent gatherings. To truly inspire children and give them a hand washing "hero" to admire and emulate, AECOM developed an original superhero character called Mighty Bubble. The idea of Mighty Bubble was conceived in January, 2011, and through input from parents, educators and health practitioners in Flin Flon, evolved quickly into a soap-wielding, goggle-wearing, caped-crusader whose mission was to make hand washing fun for kids of all-ages.

The introduction of Mighty Bubble, the hand washing superhero proved to be a highlight of the overall program. Mighty Bubble was first introduced to residents at the largest annual community event in Flin Flon: the spring 'Trade and Leisure Show' -

through stickers, temporary tattoos, and comic books. A concept only on paper, the excitement generated among young children prompted the creation of a full-body mascot suit to bring the superhero to life. Throughout the summer months of the first year of the program, Mighty Bubble appeared "in the flesh" at various community events, to the delight and amazement of children. It was not long before Mighty Bubble was a recognized fixture in the community, and his message of hand washing is continuing to inspire children and adults alike. Local media attention garnered further support for the campaign.

The Flin Flon Community Health Project has experienced enormous success since its launch in April 2011 due to the program's ability to connect with local residents. Respect and consideration for the community was of utmost importance and AECOM's efforts to learn about the community and its residents led to the development of strong, long-lasting relationships with a wide range of individuals and organizations. The model AECOM created to design and implement the program is one which could be easily and successfully replicated in other communities around the world. It is based on relationship and capacity building within the community and engaging local community leaders and organizations to extend and adopt campaign programming. With support and permission from HudBay, AECOM is actively seeking health-oriented partners to extend the reach of the program to other communities in Canada.



Mighty Bubble poses with a group of children at "World Bubble Day" in Flin Flon Manitoba, 2011.

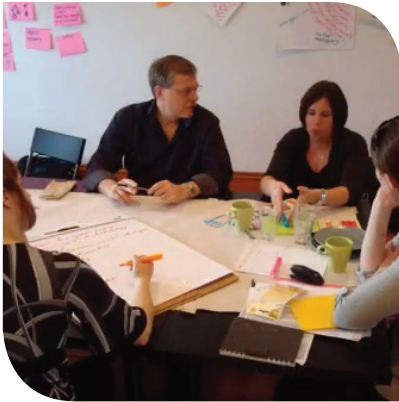
4. Project Description

Background

AECOM assisted HudBay Minerals (HudBay) with the formation of a Community Advisory Committee to facilitate public involvement in the Flin Flon Soils Study and Human Health Risk Assessment (Soils Study) - studies that examined the impact of the company's operations on the surrounding environment and the health of local residents. As a part of the Human Health Risk Assessment, a blood lead level study was conducted for children aged 6 and under.

The Soils Study revealed that while overall blood lead levels were low, an education outreach to promote lead exposure reduction strategies would be beneficial given that a very small percentage of the study group had slightly high levels. Historic mining communities will often have multiple sources of lead exposure – some related to mining or smelting and some related to the lead paint and caulking products that remain in the older houses that surround mining operations. People who live in older mining communities may have multiple sources of lead exposure.

In order to bring about a real change to health, well-being and awareness of lead in the environment, an education outreach program was developed to positively influence the community over a long-period of time. . The program created by AECOM included components that can be easily adopted and carried forward by existing organizations in the Flin Flon area. Since the program launch in April 2011, the following initiatives have taken place to create a sustainable, impactful community movement towards improved health and wellness.



Project team brainstorming session
Flin Flon Manitoba, 2011.



Initial conceptual
"Mighty Bubble" sketches

Participatory Campaign Development and Adoption of Social Marketing

AECOM conducted an extensive literature review to determine the most effective and evidence-based exposure reduction strategies to build into a lead exposure education outreach program for the Flin Flon area. The literature review included research on community-based health education campaigns, approaches to sustaining health outreach programs over time and approaches specific to encouraging behaviour change for lead hygiene. AECOM reviewed these findings from the literature review with the Community Advisory Committee to make sure that any strategies adopted would make sense for this community, and potential community partners, and fit with the resources available.

