

**Preventing childhood drownings in backyard, residential pools:
Understanding stakeholders' roles in knowledge mobilization and the creation of a
2017 portable pool safety social marketing campaign in Ottawa, ON**

Masters of Arts Thesis

by

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Chapter 1

Parameters of the study: Literature review, theoretical and methodological framework

Kylie Valentino

Introduction

1. Problem

Each summer in Canada, we hear tragic stories of preventable deaths by drowning in pools, rivers, lakes and oceans. In summer 2016, several drownings occurred in the national capital region, including one of a young child in a backyard pool. Drowning is a leading cause of preventable death of Canadian children (Canada Safety Council, 2015; Canadian Red Cross, 2013). Every year, an average of 58 children under 14 years of age die from drowning in Canada, while another 140 are hospitalized for near-drowning. Backyard swimming pools are the site of nearly half these drownings (Parachute Canada, 2014a).

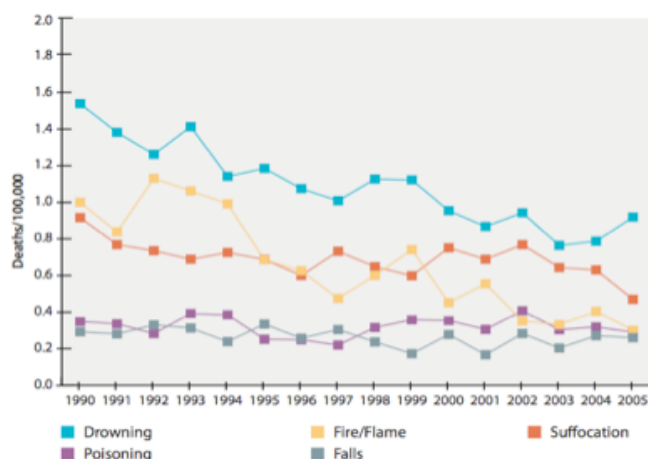


Figure 1. Unintentional injury deaths in Canada, 1990-2005, by selected causes, 0-19 years, both sexes combined, standardized rates/100,000 persons (Public Health Agency of Canada, 2009).

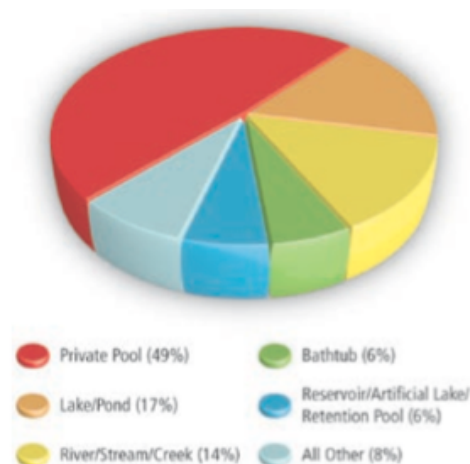


Figure 2. Aquatic Settings of Victims Under 5 Years Percentage of Preventable Water-Related Deaths/Year Ontario 2000-2004 (Lifesaving Society, 2008).

Safe Kids Canada's National Drowning Report (2005) indicated that every year Canadian children have approximately 1 in 100,000 risk of drowning and 1 in 47,600 risk of near-drowning. Near drownings are often not calculated in statistics, yet they are a growing concern. For every childhood drowning, there are approximately three near-drowning incidents. Near-drowning is the survival for more than 24 hours (even if temporary) from suffocation by submersion. Near-drowning incidents can result in

survivors suffering significant neurological impairment and post-traumatic stress around water (Canadian Red Cross, 2003).

Safe Kids Canada (2007) and the Canadian Red Cross (2003) indicate that half of child backyard pool drownings occur when the child is walking or playing near the pool, not necessarily already in the swimming pool. Young children under five years old are particularly vulnerable because they are attracted to water and see objects such as toys or balls float or sink in the water (Blum & Shields, 2000; Thompson & Rivara, 2000). Young children lack an understanding of the danger of water and most have not yet fully developed the necessary coordination and strength to swim (Safe Kids Canada, 2007). The Canadian Red Cross (2011) indicates that in 80% of child pool drowning deaths, there was no adult supervision when victims became immersed in their own backyard pool.

Ottawa, Ontario

This issue is a global phenomenon; however, this thesis explores how it plays out locally in Ottawa, Ontario. Ottawa is an ideal location to study because this location allows for convenient access to city officials and archives, as well as many swimming-related organizations have their head offices in Ottawa, thus key stakeholders are in close proximity. A stakeholder is defined as “any identifiable group or individual who can affect the achievement of an organization’s objective or who is affected by the achievement of an organization’s objectives” (Freeman and Reed, 1983, p. 91). Additionally, a Statistics Canada (2001) study denotes that 19.4% of Ottawa’s total population is represented by citizens who are foreign-born. The Lifesaving Society (2012) has identified that people new to Canada, especially those who have been in Canada for 5 years or less, are at a higher risk of drowning than people born here. They are four times more likely to be unable to swim than those born in Canada (Lifesaving Society, 2012). Especially with the 2015-2016 influxes of potentially vulnerable Syrian refugees, the city of Ottawa reveals an important need of pool safety education.

The geographic location of Ottawa also makes for an interesting location to study pool safety because it may be further generalized to many other Canadian cities’ swimming habits; Ottawa experiences an Ontario average number of warm days for

swimming in the summer months, with an average of 117 days over 20°C (Environment Canada, 2010). Also, Ottawa's close proximity to canal, rivers and lakes suggests the pool water safety messaging can be contextualized within broader drowning prevention campaigns.

Many cities across Canada have created legislation to mandate pool enclosures with self-closing and latching gates to prevent unintentional access to residential backyard pools (Scott, 2003). However, Canadian statistics from the Royal Lifesaving Society of Canada show that in half of the residential pool child fatalities during the years 2006-2010, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%) around the backyard pools (Lifesaving Society, 2013). Enforcement and compliance of legislation provide key support in preventing drowning and near drowning incidents (Morrison et al., 1999). Yet, the City of Ottawa's Building Codes Services identified that in 2013, 28% of Ottawa pool owners who had purchased a pool permit were not compliant with the new city bylaw requiring a locked gate (City of Ottawa, 2014):

“No Owner shall fail to ensure that every gate in an enclosure is closed and locked at all times, except when the enclosed pool area is in use, and this provision shall apply to every enclosure in the City, regardless of when it was constructed” (City of Ottawa By-law 2013-39, 2013, p. 6).

Although drowning prevention educational campaigns are in place across Canada, there is still a lack of pool safety compliance and awareness by citizens.

City of Ottawa Bylaw and Parks and Recreation officials feel the problem is further compounded by a large percentage of pool owners who do not purchase a pool permit, thus city officials are not aware and thus do not inspect whether their fencing enclosure is bylaw compliant.¹ This makes it very difficult to mobilize pool safety knowledge to these owners. There is a lack of role awareness and communication between stakeholders to enforce pool enclosures and permits. The City officials also mentioned that household water usage could be examined to understand who has installed a pool; however, smaller, portable pools also pose a major concern for childhood drownings and would go undetected with this method. A portable pool is defined as a

¹ In personal correspondence with City Officials on November 5th, 2015

movable structure intended for swimming or other water recreation (wading pools, kiddie pools, inflatable pools). These pools are typically inexpensive and available for purchase at toy stores, home improvement stores, supermarkets, and big box stores.

Ottawa, as a city, is experiencing rapid urban growth, the City of Ottawa's population forecast calls for 30% population growth by 2031, 68% of which will occur in urban areas (Hollingworth, 2014). This urban growth involves an increase of new densely constructed neighbourhoods with only enough space for small portable pools because of the narrow backyard lots. This demonstrates a greater need for portable pool safety education to Ottawa citizens over other (more rural) city residents who may have more property to install in-ground or above-ground backyard pools.



Figure 3. Portable Pool Example.

The City of Ottawa (2013) defines a pool to be anything capable of retaining a water depth equal to or greater than 600 mm (2 feet). Therefore, under the pool enclosure bylaw, these small portable pools require fencing (City of Ottawa By-law 2013-39, 2013). However, since portable pools are often inexpensive and consumer-installed, they may not realize the risk of drowning is still present (Shields, Pollack-Nelson & Smith, 2011). For these concerns to be addressed and risks to be mitigated, it is important to understand the roles of all stakeholders in ensuring backyard pool safety in Ottawa.

2. Research Questions

This thesis project seeks to investigate a series of research questions. The first primary research question is “What are the factors that contribute to drowning among Canadian children?” This involves exploring questions such as: What is the

drowning rate among children in Canada? In what circumstances and in what settings are children at higher risk of drowning? How can it be prevented?

The next primary research question asks, “What is the role of various stakeholders in mobilizing pool safety knowledge?” Who are the stakeholders involved in mobilizing pools safety knowledge? What are current residential swimming pool drowning prevention strategies aimed at children 0-5 years of age? What are some of the stakeholder-led marketing campaigns and who are the target audiences? Do water safety stakeholders perceive they have a role in pool safety knowledge mobilization through education, marketing, and/or policy enforcement? What are some of the barriers to uptaking these pool safety initiatives?

Guided by a grounded theory approach, this research will also investigate additional questions based on issues and risk factors identified by stakeholders during the semi-structured interview phase of this project. Preliminary meetings, held on November 5th, 2015, with stakeholders from the City of Ottawa Parks and Recreation division and Building Code and Permit department identified a growing risk factor around the issue of consumer-purchased portable pools. This leads into the third and final research question: “Given recent concern over portable pools, what efforts are stakeholders making in marketing drowning risks to portable pool owners?” This section will explore further questions such as, How can portable pools be integrated into current social marketing campaigns? What can be proposed as a marketing campaign to raise awareness and mobilize knowledge on pool safety to portable pool owners in Ottawa? Who should be the target audience and what channels should be used to disseminate this knowledge?

3. Purpose

It is hypothesized that a lack of knowledge and awareness regarding pool bylaws continues to put children at risk of being exposed to pools with less parental supervision; non-compliance of pool enclosure permits; and less knowledge on the drowning risks, prevention and lifesaving strategies for pools. The purpose of this study is to provide insight into research-based policies and practices of effective childhood drowning prevention strategies by exploring the role of various stakeholders in promoting pool

safety and analyzing potential barriers to the uptake of these safety messages. A new marketing campaign will also be proposed to address changing residential leisure swimming practices of the increased use of portable pools. The following literature review will provide context on discussion and debates in the field related to the set of proposed research questions for this thesis project.

4. Importance of Study

This thesis seeks to better understand pool safety messaging, especially in regard to increasing consumer trends towards purchasing portable pools to ultimately help childhood drowning rates continue to decline.

This research is situated within the preventative measures involving community partners and understanding knowledge mobilization of best practices and local legislation. Through the creation of a “Drowning Prevention Spectrum”, the results of this research could be used to better understand that drowning is a multi-site problem and is in need of a multi-intervention approach. This thesis hopes to influence pool owners, organizations, business, and future policy/legislation through the presentation and organization of statistics and drowning trends.

Furthermore, this research hopes to raise awareness of the dangers of portable pools and will strive to use the collected data to create a bilingual safety promotion campaign for the region of Ottawa, Ontario. This campaign will include information stock cards and bus advertisements to mobilize pool safety knowledge on the need of adult supervision and pool enclosures to ensure safety for children near backyard portable pools in Ottawa.

5. Key Terms

Drowning- “the process of experiencing respiratory impairment from submersion/immersion in liquid.” (van Beeck et al., 2005).

Knowledge Mobilization- “the reciprocal and complementary flow and uptake of research knowledge between researchers, knowledge brokers and knowledge users... in such a way that may benefit users and create positive impacts...” (Social Sciences and Humanities Research Council of Canada, 2015, para. 32).

Legislation- “law which has been promulgated (or ‘enacted’) by a legislature or other governing body or the process of making it.” (Wasserman, 2014)

Portable Pool- “any movable structure intended for swimming or other water recreation. Examples include wading pools, inflatable pools, and ‘soft-sided, self-rising’ pool” (Royal Lifesaving Society of Australia, n.d.).

Pool – “an outdoor pool of water for swimming, bathing, wading or reflecting, including any Hot tub, which is capable of retaining a water depth equal to or greater than 600 mm at any point, but shall not include: facilities for the purposes of providing water to livestock, or for irrigation of crops which are associated with and located on land devoted to the practice of farming, and stormwater management ponds, or outdoor pools owned or operated by the City” (Bylaw-2013 city of Ottawa)

Prevention – interventions that occur before the initial onset of an accident or disorder. (Vermont Department of Health, n.d.)

Social Marketing – “social marketing is the use of commercial marketing principles and techniques to promote the adoption of a behavior that will improve the health or well-being of the target audience or of society as a whole.” (Weinreich, 2010)

Stakeholders – “any identifiable group or individual who can affect the achievement of an organization’s objective or who is affected by the achievement of an organization’s objectives” (Freeman and Reed, 1983, p. 91).

Literature Review

This literature review provides context on discussion and debates in the field related to the set of proposed research questions involving pool safety. These questions include: What are the factors that contribute to drowning among Canadian children? What is the drowning rate among children in Canada? In what circumstances and in what settings are children at higher risk of drowning? How can it be prevented? This literature review will provide insight into research-based policies and practices of effective childhood drowning prevention strategies and knowledge mobilization techniques such as social marketing.

1. Drowning Rates

Drowning is an international problem with many different risk factors. These include geographic location and proximity to greater incidence of water-related disasters (such as tsunami, flooding, and hurricanes) poverty, gender and age. The World Health Organization (2014) identifies drowning as the third leading cause of unintentional death after motor vehicle collisions and falls. Patterns of drowning across countries generally reflect the type of water to which the population is exposed. In developing countries, most drowning deaths occur during daily activities that involve working, washing, collecting water, and travelling to secure food. The bodies of water involved include ponds, ditches, lakes, rivers, and water collecting systems. By contrast, in developed countries, most drownings occur in recreational settings, whether it is in a swimming pool or during the use of motorized water vehicles (Peden, 2008).

In Canada, drowning is the number one cause of unintentional injury deaths among children 1 to 4 years of age, and the second leading cause of preventable death for children under 10 years, just under motor vehicle collisions (Lifesaving Society, 2012). Figure 4 shows that the most current drowning death rate among the general population in Canada is 1.4 deaths per 100 000, which has decreased since the 1990s statistic of 2.1 deaths per 100 000 (Lifesaving Society, 2015a). While

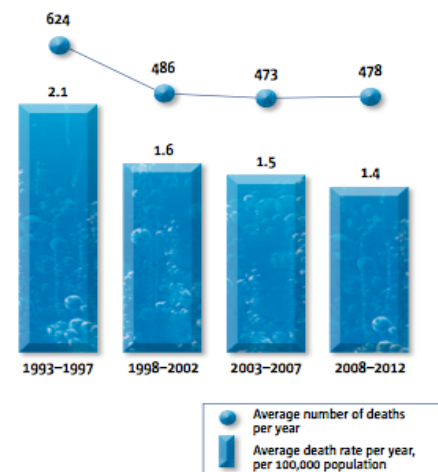


Figure 4. Canadian Drowning Trend 1993-2012 (Lifesaving Society, 2015a)

there is significant long-term progress in reducing death by drowning in Canada, the Canadian Drowning Report by the Lifesaving Society (2015a) also indicate drowning rates are still high, and that in a recent collection of data there was the highest number of deaths since 2006. This recent upswing of Canadian drownings reinforces the need for a recommitment towards strong drowning prevention efforts (Lifesaving Society, 2015a).

Drowning is a complex issue involving a variety of aquatic settings and risk factors across age groups and geographic locations. Given the ability to work with City of Ottawa officials, this study has been limited to focus on Ontario provincial pool safety legislations and practices in an urban Canadian setting. As such, this literature review will focus on most prevalent settings, risk factors, and age groups where drownings occur in Ontario, Canada.

Risk Factors for Drowning in Ontario

a) Settings

Drowning occurs in open water including oceans, lakes, rivers, and streams; as well as contained, built environments involving residential backyard pools, private pools (water parks, hotel pools, resort pools, golf clubs), municipal pools, bathtubs, water features (fountains, residential ponds), and hot tubs. Residential backyard pools (10%) and bathtubs (12%) continue to be the top man-made settings where drownings occur in Ontario. Drownings in lifeguard-supervised settings continue to be rare; in 2008-2012 only 1% of drownings in Ontario occurred under lifeguard supervision (Lifesaving Society, 2016).

Portable pools. In recent years, backyard, portable pools have become increasingly popular (Shields, Pollack-Nelson, & Smith, 2011). A portable pool is defined as any movable structure intended for swimming or other water recreation. Examples include wading pools, inflatable pools, and “soft-sided, self-rising” pools (Royal Lifesaving Society of Australia, n.d.). Since portable pools are often inexpensive and consumer-installed, they may not generate the same sense of ensuring safety measures such as fencing by owners as above/in-ground pools and are often dangerously not gated nor emptied of water (Safe Kids Canada, 2007; Shields, Pollack-Nelson, & Smith, 2011).



Figure 5. Fenced Portable Pool (Children's Hospital at Westmead, 2013)



Figure 6. Portable Pools Require Fencing if Depth is Equal to or Greater than 600mm (2 ruler lengths) (Children's Hospital at Westmead, 2013).

As a relatively new setting for potential drowning, portable pools were already associated with 13% of pool submersion fatalities reported to the U.S. Consumer Product Safety Commission for children younger than 5 years old from 2007 through 2009. The primary sites of drowning for young children remain in-ground pools with 58%, above ground pools with 17%, and 12% of drownings occur in undisclosed pool/hot-tub setting (Gipson, 2010). Shields, Pollack-Nelson, and Smith (2011) studied the epidemiology of pediatric submersion events occurring in portable pools in the United States. They identified that the use of portable pools in residential settings posed a significant risk of submersion-related deaths for children (Shields, Pollack-Nelson, & Smith, 2011), and that this risk was increasing due to higher number of consumers purchasing these pools for their smaller backyards in new suburban developments.