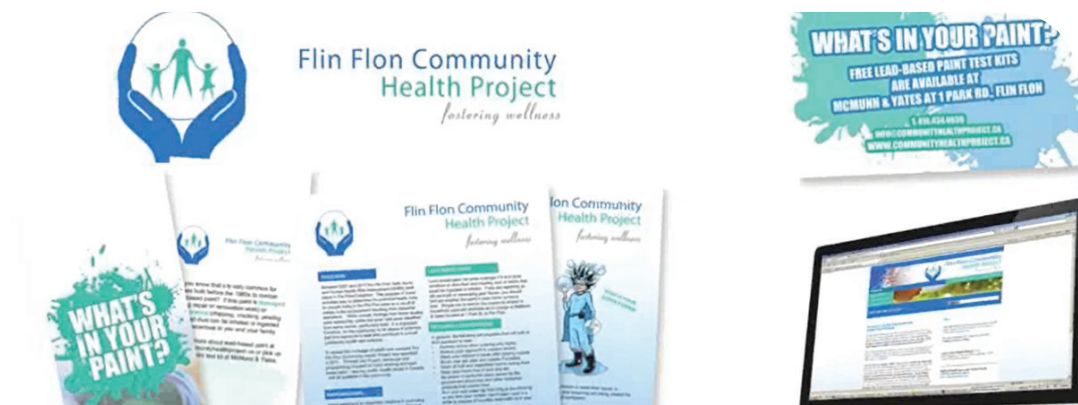
Based on the literature review and input from the Community Advisory Committee, AECOM moved forward to develop two specific lead exposure reduction strategies. The two strategies that were presented to, and accepted by, the Community Advisory Committee were improved hand washing and the removal of lead-based paint from older homes. The strategies included the use of available human resources and organizational capacities to make sure that the program could be delivered, over time, by partner organizations. These hand washing and lead-based paint areas of focus are complimented by education on lead in the environment and the various exposure pathways, and support for existing health education outreach programs conducted by community partners.

AECOM's literature review highlighted the efficacy of social marketing approaches to inform campaign strategies and activities. Social marketing is the systematic adoption of marketing and social science techniques to achieve specific behavioural goals.

Social marketing has been used by health education programs around the world for over 30 years. An important consideration in adopting a social marketing approach is the use of the methodology by Health Canada and other provincial health agencies to deliver health promotion messages to specific populations to help individuals make decisions related to maintaining and improving their health and well-being and that of their families and communities.

The social marketing approach was well suited to the context for the Flin Flon Community Health Project. The approach, described well by Health Canada, involves *“the analysis, planning, execution and evaluation of programs designed to influence the voluntary behaviour of target audiences to improve their personal welfare and that of society.”*

A key aspect of effective social marketing for health programs is participatory planning and program design that includes members of the target audience. In this case, AECOM took program ideas to the community, speaking to local residents and focus area experts through focus groups and planning sessions to garner reactions to our plans. AECOM engaged a variety of local business leaders, elected officials, educators, health practitioners and parents to critique our ideas and provide us with feedback on campaign language, branding and information resources. They also provided ideas and suggestions about how to effectively reach out to the community to promote our program and build support for our initiatives. Focus groups with parents and children helped AECOM to fine tune program concepts and materials.



Flin Flon Community Health Project complete branding/identity and marketing collateral package.
Designed & developed completely in-house by AECOM.

With on-going community input, AECOM developed a campaign brand, website and fact sheets. Community members and partners supported calling the program the Flin Flon Community Health Project, a name that conveys the idea of proactively maintaining health and wellness, and provides the opportunity to expand into a variety of other health education and outreach initiatives in the future. Key community partners include:

- Flin Flon Soils Study Technical Advisory Committee – with representatives from Manitoba Conservation, Manitoba Health, Manitoba Science, Technology, Energy and Mines (STEM), Saskatchewan Environment, Saskatchewan Health and Health Canada
- NOR-MAN Regional Health Authority that serves a population of 26,000 spread across 72,000 square kilometres, including the communities of Flin Flon, Snow Lake, The Pas and several First Nations
- Flin Flon School Division and the Creighton School Board in neighbouring Saskatchewan
- Flin Flon community radio station CFAR 590
- Annual spring Flin Flon Trade & Leisure Show (a key spring home and leisure show that attracts many families across the region)
- Annual Flin Flon Trout Festival (one of the most important annual community events),
- Flin Flon Neighbourhood Revitalization Corporation
- McMunn & Yates Building Supplies of Flin Flon (lead paint kits)
- HudBay (on-going support and facilitation)

Campaign Fact Sheets

AECOM developed dynamic fact sheets about lead and exposure pathways, the hazards presented by lead-based paint, and the importance of proper hand washing. These fact sheets were made available at community events and in public buildings (community centres, health centres etc.) in Flin Flon since the initial launch of the campaign. The material is evidence-based and provides plain language, accessible summaries of the importance of lead hygiene and ways to reduce exposure to lead.

The factsheets are available for distribution through a variety of community outreach activities and via the project websites.



Program Websites

To act as an online information centre, the Flin Flon Community Health Project website (www.communtiyhealthproject.ca) was launched in conjunction with the public launch of the campaign. Serving as a hub for promoting campaign activities and resources, the website also provides members of the community with links to other online information centres about health and well-being.

To further encourage support for Mighty Bubble and the hand washing campaigns' specific initiatives, a second website (www.mightybubble.com), dedicated to hand washing, was launched in 2011. This site serves to introduce the character of Mighty Bubble, explain his mission to improve hand washing and provide an

opportunity to download all of his resources online. It is designed to be appealing to young people and their parents, with simple access to educational resources. As new hand washing activity pages, comic books and other materials are developed, they are added to the website. Social media tools help alert community members to new resources on the websites.

Online Engagement through Social Media

To reinforce the campaign and to keep hand washing top of mind among parents and children, AECOM included social media as part of the outreach program. Along with a website for the Flin Flon Community Health Project, social media use includes i) a popular Mighty Bubble website with free access to materials for download, ii) a Mighty Bubble Facebook page (www.facebook.com/mightybubblehero) targeting parents of young children in the region, iii) together with a Mighty Bubble Twitter account (@Mighty_Bubble) that promotes hand washing and children's health and iv) a Mighty Bubble blog where Mighty Bubble talks about his activities and hand washing ideas.

The Mighty Bubble Facebook page serves to share handwashing ideas and children's health messages while



The Mighty Bubble Facebook page serves to share handwashing ideas and children's health messages while facilitating the promotion of the NOR-MAN Regional Health Authority community events such as immunization and flu shot clinics to area parents.



Project managers and coordinators made use of the blog site tumblr, to develop a project blog. The site followed the development of Mighty Bubble from the initial rough sketches to the character's physical cross-canada travels.

The blog served as a time capsule, and kept project team members up to date with developments as they happened.

facilitating the promotion of the NOR-MAN Regional Health Authority community events such as immunization and flu shot clinics to area parents. The demographics of the Facebook page users are weighted heavily toward the parents and caregivers of young children.

Content of interest to these parents and caregivers is "pushed" to them weekly, or more often, to keep them connected to the program. Prior to key community events, Facebook advertising is targeted to parents and caregivers of young children to remind them about the community events and special appearances by the Mighty Bubble mascot that will be of interest to their children. The Mighty Bubble Twitter account enables the program to connect with children's health and hand washing initiatives across Canada and the world to stay connected with innovative health-focused social media and social marketing targeting children and their parents.

Capacity Building Initiatives

On AECOM's recommendation and with support from the Flin Flon Community Health Project, two community leaders from Flin Flon attended the highly rated workshop, Fostering Sustainable Behaviour, in Calgary, Alberta in the summer of 2011. There they received training in developing, executing and building support for grass-roots, community-driven social marketing initiatives. Through the support of the project, they have been able to share what they have learned from the workshop with others in the community.

Community Health Practitioners in Flin Flon also received training from AECOM education and outreach specialists in order to further share the messages with children and parents in the community.