In Australia, the 2013 Australian Consumer Law requires portable pools and their retail packaging to be labeled with warnings drawing attention to drowning hazards and local fencing laws (Product Safety Australia, 2013). North American drowning statistics demonstrate a need for similar measures, yet they do not have similar packaging policies. Although many Canadian drowning prevention organizations and the City of Ottawa identified portable pools as a major safety concern, there are currently no Canadian academic articles or reports published on the subject. This research will seek to better understand the additional risks of this increasingly popular leisure practice of purchasing and setting up portable pools in backyards, and the lack of awareness that these pools are still subject to pool enclosure bylaws and other pool safety practices.

b) Gender and Age

To prevent drowning and water-related injury, it is imperative to understand safety-focused attitudes within demographics and how intersecting factors such as gender, class, ethnicity, and geographic location significantly impact water safety knowledge and behaviour. This section of the literature will examine drowning risk factors across the various life stages. Most of these identified drowning risk factors especially pertain to males since they encompass 83% of Ontario drowning fatalities across all life stages (Lifesaving Society, 2013). Studies suggest that the higher drowning rates among males compared to females, are due to increased exposure to water and riskier behaviour; men are much more likely to participate in fishing, boating, and use motorized water vehicles throughout the lifespan and thus they have a higher chance of drowning due to exposure (World Health Organization, 2008).

In Ontario, residential backyard pools present the greatest danger for children 0-5 years old (Canadian Red Cross, 2013b; Lifesaving Society, 2016). Children under 5 are at risk of drowning when they are playing near water; this age group is inquisitive and they take advantage of their expanding range and speed of mobility with little to no awareness of aquatic danger. Furthermore, lack of supervision from parents or caregivers is the biggest drowning risk factor for young children (Canadian Red Cross, 2003; Lifesaving Society, 2008). Both female and male children are at risk in this age demographic.

Ontario children aged between 5 to 12 years are at less risk of drowning than other stages of life. This age group may be at lower risk for overall drowning due to basic swimming skills and less impulsivity compared to children under 5 and those over 13 years of age. The low statistics from this age group explains that lakes and rivers are the settings that account for more than half of drownings among 5 to 12-year-olds. Playing in water and swimming are what two-thirds of 5 to 12-year-old victims were doing when they drowned (Lifesaving Society, 2008). The drowning death rates climbs as children enter their teenage years (13-17 years olds) and begin to engage in riskier behaviours. Over half of teenage drownings happen at lakes and rivers (Lifesaving Society, 2008). Most incidents occur while swimming, but other aquatic activities enter the mix as well, including power boating, diving and jumping into water, and partying near or on the water. Although still underage, alcohol and drugs play a significant role in elevating risk

for 13 to 17-year-old drowning victims (Lifesaving Society, 2008; Lifesaving Society, 2013).

Risk-taking behaviours extend into adult years. Risky behaviours for 18- 34-year-old men that result in drowning include reckless operation of motorized vehicles and the consumption of alcohol and drugs around open and contained water (Canadian Red Cross, 2003; Canadian Red Cross, 2011; Lifesaving Society, 2008). This age group is unlikely to wear safety equipment such as lifejackets. Most drownings in this life stage occur on lakes or rivers; furthermore, swimming remains the leading activity, however, boating activities are also prevalent (Lifesaving Society, 2013; Lifesaving Society, 2016). As with younger men, swimming and boating are the most common activities involved in fatal drowning incidents among 35 to 49-year-old men (Lifesaving Society, 2013). Key drowning risk factors for mid-life men also involve the resistance in the use of personal floatation devices and use of alcohol while boating, fishing or swimming. (Lauwers, 2011; Lifesaving Society, 2008).

Lakes, followed by rivers, are the aquatic settings where the largest number of drownings occur for males over 50 years of age. Bathtubs, backyard pools, and hot tubs were also settings for drownings or water-related injuries for men over 50 years of age. Fishing, powerboating, and bathing are the most prevalent activities associated with drowning in the over 50-age group (Lifesaving Society, 2008). It is predicted that the potential for increased drowning among older adults and seniors will continue as more "baby boomers" move into their senior years while retaining the high-risk behaviours of their younger years, despite reduced physical capabilities of swimming in open water, and increased potential for cardiovascular events during a fishing or boating trip. Certain medical conditions and medications may also affect one's physical ability or mental capacity at this age, which can additionally increase the risk of drowning (Lifesaving Society, 2015).

2. A Focus on Children Drowning in Backyard Pools

For the purpose of this thesis, residential backyard pool safety for children (specifically 0-5 year olds who are the most vulnerable) will be more deeply explored.

The Canadian Red Cross Society conducted a study examining drowning trends between 1991-2010; they described how 50% of residential backyard pool drownings involved children under 5 years old (Canadian Red Cross, 2003; Canadian Red Cross, 2011). Backyard pools continue to be the number one setting (37%) where children under 5 years of age drown (Lifesaving Society, 2013, 2015).

These statistics do not include the high rates of hospitalization for near drowning incidents. In Ontario, for every drowning of a young child in backyard swimming pools, there are approximately three near-drowning incidents in which survivors can be left with

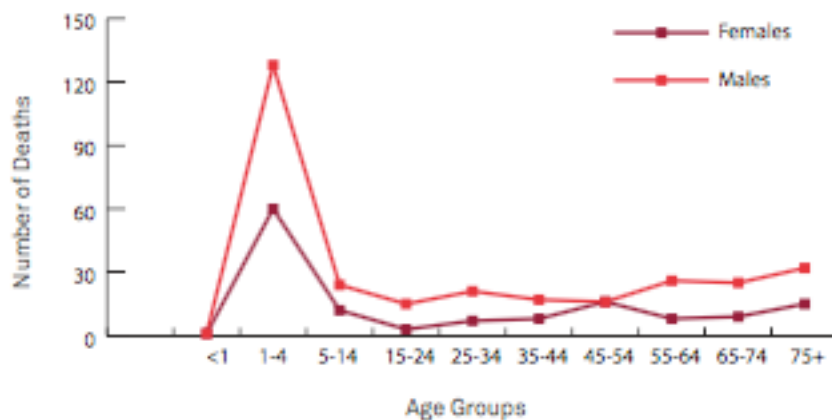


Figure 7. Backyard Pool-Related Deaths by Age and Sex Canada, 1991-2010 (n=446). (Canadian Red Cross, 2011).

serious neurological impairment (Canadian Red Cross, 2003). It is important to note that consistent findings in the literature indicate that the majority of residential pool drownings and near-drownings are avoidable with preventative education, training, and incentives for knowledge uptake/behaviour change (Lyndal, 2013; Bierens & Scapigliati, 2014).

Residential Pool Drowning Prevention

Unintentional drowning deaths can be largely averted through a combination of structural, environmental, educational, behavioral and technological interventions (Ashby, Routley, & Stathakis, 1998; Paine & Cassell, 2003). Over the past 50 years, Australia, New Zealand, the United Kingdom, Canada and the United States achieved a reduction in child drowning through a combination of these approaches (Australian Water Safety Council, 2012; Weiss, 2010).

The Spectrum of Prevention (Figure 8) is a systematic tool that promotes a multifaceted range of public health efforts for effective prevention. Originally developed by Larry Cohen (Cohen & Swift, 1999), the Spectrum of Prevention model encourages people to move beyond the idea that prevention is simply about teaching healthy behaviors to individuals (Rattray, Brunner, & Freestone, 2002). It is a guideline, and while not all of the strategies will be appropriate for every issue, the Spectrum provides a reminder that complex problems often require a range of approaches. Since this is a flexible model, organizations working in the field of public health are adapting the model based on their own experiences, successes, and failures. It has been used nationally in prevention initiatives targeting traffic safety, violence prevention, injury prevention, nutrition, and fitness (Rattray, Brunner, & Freestone, 2002).

Based on Cohen's Spectrum of Prevention, which focuses on more of a sequential process of involving stakeholders, this research proposed a modified spectrum that responds to the particular issue of drowning, which is more reflective of a Canadian content in that stakeholders scope of practice intersects with each other (Figure 9). The use of a Drowning Prevention Spectrum illustrates the way in which multiple preventative measures, each corresponding with an aspect of the spectrum, can be implemented simultaneously to constitute a multi-intervention and multi-site drowning prevention approach. The spectrum is comprised of three areas beginning with a focus on an individual's water safety knowledge and skills (swimming lessons, CPR, surveillance); on community campaigns and resources (pools safety products and campaigns); and thirdly, laws and policies (pool fencing bylaws). In this research project, this study will focus on the second and third aspect of the drowning spectrum, focusing on municipal and community-led campaigns based on government policies.

Influencing policy and legislation
Changing organizational practices
Fostering coalitions and networks
Educating providers
Promoting community education
Strengthening individual knowledge and skills

Figure 8 Cohen's Spectrum of Prevention (Cohen & Swift, 1999)

Drowning Prevention Spectrum

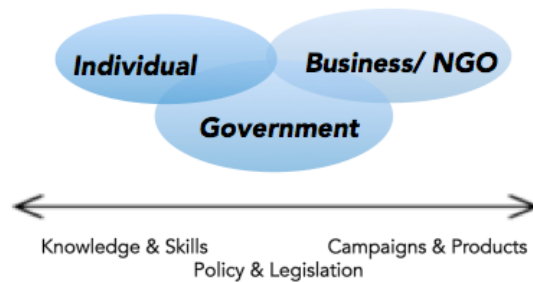


Figure 9 Drowning Prevention Spectrum (Valentino & O'Connor, 2016)

a) *Knowledge and Skills*

Swimming lessons. Swimming lessons fall within the 'knowledge and skills' category of our Drowning Prevention Spectrum. Research demonstrates that swimming lessons remain an effective way for children to gain confidence around water (Parachute Canada, n.d.). A survey by Safe Kids Canada found that four out of five parents believe that swimming lessons are the best way to protect a child from drowning. However, swimming lessons alone cannot prevent a child from drowning (Parachute Canada, n.d.). Further, children under five years of age do not commonly possess adequate physical skills and coordination to perform swimming strokes on their own to save themselves in a submersion incident (Parachute Canada, n.d.).

The literature also indicates that while water safety training may improve skills, many drownings occur when children are not actually swimming but walking or playing near pools (Pitt & Balanda, 1991; Wintemute, 1992). The need for adult supervision should not be decreased when young children acquire increased water skills, and studies suggest that this training could possibly reduce parental vigilance (Asher et al., 1995).

CPR. Knowledge and skill of infant and child cardiopulmonary resuscitation (CPR) and mouth-to-mouth resuscitation are important in determining the outcome of potential drownings (Patetta & Biddinger, 1988; Liller et al., 1993; Pepe & Bierens, 2005). Since parents are often the first responders at the scene of a child drowning

emergency, parent knowledge and familiarity with performing CPR and artificial respiration (AR) are considered important reactive measures to the problem of drowning (WHO, 2008; Hollnagel, 2012).

Increased surveillance. Page and Griffiths (2006) define the water surveillance process as observing, recording, and making an assessment of the water area that is being surveyed. Surveillance is a key component of the ‘knowledge and skills’ category of the Drowning Prevention Spectrum; for example, surveillance involves recognizing both environmental factors such as unfenced pools that increase the chances of drowning as well as recognizing those in trouble while swimming in the water (Page & Griffiths, 2006) and acting immediately to provide help.

The Canadian Red Cross (2003) show that lack of constant uninterrupted adult supervision of children around all forms of water is a major factor in most drowning incidents. Experts unanimously agree that adults should stay within sight and reach of any child when he or she is in the water or playing near water, regardless of their swimming capacity (Canadian Red Cross, 2014; Parachute Canada, n.d.; Pitt & Balanda, 1991; Weiss, 2010; World Health Organization, 2008).

Researchers have found that adult supervision alone is also insufficient in decreasing domestic pool drowning rates (Morrison et al., 1999; Pitt & Balanda, 1991). They describe how continuous supervision is difficult to achieve, or may not be considered essential by some parents or caregivers (Pitt & Balanda, 1991). Some parents also think that being in the house while children are swimming is sufficient surveillance. Increased mobile phone or computer use while children are swimming limits an adult’s ability to actively supervise. Further effort is needed on public education highlighting the importance of attentive surveillance, having flotation devices nearby, and paying attention to the children swimming and playing near or in the water.

b) Campaigns & Products

With changing leisure practices in Canada, there is also a growth of personal leisure equipment (Karlis 2011) including backyard pools and safety products. Falling within the “campaigns and resources” category of our Drowning Prevention Spectrum, there are numerous commercial products on the market for pool owners to purchase the

following products designed to reduce backyard pool drownings. These include the following:

Alarms/covers. The first analysis of products to prevent drowning in backyard pools appeared in the scientific literature in the mid 1970s. One of the earliest safety measures developed was the Australian Standard for pool covers (Scott, 2003). The standard was developed and published in 1977. However, this was shown to have had little impact and the standard was withdrawn (Scott, 2003). More recently, certain studies confirm measures including pool covers and alarms have limitations (Morrison et al., 1999; Pitt & Balanda, 1991). Pool alarms and pool covers have not been shown to be reliable preventive measures for very young children. In fact, WHO (2003) released guidelines for safe recreation water environments and concluded that pool covers may themselves contribute to drowning. If the covers are not strong enough to hold the child's weight, the child could slip under the cover and be trapped by it, or the child could drown in small puddles of water formed on their surface. In addition, they report that covers may delay the discovery of a drowning victim (World Health Organization, 2003).

Fencing. A landmark Australian study in 1977 identified that half of the drowning and near-drowning victims less than 5 years old occurred in the families' backyard pools and that in 3 out of 4 cases there were no barriers around the pools (Pearn & Nixon, 1977). This study impacted knowledge in the field and incited decades of research on the importance of pool fencing enclosures and public education outreach.

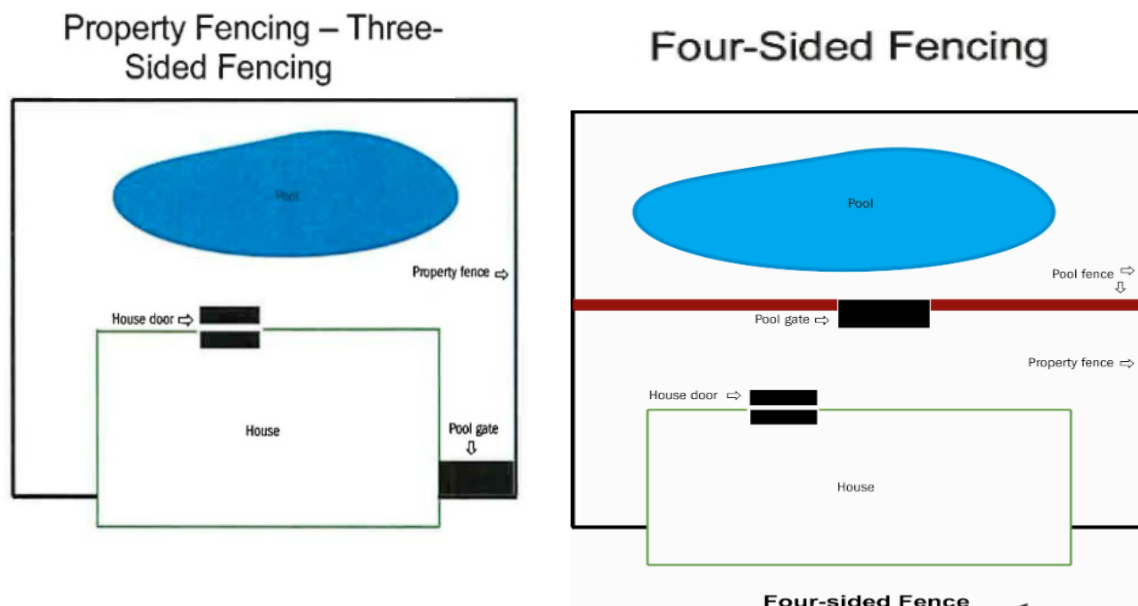


Figure 10. Three-Sided and Four-Sided Fencing Diagrams (Parachute, 2014a)

Many researchers and public health advocates such as the City of Ottawa and the Lifesaving Society of Canada, consider the best water safety product for preventing childhood drowning in backyard pools is four-sided fencing with self-closing gates around all pools (Figure 10 & Figure 11). This type of barrier restricts access from the surrounding area and from the home (Brenner, Smith, & Overpeck, 1994; Hyder et al., 2014; Pitt & Balanda, 1991; Wintemute & Wright, 1991). The majority of empirical support for the protective effect of pool fencing on childhood drownings come from many retrospective case series investigations, and a few of case-control studies conducted in the United States (Rogers, 1989; Morgenstern, Bingham, & Reza, 2000) and Australia (Pitt & Balanda, 1991). The estimated proportion of childhood drownings and near-drownings attributable to unfenced or incompletely fenced pools ranged from place and year. Some research examined whether the type of fence surrounding a pool makes a difference. Comparison studies of perimeter fencing versus isolation fencing (around the immediate pool area) show that four sided fencing is much more effective in reducing the risk of drowning (Wintemute & Wright, 1990). The CDC also reports that four-sided isolation fence (separating the pool area from the house and yard) reduces a child's risk of drowning 83% compared to three-sided property-line fencing (Centers for Disease Control and Prevention, 2012).

Recent Canadian statistics from the Royal Lifesaving Society of Canada show that in half of the residential pool child fatalities during the years 2006-2010, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%) around the backyard pools (Lifesaving Society, 2013). Reports have shown that pool fencing reduces the risk of drowning and that when laws require pool fencing, fewer drownings occur (Hyder et al., 2014; Pitt & Balanda, 1991; Wintemute & Wright, 1991). A systematic review undertaken by the Cochrane Injuries Group presents evidence that pool fencing significantly reduces the risk of drowning, and that four-sided fencing is superior to three-sided fencing (Thompson & Rivara, 2000). The reviewers reported that the odds ratio for the risk of drowning or near drowning in a fenced pool compared to an unfenced pool is 0.27, and the odds ratio for drowning in a pool with

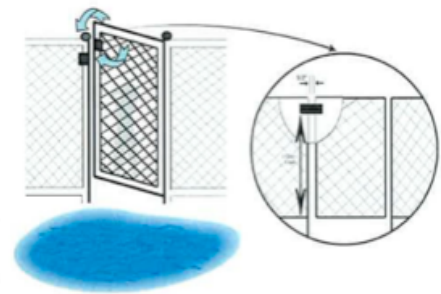


Figure 11. Self-Closing and Self-Latching Gate (Parachute, 2014a)

four-sided, isolation fencing compared to a pool with three-sided fencing is 0.17 (Thompson & Rivara, 2000).

c) Policy and Legislation

Policy and legislation is another important component of the Drowning Prevention Spectrum. It is a key strategy in ensuring that effective pool barriers are in place to prevent unintentional drownings (Morrison et al., 1999). It is evident from the relevant literature that Australia and New Zealand were pioneers in the development of legislation for the fencing of residential swimming pools (Langley 1983; Pearn & Nixon, 1977).

Currently there is no Federal pool safety legislation in Canada. The Pool and Hot Tub Council of Canada prepared evidence-based guidelines and includes a template of 4-sided pool enclosure legislation on their website for municipalities to adopt (Pool and Hot Tub Council of Canada, 2013). Provincially, Quebec passed a law in 2010 making it mandatory for all newly-built pools to be surrounded by four-sided fencing, while pools installed before the law came into effect remained subject to local bylaws. Local bylaws predominate across much of the country, with Manitoba being the only other province with provincial pool enclosure legislation (Parachute Canada, 2011). Under the Manitoba Building Code, pools must have a barrier, but it does not obligate fencing to be four-sided. In 2006, a provincial pool enclosure bill was proposed in Ontario, but did not pass into law (Parachute Canada, 2011)

At the municipal level, in 2001 the City of Ottawa introduced a bylaw enforcing 3-sided pool enclosures that was modified in 2012 for stricter measures (City of Ottawa By-law 2001-259, 2001; City of Ottawa By-law 2013-39, 2013). Furthermore, a 2012 bylaw proposal for a 4-sided pool enclosure bylaw did not pass based on the fact it is still difficult to enforce 3-sided fencing in Ottawa and that the City believes educating citizens about all forms of drowning prevention is important (City of Ottawa By-law 2013-39, 2013). The following chart from Parachute Canada provides a comparative summary of pool legislation in Canada and select countries (Parachute, 2011).

CANADA							
Canadian Municipal By-laws (selected)							
Municipality	Requires 4-Sided Fencing	Specifies Self-Closing and Self-Latching Gate	Specifies Minimum Height of 1.22m (4 Feet) (Minimum height exceeding 4 feet ✓✓)	Defines pool as having a water depth of at least 0.6m (2 feet) (pool depth less than 2 feet ✓✓)	Includes In-ground, above-ground and inflatable pools	Specifies Fence Construction that Inhibits Climbing (Includes model by-law measurements ✓✓)	Requires Retrofitting of 4-Sided Fencing for Existing Pools
City of Toronto, ON By-law #447-1	✓	✓	✓	✓	✓	✓✓	✗
City of Ottawa, ON By-law #2001-259	✗	✓	✓✓	✓	✓	✓	✗
Halifax Regional Municipality, NS By-law #S-700	✗	✓	✓✓	✓	✓	✓	✗
City of Vancouver, BC Vancouver Building By-law	✓*	✓	✓	✓✓	✓	✓	✗
* These by-laws do not specifically require 4-sided pool fencing. However, depending on how by-law enforcement officers interpret the by-law, these by-laws may in application require 4-sided fencing around private residential swimming pools.							
Canadian Provincial Legislation							
Province	Specifies 4-Sided Fencing	Specifies Self-Closing and Self-Latching Gate	Specifies Minimum Height of 1.22m (4 Feet) (Minimum height exceeding 4 feet ✓✓)	Defines pool as having a water depth of at least 0.6m (2 feet) (pool depth less than 2 feet ✓✓)	Includes In-ground, above-ground and inflatable pools	Specifies Fence Construction that Inhibits Climbing (Includes measurements ✓✓)	Requires Retrofitting of 4-Sided Fencing for Existing Pools
Ontario (Bill 74 proposed - Not passed)	✗	✗	✗	✗	✗	✓	✗
Quebec (Loi sur la sécurité des piscines résidentielles - L.R.Q., c. S-3.1.02, a. 1, 2e al.)	✓	✓	✓	✓	✓	✓	✓
INTERNATIONAL							
Jurisdiction	Specifies 4-Sided Fencing	Specifies Self-Closing and Self-Latching Gate	Specifies Minimum Height of 1.22m (4 Feet) (Minimum height exceeding 4 feet ✓✓)	Defines pool as having a water depth of at least 0.6m (2 feet) (pool depth less than 2 feet ✓✓)	Includes In-ground, above-ground and inflatable pools	Specifies Fence Construction that Inhibits Climbing (Includes measurements ✓✓)	Requires Retrofitting of 4-Sided Fencing for Existing Pools
Australia	✓	✓	✓	✓	✓	✓✓	✓
New Zealand	✓	✓	✓	✓	✓	✓✓	✓
France	✓	✓	✓	✓	✗	✓	✗

Figure 12. Safer Pool Legislation Chart (Parachute, 2011).

Compliance and enforcement. Bylaws provide a means to prevent children from drowning, however, low levels of compliance compromise their effectiveness (Morrison et al., 1999). There are often inconsistencies between authorities in their enforcement of particular requirements, largely due to federal, provincial, and even municipal ambiguities in the legislation (Morrison et al., 1999).

Results of a literature review (Gulliver, 2006) indicated that there are research gaps in understanding roles and responsibility in disseminating information and monitoring measures to ensure compliance. Part of the issue stems from ambiguities in legislation for the fencing of swimming pools which can result in potential for incomplete enforcement and compliance. Elimination of these ambiguities would strengthen the base from which local authority officers are able to conduct inspections (Gulliver, 2006). Gulliver (2006) specified that strengthening the legislation to require on-going inspection of backyard swimming pools might achieve higher compliance rates.

Researchers noted that few people fence their pools voluntarily (Wintemute & Wright, 1991). Moreover, many owners actively dispute the need for fencing (Morrison et al., 1999; Wintemute & Wright, 1990). Researchers found that pool owners often perceive pool fencing as too costly, unattractive, inconvenient due to lack of space, and unnecessary. Therefore, many backyard pools are unfenced or inadequately fenced.

In Ottawa, the latest statistics reflect this finding. In 2013, 28% of pool owners who purchased a pool permit did not comply with the local bylaw due to lack of knowledge or no interest in compliance (City of Ottawa, 2014). Whose responsibility is it to ensure compliance and mobilize water safety messages to pool owners? There are many stakeholders involved who have competing interests. Should the companies who sell and install the pools be informing consumers about water safety and local pool bylaws? Should it be the City's role to consistently enforce, inform, and educate pool owners about water safety best practices and bylaws? These questions will be further examined in this research interviews with various stakeholders.

This review of literature suggests there is a need to better understand stakeholders' roles in pool safety knowledge mobilization in Canada. There is a gap in the literature providing information on the effectiveness of current water safety campaigns. The literature also neglects to provide guidelines for water safety knowledge

mobilization best practices and identifying stakeholders' perceived roles in disseminating this knowledge to pool owners.

Theoretical Framework & Methodology

This project consisted of a grounded theoretical approach to enable insightful and methodical questioning of data during analysis in order to develop substantive theory (Mills, Bonner, & Francis, 2006). This thesis research included qualitative methods such as archival research and semi-structured interviews. Additionally, research data from this project was mobilized to create an operational, bilingual pool safety promotion campaign using social marketing theory. After discussion with key stakeholders, this proposed campaign included bus advertisements and informational stock cards.

Grounded Theory

Charmaz (2006) states that researchers can use grounded theory techniques with varied forms of data collection and within different qualitative traditions. Thus, this study will employ a case study design to guide data collection, and a constructivist grounded theory informed data analysis (Charmaz, 2006). Grounded theory also has a particular usefulness for examining previously understudied social phenomenon (Glaser & Strauss, 1967) and is particularly appropriate for researching and captioning the complexity of societal behaviour (Locke, 2001). Grounded theory is used to investigate problems of 'why' and 'how' in a systematic way, one that is "grounded" in the data itself rather than being deduced logically or hypothetically (Jones, 2009).

Bryant and Charmaz (2007) described the primary differences between grounded theory and other qualitative research methods. Unique features are the presence of theoretical sampling, and a constant comparison of data to theoretical categories (Bryant & Charmaz, 2007). Corbin and Strauss (1990) explained how theoretical sampling requires interview participants to be chosen using pre-existing traits of those participants, as opposed to random sampling. Theoretical sampling is used to analyze concepts in the data that will help progress a developing theory. Draucker, Martsolf, Ross, and Rusk (2007) noted that theoretical sampling is not used to create generalizations, but instead to develop a theory by collecting data. The second feature unique to grounded theory is the

constant comparison of data to theoretical categories. Through analysis, theoretical codes should emerge from this process of constantly comparing the data.

Bryant and Charmaz (2007) described four stages of analysis within grounded theory: codes, categories, concepts, and theories. Codes “set up a relationship with your data and with your respondents” (Bryant & Charmaz, 2007, pp. 17-18). Coded patterns and themes can then be grouped together to form categories. A category contains a collection of codes, and these codes are made increasingly complex and abstract. A collection of categories then forms a concept. Finally, multiple concepts can be combined in order to formulate and develop a theory (Bryant & Charmaz, 2007).

Epistemologically, grounded theory constructivism emphasizes the subjective interrelationship between the researcher and participant, and the co-construction of meaning (Pidgeon & Henwood, 1997). Researchers are part of the research endeavor rather than objective observers, and their values must be acknowledged by themselves and by their readers as an inevitable part of the outcome (Pidgeon & Henwood, 1997). In seeking a research methodology that would provide an ontological and epistemological fit with this thesis’s position, the concept of a constructivist grounded theory was explored. While early grounded theorists sought to discover patterns of behaviour in the data and conceptualize their properties through abstraction (Glaser & Strauss, 1967; Glaser, 1992), constructivist grounded theorists seek to understand difference and variation among research participants and to co-construct meaning with them (Charmaz 2006). Charmaz (2006) describes how constructivist grounded theory addresses how people’s actions affect their local and larger social worlds (Charmaz 2006). A constructivist ground theory methodology emphasizes that each study has a specific index of time, space, culture and situation and theories generated are evaluated as “plausible accounts” rather than as objective provable (Charmaz 2006).

Although research has been separately conducted on stakeholders, risk communication, and backyard pool water safety, there is little evidence of how each can influence the others. There is a gap in the literature and a need to understand stakeholder roles in pool safety communication. This risk communication is especially important with regard to portable pools, since they are often unfenced and deemed as low risk by owners. There needs to be a better understanding on how to change these behaviours by

studying and knowledge mobilization responsibilities of stakeholders. While many theories can be reviewed, no theories can solely and fully explain the elements of this study.

Using a grounded theory approach, this thesis seeks to understand stakeholders' roles in disseminating pool safety knowledge. The themes that presented themselves were uncertain, and through the use of grounded theory, this research was open to the opportunity of different theories in understanding stakeholders' roles in mobilizing pool safety knowledge arising from the interviews. Furthermore, this research will strive to increase awareness of portable pool safety by creating a bilingual bus advertisement using social marketing theory for the City of Ottawa. These results can ultimately be used to help childhood drowning rates continue to decline.

Social Marketing Theory

To facilitate individual or community-based changes, safety education alone is insufficient, and marketing concepts must be applied including a stronger consumer orientation (Maibach, Rothschild & Novelli, 2002). Social marketing bridges the gap between education and enforcement and is a good solution for those who are aware of the need to change behaviour but have not considered changing it (Maibach et al., 2002).

Andreason (1995) defines social marketing as “the application of commercial marketing ... to influence the voluntary behaviour of target audiences in order to improve their personal welfare as well as that of society” (p.108) and is a technique increasing in popularity within the public health (Cheng, Kotler, & Lee, 2010; Ling, Franklin, Lindsteadt, & Gearon, 1992) and injury prevention campaigns (Levy, Hawkes & Rossie, 2007). Social marketing interventions invest considerable time and energy in identifying the wants and needs of the target audience, as well as the challenges, likes, dislikes and fears related to a health problem and its determinants, is known as consumer analysis (Neiger, Thackeray & Barnes, 2003). A primary planning advantage that social marketing offers public health is a particular focus on consumers and a blend of strategies to conduct and interpret consumer research, including a better understanding of consumer motivation or resistance (Walsh et al., 1993). Other potential advantages offered by social

marketing, involve assurance of market analysis, including attention to the marketing mix, message design, and channel analysis, and pre-testing.

Social marketing principles and techniques have been used to benefit society in many ways. One major area of social marketing efforts has been focused on injury prevention. This includes the increased use of helmets (Ludwig, Buchholz & Clarke, 2005), drinking and driving campaigns (Rothschild, Mastin & Miller, 2006), occupational injury awareness (Lavack et al., 2008), consistent seat belt use (Solomon, Ulmer & Preusser, 2002), as well as drowning prevention. Campaigns promoting the importance of all forms of childhood drowning prevention using a social marketing approach have recently grown in popularity throughout North America. Drowning prevention experts have organized campaigns including ‘Within Arm’s Reach’ (Lifesaving Society, 2005) and ‘Water Watcher’ (Canadian Red Cross, 2014) that enforce the need of constant surveillance of children around the swimming pools.

Drowning prevention social marketing has expanded to multi-media horizons including comedic internet videos from the Nation Drowning Prevention Alliance (NDPA), again demonstrating the need for parental surveillance of children around pools (NDPA No More Drown Channel, 2011a), as well as the necessity to popularize pool safety products (NDPA No More Drown Channel, 2011b). Aside from the classic forms of social marketing, organizations have also used guerilla marketing to portray a more intense and personal message about drowning prevention. Guerrilla marketing is an advertisement strategy designed for small businesses (or not-for-profit organizations) to promote their products or messages to a large audience in an unconventional and low-budget way (Levinson, 1994). These campaigns reach people in moments and places where they could be at risk, and are therefore most receptive to key messages. To promote National Drowning Prevention Week and remind beach-goers of the dangers of being around water, the Lifesaving Society of BC & Yukon (2012) introduced a guerilla social marketing strategy where they created a sand sculpture depicting a crying woman holding a drowning victim (see Appendix D). In 2014, Safe Kids paired with Preventable.ca to create a guerilla social marketing initiative called “Have a Word With Yourself” towel campaign (Parachute Canada, 2014). In this campaign, towels are laid out with other beach items in such a way that it looks like the owner has abandoned these

items, and could potentially be a drowning victim. This guerrilla social marketing technique is used to raise awareness about water safety and provides an effective avenue for community outreach teams to engage the public in discussions about their attitudes towards water safety.

Although all these social marketing drowning prevention strategies exist, there has been little effort from Canadian experts in promoting the safety of portable pools through social marketing. This area of drowning prevention would benefit from a social marketing strategy. Therefore this research will purpose a new social marketing campaign to address the changing residential leisure swimming practices of the increased use of portable pools.

Methods

To provide a holistic account of the topic of pool safety knowledge mobilization this research used multiple methods. A mixed methods approach was implemented when collecting drowning statistics. A qualitative approach including semi-structured interviews was employed to explore water safety knowledge. The following section outlines the methods that were used for each purpose in this thesis.

1. Mixed Methods

Quantitative methods were utilized when gathering drowning statistics and investigating if there is a correlation with the implementation of drowning prevention campaigns, residential pool enclosure bylaws, pool permits acquired, and the public's understanding and compliance of water safety practices and legislation in Ottawa. Mixed methods studies involve the collection of both quantitative and qualitative data in a single study, where the collection of the data are concurrent or sequential, and involves the addition of the data at one or more stages in the process of research (Teddlie & Tashakkori, 2003). This investigation benefited from the advantages of mixed methods research through the use quantitative data obtained from government records on the

introduction of bylaw legislation, drowning rates, and near-drowning rates also collected from public health emergency records.

2. Sampling

To deeply explore and map stakeholders' responsibilities involved with the mobilization of pool safety knowledge, semi-structured interviews were employed. Before this data collection method is explained, it is important to address sampling and how the participants will be identified in this study.

Within the qualitative literature (Coyné, 1997; Higginbottom, 2004) the most frequently referred to qualitative samples are convenience, purposive, theoretical, selective, and within case samples. For this research, purposive sampling was utilized where participants who have specific characteristics or features were recruited (Higginbottom, 2004). This is the most common sampling technique and is generally utilized in case study research (Creswell, 1998). The objective for this MA thesis was to conduct 6-8 semi-structured interviews, and the researcher was successful in recruiting and interviewing six (6) key stakeholders in pool safety. The specific criteria for these interviews were that participants are key stakeholders involved in public education and surveillance of Ottawa's residential pool safety. This included individuals affiliated with the City of Ottawa, a local water safety organization, a national water safety organization, an international pool manufacturer, and a marketing team.

These groups are key stakeholders for this research because they are representative of those who are important in public awareness and surveillance of Ottawa's residential pool safety and may utilize a pool safety marketing campaign once created. The City of Ottawa can affect change of local bylaws as well as distribution and funding of marketing campaigns. Water safety associations have experience with previous successful campaigns, as well as knowledge of statistics. Pool companies and stores can provide insight into our target audience: how many pools are being bought, what demographics are buying portable pools, and what safety messaging is being provided to these consumers at point of purchase. Finally, the marketing team can explain how to hook the target audience into wanting to invest in the needed behaviour change.

Once ethics was approved from the University of Ottawa Research Board Ethics Committee, interview recruitment was initiated. The participants were debriefed on the topics to be covered in the interviews, and signed a consent form with guarantee of anonymity throughout the research stages and dissemination of research findings.

3. Semi-Structured Interviews

Interviews are a very common method researchers use for qualitative investigations. In fact, interviews have become such a common part of our culture that academics have said that we live in an “interview society” (Fontana & Frey, 2005; Kvale & Brinkmann, 2009). Interviews can be structured, semi-structured, or unstructured. A structured interview occurs when the interviewer has a pre-established set of questions to ask all participants (e.g., survey); there is little room for variation (Fontana & Frey, 2005). In a semi-structured interview, the interviewer has a number of questions to ask, but there is an opportunity to use probes to allow for participant explanation (Fontana & Frey, 2005). For this research, the most appropriate form is the semi-structured interview. Semi-structured interviews have a number of advantages: They facilitate rapport and empathy, they allow for flexibility, and they allow the discussion to go into novel areas (Fontana & Frey, 2005). Some researchers have suggested semi-structured interviews have disadvantages in that they take longer to conduct, because the questions could elicit lengthy, detailed responses, and are often more difficult to analyze than structured interviews (Fontana & Frey, 2005). Despite the potential weaknesses, semi-structured interview was still considered to be the most appropriate method for collecting the data for this investigation especially given the use of a grounded theory methodology.

For this master’s thesis, six semi-structured interviews were conducted with key stakeholders involved in the mobilization of pool safety knowledge. As noted by Fontana and Frey (2005), interviewing is one of the most common and powerful ways to gain insights from participants. To gain this insight, approximately 20 open-ended questions were asked using an interview guide to direct the conversation, but also allowed for participants to elaborate and clarify their answers as required. These questions included understanding their perceptions of current pool safety knowledge mobilization, their roles, and potential future strategies. Another group of questions explored their insights

on what knowledge mobilization tools would be most beneficial, what information should be focused on, and how it should be distributed. This project then developed a portable pool safety campaign and utilized the interviewees' feedback prior to creating it. The interviews were conducted at locations convenient to the respondents, usually their work office. The interviews were recorded using a tape recorder and were manually transcribed. The transcriptions were sent back to the respondents for them to review to ensure accuracy. None of the participants had corrections or additions to their transcripts after revision. Once they confirm accuracy, manual thematic coding began during the data analysis stage. All transcriptions and recordings are kept in the supervisor's office in a locked shelf during the duration of my studies and research dissemination, and will be destroyed on the date stipulated by the uOttawa REB.