Classroom Hand Washing Program

Through continued collaboration with educators and health practitioners, the Flin Flon Community Health Project is contributing to hand washing education for young children (aged 6 and under) in elementary schools and daycare centres. In the fall of 2011, every child from kindergarten to grade two, and all children in public daycares participated in hand washing workshops facilitated by the NOR-MAN Regional Health Authority, a key project partner. All children who attended a workshop were sent home with a toolkit of hand washing information and activities featuring the program's hand washing superhero, Mighty Bubble. The Health Authority also distributed these materials to parents and caregivers participating in its various community social service programs throughout its 72,000 square kilometre region.

To reinforce the classroom handwashing program, NOR-MAN Regional Health Authority partners are returning for follow-up workshops with fresh Mighty Bubble materials in spring 2012. The Health Authority is expected to continue with classroom workshops into the future. Health Authority staff report a strong uptake for learning about handwashing with the engaging, entertaining and informative materials available.

"By involving community members in the development of the education outreach program, AECOM was able to understand the unique challenges and opportunities in Flin Flon, and design a program that spoke to our existing capabilities and community character." – **Beverley Hill, Regional Care Advocate, Infant Child/Youth Team, NOR-MAN Regional Health Authority and Community Advisory Committee Member, Flin Flon Soils Study**



Children visit the Flin Flon Community Health Project information booth at the annual spring Flin Flon Trade & Leisure Show, 2011.



Mighty Bubble gives a radio interview at Flin Flon community radio station CFAR 590, 2011.

Hand Washing Learning Tools

A number of hand washing learning tools have been developed by AECOM as part of the hand washing campaign and include comic books, bathroom mirror stickers, temporary tattoos, step-by-step instruction guides and an original hand washing song and dance.

Following the development of the hand washing song and dance, AECOM produced an entertaining full-length music video featuring Mighty Bubble and a group of elementary school children. This music video was recorded on DVDs and used as the primary teaching tool in the classroom hand washing workshops provided by the local health authority. DVDs were also distributed to the parents of small children participating in various community social services program. The music video is an important hand washing learning tool because it allows those with lower literacy skills to both understand the importance of hand washing and share the message with others, especially the



AECOM project team members voice "This is how we wash our hands!" Mighty Bubble's official hand washing anthem.



Behind the scenes of Mighty Bubble's official music video. Guelph, Ontario 2011.

children in their care. Each hand washing learning tool is designed to be either stand-alone or used in conjunction with other tools as part of workshops or other learning events.

Distribution of Paint Test Kits

AECOM's review of education and outreach for lead-based paint focused attention on the U.S. Environmental Protection Agency (EPA) and its extensive Lead-based Paint Program. This program includes state-level renovation, repair and painting programs and a federal law that

requires renovation firms to be certified under EPA's Renovation, Repair and Painting Rule to protect against lead-based paint exposure during renovations of homes, child care facilities and schools built prior to 1978.



EPA officials provided AECOM with a new home paint testing technology previously available only in the United States. The use of this paint testing technology with the Flin Flon Community Health Project is the first known use of this technology in Canada.

The project has partnered with McMunn & Yates Building Supplies, the primary home renovation retail store in Flin Flon, located steps from the town's main street, to distribute the lead paint test kits to the community at no charge, along with information about how to handle lead-based paint, if found.

Particular emphasis was placed on informing those in older homes and living with small children about the hazards that lead-based paint can present, and the extra safety measures that can be taken to protect children when conducting renovations or repairs that have the potential disturb paint. Test kits and lead-based paint information is also distributed at community events and through door-knocking campaigns in areas of Flin Flon with older housing stock.

The lead-based paint test kits are certified by the U.S. Environmental Protection Agency (EPA) and this is the first known use of these kits in a Canadian community.

HEPA Vacuum Rental Program

A HEPA-filter equipped vacuum was purchased by HudBay in the fall of 2011 and is available for rent at no charge by any member of the community of Flin Flon. Vacuums rentals are also available to contractors in the area who may be renovating older homes.