A guiding objective of this research project is to contextualize knowledge mobilization of legislation and marketing campaigns. Through the study's proposed methodology, methods and theoretical framework, the problem of childhood drowning in residential pools in Ottawa will be further understood, thus situating the study of Ottawa within the broader phenomena in Canada and globally. The thesis contextualizes the importance of private leisure that backyard pools provide, and seeks to understand the rationale and effectiveness of pool safety guidelines, legislation and research. An analysis of previous pool safety marketing campaigns is included in the prescribed study region of Ottawa, and seeks insight from stakeholders on their perception of the target audience, the effectiveness of these campaigns, level of bylaw compliance among pool owners, and what changes they would make to future campaigns. Together with the research findings and suggestions from the stakeholders on emerging local issues in Ottawa, a 2017 portable pool safety campaign was developed in the form of a stock card and bus advertisement to be disseminated throughout the City of Ottawa during summer 2017. It is a goal to see this research mobilized to create knowledge awareness and disseminate the findings through a campaign targeted to the general public.

Chapter 2

Stakeholders perceived roles in pool safety knowledge mobilization and identifying
the barriers of initiative uptake

Kylie Valentino

Abstract

In this first manuscript, the research purpose was to explore stakeholders perceived roles in mobilizing pool safety knowledge and to understand the barriers associated with the uptake of pool safety initiatives. Six water safety experts were interviewed to gain insight into their perceptions and diverse roles. Using grounded theory, it was determined that stakeholders perceive they have a role in mobilizing pool safety knowledge. Three overarching themes emerged from the data which aligned with the proposed Drowning Prevention Spectrum: pool safety experts perceive their responsibility in mobilizing pool safety knowledge through their role in developing knowledge and skills as a safety educator; developing and promoting campaigns and products through their role as a marketer of behaviour change; and through their role in the development and enforcement of policies and legislation. Interviewees were also asked what they perceived as some of the major barriers to the uptake of pool safety information and initiatives. Interviewed stakeholders revealed that the main social-ecological barriers included personal barriers (cost and time), social barriers (policy and awareness), and physical barriers (backyard aesthetics). The results of the first manuscript demonstrates that even though all interviewed stakeholders perceive they have a role in mobilizing pool safety knowledge, there are still barriers in the uptake of pool safety knowledge by citizens and pool owners.

Background

Each summer in Canada, we hear tragic stories of preventable deaths by drowning in pools, rivers, lakes and oceans. In summer 2016, several drownings occurred in the national capital region, including one of a young child in a backyard pool. Drowning is a leading cause of preventable death of Canadian children (Canada Safety Council, 2015; Canadian Red Cross, 2013). Every year, an average of 58 children under 14 years of age die from drowning in Canada, while another 140 are hospitalized for near-drowning. Backyard swimming pools are the site of nearly half these drownings (Parachute Canada, 2014a).

Safe Kids Canada's National Drowning Report (2005) indicated that every year Canadian children have approximately 1 in 100,000 risk of drowning and 1 in 47,600 risk of near-drowning. Near drownings are often not calculated in statistics, yet they are a growing concern. For every childhood drowning, there are approximately three near-drowning incidents. Near-drowning is the survival for more than 24 hours (even if temporary) from suffocation by submersion. Near-drowning incidents can result in survivors suffering significant neurological impairment and post-traumatic stress around water (Canadian Red Cross, 2003).

Safe Kids Canada (2007) and the Canadian Red Cross (2003) indicate that half of child backyard pool drownings occur when the child is walking or playing near the pool, not necessarily already in the swimming pool. Young children under five years old are particularly vulnerable because they are attracted to water and see objects such as toys or balls float or sink in the water (Blum & Shields, 2000; Thompson & Rivara, 2000). Young children lack an understanding of the danger of water and most have not yet fully developed the necessary coordination and strength to swim (Safe Kids Canada, 2007). The Canadian Red Cross (2011) indicates that in 80% of child pool drowning deaths, there was no adult supervision when victims became immersed in their own backyard pool.

Many cities across Canada have created legislation to mandate pool enclosures with self-closing and latching gates to prevent unintentional access to residential backyard pools (Scott, 2003). However, Canadian statistics from the Royal Lifesaving

Society of Canada show that in half of the residential pool child fatalities during the years 2006-2010, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%) around the backyard pools (Lifesaving Society, 2013). Enforcement and compliance of legislation provide key support in preventing drowning and near drowning incidents (Morrison et al., 1999). Yet, the City of Ottawa's Building Codes Services identified that in 2013, 28% of Ottawa pool owners who had purchased a pool permit were not compliant with the new city bylaw requiring a locked gate (City of Ottawa, 2014). Although drowning prevention educational campaigns are in place across Canada, there is still a lack of pool safety compliance and awareness by citizens.

City of Ottawa officials feel the problem is further compounded by a large percentage of pool owners who do not purchase a pool permit, thus city officials are not aware and thus do not inspect whether their fencing enclosure is bylaw compliant. This makes it very difficult to mobilize pool safety knowledge to these owners. There is a lack of role awareness and communication between stakeholders to enforce pool enclosures and permits. It may be that a lack of knowledge and awareness regarding pool bylaws continues to put children at risk of being exposed to pools with less parental supervision, non-compliance of pool enclosure permits, and less knowledge on the drowning risks, prevention and lifesaving strategies for pools. The purpose of this study is to provide insight into research-based policies and practices of effective childhood drowning prevention strategies by exploring the role of various stakeholders in mobilizing pool safety knowledge and understanding the barriers associated with the uptake of this knowledge. The following literature review will provide context on discussion and debates in the field related to the set of proposed research questions for this thesis project.

Literature Review

Residential Pool Drowning Prevention

Unintentional drowning deaths can be largely averted through a combination of structural, environmental, educational, behavioral and technological interventions (Ashby, Routley, & Stathakis, 1998; Paine & Cassell, 2003). Over the past 50 years, Australia, New Zealand, the United Kingdom, Canada and the United States achieved a

reduction in child drowning through a combination of these approaches (Australian Water Safety Council, 2012; Weiss, 2010).

The Spectrum of Prevention (Figure 13) is a systematic tool that promotes a multifaceted range of public health efforts for effective prevention. Originally developed by Larry Cohen (Cohen & Swift, 1999), the Spectrum of Prevention model encourages people to move beyond the idea that prevention is simply about teaching healthy behaviors to individuals (Ratray, Brunner, & Freestone, 2002). It is a guideline, and while not all of the strategies will be appropriate for every issue, the Spectrum provides a reminder that complex problems often require a range of approaches. Since this is a flexible model, organizations working in the field of public health are adapting the model based on their own experiences, successes, and failures. It has been used nationally in prevention initiatives targeting traffic safety, violence prevention, injury prevention, nutrition, and fitness (Ratray, Brunner, & Freestone, 2002).

Based on Cohen's Spectrum of Prevention, this project proposed a modified spectrum of prevention that responds to the particular issue of drowning, and based on research-based evidence of overlapping prevention practices and strategies (Figure 14). The use of a Drowning Prevention Spectrum illustrates the way in which multiple preventative measures, each corresponding with a level of the spectrum, can be implemented simultaneously to constitute a comprehensive drowning prevention approach. The spectrum is comprised of three levels of increasing scope beginning with a focus on an individual's water safety knowledge and skills (swimming lessons, CPR, surveillance); on community campaigns and resources (pools safety products and campaigns); and thirdly, laws and policies (pool fencing bylaws). In this research project, this study focuses on the second and third aspect of the drowning spectrum, focusing on municipal and community-led campaigns based on government policies.

Influencing policy and legislation
Changing organizational practices
Fostering coalitions and networks
Educating providers
Promoting community education
Strengthening individual knowledge and skills

Figure 13. Cohen's Spectrum of Prevention (Cohen & Swift, 1999)

Drowning Prevention Spectrum

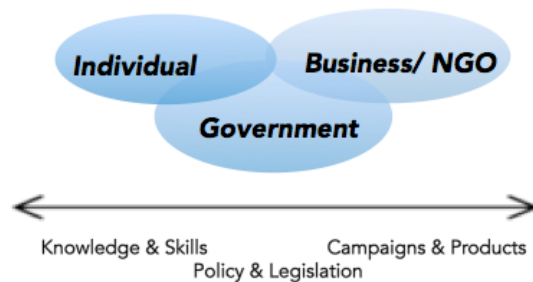


Figure 14. Drowning Prevention Spectrum (Valentino & O'Connor, 2016)

Water Safety Organizations: Identifying Stakeholders

The World Health Organization (WHO) Guidelines for safe recreational water environments suggest, “Effective management can control potential adverse health consequences that can be associated with the use of unsafe recreational water environments. Different stakeholders play different roles in the management of the recreational water environment.” (World Health Organization, 2003, p. 21) The management of these environments, such as backyard pools, includes mobilizing safety knowledge to pool owners. Knowledge mobilization by stakeholders is important because it helps make research useful to society (Naidorf, 2014).

Water safety campaigns and organizations are an essential component within the Drowning Prevention Spectrum to mobilize water safety knowledge to the community. In an international context, the United Nations, the World Health Organization, the Royal Lifesaving Society, and the Red Cross are actively involved in drowning prevention, particularly in vulnerable communities. In Canada, there are multiple national, provincial, and municipal-based stakeholders invested in preventing all forms of drowning with a significant focus on reducing drowning in remote Indigenous communities, who suffer drowning rates several times higher than the Canadian average (Canadian Red Cross, 2013c). In urban settings, backyard pool drowning prevention campaigns focus around

supervision, learning to swim, swimming with a buddy, wearing a life jacket while boating, pool fencing and general water safety.

National/Provincial Government & Organizations

At the national and provincial level, organizations such as Safe Kids/ Parachute Canada, the Royal Lifesaving Society, the Canadian Red Cross, and the Pool and Hot Tub Council of Canada (PHTCC) contribute to knowledge mobilization of best practices for water safety. Safe Kids/ Parachute Canada builds awareness and understanding of the issue of injury to keep Canadians safe at home, on the road, at work, and at play. The Canadian branch of the Royal Lifesaving Society (RLSSC) is a charitable organization working to prevent water-related injuries. Their focus is on providing basic and advanced training programs, 'Water Smart' public education, safety management services, drowning prevention research, and lifeguard training (Lifesaving Society, 2005).

Another organization committed to preventing water-related injuries and fatalities, is the Canadian Red Cross. Part of their commitment is to provide other agencies and stakeholders in health promotion and injury prevention with research on drownings. With the assistance of the Chief Coroner's offices, the Red Cross is able to look at who is drowning and in what circumstances. Their research is crucial to create effective public education strategies and community initiatives, such as their 'Water Watcher' (Canadian Red Cross, 2014) campaign that enforces the need of constant surveillance of children around swimming pools. As well, this research helps identify key messages and skills that all Canadians need to help them stay safe in, on and around the water.

The Pool & Hot Tub Council of Canada is a national, not-for-profit association of companies, organizations and individuals involved in the aquatic leisure industry. It is based in Brampton, Ontario and its members include builders and contractors, retailers, service providers, manufacturers and distributors of swimming pools, hot tubs and water feature products, as well as public pool operators and related safety organizations. Since 1959, major areas of responsibility for the PHTCC included public awareness campaigns on water safety, training and education, advocacy, networking among members, and the facilitation of technological advancement within the sector.

City-Based Organizations

Many stakeholders in Ottawa, Ontario provide city-based drowning prevention messages: The City's Parks and Recreation services department, Building Code Services, Ottawa Public Health, Ottawa Police Services, Ottawa Paramedic Service, Ottawa Fire Services, Dovercourt Recreation Centre, Boys and Girls Club, Ottawa Chapter of Canadian Red Cross, Lifesaving Society, and the Children's Hospital of Eastern Ontario (CHEO). These stakeholders came together in 2002 in response to local drownings and formed the Ottawa Drowning Prevention Coalition (ODPC). The Coalition provides community leadership through drowning prevention media awareness events.

With the help of the ODPC, the City of Ottawa's Building Codes Services launched the City's 2013 and 2014 Public Awareness and Pool Safety Campaign. Efforts were focused on the development and launch of an annual public awareness campaign, and raising awareness of the new retroactive requirement of the new Pool Enclosure By-law that all pool gates are to be locked at all times. The main components of the 2013 and 2014 campaign were the development of a detailed communications plan; educational and promotional materials on pool safety and the new bylaw requirements; a media exposure strategy; and the implementation of targeted public outreach strategies. The results of the outcomes of this campaign reinforced the need for the City to continue with this messaging, as Building Codes Services identified that 28% of Ottawa pool owners who had purchased a pool permit were not compliant with the new city bylaw requiring a locked gate (City of Ottawa, 2014)

The successful 2013 and 2014 campaign administered by the City of Ottawa Building Code Services was transferred to the City's Park, Recreation and Culture Services for the 2015 relaunch. They will remain responsible for the 2017 campaign highlighting the growing responsibility of the parks and recreation sector in ensuring pool safety and adherence to the enhanced pool enclosure standards of the updated 2011 bylaw. Through initial conversations with municipal stakeholders, we identified three key areas of research interest to the City of Ottawa Park, Recreation, and Culture Services: 1) the City's lack of knowledge on whether an individual has installed a pool, 2) their uncertainty of pool owners' knowledge and understanding of the new bylaw policies

regarding locked pool gates, and 3) their difficulty in monitoring compliance. The City of Ottawa indicated that these issues become amplified with the growing trend of portable pools. They expressed interest in seeing research into developing a research-based promotional campaign that targets safety concerns of inflatable, portable pools purchased “off the shelf” and installed without a pool enclosure permit.

The implementation of drowning prevention educational tools and social marketing campaigns are deemed necessary to mobilize knowledge on best practices to the public who purchase and/or swim in backyard pools. Although the City of Ottawa and drowning prevention organizations created successful campaigns and aided in the legislation of pool enclosures, there is a need to incorporate information on new drowning risks in future promotional campaigns. This thesis project endeavours to fill this gap by working with various stakeholders to create a new marketing campaign to address the drowning risks in portable pools.

Key Stakeholders for this Research

Stakeholders interviewed for this research include two City of Ottawa officials (Bylaw, and Parks and Recreation), a local water safety organization, a national water safety organization, an international pool manufacturer, and a marketing team. In order to gain stakeholder participation and support, it’s important to understand not only who potential stakeholders are, but also the nature of their interest in the effort (Work Group for Community Health and Development, 2011). Key stakeholders are those who can have a positive or negative effect on an effort, or who are important to an organization, agency, or institution engaged in an effort (Work Group for Community Health and Development, 2011). Stakeholders’ interests can be many and varied. A few of the more common interests include: community leaders, those who influence social change, those who can affect policy and legislation, those involved in a certain line of work, those with flexible hours and availability, and those involved in health and safety.

Key stakeholders for this research project consisted of national, provincial, and city-based organizations: The City of Ottawa; water safety associations, pool safety organizations and advocates; pool companies; and a marketing team. These groups are key stakeholders because they are representative of those who are important in public

awareness and surveillance of Ottawa's residential pool safety and may utilize a pool safety marketing campaign once created. The City of Ottawa can affect change of local bylaws as well as distribution and funding of marketing campaigns. Water safety associations have experience with previous successful campaigns, as well as knowledge of statistics. Pool companies and stores can provide insight into our target audience: how many pools are being bought, what demographics are buying portable pools, and what safety messaging is being provided to these consumers at point of purchase. Finally, the marketing team can explain how to hook the target audience into wanting to invest in the needed behaviour change.

Theoretical Framework & Methodology

Grounded Theory

Charmaz (2006) states that researchers can use grounded theory techniques with varied forms of data collection and within different qualitative traditions. Thus, this study will employ a case study design to guide data collection, and a constructivist grounded theory informed data analysis (Charmaz, 2006). Grounded theory also has a particular usefulness for examining previously understudied social phenomenon (Glaser & Strauss, 1967) and is particularly appropriate for researching and captioning the complexity of societal behaviour (Locke, 2001). Grounded theory is used to investigate problems of 'why' and 'how' in a systematic way, one that is "grounded" in the data itself rather than being deduced logically or hypothetically (Jones, 2009).

Bryant and Charmaz (2007) described the primary differences between grounded theory and other qualitative research methods. Unique features are the presence of theoretical sampling, and a constant comparison of data to theoretical categories (Bryant & Charmaz, 2007). Corbin and Strauss (1990) explained how theoretical sampling requires interview participants to be chosen using pre-existing traits of those participants, as opposed to by random sampling. Theoretical sampling is used to analyze concepts in the data that will help progress a developing theory. Draucker, Martsolf, Ross, and Rusk (2007) noted that theoretical sampling is not used to create generalizations, but instead to develop a theory by collecting data. The second feature unique to grounded theory is the

constant comparison of data to theoretical categories. Through analysis, theoretical codes should emerge from this process of constantly comparing the data.

Bryant and Charmaz (2007) described four stages of analysis within grounded theory: codes, categories, concepts, and theories. Codes “set up a relationship with your data and with your respondents” (Bryant & Charmaz, 2007, pp. 17-18). Coded patterns and themes can then be grouped together to form categories. A category contains a collection of codes, and these codes are made increasingly complex and abstract. A collection of categories then forms a concept. Finally, multiple concepts can be combined in order to formulate and develop a theory (Bryant & Charmaz, 2007).

Epistemologically, grounded theory constructivism emphasizes the subjective interrelationship between the researcher and participant, and the co-construction of meaning (Pidgeon & Henwood, 1997). Researchers are part of the research endeavor rather than objective observers, and their values must be acknowledged by themselves and by their readers as an inevitable part of the outcome (Pidgeon & Henwood, 1997). In seeking a research methodology that would provide an ontological and epistemological fit with this thesis’s position, the concept of a constructivist grounded theory was explored. While early grounded theorists sought to discover patterns of behaviour in the data and conceptualize their properties through abstraction (Glaser & Strauss, 1967; Glaser, 1992), constructivist grounded theorists seek to understand difference and variation among research participants and to co-construct meaning with them (Charmaz 2006). Charmaz (2006) describes how constructivist grounded theory addresses how people’s actions affect their local and larger social worlds (Charmaz 2006). A constructivist ground theory methodology emphasizes that each study has a specific index of time, space, culture and situation and theories generated are evaluated as “plausible accounts” rather than as objective provable (Charmaz 2006).