The use of this EPA paint testing technology with the Flin Flon Community Health Project is the first known use of this technology in Canada.

4.1 New application of exiting techniques/originality/ innovation

Combining Social Marketing with Experiential Marketing - “Mighty Bubble is like a rock star in Flin Flon!”

“Mighty Bubble is like a rock star in Flin Flon!” said a parent following an appearance at a community event to an AECOM project team member wearing the Mighty Bubble mascot costume.

“It’s not often engineers get involved in designing mascot costumes for children’s health programs,” said Paul Murray, P.Eng., Project Director, “but it has been great to see how effective this project is at getting children to wash their hands.”

To engage local residents and get them excited about the Flin Flon Community Health Project, AECOM promoted initiatives to the community through a combination of a traditional print media, live “experiential” marketing approaches and social media platforms, with great success. By ensuring that the hand washing and lead hygiene messages are available and accessible through multiple avenues, the program is able to engage and inform a far greater number of residents than standard traditional methods.

The life-sized Mighty Bubble mascot is now a well-loved part of the Flin Flon community. Appearing in parades, community events and making invited appearances at youth organization meetings, accompanied by his bubble machine, catchy hand washing song and dance moves, temporary tattoos, comic books, mirror stickers for bathroom hand washing reminders and colouring pages, Mighty Bubble the hand washing superhero has come to life.

Experiential Marketing

Experiential Marketing is a branch of marketing that connects product brands with audiences through participation in personally relevant, credible and memorable encounters that create an emotional connection through real life experiences and interactions. Experiential Marketing takes brand experiences directly to people through events and face-to-face encounters, and uses the senses – touch, taste, smell, sight, hearing and active movement to form personal, memorable, interactive and emotional connections.

By combining elements of Social Marketing with Experiential Marketing for a health education and outreach program, AECOM aims to maximize the learning opportunities available to children and their parents and caregivers. The Mighty Bubble mascot costume serves as an anchor for these learning opportunities that include:

- **Touch** – interactive experiences with soap & water, including an innovative hand washing “experiment” that children can do in classrooms and at home using simple ingredients such as cinnamon, vegetable oil, a mixing bowl, soap and water
- **Smell** – soap bubble mixes and liquid hand soap giveaways that encourage a positive connection between the smell of soap and the practice of hand washing
- **Sight** – popular bathroom mirror “reminder” stickers in the right location at the right time to remind children about a key moment for hand washing; a “cool” hand washing super hero who sports a bath towel as a cape to remind children that effective hand washing includes drying hands
- **Hearing** – a catchy hand washing song with specially written lyrics to remind children of five key moments when it is important to wash hands – before we eat, after petting animals, after using the bathroom, after sneezing or coughing, and after playing outside
- **Active movement** – a music video complete with dance steps that children can learn to “own” the hand washing movements that come with each of the five key moments when it is important to wash hands



Mighty Bubble waves to fans during the annual Flin Flon Trout Festival Parade Spring, 2011.

Social Media - Astronaut Chris Hadfield, Harvard Public Health and Parents in Flin Flon


Social media is used extensively to promote the hand washing campaign to parents and caregivers in Flin Flon. Project team members have also learned a great deal from “diving in” to the use of relatively new social media tools and exploring their use and versatility for this type of project. They have discovered that Facebook is exceptionally well suited for local community outreach, while Twitter is a dynamic tool for connecting with other health education, child science and education programmers, and social marketing practitioners across Canada and around the world.

AECOM reviewed social media uptake in the Flin Flon region and determined that Facebook is an ideal vehicle for reaching the target demographic: parents and caregivers of young children. With approximately 250 active parent/caregiver Facebook page users, the Mighty Bubble Facebook page content reaches over 3,500 Facebook users across northern Manitoba and Saskatchewan each week during Facebook ad campaigns arranged prior to key community events.

Flin Flon Community Health Project staff members are also able to use the Mighty Bubble Facebook page post photographs from events and run contests to elicit feedback on program components. The vibrant Flin Flon area Facebook community has embraced the Mighty Bubble Facebook page and helped keep the Flin Flon Community Health Project vibrant in

between specific community events and hand washing workshops. The Facebook page also helps promote other programs and events, such as flu shot clinics operated by the NOR-MAN Public Health Authority, to a key local audience who are likely to attend and share information with their friends.





Through the Mighty Bubble Twitter account, project team members are able to not only connect with residents of Flin Flon, but tap into an international community of children's health practitioners to share ideas, promote program resources and become a resource centre for hand hygiene. In sharing hand washing teaching tools and activities, and dialoguing with others, AECOM project team members have experienced remarkable success through Twitter and are now followed by over 400 individuals and organizations.

Using Twitter as a social media tool has expanded the program's exposure to organizations and individuals involved in similar social marketing initiatives. Followers of the Mighty Bubble Twitter account include UNICEF, the U.S. Centers for Disease Control and Prevention, Harvard Public Health, Sick Kids Hospital's "About Kids Health" Program, the University of Manitoba's Interprofessional Education Program, Canada's Scientists in the Schools program, Actua Canada's science, engineering and technology program for Canadian schools, The Global Soap Project, and the Australian Institute for Medical Education.

With approximately 250 active parent/caregiver Facebook page users, the Mighty Bubble Facebook page content reaches over 3,500 Facebook users across northern Manitoba and Saskatchewan each week during Facebook ad campaigns arranged prior to key community events.

The Mighty Bubble Twitter account has attracted "tweets" and comments from astronaut Chris Hadfield, author and children's health advocate Sue Scheff, parenting expert and broadcaster Sue Atkins, family MD and author Dr. Kim Foster, and Canadian leaders with the Grand Challenges global health organization. Thanks to connections made through Twitter, project team members are in discussions with Dr. Mike Evans, the "House Doctor" for CBC's "Fresh Air" program and the Director of the St. Michael's Hospital (Toronto) Health Design Lab, to find appropriate ways to replicate components of the Flin Flon Community Health Project in other Canadian communities.

Building on the project's success, AECOM is actively seeking health-oriented partners to extend the reach of the program to other communities in Canada.

Sharing Social Media Knowledge with Other Engineers

Many engineers and engineering firms have limited acquaintance with social media. A leading architecture, engineering, design, environment and construction firm, AECOM has over 45,000 employees around the world. To help engineers and other employees with technical expertise share knowledge, innovations and best practices, the firm has created global Technical Practice Groups. AECOM is developing its approaches to using social media and has several Technical Practice Groups that encourage discussions on social media. At least two global Technical Practice Group conference calls have delved into social media topics where the Flin Flon Community Health Project has been a primary reference point for the conversations. . AECOM's corporate

approaches to using social media have been significantly influenced by experiences acquired through social media investigations and activities made possible through this project.

Story-telling

To capture the imagination of children and get them excited about washing their hands, AECOM combined music, art, design and various recording and editing technologies to create innovative and education hand washing resources.

The power of story-telling through illustration and teaching new behaviours through simple, engaging messages was evident though the success experienced from Mighty Bubble comic books.





Each comic book has hand washing activities woven into the story line, making each edition of powerful teaching tool. In each comic book, Mighty Bubble teaches the reader something new about hand washing; how to wash hands properly, and the various times to when hand washing is important.

Mighty Bubble is also able to tell his personal story through a blog where he talks about his origins and his adventures in and around Flin Flon. The blog is linked to the website for local radio station CFAR 590 and provides parents and other community members a chance to go beyond the hand washing social marketing materials to learn more about the approach to the project and the ideas that have gone into designing materials and outreach activities.

Home Test Kit for Lead Paint

AECOM project team members looked across North America for a simple and easy to use test kit that home owners could use to determine if the paint on the interior or exterior walls of their homes contains lead. AECOM developed a relationship with the U.S. Environmental Protection Agency. Through this relationship, the project team members were able to bring a new technology to Canada from the United States in the form of an innovative home test kit that precisely measures the amount of lead in household interior and exterior paint.