Although research has been separately conducted on stakeholders, risk communication, and backyard pool water safety, there is little evidence of how each can influence the others. There is a gap in the literature and a need to understand stakeholder roles in pool safety communication. This risk communication is especially important with regard to portable pools, since they are often unfenced and deemed as low risk by owners. There needs to be a better understanding on how to change these behaviours by

studying and knowledge mobilization responsibilities of stakeholders. While many theories can be reviewed, no theories can solely and fully explain the elements of this study. The themes that presented themselves were uncertain, and through the use of grounded theory, this research was open to the opportunity of different theories arising from the data.

Methods

Sampling

To deeply explore and map stakeholders' responsibilities involved with the mobilization of pool safety knowledge, semi-structured interviews were employed. Before this data collection method is explained, it is important to address sampling and how the participants will be identified in this study.

Within the qualitative literature (Coyne, 1997; Higginbottom, 2004) the most frequently referred to qualitative samples are convenience, purposive, theoretical, selective, and within case samples. For this research, purposive sampling will be utilized where participants who have specific characteristics or features are recruited (Higginbottom, 2004). This is the most common sampling technique and is generally utilized in case study research (Creswell, 1998).

With time restraints of a master's thesis, six semi-structured interviews were conducted. The specific criteria for these interviews were that these participants were key stakeholders involved in public education and surveillance of Ottawa's residential pool safety. This included individuals affiliated with the City of Ottawa, a local water safety organization, a national water safety organization, an international pool manufacturer, and a marketing team.

Semi-Structured Interviews

Interviews are a very common method researchers use for qualitative investigations. In fact, interviews have become such a common part of our culture that academics have said that we live in an "interview society" (Fontana & Frey, 2005; Kvale

& Brinkmann, 2009). Interviews can be structured, semi-structured, or unstructured. A structured interview occurs when the interviewer has a pre-established set of questions to ask all participants (e.g., survey); there is little room for variation (Fontana & Frey, 2005). In a semi-structured interview, the interviewer has a number of questions to ask, but there is an opportunity to use probes to allow for participant explanation (Fontana & Frey, 2005). For this research, the most appropriate form is the semi-structured interview as we feel they provide a number of advantages: They facilitate rapport and empathy, they allow for flexibility, and they allow the discussion to go into novel areas (Fontana & Frey, 2005). Some researchers have suggested semi-structured interviews have disadvantages in that they take longer to conduct, because the questions could elicit lengthy, detailed responses, and are often more difficult to analyze than structured interviews (Fontana & Frey, 2005). Despite the potential weaknesses, semi-structured interview were considered to be the most appropriate method for collecting the data for this investigation especially given the use of a grounded theory methodology.

For this master's thesis, six semi-structured interviews were conducted with key stakeholders involved in the mobilization of pool safety knowledge. As noted by Fontana and Frey (2005), interviewing is one of the most common and powerful ways to gain insights from participants. The University of Ottawa Research Board Ethics Committee approved ethics on June 6th, 2016 and interviews were conducted in English during the remaining weeks of June. Based on the participants' preferences and availabilities, the interviews took place at a convenient time and location. A comfortable setting for the interviewee maximized the participant's sense of comfort and increased the opportunity for open dialogue regarding the subject matter. Prior to the beginning of the interviews, the participants were debriefed on the topics being covered. Participants were informed that if portions of their interviews were quoted in the research, only their connection to the project would be stated (City of Ottawa, a local water safety organization, a national water safety organization, an international pool manufacturer, and a marketing team.). Additional ethics consent was submitted to the RLSSC to allow for use and interpretation of their data. Participants were given two consent forms to read over and sign: one set that was returned to the researcher and the other for the participants' own purposes.

These forms were available in English and French. The participants were told that the interview would be audio recorded for transcription and analysis purposes.

Approximately 20 open-ended questions were asked using an interview guide to direct the conversation (See interview guide in Appendix A). The interviews were semi structured in nature which allowed for the researcher to adjust the questions based on the ensuing discussion, while also allowing for participants to elaborate and clarify their answers as required. The interviews lasted approximately 45 – 60 minutes to allow sufficient time to gather information on the topic of pool safety knowledge mobilization. The stakeholders went into depth about their perceived roles, other stakeholders' responsibilities in mobilizing pool safety knowledge, as well as what they thought were barriers for citizen in the uptake of this pool safety knowledge. The final transcriptions were returned to the participants by email to verify accuracy. All transcriptions and recordings are kept in the office of the supervising professor in a locked shelf and will be destroyed on the date stipulated by the University of Ottawa REB.

Data Analysis

This section details the research methods used in the analysis of data. Grounded theory is not a linear process. Rather, the approach is concurrent and integrative as data collection, analysis and conceptual theorizing occur simultaneously. This process continues until the theory is developed. In the current study, all six interviews were analyzed using a grounded theory approach. The interviews were recorded, transcribed, analyzed and manually coded to generate overarching themes. Grounded theory data analysis involves searching for concepts behind the actualities by looking for codes, concepts, and categories. Developing a grounded theory model involves systematically analyzing a phenomenon in order to explain how the process occurs inductively (Strauss & Corbin, 1998).

This research has adopted Strauss and Corbin (1990) four phases of the Grounded Theory building process and coding to describe the analysis of data: Open coding, axial coding, selective coding, writing theory. It is important to understand there is a cyclical connection among the three coding phases, such that coding does not follow stepwise

procedure. Once it has commenced with the initial round of open coding, it follows a continuous back-and-forth between types of coding in order to distill a grounded theory rooted in a solid rationale. Coding is essential to the development of a grounded theory. According to Charmaz, “coding is the pivotal link between collecting data and developing an emergent theory to explain these data”. All in all, the theory that this research seeks to generate was a collection of categories/concepts, their properties and their interconnectedness. When this was specified, the theory was complete.

1. Open coding

The analysis started with an open coding sentence-by-sentence examination of each interview and field notes observations. This was the first step in creating initial codes for comparisons. Open coding is the process of breaking data into discrete parts, closely examine them, and compare them from similarities and differences (Saldaña, 2015). In practice, each sentence of the interview transcriptions/notes were examined and each time a phenomenon appeared, notes were made in the margins. In addition to coding, Charmaz (2004) encourages the use of this memo-writing. Memos are notes that serve the researcher by providing a trial and error resource to compare and contrast emerging variables and their components, with an eye toward the final narrative. They also help the researcher reflect upon the process, and provide points of reference and clarity for later stages of the writing process (Saldaña, 2015). Some of the categories found were properties of other categories and others could be gathered as focal codes.

2. Axial Coding

In the next step in the data analysis process, axial coding, the researcher relates categories to their subcategories (concepts that relate to a category, further specifying and clarifying it) (Cho & Lee, 2014). The constant comparative method began to evolve from comparing incidents to focusing on emergent properties of the category. Diverse properties start to become integrated. The resulting theory began to emerge by itself (Cho & Lee, 2014).

3. Selective Coding

Selective coding is the final coding process that integrates and refines the theory and finds the story that can integrate what has been identified in open and axial coding.

The researcher repeated this process until no new properties had occurred; dimensions or relationships emerged in the data (Saldaña, 2015).

4. Writing Theory

A theory is offered to explain the phenomenon in question that is being studied. No matter what form the theory takes (visual model, or written statement), it is based entirely on the data that has been collected. For Creswell, "When the researcher is convinced that his analytic framework form a systematic substantive theory, that it is a reasonably accurate statement of the matters studied, and that it is couched in a form that others going into the same field could use -- then he can publish his results with confidence" (Creswell, 2009).

In this thesis, core themes were fleshed out related to stakeholders' perception of drowning risks, and effective prevention measures. These findings were situated within the proposed drowning prevention framework that reflected the themes discussed. In sum, three core elements were focused on using the drowning prevention spectrum in order to write the theory: pool safety experts perceive their responsibility in mobilizing pool safety knowledge through their role in developing knowledge and skills as a safety educator; developing and promoting campaigns and products through their role as a marketer of behaviour change; and through their role in the development and enforcement of policies and legislation.

Open Coding	Axial Coding	Selective Coding	Core Category
<ul style="list-style-type: none"> • Wear lifejacket • Using statistics • Knowledgeable Contractors in designing pool layouts 	<ul style="list-style-type: none"> • Training lifeguards • Being a role model 	Educating Staff	EDUCATOR
<ul style="list-style-type: none"> • Swimming Lessons • CPR lessons • Participating in initiatives • Lock gates • Rent-a Lifeguard • Swim-to-Survive • Water Watcher • Pool box warnings • Within-arms-reach 	<ul style="list-style-type: none"> • Global education • City education 	Educating Public	
<ul style="list-style-type: none"> • Ensure legislation is keeping up with reality • Numbers reflect need • Define research topics • Coroner Reports 	<ul style="list-style-type: none"> • Lobby different levels of government • Research 	Creator of Policy	POLICY
<ul style="list-style-type: none"> • Lock gate • Fencing requirements • Create awareness of bylaws associated with having pool 	<ul style="list-style-type: none"> • Need pool permits • Updating bylaws 	Enforce Policy	
<ul style="list-style-type: none"> • Within Arms Reach • On Guard • Lock your Gate marketing campaign 	<ul style="list-style-type: none"> • Twitter/ Facebook marketing platforms • Guerilla Marketing • Water Safety Organizations • City of Ottawa 	Social Marketing initiatives	MARKETING
<ul style="list-style-type: none"> • Portable pool vs. Kiddy pool vs splash pool • Do research on who needs this information. – Kids under five drown the most 	<ul style="list-style-type: none"> • Technical vs. Marketing terms • Triggers concern to do research • Target Audience • Creating a consistent ‘brand’ 	Create a hook so people want to educate themselves.	
<ul style="list-style-type: none"> • What happens when don’t follow water safety guidelines • Unsafe water settings • Not using lifejackets 	<ul style="list-style-type: none"> • There to pick up pieces • Emergency Services (CHEO, Paramedics...) • Local child drownings • Newspaper/media 	<ul style="list-style-type: none"> • Special Events • Seeing whats happening first hand 	STORY TELLER

Table 1. Grounded Theory Data Analysis

Findings

In this chapter, the data are summarized to address this study's proposed research questions. More specifically, participants' responses provided the basis for describing stakeholders' roles in mobilizing backyard pool safety knowledge and the barriers associated with the uptake of pool safety initiatives. Overall, all stakeholders interviewed believed that they have a role in mobilizing backyard pool safety knowledge. This project's research questions focused on the perceptions of stakeholders regarding their role in mobilizing pool safety knowledge. To address this question, a series of interview questions were asked to the stakeholders related to their perceptions on if they have role in mobilizing pool safety knowledge, what are their responsibilities in this role, which other stakeholders should be involved, and how might their roles be different. After the interview responses were transcribed, the data was organized into three themes that corresponded to the proposed Drowning Prevention Spectrum: a role as a safety educator (knowledge and skills); a role in marketing behaviour change (campaigns and products); and a role in creating or enforcing policy (policies and legislation).

Stakeholders from this study provided many specific examples regarding their perceptions of their roles in mobilizing pool safety knowledge. Themes became evident as multiple statements and multiple participants connected to a specific role. These three categories summarized the researcher's analysis of the perceived roles of various stakeholders involved in pool safety.

ORGANIZATION	EDUCATION		MARKETING	POLICY	
	STAFF	PUBLIC		CREATOR	ENFORCER
City of Ottawa employee	<p>“The other key role that they play as a portfolio manager is educating our staff and reminding them of the important role that they play in the advocacy of drowning prevention, that every child, adult, senior, toddler that they have in one of their swimming lesson program, every single individual that we teach to swim we're offering them the ability to enjoy whatever they want in and around aquatics for the rest of their lives”</p>	<p>“Education is a big piece of advocacy for us in terms of building a more global awareness of what it is that we're speaking about and the tools and strategies that we have available to help people embrace this water safety philosophy.”</p> <p>“I think it's really important to make sure that I'm practicing what we're preaching and for me that means being a daily role model. So whether I am Instagramming or Tweeting or Facebooking my family time at the cottage or doing the things that I love to do around the water making sure that I'm promoting by my own actions. So yes, I'm wearing a life jacket all the time when I'm out in my kayak.”</p>	<p>“We create the various marketing messages around that [pool safety] and then produce the material... we've really been trying to look towards designing more appropriate marketing to anyone who would have any form of water feature on their property.”</p>		
Local Water Safety Organization	<p>“We always say when we are doing our staff trainings: that we never want any child who comes to our facility or through our program to become a statistic.”</p>	x			
National Water Safety Organization		x	x	<p>“My role is really going to find research to define research topics that are going to potentially influence some future legislation that could be legislation or program. And then influencing and some lobbying of government to give more funding so that research can continue.”</p>	
Marketing Team			<p>“An advertisement isn't necessarily a huge informational piece or educational piece, it's a hook!”</p>		
Pool Company		<p>“The primary focus is education, because again water is a known risk for most consumers. What steps you can take to mitigate these risks is what the education processes is about and that I think is very valuable to the consumers”</p> <p>“Education is our primary means of</p>			

		making sure the products used safely. Because you can't be at each location as the product is in use... You're selling thousands and thousands of these, it is up to the consumer to understand how they're used and to take proper precautions for their safety."			
Bylaw Services					"I can see definitely bylaw playing a role. There should be information for people purchasing pools or applying for their permits. Maybe inspections as well" "So those building authorities have rules regulations about what safety features must be there to put the pool in place and does require inspections"
Emergency Services (was not interviewed, but mentioned by others)		"So we all have different experiences with drowning prevention and water safety, so you know when you look at CHEO for example they typically deal with you know the victim or the patient or the accident of that child that's drowned or nearly drowned so you know there state definitely on the prevention because they are seeing those kids come through"			
Contractors (was not interviewed, but mentioned by others)		"That would be a great place to start. I think it would be very important as well, people who are going through contractors and stuff to actually put in a pool, that they are aware of safety. That we are keeping in mind safety when they're doing their design of their pool in their backyard of course they want to be attractive and usually appealing but it needs to be safe at the same time" "The advantage that our emergency services have is that they're seeing firsthand what happens when we don't focus on on water safety and the unfortunate event of an incident they're there to pick up the pieces so they can offer us a storytelling and insights as can CHEO from from what they're seeing with the young people and again when we focus on who is drowning and what our statistics are we're looking at young children in very small amounts of water that have lacked often effective adult supervision at the time."			

Table 2. Data Analysis Interviewee's Quotes

#1 Role as a safety educator. Based on the data collected, it was apparent most all the stakeholders in this study believed that the provision of safety education was one of the most important roles they have as stakeholders. The City of Ottawa employees, water safety organizations, and pool company deemed education as a key component in mobilizing pool safety knowledge and ultimately decreasing drowning rates. Stakeholders commented that having a role as an educator included educating their staff and educating community members.

The local water safety organization and a City of Ottawa employee identified that hiring and training quality staff and maintaining consistent, quality instruction as part of their role in mobilizing pool safety knowledge.

“The other key role that they play as a portfolio manager is educating our staff and reminding them of the important role that they play in the advocacy of drowning prevention, that every child, adult, senior, toddler that they have in one of their swimming lesson program, every single individual that we teach to swim we're offering them the ability to enjoy whatever they want in and around aquatics for the rest of their lives” (City of Ottawa)

“We always say when we are doing our staff trainings: that we never want any child who comes to our facility or through our program to become a statistic.” (Local Water Safety Organization)

All six of the stakeholders’ stated that their main role in mobilizing pool safety knowledge was a public educator. This included mobilizing pool safety information about the layers of protection, including the use of barriers, swimming lessons, and supervision. “Education is a big piece of advocacy for us in terms of building a more global awareness of what it is that we're speaking about and the tools and strategies that we have available to help people embrace this water safety philosophy.” (City of Ottawa)

“The primary focus is education, because again water is a known risk for most consumers. What steps you can take to mitigate these risks are what the education processes is about and that I think is very valuable to the consumers” (International Pool Manufacturer)

A City of Ottawa employee explained that part the education portion of mobilizing pool safety knowledge is about being a role model.

“I think it's really important to make sure that I'm practicing what we're preaching and for me that means being a daily role model. So whether I am Instagraming or Tweeting or Facebooking my family time at the cottage or doing the things that I love to do around the water making sure that I'm promoting by my own actions. So yes, I'm wearing a life jacket all the time when I'm out in my kayak.” (City of Ottawa)

Interviewees from the Local Water Safety Organization and the City of Ottawa also mentioned that Emergency Services have an important role in mobilizing pool safety knowledge. They believe that since these stakeholders respond first hand to local tragedies, that they have more of a story telling role in educating the community about the dangers of water and the importance of pool safety.

“The advantage that our emergency services have is that they're seeing firsthand what happens when we don't focus on water safety and the unfortunate event of an incident they're there to pick up the pieces so they can offer us a storytelling and insights.” (City of Ottawa)

#2 Role as a marketer of behaviour change. Most interviewed stakeholders gave examples of pool safety marketing initiatives that their organization is apart of; however, only a City of Ottawa employee, National Water Safety Organization, and the Marketing Team used the term “marketing” to explain their role in mobilizing pool safety knowledge.

Education ends when the target audience knows the information; however, social marketing ends when the target audience changes their behavior and takes action (McKinney, n.d.). There are numerous examples of people knowing information, but failing to act on it. Knowledge does not equal behavior change.

The City of Ottawa official believed that they had an important role in marketing pool safety to citizens in order to mobilize pool safety knowledge and create a behaviour change.

“We create the various marketing messages around that [pool safety] and then

produce the material...we've really been trying to look towards designing more appropriate marketing to anyone who would have any form of water feature on their property.” (City of Ottawa)

The Marketing Team believed they could use marketing campaigns to capture the interest of the target audience and get people to want to learn more about pool safety. “Our [pool safety] advertisements aren't necessarily a huge informational piece or educational piece, it's a hook!” (Marketing Team)

Role as a creator & enforcer of policy. Policy and legislation was a large discussion topic within many of the semi-structured interviews. The creation and enforcement of local policy was said to be a major part of pool safety and the mobilization of pool safety knowledge.

The National Water Safety Organization indicated that the research conducted within this organization helps with the creation of local bylaws and best practices. “My role is really going to find research to define research topics that are going to potentially influence some future legislation that could be legislation or program. And then influencing and some lobbying of government to give more funding so that research can continue.” (National Water Safety Organization) Safer pool fencing and gate laws, in conjunction with enforcement and complementary public awareness campaigns are proven to reduce drowning (Safe Kids Canada, 2007).

Municipal authorities and building services were also identified by interviewees as important stakeholders involved with mobilizing pool safety knowledge. The International Pool Manufacturer as well as the Local Water Safety Organization deemed Building Code Services role in disseminating pool safety information involves regulating building permits as well as constantly enforcing and inspecting private home pools for safety infractions.

“I can see definitely bylaw playing a role. There should be information for people purchasing pools or applying for their permits. Maybe inspections as well” (Local Water Safety Organization)

“So building authorities have rules and regulations about what safety features must be there to put the pool in place and do require inspections” (International Pool

Manufacturer)

In conclusion, pool safety experts perceive they have a responsibility in mobilizing pool safety knowledge through their role as a safety educator, their role in marketing behaviour change; and their role in creating or enforcing policy.

Resistance to uptake of pool safety information and initiatives

The participants in this study were asked what they believed were barriers to the uptake of pool safety information and initiatives. Understanding the perceived personal, social and physical barriers will aid in the implementation of knowledge mobilization initiatives for all stakeholders.

The following table includes perceived barriers that interviewees believe keep individuals from the uptake of pool safety information.

Barrier	Evidence- Quotes
Personal – Cost, Time	<p>“I would say that another potential barrier to our overall success is a financial piece as well. So financial in terms of being able to afford safe pools and safe devices, perhaps accessibility to the trainings that we've spoken about: First Aid, C.P.R., swimming lessons” (City of Ottawa Official)</p> <p>“if it's a small portable pool we're taking the time after each usage to dump and drain that water” (City of Ottawa Official)</p>
Social – Policy, Awareness	<p>“I think the first barrier is overall awareness and understanding of what the possible risks are associated with drowning and how quickly it can happen.” (City of Ottawa Official)</p> <p>“Well Ottawa is not required to have four sided fencing. The back of the house is enough. So because parents are not required to have that, they don't do it.” (Local Water Safety Organization)</p>
Physical – Aesthetics	<p>“they feel that the fencing creates an obstruction of some sort. So they think aesthetically it doesnt look as great. So I think aesthetically people feel that the fencing just doesnt look pretty. So thats one of the barriers sometimes we have to face with the consumer to act on pool safety” (National Water Safety Organization)</p> <p>“they often find that it is not pleasantly appealing or attractive that extra fencing in there, so they dont put it in. “ (Local Water Safety Organization)</p>

Table 3. Knowledge Uptake Resistances Interviewee's Quotes

Findings from this question provide insight into some perceptions as to some of the major barriers to the uptake of pool safety information and initiatives. Interviewed stakeholders revealed that the main social-ecological barriers included personal barriers, social barriers, and physical barriers.

The City of Ottawa Official believed personal factors to be a main barrier in the uptake of pool safety knowledge by citizens and pool owners. One personal barrier included the cost of making a pool safe: “I would say that another potential barrier to our overall success [of knowledge mobilization] is a financial piece as well. So financial in terms of being able to afford safe pools and safe devices, perhaps accessibility to the trainings that we've spoken about: First Aid, C.P.R., swimming lessons” (City of Ottawa Official). This interviewee also deemed personal time to be a barrier to uptake: “if it's a small portable pool we're taking the time after each usage to dump and drain that water” (City of Ottawa Official).

Another emerging theme arising when asking this question was social barriers in the uptake of pool safety knowledge. Interviewees explained how the lack of policy hinders this uptake: “Well Ottawa is not required to have four sided fencing. The back of the house is enough. So because parents are not required to have that, they don't do it” (Local Water Safety Organization). Furthermore, it was explained that the lack of overall pool safety awareness by citizens creates a social barrier to the uptake of knowledge: “I think the first barrier is overall awareness and understanding of what the possible risks are associated with drowning and how quickly it can happen” (City of Ottawa Official).

Finally, the National and Local Water Safety Organizations explained how physical barriers such as aesthetics play a role in the hindrance of pool safety knowledge uptake.

“They feel that the fencing creates an obstruction of some sort. So they think aesthetically it doesn't look as great. So I think aesthetically people feel that the fencing just doesn't look pretty. So that's one of the barriers sometimes we have to face with the consumer to act on pool safety” (National Water Safety Organization)

“They often find that it is not pleasantly appealing or attractive that extra fencing in there, so they don't put it in. “ (Local Water Safety Organization)

Overcoming perceived barriers is the first step in creating more successful pool safety knowledge mobilization initiatives. It's up to stakeholders to come up with creative ways to incorporate a solution to these barriers to keep citizens motivated to keep their pools and children safe. Overall education and awareness of the dangers of backyard pools will help overcome some of these barriers.

Conclusion

In this manuscript, the research objective was to explore stakeholders' perceived roles in mobilizing pool safety knowledge and to understand the barriers associated with the uptake of pool safety initiatives. Using grounded theory, it was determined that stakeholders perceive they have a role in mobilizing pool safety knowledge. Three overarching themes emerged from the data which aligned with the proposed Drowning Prevention Spectrum: pool safety experts perceive their responsibility in mobilizing pool safety knowledge through their role in developing knowledge and skills as a safety educator; developing and promoting campaigns and products through their role as a marketer of behaviour change; and through their role in the development and enforcement of policies and legislation. All of the stakeholders labeled a part of their role as 'education'. Stakeholders commented that having a role as an educator included educating their staff, educating community members, being a role model in every day life, and having a story telling role in educating the community about the dangers of water and the importance of pool safety. Most interviewed stakeholders gave examples of pool safety marketing initiatives that their organization is a part of; however, only a City of Ottawa employee, National Water Safety Organization, and the Marketing Team used the term "marketing" to explain their role in mobilizing pool safety knowledge. The creation and enforcement of local policy was also said to be a major part of pool safety and the mobilization of pool safety knowledge for the National Water Safety Organization through research, and building services through regulating building permits as well as constantly enforcing and inspecting private home pools for safety infractions.

Interviewees were also asked what they perceived as some of the major barriers to the uptake of pool safety information and initiatives. Interviewed stakeholders revealed

that the main social-ecological barriers included personal barriers (cost and time), social barriers (policy and awareness), and physical barriers (aesthetics). Understanding these perceived personal, social and physical barriers will aid in the implementation of knowledge mobilization initiatives for all stakeholders.

The results of this first manuscript demonstrates that even though all interviewed stakeholders perceive they have a role in mobilizing pool safety knowledge, there are still barriers in the uptake of pool safety knowledge by citizens and pool owners. These barriers are consistent with those identified in the current literature. The results also demonstrate that there is a need for more effective and researched based marketing techniques such as audience segmentation to attract pool owners to learn about safety best practices, especially within new residential leisure swimming practices of the increased use of portable pools.

Chapter 3
Creating a Portable Pool Safety Social Marketing Campaign

Kylie Valentino

Abstract

This article focused on using Weinreich's (2010) process model and semi structured interviews with six pool safety experts as well as marketing experts to create a social marketing campaign to emphasize the risks associated with portable pools. This article goes through the six steps outlined by Weinreich (2010) as well as using theories such as positive messaging, negative messaging, and social norm theory in the development of the campaign messages. Through interviews, the City of Ottawa employee, local water safety organization, national water safety organization, and an international pool manufacturer gave their opinions and suggestions on most effective campaign messages, images, target audience, and promotional channels. The mock campaign ads were then presented to the marketing team in whom they gave their ideas and suggestions on how to hook the target audience in wanting to learn more about portable pool safety. A final campaign was crafted and will be implemented in Ottawa for the summer of 2017.

Background

The World Health Organization (WHO) guidelines for safe recreational water environments suggest, “Effective management can control potential adverse health consequences that can be associated with the use of unsafe recreational water environments. Different stakeholders play different roles in the management of the recreational water environment.” (World Health Organization, 2003) The management of these environments, such as backyard pools, includes mobilizing safety knowledge to pool owners. Knowledge mobilization by stakeholders is important because it helps make research useful to society (Naidorf, 2014)

Each summer in Canada, we hear tragic stories of preventable deaths by drowning in pools, rivers, lakes and oceans. In summer 2016, several drownings occurred in the national capital region, including one of a young child in a backyard pool. Drowning is a leading cause of preventable death of Canadian children (Canada Safety Council, 2015; Canadian Red Cross, 2013). Every year, an average of 58 children under 14 years of age die from drowning in Canada, while another 140 are hospitalized for near-drowning. Backyard swimming pools are the site of nearly half these drownings (Parachute Canada, 2014a).

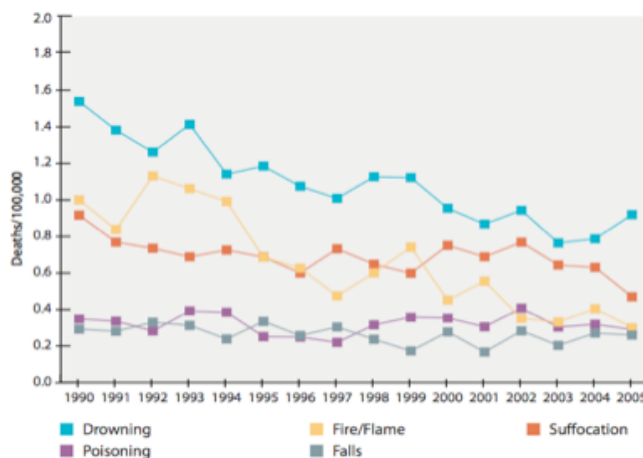


Figure 25. Unintentional injury deaths in Canada, 1990-2005, by selected causes, 0-19 years, both sexes combined, standardized rates/100,000 persons (Public Health Agency of Canada, 2009).

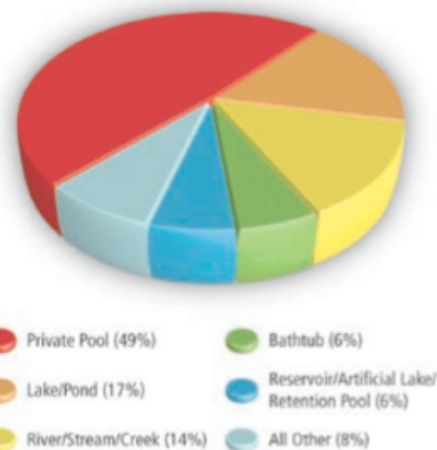


Figure 16. Aquatic Settings of Victims Under 5 Years Percentage of Preventable Water-Related Deaths/Year Ontario 2000-2004 (Lifesaving Society, 2008).

Safe Kids Canada’s National Drowning Report (2005) indicated that every year Canadian children have approximately 1 in 100,000 risk of drowning and 1 in 47,600 risk

of near-drowning. Near drownings are often not calculated in statistics, yet they are a growing concern. For every childhood drowning, there are approximately three near-drowning incidents. Near-drowning is the survival for more than 24 hours (even if temporary) from suffocation by submersion. Near-drowning incidents can result in survivors suffering significant neurological impairment and post-traumatic stress around water (Canadian Red Cross, 2003).

Safe Kids Canada (2007) and the Canadian Red Cross (2003) indicate that half of child backyard pool drownings occur when the child is walking or playing near the pool, not necessarily already in the swimming pool. Young children under five years old are particularly vulnerable because they are attracted to water and see objects such as toys or balls float or sink in the water (Blum & Shields, 2000; Thompson & Rivara, 2000). Young children lack an understanding of the danger of water and most have not yet fully developed the necessary coordination and strength to swim (Safe Kids Canada, 2007). The Canadian Red Cross (2011) indicates that in 80% of child pool drowning deaths, there was no adult supervision when victims became immersed in their own backyard pool.

Many cities across Canada have created legislation to mandate pool enclosures with self-closing and latching gates to prevent unintentional access to residential backyard pools (Scott, 2003). However, Canadian statistics from the Royal Lifesaving Society of Canada show that in half of the residential pool child fatalities during the years 2006-2010, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%) around the backyard pools (Lifesaving Society, 2013). Enforcement and compliance of legislation provide key support in preventing drowning and near drowning incidents (Morrison et al., 1999). Yet, the City of Ottawa's Building Codes Services identified that in 2013, 28% of Ottawa pool owners who had purchased a pool permit were not compliant with the new city bylaw requiring a locked gate (City of Ottawa, 2014). Although drowning prevention educational campaigns are in place across Canada, there is still a lack of pool safety compliance and awareness by citizens.

City of Ottawa officials feel the problem is further compounded by a large percentage of pool owners who do not purchase a pool permit, thus city officials are not aware and thus do not inspect whether their fencing enclosure is bylaw compliant. This

makes it very difficult to mobilize pool safety knowledge to these owners. There is a lack of role awareness and communication between stakeholders to enforce pool enclosures and permits. The City officials also mentioned that household water usage could be examined to understand who has installed a pool; however, smaller, portable pools also pose a major concern for childhood drownings and would go undetected with this method. A portable pool is defined as a movable structure intended for swimming or other water recreation (wading pools, kiddie pools, inflatable pools). These pools are typically inexpensive and available for purchase at toy stores, home improvement stores, supermarkets, and big box stores.



Figure 17. Portable Pool Example.

The City of Ottawa (2013) defines a pool to be anything capable of retaining a water depth equal to or greater than 600 mm (2 feet). Therefore, under the pool enclosure bylaw, these small portable pools require fencing (City of Ottawa By-law 2013-39, 2013). However, since portable pools are often inexpensive and consumer-installed, they may not realize the risk of drowning is still present (Shields, Pollack-Nelson & Smith, 2011). For these concerns to be addressed and risks to be mitigated, it is important to understand the roles of all stakeholders (the City, pool companies, government, non-profit organizations, builders, and pool owners) in ensuring backyard pool safety in Ottawa.

Literature Review

Portable pools. In recent years, backyard, portable pools have become increasingly popular (Shields, Pollack-Nelson, & Smith, 2011). A portable pool is defined as any movable structure intended for swimming or other water recreation. Examples include wading pools, inflatable pools, and “soft-sided, self-rising” pools (Royal Lifesaving Society of Australia, n.d.). Since portable pools are often inexpensive and consumer-installed, they may not generate the same sense of ensuring safety measures such as fencing by owners as above/in-ground pools and are often dangerously not gated nor emptied of water (Safe Kids Canada, 2007; Shields, Pollack-Nelson, & Smith, 2011).

As a relatively new setting for potential drowning, portable pools were already associated with 13% of pool submersion fatalities reported to the U.S. Consumer Product Safety Commission for children younger than 5 years old from 2007 through 2009. The primary sites of drowning for young children remain in-ground pools with 58%, above ground pools with 17%, and 12% of drownings occur in undisclosed pool/hot-tub setting (Gipson, 2010). Shields, Pollack-Nelson, and Smith (2011) studied the epidemiology of pediatric submersion events occurring in portable pools in the United States. They identified that the use of portable pools in residential settings posed a significant risk of submersion-related deaths for children (Shields, Pollack-Nelson, & Smith, 2011), and that this risk was increasing due to higher number of consumers purchasing these pools for their smaller backyards in new suburban developments.

In Australia, the 2013 Australian Consumer Law requires portable pools and their retail packaging to be labeled with warnings drawing attention to drowning hazards and local fencing laws (Product Safety Australia, 2013). North American drowning statistics demonstrate a need for similar measures, yet they do not have similar packaging policies. Although many Canadian drowning prevention organizations and the City of Ottawa identified portable pools as a major safety concern, there are currently no Canadian academic articles or reports published on the subject. This research sought to better understand the additional risks of this increasingly popular leisure practice of purchasing and setting up portable pools in backyards, and the lack of awareness that these pools are still subject to pool enclosure bylaws and other pool safety practices.

The implementation of a drowning prevention social marketing strategy is deemed necessary to mobilize knowledge on best practices to the public who purchase and/or swim in backyard portable pools. Although the City of Ottawa and drowning prevention organizations have created successful campaigns and aided in the legislation of pool enclosures, there is a need to incorporate information on new drowning risks in future promotional campaigns. This thesis project endeavours to fill this gap by working with various stakeholders to create a new marketing campaign to address the dangers of portable pools.

Social Marketing Campaigns

To facilitate individual or community-based changes, safety education alone is insufficient, and marketing concepts must be applied including a stronger consumer orientation (Maibach, Rothschild & Novelli, 2002). Social marketing bridges the gap between education and enforcement and is a good solution for those who are aware of the need to change behaviour but have not considered changing it (Maibach et al., 2002).

Andreason (1995) defines social marketing as “the application of commercial marketing ... to influence the voluntary behaviour of target audiences in order to improve their personal welfare as well as that of society.” and is a technique increasing in popularity within the public health (Cheng, Kotler, & Lee, 2010; Ling, Franklin, Lindsteadt, & Gearon, 1992) and injury prevention campaigns (Levy, Hawkes & Rossie, 2007). Social marketing interventions invest considerable time and energy in identifying the wants and needs of the target audience, as well as the challenges, likes, dislikes and fears related to a health problem and its determinants, is known as consumer analysis (Neiger, Thackeray & Barnes, 2003). A primary planning advantage that social marketing offers public health is a particular focus on consumers and a blend of strategies to conduct and interpret consumer research, including a better understanding of consumer motivation or resistance (Walsh et al., 1993). Other potential advantages offered by social marketing, involve assurance of market analysis, including attention to the marketing mix, message design, and channel analysis, and pre-testing.

Social marketing principles and techniques have been used to benefit society in many ways. One major area of social marketing efforts has been focused on injury prevention. This includes the increased use of helmets (Ludwig, Buchholz & Clarke,

2005), drinking and driving campaigns (Rothschild, Mastin & Miller, 2006), occupational injury awareness (Lavack et al., 2008), consistent seat belt use (Solomon, Ulmer & Preusser, 2002), as well as drowning prevention. Campaigns promoting the importance of all forms of childhood drowning prevention using a social marketing approach have recently grown in popularity throughout North America. Drowning prevention experts have organized campaigns including ‘Within Arm’s Reach’ (Lifesaving Society, 2005) and ‘Water Watcher’ (Canadian Red Cross, 2014) that enforce the need of constant surveillance of children around the swimming pools.