The new test kits are currently the only ones to be certified by the U.S. Environmental Protection Agency, and are not available for purchase in Canada. AECOM imported these test kits to Canada, and through a partnership with a local home improvement store in Flin Flon, made them available to all residents free of charge. The test kits were distributed with important information about to safely handle and remove lead-based paint. To make sure that residents in areas known to have older housing stock are well aware of the opportunity to test their paint and learn about home renovation safety and lead issues, AECOM project team members went door-to-door in specific areas of Flin Flon to visit with home owners, demonstrate the test kits and have personal conversations about renovation safety and lead hygiene.

4.2 Complexity

As a firm with minimal history of working in Flin Flon, the project team needed to recognize and overcome two major challenges to develop and implement a successful community-based education outreach program: building trust and remaining sensitive to community pride and aspirations.

Flin Flon is a remote northern community where those not from the local area may be seen as outsiders. For this reason, the AECOM project team needed to take care to develop trusting relationships with community leaders in order to facilitate the meaningful collaboration necessary to design and implement an effective social marketing project. AECOM team members had to engage a wide-range of community members and it was crucial to project success that the team develop a reputation for honesty, integrity and approachability in the community.

AECOM needed to find a way to develop the health related social marketing initiatives around lead hygiene in ways that support community pride and aspirations. Flin Flon is a community that exists solely as a result of mining operations in the area. So closely is mining tied to the town's very existence that HudBay Minerals' main operations base is located just off of the city's main street. Local residents have tremendous pride in their community and their way of

life, but Flin Flon has received negative attention in outside media in the past simply because of the industry around which the town has developed. Flin Flon is also a community where outdoor and healthy lifestyles are a big part of local culture – the highly anticipated annual Trout Festival is a good case in point. The community has a thriving tourism business based on the attractions of the city and the tremendous outdoor environment at its doorstep.

AECOM put a great deal of thought into positioning the social marketing program so as to build on the community's sense of pride, support the positive community well-being aspirations of its citizens and celebrate Flin Flon's dynamic sense of place. In a mining community such as Flin Flon, there is a potential for greater exposure to lead, but community members participating in the design of the program made it clear that their neighbours would neither respond well to, nor support, a program that



promoted that negative message. AECOM overcame this challenge by positioning the campaign (and its messaging) as one acting to maintain the already high level of health and wellness in the community.

Through the careful selection of language, images and talking points, AECOM developed a campaign that was able to inform people about the need for lead awareness and lead hygiene, but keep the focus firmly on strategies to improve community well-being. The fact that hand washing is very effective in reducing lead exposure from soil and dust, but is also one of the most effective behaviours to keep from getting sick and spreading infections, made sure that the program's focus on hand washing would yield many other benefits. According to Health Canada, "washing your hands correctly is the most effective thing you can do to protect yourself against a number of infectious diseases, such as influenza (the "flu") and the common cold. Not only will it help keep you healthy, it will help prevent the spread of infectious diseases to others."

The Flin Flon Community Health Project also got a boost when Manitoba's Chief Provincial Health Officer 2010 Report on the Health Status of Manitobans, "Priorities for Prevention: Everyone, Every Place, Every Day", recommended that comprehensive prevention strategies should address healthy hygiene practices – specifically focusing on hand washing – as one of ten priority health-related behaviours. As a result, Flin Flon was able to take a provincial leadership position in supporting healthy hygiene practices for improved community well-being. An already proud city can now take additional pride in leading its province in promoting healthy hygiene practices.


4.3 Social, Environmental & Economic Benefits

The Flin Flon Community Health Project is focused on improving the health and wellness of a community with a historical presence of significant industrial activities associated with mineral resource extraction and processing. As this is a community where the potential exists for residents to be exposed to substances in the environment that may present health risks, the campaign plays a very important role and its success provides a number of social benefits.

AECOM focused efforts on promoting proper hand washing to children and their parents. In doing so, AECOM has helped reduce the potential for children to be exposed to lead in household dust and soil, and helped to establish hand washing as a regular habit for children, thus contributing to the reduction in the spread of diseases such as the common cold and flu. Before the project, the local Health Authority had few tools or educational materials available for classroom-based workshops and hand washing promotion targeted to children and their parents and care-givers. Health Authority staff also had little experience with developing effective education and outreach programs specific to the Flin Flon context.