Drowning prevention social marketing has expanded to multi-media horizons including comedic internet videos from the Nation Drowning Prevention Alliance (NDPA), again demonstrating the need for parental surveillance of children around pools (NDPA No More Drown Channel, 2011a), as well as the necessity to popularize pool safety products (NDPA No More Drown Channel, 2011b). Aside from the classic forms of social marketing, organizations have also used guerilla marketing to portray a more intense and personal message about drowning prevention. Guerrilla marketing is an advertisement strategy designed for small businesses (or not-for-profit organizations) to promote their products or messages to a large audience in an unconventional and low-budget way (Levinson, 1994). These campaigns reach people in moments and places where they could be at risk, and are therefore most receptive to key messages. To promote National Drowning Prevention Week and remind beach-goers of the dangers of being around water, the Lifesaving Society of BC & Yukon (2012) introduced a guerilla social marketing strategy where they created a sand sculpture depicting a crying woman holding a drowning victim. In 2014, Safe Kids paired with Preventable.ca to create a guerilla social marketing initiative called “Have a Word With Yourself” towel campaign (Parachute Canada, 2014). In this campaign, towels are laid out with other beach items in such a way that it looks like the owner has abandoned these items, and could potentially be a drowning victim. This guerrilla social marketing technique is used to raise awareness about water safety and provides an effective avenue for community outreach teams to engage the public in discussions about their attitudes towards water safety.

Although all these social marketing drowning prevention strategies exist, Canada lags behind other countries like Australia, in community most up-to-date research

findings on risks of drowning in portable pools. As such, this research contributes to filling this gap by proposing a new marketing campaign to address backyard pool risks and drowning prevention strategies to comply with the Ottawa bylaws.

Theoretical Framework

The following section describes the theoretical approaches of the social-marketing process. In this thesis, these principles were applied in the creation of a portable pool safety campaign in Ottawa, Ontario.

Social Marketing Process Models

The behaviour change tool of social marketing has at its disposal a range of process models and theories. A brief comparison of a few social marketing process models follows (Table 4).

Kolter & Zaltman 1971	Lefebvre & Flora 1988	Walsh et al. 1993	Andreasen 1995	Bryant 1998	Neiger & Thackeray 1998	Weinreich 2010
Information Gathering	Consumer Orientation	Research & Planning	Background Analysis	Formative Research	Preliminary Planning Consumer Analysis	Analysis
Planning	Audience Segmentation	Strategy Design Goals & Objectives	Marketing Mission	Strategy Formation	Market Analysis	Strategy Development
Product Development	Channel Analysis	Implementation & Evaluation	Marketing Organization, Procedures, Benchmarks, & Feedback Mechanisms	Program Implementation	Channel Analysis	Program & Communication Design
Measuring	Strategy		Pretesting Program Elements	Program Monitoring & Revision	Develop Materials & Pretest	Pretesting
Reprogramming	Process Tracking		Monitoring & Evaluation	Program Evaluation	Implementation Evaluation	Implementation Evaluation & Feedback

Table 4. Social marketing process models

Although labeled differently across models, most social marketing models begin by reviewing the current literature and analyzing any existing interventions. This step often involves analyzing the need of behaviour change, acknowledging the unique characteristics of the target population, and identification of preliminary areas of focus. This initial groundwork provides contextual information and a foundation for future planning activity. Needs assessments involving stages labeled ‘consumer analysis’, ‘market analysis’, ‘channel analysis’, and ‘consumer orientation’, are still apart of the initial research portion of the program development. Most models narrow the scope of the campaign by focusing on a single or limited number of priorities and by segmenting the target audience. At this time, the segmented target audiences’ assets are identified. Development of goals and objectives are more implicitly stated in most social marketing models, with the exception of Andreasen (1995). After the development of program goals and objectives, models address the development of appropriate interventions. Social marketing models use terms such as, “product development” (Kolter & Zaltman, 1971) “develop materials” (SMART Model), “strategy formation” (Bryant, 1998), “strategy design” (Walsh et al., 1993), and “program and communication development” (Weinreich, 2010). Pre-testing is accounted for in some of the models (SMART model; Andreasen, 1995; Weinreich, 2010), while evaluation is the final phase and is ambiguous across all models.

Many of these models carry out a similar process of creating a social marketing campaign. In reality, elements of the social marketing process are combined or left out, depending on the purpose and scope of the intervention. Hence, Weinreich’s (2010) process model was chosen for this thesis based on its compatibility with this project. It is one of the more recently developed models and therefore has components of the other models and is the most up to date with the ever changing strategies and techniques of marketing. Weinreich’s (2010) process is logically sequenced and each step is extensively explained in the book *Hands-On Social Marketing: A Step-by-Step Guide to Designing Change for Good*.

In order to achieve this thesis’ objectives, a series of steps were followed which were proposed by Weinreich (2010) that are deemed significant when developing a social marketing campaign: Analysis, strategy development, program and communication

design, pretesting, implementation, and evaluation and feedback.

Method

A qualitative approach including semi-structured interviews was employed to explore water safety knowledge of interviewees as well as their perceptions of portable pool safety messaging. The following section outlines the methods that will be used for each purpose in this thesis.

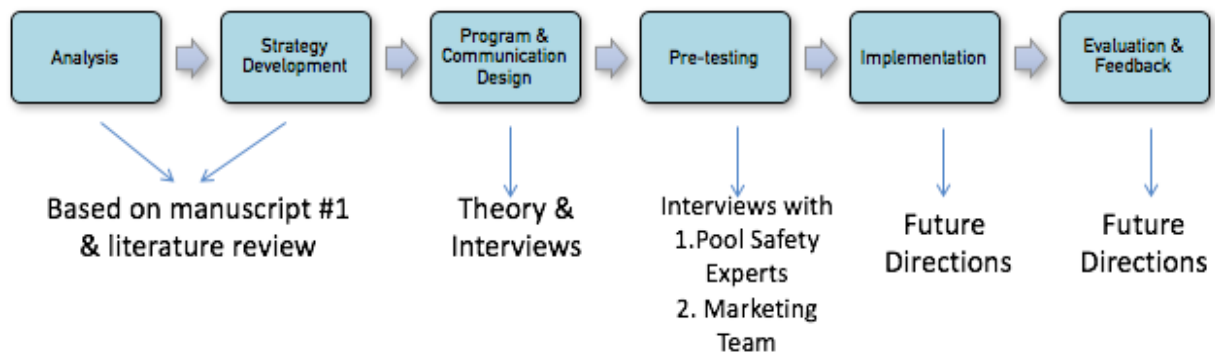


Figure 18. Methods used throughout Weinreich's process model

Sampling

To pretest and gain insight into the creation of a social marketing campaign, semi-structured interviews were employed. Before this data collection method is explained, it is important to address sampling and how the participants are identified in this study.

Within the qualitative literature (Coyne, 1997; Higginbottom, 2004) the most frequently referred to qualitative samples are convenience, purposive, theoretical, selective, and within case samples. For this research, purposive sampling was utilized where participants who have specific characteristics or features were recruited (Higginbottom, 2004). This is the most common sampling technique and is generally utilized in case study research (Creswell, 1998).

The objective for this MA thesis was to conduct 6-8 semi-structured interviews, and the researcher was successful in recruiting and interviewing six (6) key stakeholders in pool safety. The specific criteria for these interviews were that participants are key stakeholders involved in public education and surveillance of Ottawa's residential pool

safety. This included individuals affiliated with the City of Ottawa, a local water safety organization, a national water safety organization, an international pool manufacturer, and a marketing team. Once ethics was approved from the University of Ottawa Research Board Ethics Committee, interview recruitment was initiated. The participants were debriefed on the topics to be covered in the interviews, and signed a consent form with guarantee of anonymity throughout the research stages and dissemination of research findings.

Semi-Structured Interviews

Interviews are a very common method researchers use for qualitative investigations. In fact, interviews have become such a common part of our culture that academics have said that we live in an “interview society” (Fontana & Frey, 2005; Kvale & Brinkmann, 2009). Interviews can be structured, semi-structured, or unstructured. A structured interview occurs when the interviewer has a pre-established set of questions to ask all participants (e.g., survey); there is little room for variation (Fontana & Frey, 2005). In a semi-structured interview, the interviewer has a number of questions to ask, but there is an opportunity to use probes to allow for participant explanation (Fontana & Frey, 2005). For this research, the most appropriate form is the semi-structured interview. Semi-structured interviews have a number of advantages: They facilitate rapport and empathy, they allow for flexibility, and they allow the discussion to go into novel areas (Fontana & Frey, 2005). Some researchers have suggested semi-structured interviews have disadvantages in that they take longer to conduct, because the questions could elicit lengthy, detailed responses, and are often more difficult to analyze than structured interviews (Fontana & Frey, 2005). Despite the potential weaknesses, semi-structured interviews were considered to be the most appropriate method for collecting the data for this investigation especially given the use of a grounded theory methodology.

For this master’s thesis, six semi-structured interviews were conducted with key stakeholders involved in the mobilization of pool safety knowledge. As noted by Fontana and Frey (2005), interviewing is one of the most common and powerful ways to gain insights from participants. To gain this insight, approximately 20 open-ended questions were asked using an interview guide to direct the conversation, but also allowed for

participants to elaborate and clarify their answers as required. These questions included understanding their perceptions of current pool safety knowledge mobilization, their roles, and potential future strategies. Another group of questions explored their insights on what knowledge mobilization tools would be most beneficial, what information should be focused on, and how it should be distributed. This project then developed a portable pool safety campaign and utilized the interviewees' feedback prior to creating it. The interviews were conducted at locations convenient to the respondents, most likely their work office. The interviews were recorded using a tape recorder and were manually transcribed. The transcriptions were sent back to the respondents by mail for them to review to ensure accuracy. None of the participants had corrections or additions to their transcripts after revision. Once they confirmed accuracy, manual thematic coding began during the data analysis stage. All transcriptions and recordings are kept in my supervisor's office in a locked shelf during the duration of my studies and research dissemination, and will be destroyed on the date stipulated by the uOttawa REB.

Approximately 20 open-ended questions were asked using an interview guide to direct the conversation, this also allowed and encouraged participants to elaborate and clarify their answers as required. The interviews lasted approximately 45-60 minutes that permitted sufficient time to gather information on the topic of pool safety knowledge mobilization. The stakeholders went into depth about their insights on what knowledge mobilization tools would be most beneficial, what they thought would be effective messages and which channels should be used to mobilize the risks of portable pools. The interviews were semi structured in nature that entails the use of a pre-established interview guide as well as the capacity to adjust the questions if necessary. During the interview, five examples of the pre-established campaigns produced by the researcher, was shown to the participants (Appendix E). These campaigns had a mixture of images and messages, in regards to portable pools, to determine the preference and professional opinions of the participants. The data gathered from the semi-structured interviews were then analyzed to develop a new drowning prevention campaign to be launched by the City of Ottawa in 2017.

Findings

In order to achieve this thesis' objectives, a well-established process model developed by Weinreich (2010) was applied in the creation of a new 2017 portable pool drowning prevention campaign for the City of Ottawa. These six steps were reflected by themes that emerged from this thesis' interviews conducted with pool safety experts and grounded by current literature.

Step 1. ANALYSIS.

The analysis phase forms the foundation on which the rest of the process is built. To create an effective social marketing program, Weinreich (2010) states, "... you must understand the problem you are addressing, the audiences you are targeting, and the environment in which the program will operate". Research is used to analyze these factors and to develop a workable strategy for producing behavior change. By understanding the target audience, the problem, and the environment, potential opportunities and barriers can be better identified in creating the campaign.

Analyzing the Problem

There are numerous questions that need to be addressed when analyzing the problem: *What aspect of the problem will be addressed; what is the epidemiology of the problem; what are the consequences of the problem; and how successful have previous attempts been to address the problem?*

The interviewed City of Ottawa official explained that when analyzing problems around pool safety statistical data is useful: "We utilize and number of key resources. We are affiliated with the Lifesaving Society of Ontario and of Canada and we utilize them for a number of the statistic reports that we're looking for. Red Cross Ontario branch as well as that the Canadian branch for Red Cross provides us with a large number of statistical information on drownings not only locally but provincially and also nationally and internationally." (City of Ottawa Official)

In regards to this campaign, many aspects of the problem were analyzed. Statistical reports from the Coroner's Office, Lifesaving Society, Safe Kids Canada, and Red Cross were studied to analyze the broader problem of drownings in any sized pool.

Drowning is a leading cause of preventable death of Canadian children (Canada Safety Council, 2015; Canadian Red Cross, 2013). Every year, an average of 58 children under 14 years of age die from drowning in Canada, while another 140 are hospitalized for near-drowning. Backyard swimming pools are the site of nearly half these drownings (Parachute Canada, 2014a). Young children under five years old are particularly vulnerable because they are attracted to water (Blum & Shields, 2000; Thompson & Rivara, 2000). The Canadian Red Cross (2011) indicates that in 80% of child pool drowning deaths, there was no adult supervision when victims became immersed in their own backyard pool.

As portable pool risks are an emerging area of research, local policies, as well as international statistical reports were analyzed to understand the significance of this problem. The City of Ottawa (2013) defines a pool to be anything capable of retaining a water depth equal to or greater than 600 mm (2 feet). Therefore, under the pool enclosure bylaw, these small portable pools require fencing (City of Ottawa By-law 2013-39, 2013). As a relatively new setting for potential drowning, portable pools were already associated with 13% of pool submersion fatalities reported to the U.S. Consumer Product Safety Commission for children younger than 5 years old from 2007 through 2009.

Furthermore, past campaigns addressing this problem were analyzed during this phase of the social marketing process. These mostly included general backyard pool safety campaigns since the portable pools are a new concern to pool safety advocates.

Analyzing the Target Audience

Weinreich (2010) describes that analyzing the target audience includes understanding the level of awareness of the issue, myths and misconceptions, current attitudes and behaviours, and perceived benefits and barriers of the proposed behaviour.

Since portable pools are often inexpensive and consumer-installed, they may not generate the same sense of ensuring safety measures such as fencing by owners as above/in-ground pools and are often dangerously not gated nor emptied of water (Safe Kids Canada, 2007; Shields, Pollack-Nelson, & Smith, 2011). Portable pools in residential settings pose a significant risk of submersion-related deaths for children (Shields, Pollack-Nelson, & Smith, 2011), and that this risk is increasing due to higher number of consumers purchasing these pools for their smaller backyards in new suburban

developments. This thesis target audience's attitudes and beliefs involve a lack of perception of risk of the safety features needed, such as pool fencing. A study explains that portable pool owners believe safety initiatives are too expensive or not easily available for those who purchase the cheaper portable swimming pools (Shields, Pollack-Nelson, & Smith, 2011).

Analyzing the Environment

To create sustained behavior change, Weinreich (2010) describes that the environment should also be analyzed and must be conducive to the actions you are promoting. *What current policies or pending legislation might affect your target audience's response to the social marketing program? What other organizations currently are addressing the issue in your community?*

Many cities across Canada have created legislation to mandate pool enclosures with self-closing and latching gates to prevent unintentional access to residential backyard pools (Scott, 2003). In Ottawa this policy includes any pool with a water depth equal to or greater than 60cm, which involves many small portable pools. However, Canadian statistics from the Royal Lifesaving Society of Canada show that in half of the residential pool child fatalities during the years 2006-2010, there was either no gate (29%) or the gate was neither self-closing nor self-latching (22%) around the backyard pools (Lifesaving Society, 2013). The analysis of this environment demonstrates that legislation has little effect on the target audience's portable pool safety choices, or they are unaware of the policies.

Further analysis of this campaigns environment also demonstrates there is little effort in marketing the need of safety measures in portable pools. Not only is there no current social marketing campaign in Ottawa, but also there are also limited international campaigns detailing these risks.

Step 2. STRATEGY DEVELOPMENT.

Weinreich (2010) explains that the strategy development phase, based on what is learnt in the analysis phase, forms the foundation on which the rest of the program is built. The research results were used to develop a strategy for effecting behavior change. With the research complete, all the information gathered was applied to creating a

comprehensive strategy. First, the target audience was segmented to determine whether there is a need to use different approaches with various groups or focus on one main segment of the audience. Then, the social marketing mix, or the “Ps” (product, price, place, promotion, and policy) was determined for the audience and an action plan was put into place.

Segmenting Target Audience

Target audiences are typically made up of people of differing backgrounds, attitudes, and behaviors who may not be receptive to or motivated by the same messages. As such, social marketers follow the example of commercial marketers and segment their audiences into groups that are likely to be receptive to similar messages. Market segmentation is dividing a broad relevant population into smaller groups that require unique but similar strategies to change behavior (Kotler & Lee, 2008).

The segmentation process can be done through segmentation variables and behavior models (Kotler & Lee, 2008). The most widely used segmentation variable is demographic factors (age, gender, family size, income, occupation, education, religion, and generation) because of their easy availability and predictable power of market needs, wants, barriers, and behaviors. Other segmentation variables include geographic factors (world, region, or country, country or region, city or metro size, density, climate, etc.), psychographic factors (social class, lifestyle, and personality), and behavioral factors (occasions, benefits, user status, usage rate, loyalty status, readiness stage, and attitude toward product). Choosing target markets needs to be based on priority of segments (Kotler & Lee, 2008). With limited resources and efforts for this project, the campaign should focus on the markets that need the intervention the most. Segmentation recognizes that serving all the diverse needs of the global market is impossible, as the drain on resources would cause the overall quality of the campaign to be diminished (Burgess et al., 1985).

According to Kotler et al. (2003) there are in fact four commonly accepted requirements for effective segmentation: Measurability; is the segment measureable to determine size? Accessibility; is the segment accessible via media and distribution channels? Substantiality; is the segment large enough to justify resources? Actionability; is there a program or offering that can be designed for the segment? In the case of this

portable pool safety campaign, the segment will account for all of Kotler et al.'s (2003) requirements. In this research study, the interview with the City of Ottawa Marketing Team supported this statement by explaining that "Keeping it [the target audience] to parents of children under the age of five because that is the highest risk factor, than that makes sense. If you narrow it too much you might be missing part of the audience that could otherwise benefit from that messaging. But once your audience gets too wide than you can't hit them all" (Marketing Team).

This campaign will segment the audience primarily based on demographic factors. Based on the current literature & interviews with the experts, ultimately the target segment was dictated by four criteria: 1) parents of children under 5 years of age; 2) adults who own or thinking of purchasing a portable pool; 3) adults who reside in the target community of the City of Ottawa; and 4) adults, most likely parents, who could be open to making a behavior change to ensure their child's safety.

Marketing Mix

Similar to commercial marketing, social marketing can also be summed up in what has been termed the "4 Ps": Product, price, place, and promotion (Lefebvre & Flora, 1988; Luca & Suggs, 2010; Work Group for Community Health and Development, 2011). The *product* is what is being marketed. For social marketing, the "product" is the certain behavior trying to modify. For this study the idea of ensuring safety in portable pools will be marketed. Interviewees agreed that the number one safety 'product' or message should be supervision. The City of Ottawa Official interviewee explained that "Number one would be direct active adult supervision."