With the Flin Flon Community Health Project, Health Authority staff were able to participate in the development of an innovative social and experiential marketing campaign, were able to participate in professional education programs on social marketing and health, and are now enthusiastic proponents of this type of approach to promoting community well-being. At the same time, Health Authority staff have access to a wide range of effective tools and resources to promote healthy hygiene practices.

Improved hand washing behaviour results in higher level of overall health and reduced incidences of illness. Improved hand washing among young children not only reduces the amount of time children spend out of school at home sick, but it also reduces the amount of work parents and caregivers miss while caring for their sick children.



In a community such as Flin Flon, where there are a large number of shift workers, time lost at work has a major impact on a family's well-being. Less time lost from work is a potential spin-off benefit from the promotion of proper hand washing through the Flin Flon Community Health Project.

“Proper hand washing decreases the likelihood of getting the cold and flu. Access to additional hand washing resources through the Flin Flon Community Health Project has been incredibly valuable to us as community health developers, and has helped to make hand washing fun for the kids in our community. We love Mighty Bubble!” - **Fran Labarre, Community Health Developer, NOR-MAN Regional Health Authority**

Through the lead-based paint campaign, Flin Flon residents have an increased level of awareness of the hazards that exist when lead-based paint is present, but are now also able to test their paint and know how to handle it safely if lead is present. The program also helped remove a barrier to the proper safe-handling of lead-based paint, by providing free HEPA-filter equipped vacuums to the community. By altering the community to potential hazards in their own home, such as lead-based paint, the program is also improving awareness levels of typical household environmental hazards as a whole. The more residents are aware that they need to question and become educated on the potential environmental health hazards in their home, the more likely they will be to take action to remove these hazards, and the healthier the community will become.

With discussions underway between project team members and the Director of the St. Michael's Hospital (Toronto) Health Design Lab, and other Canadian community well-being specialists, there is a good likelihood that components of the Flin Flon Community Health Project will be adopted in other Canadian communities. Project team members are undertaking a community-based evaluation of the success of the project in improving hand washing behaviour among children and their parents and caregivers. AECOM project team members will be sharing results of this evaluation with community hygiene and health promotion experts in Canada and around the world, providing additional information on the role of social marketing approaches in the development of health and well-being education and outreach programs.

4.4 Meeting and Exceeding Owner's/Client's Needs

AECOM developed the Flin Flon Community Health Project in partnership with HudBay staff and with community leaders from various government and health organizations. As such, project team members were able to develop a clear understanding of where and how to focus resources to have the most impact and avoid duplicate efforts.

Instead of spending time and energy developing plans to have AECOM project team members execute community programs, team members developed partnerships with existing organizations that could implement programming and found appropriate ways to develop their professional capacity to develop and implement similar projects in the future. This allowed AECOM to focus resources on developing new, much needed, community social marketing resources, enhance the capacity of community leaders to run their own social marketing initiatives and build awareness of the campaign through marketing and public relations strategies.

Community partnerships allowed AECOM to keep overall campaign costs low, extend the reach of the program and improve the long-term sustainability of program initiatives by providing local organizations with the knowledge and resources to continue outreach efforts for an extended period time.

The overall goal of the education outreach program was to reduce exposure to lead from environmental sources, and this has been achieved through both the on-going promotion of various exposure reduction strategies, and the provision of additional resources and materials to the community to enhance their ability to reduce exposure and increase overall health and well-being.

"For the most part, our employees live, work and raise their families in the towns in which HudBay operates. This is especially the case in Flin Flon where our business was born. We value the close and productive partnerships we have in Flin Flon and the across the region. The Flin Flon Community Health Project is helping build new partnerships and improve quality of life and we're proud of our role in this initiative."

**Alan Hair, Senior Vice President, Business Development and Technical Services,
HudBay Minerals Inc.**