Other aspects of this safety involve swimming lessons, barriers, and emptying the pool when not in use. *Price* involves how much it will cost a citizen to take on a certain behavior. In social marketing, price is not just a question of monetary value, it can also be a question of time or effort a behavior change will take. The price of taking on the idea of portable pool safety maybe the cost of installing three sided fencing, or the price of time supervising or emptying and putting the pool away after use. The City of Ottawa explained how supervision is important and does not cost citizens any monetary amount: "Adult supervision is key because that's something that doesn't cost us anything it doesn't cost anything but our time and our attention." (City of Ottawa Official)

The expert from the National Water Safety Organization explained that that citizens believe the price of having an aesthetically unpleasing fenced backyard also contributes to this aspect of the marketing mix. “Fencing creates an obstruction of some sort. So they think aesthetically it doesn't look as great. So that's one of the barriers sometimes we have to face with the consumer to act on pool safety.” (National Water Safety Organization)

The next ‘P’ is *place*. Place is about making it easy for the audience to receive the message or service. Place refers to understanding where and when the target audience will be when they perform the desired behaviour, understanding where they will most easily access and view the promotion, and reaching them where they are most likely to be thinking about the behaviour. This involves having portable pool safety messaging available at daycares, public schools, city buses, or at the store in which small pools are being sold.

Promotion is the advertising associated with the project. Promoting a behaviour change does not necessarily require a lot of money. It can also take place through less costly methods, such as word of mouth. Interviewee from the National Water Safety Organization explains that social media is a good promotional platform however pool safety information needs to be disseminated to people who are not “following” water safety organizations on Facebook or Twitter. “Social media should be an effective way to get our messaging out and I think what happens is...one of the things I want to try to work on is, we're very good at our media campaigns but within the people within our expertise. So for example we have Facebook pages we have Twitter we use a lot of different social media tools, but I think we are promoting within the people that are already water safe. You know within our educators and within the City of Ottawa aquatic people so to speak. So I think there's still a lot of work to be done so that we do reach people who are not necessarily educated in water safety or aquatics.” (National Water Safety Organization)

For the purpose of this project, City of Ottawa information stock cards as well as OC Transpo bus advertisements will be used as a form of promoting pool safety and drowning prevention.

In social marketing a final ‘P’ should be considered within each of the other four ‘Ps’: *Policy* (Luca & Suggs, 2010). Policy recognizes the need to consider changes in

policy and rules as a component of influencing behaviour. Advocating for laws enforcing drowning prevention messaging on all portable pool box packaging is an example of addressing policy through social marketing. Along each ‘P’ step, it needs to determine if a policy or policies must be changed or new ones created, in order to support a shift in behaviour (Luca & Suggs, 2010).

Step 3. PROGRAM AND COMMUNICATION DESIGN.

After the problem and audience is analyzed and researched, Weinreich (2010) describes that it is important to determine how to get the behaviour change message across effectively. Step 3 focused on designing the campaign's approach and developing communications methods to convey the message. This involves developing effective and creative messages and identifying appropriate communication channels. The results of the previous research, combined with some creativity, different campaign designs were created that motivates the target audience to adopt the promoted behaviour change.

The messages tested for this campaign involved two primary campaign messages and two different secondary messages

	Message	Theory
Primary Messages	“Kids Can Drown in Any Size Pool: Portable Pools are a Serious Risk”	Fear Appeals Theory
	“Buying a Portable Pool? Make sure it is Safe”	Positive Messaging Theory
Secondary Messages	“Active adult supervision, Swim & CPR lessons, Fence pools with depth >60cm, Empty small pools”	Social Norm Theory
	“Pools capable of holding a water depth 2 feet or deeper must adhere to the City of Ottawa Enclosure Bylaw (No. 2013-39)”	Social Norms Theory

Table 4. Message Development with Corresponding Theory

Message Development

The message development stage determines what is being communicated rather than how it will be said (the execution). There are numerous messaging theories this

campaign has put into consideration when formulating the behaviour change message.

Made to Stick

Weinreich (2010) mentions to keep in mind Heath and Heath's (2007) book 'Made to Stick' in developing an effective message. This book breaks down the process of designing memorable and compelling messages. After analyzing an array of marketing campaigns to find common elements among the most effective messages, Heath & Heath (2007) determined six elements that can be applied to any idea to help make it interesting as well as easy to understand and remember: Simple, unexpected, concrete, credible, emotions, and stories. Each of these elements, by themselves or in combination, offers a way to identify promising approaches for communicating about your issue. This thesis' portable pool safety campaign took into account most of these ideas when designing a compelling message.

Simple. The first element Heath & Heath (2007) describe for designing a compelling message involves simplicity; if there are too many points, it will be hard for people to remember. For this portable pool campaign, the message is simple, and quick to read for those passing by. The primary message comes across in two simple phrases printed in large font. If this captures the attention of the reader, they can read the longer sentence below to get more information. Experts from this project's interviews agree that citizens will best receive simple messaging. "It's definitely giving a clear picture of what a portable pool is, it's giving key, simple guidelines nice and short so it's visually appealing and to the point" (City of Ottawa Official). "We've found that the simpler it is, the better that it catches their eye that it grabs their attention and gives them a little bit of information and then points them to something else to provide more in-depth information" (City of Ottawa Official).

Unexpected. The second element is creating a message that is unexpected. This involves getting the target audience to pay attention to this idea and maintain their interest (Heath & Heath, 2007). The authors describe using the element of surprise in the message to increase alertness and generate curiosity. The problem in itself that small portable pools are a concern for drowning allows for this campaign's message to be unexpected.

Concrete. Heath & Heath (2007) describe that to ensure a message is concrete, the

general idea must be clear. Speaking concretely is the only way to ensure that an idea will convey a common understanding to everyone in the audience.

Credible. In order for the audience to believe the message, the campaign must have credibility. This campaign will have credibility to the target audience because of being distributed by the City of Ottawa. “It is really important to have people that are not only passionate advocates for the message but they do have credibility with in the community at large.” (City of Ottawa Official)

Emotions. Next, the authours want to understand ‘how do you get people to care about your ideas?’ *Make it Stick* (Heath & Heath, 2007) describes how using emotion can help in creating a persuasive social marketing message. One strategy that companies use to reach parents is capturing the emotion of guilt. By tapping into parents’ insecurities or feelings of inadequacy, social marketers have an easy opening when pushing a safety behaviour or product that may improves their child’s life (Brennan & Binney, 2010). The idea that their child be susceptible to drowning sparks parental emotion in this portable pool safety campaign. “I mean keep your kids safe. That is the biggest message. And one that will hit home and pull out [sic.] hearts strings.” (Marketing Team)

Stories. Finally, Heath & Heath (2007) say that telling a story encourages the audience to act on the marketing message. Research shows that mentally rehearsing a situation can help people perform better when they encounter that situation in the physical environment. In a small advertisement it is sometimes hard to tell a story through words. This campaign hopes to tell a story through its image to get the target audience to act on this behaviour change. The image would tell the story of a parent supervising their young child to prevent drowning in the small portable pool.

Heath and Heath’s (2007) six elements in designing memorable and compelling messages are not only suggested by Weinreich (2010), but also resonate with this project’s interviewed stakeholders. This thesis’ portable pool safety campaign designed simple, unexpected, concrete, credible, emotional, and story-telling messages in order to keep the target audience interested and make the message ‘stick’.

Positive Messaging vs. Negative Messaging

'Message framing' is a concept that relates to the way information is presented and interpreted in a message (Entman, 2004). Different formulations of the same message may lead to different responses. Message and image framing effects explain 25% of the consumer's choice (Tversky and Kahneman, 1985). Positive framing emphasizes the positive consequences of the product or behavior adoption. Negative framing emphasizes the negative consequences of the non-adoption of the advertised product or behavior (Tversky and Kahneman, 1985).

The results of framing studies have been mixed. For behaviors such as breast self-examination (Meyerowitz and Chaiken, 1987) mammography screening (Banks et al. 1995) and smoking (Wilson et al. 1988), negative framings have tended to result in greater message compliance. On the other hand, a positive frame was more effective for promoting exercise as a means of enhancing self-esteem (Robberson and Rogers, 1988) parents' use of children's car seat restraints, and a skin cancer prevention behaviour (Rotheman et al., 1993). In some cases, a mix of positive and negative messages has been most effective (Treiber, 1986; Wilson, Wallston & King, 1990)

Since negative messaging such as using the emotion of fear is so often used in social marketing, it is important to understand when fear appeal messages can be effective and when they may backfire to produce the opposite of the intended effect. The Extended Parallel Process Model states that when people are confronted with messages that arouse fear in them, they will do whatever it takes to dispel those unpleasant feelings (Weinreich, 2010). They will either take preventive action to deal with the threat and eliminate it, or control the fearful feelings through denial or avoidance of the issue (Weinreich, 2010).

When doing a scan of current water safety campaigns, it was noticed the concept of fear appeals appears to be more commonly used in social marketing campaigns based out of Australia compared to North American social marketing campaigns (Lavack, 1997). Kids Can Drown Without a Sound social marketing campaign used a negative framed fear appeals model in which an image of a child drowning face first in a pool was utilized. This project's interview participants also indicated their observation of this trend. "In Australia and overseas even in the U.K. and Germany... they're not afraid to

go to the darker side and to show the serious consequences if you're not following whatever that particular message would be.” (City of Ottawa Official)

However, most experts agreed that the use of positive messaging would influence more of a behaviour change in North America and for this case study. “In terms of getting people to continue reading something and buying in that's the side of me where I honestly think particularly in Canada where the more positive messaging encourages people to keep reading.” (City of Ottawa Official)

The marketing team also indicated they are seen a use of a mixture of positive and negative message/image framing. “But you can have positive words and a negative message, like a kid about to fall into a pool while they're texting their phone or just not paying attention or something like that, I think that's a little less in your face.” (Marketing Team)

Social Norm Theory

Social and cultural norms are the behavioural expectations, or rules, within a society or group (Dolan et al., 2010). Social norms can be explicitly stated (‘No Smoking’ signs in public places) or implicit in observed behaviour (shaking the hand of someone you meet for the first time). Behavioural interventions using social norms have been successful in a number of areas, and most are based on telling people what other people do in a similar situation (Dolan et al., 2010). The underlying reason is that humans fundamentally pursue meaningful social relationships. So when they know that the majority approves of certain behaviour, this behaviour is perceived as normal. Thus, they adopt it as well because they wish to be accepted by others (Dolan et al., 2010). The secondary messages in this campaign use social norm theory that is explicitly stated through policy and best practices which explains to the target audience that the majority of the population approves of the portable pool safety behaviours.

Materials Development

The materials development stage involves selecting which promotion channels used to convey the campaign’s behavioural change message. Information from the process of target segmentation was used in identifying effective means for reaching this target population. This stage does not only involve determining what types of media are

popular, but also understanding the target audiences' culture such as what newspapers are read, what TV stations are watched, what forms of transportation are used, and which recreation centers are attended.

Campaigns that use multiple channels to deliver messages are more effective at changing behaviors than those that rely on a single modality. The City's 2013 Public Awareness and Pool Safety Campaign had used and evaluated many promotional channels such as social media, a Cineplex water safety video, rack cards, TV media events, digital billboards, newspaper inserts, educational events, and bus advertisements (Moser, 2014). In the 2013 campaign, rack cards were popular and distributed widely. Quick Response Codes (QRC) were added to the rack cards and OC Transpo advertisements. Through campaign evaluation, the QRCs indicated that one-third of hits to the pool enclosure website resulted from this technology, a level which greatly exceeded staff expectations (Moser, 2014).

City of Ottawa officials believed that this thesis' proposed Portable Pool Safety campaign would also greatly benefit from OC Transpo bus advertisement and rack card promotional channels. Promotional rack cards would be an appropriate promotional channel when distributed at locations that are frequented by the campaign's target audience. The rack cards would be available at local pool companies and retailers, as well as child serving agencies such as recreation centers and daycares.

City bus advertisements would also be a suitable media channel to promote portable pool safety. A City of Ottawa Official explained in an interview that: "Buses are a mobile billboard which is fantastic. Buses are going through all communities and therefore when we're choosing what buses are going to have the various messages we really try to make sure that there's a balance of that messaging in French and English with a lot of visual so that even if those aren't your first language you can still get the message from that particular billboard. Very much a vital tool for us." (City of Ottawa Official). In 2014, OC Transpo indicated that their average weekday ridership was 340,000 people; with the population estimated at 875,890 in 2014, that is about 40% of Ottawa citizens using the city bus (OC Transpo, 2015).

OC Transpo report (2015) also broke down ridership by the fare categories.

Excluding the senior fare rate (65+ years of age), Students/ Kids (19 years of age and under), and UPasses (University students), 55.7% of OC Transpo riders used a regular pass, express pass, or bus tickets (OC Transpo, 2015). The portable pool campaign target audience would most likely fall into this category and therefore demonstrates high visibility of a social marketing campaign using an OC Transpo interior bus advertisement. Exterior OC Transpo advertising would further increase visibility to target audience members who may not ride the bus.

Step 4. PRETESTING

The pretesting phase aimed to capture peoples' understanding and reaction to messages and visualizations and to identify the most appealing one. This section describes the findings of the qualitative interviews about the campaigns. The messages tested in this interview were outlined in Table 6. Upon researching and establishing the primary message, theme, and possible channels, prototypes of campaigns were developed for pretesting. At this stage, key communication elements are reviewed in order to improve these elements so that they are as effective, understandable, attractive, and rapport building. The central objectives during pretesting are to learn whether the key information was delivered, understood, doable, and has the ability to influence the target audience to engage in the desired behaviors. Pretesting was conducted in qualitative semi-structured interviews with water safety experts (City of Ottawa Official, Water Safety Organizations, and Pool Companies) and then secondly with the marketing team.

Phase 1 pretest: Water safety experts

Interview participants were shown each campaign design and asked to comment on what they liked and disliked about the posters. The participants discussed the messages within the concept, the effectiveness of taglines, and the images. Participants debated the relevance of the ads to the individuals from the target audience, and offered suggestions for improvement. Finally, participants made suggestions for channels of promotion and locations to place campaign materials within the community.

	Message
Primary Messages	<p>“Kids Can Drown in Any Size Pool: Portable Pools are a Serious Risk”</p> <p>“Buying a Portable Pool? Make sure it is Safe”</p>
Secondary Messages	<p>“Active adult supervision, Swim & CPR lessons, Fence pools with depth >60cm, Empty small pools”</p> <p>“Pools capable of holding a water depth 2 feet or deeper must adhere to the City of Ottawa Enclosure Bylaw (No. 2013-39)”</p>

Table 5. Social Marketing Messages Tested in Phase 1






Advertisement	Pros	Cons	Other points
<p>A)</p> 	<ul style="list-style-type: none"> - Colours - Clear four-sided fencing 	<ul style="list-style-type: none"> - Too much writing - Acronym hard to translate - Picture does not show supervision - Supervision should be the first point - Unlikely parents would have that fencing for a pool that small 	<ul style="list-style-type: none"> - Interview participants were torn between the messaging: <ul style="list-style-type: none"> - Positive vs. Negative main messaging. (“Buying a Portable Pool? Make sure its Safe” vs. “Kids can drowning in any size pool: portable pools are a serious threat”) - Mixed feedback between submessaging. Although participants agreed Supervision was number one, many liked the fencing submessaging over the checklist.
<p>B)</p> 	<ul style="list-style-type: none"> - Seeing the child's face provides an emotional attachment 	<ul style="list-style-type: none"> - Looks like kid is in prison 	
<p>C)</p> 	<ul style="list-style-type: none"> - Seeing the child's face provides an emotional attachment - Visually appealing 	<ul style="list-style-type: none"> - Acronym hard to translate - Looks like kid is in prison 	<ul style="list-style-type: none"> -
<p>D)</p> 	<ul style="list-style-type: none"> - Colours - Clear four-sided fencing 	<ul style="list-style-type: none"> - Would need different font 	
<p>E)</p> 	<ul style="list-style-type: none"> - Supervision in image! - The backyard is relatable because those having a portable pool would most likely have a small backyard - Checklist with Supervision at top 	<ul style="list-style-type: none"> - Smaller “empty pools” picture gets lost in other picture 	

Table 7. Phase 1 Pretest Summary

Findings from interviews about different message options

Primary Message #1: “Kids Can Drown in Any Size Pool: Portable Pools are a Serious Risk”

The findings show that the message is clear to participants. They understand the information and course of action that is communicated. The City of Ottawa participant appreciated this primary message because they have seen the difficult impacts and stresses that unfortunate pool incidents have on families. The participant mentioned that sometimes people need a negative message to scare them to pay attention and clearly understand the risks. “I do like the very first one ‘Kids can drown in any size pool’. I think you get to the shock value” (International Pool Manufacturer). Although all the participants believed that sometimes citizens need a message that shocks them, most believed that this target audience would not respond well to this primary message. Overall, only 1 participant chose this slogan as their favourite primary message.

Primary Message #2: “Buying a Portable Pool? Make sure it is Safe”

Participants also perceived this message as clear and easy to understand. Further, many valued the shortness of the message compared to the last. One participant explicitly said this would be an excellent bus ad because its quick to read as it passes by. Many participants also liked the fact this message is positive and they thought that the target audience would respond well to this.

An interviewee also described how he/she appreciated that this message is phrased as a question and would be beneficial if it were placed at point-of-purchase. The interview from the Local Water Safety Organization described how this message may be more relatable to citizens: “Yes, the message there Buying a Portable Pool? Make it Safe. I think you just would catch my eye or you know yes I am buying you know how do I make it safe? As opposed to... this sort of generic sort of thing oh yeah you know“ (Local Water Safety Organization).

Overall, four participants ranked this message as their favourite primary message mostly based on the fact they thought citizens would respond better to positive message framing.

Secondary message #1: “Active adult supervision, Swim & CPR lessons, Fence pools with depth >60cm, Empty small pools”

Secondary message one caused different reactions. Although all participants liked the idea of a checklist, they found that the use of an acronym would be challenging. The City of Ottawa participant explained how it would be difficult to translate this campaign and find a word that would be useful for an acronym in every language:

“The challenge that I see with that as well is again when we're trying to create marketing we want to ensure that we can do it as a city of Ottawa in both official languages so French and English so we would want to try to find a similar short word hopefully that would that would work to balance for French and then the ease of our ability to also down the road have it produced in other languages as well. “ (City of Ottawa Official)

Participants also unanimously agreed upon the fact that the SAFE (Swim & C.P.R. lessons, Active adult supervision, Fencing, and Emptying Pools) demotes the importance of supervision as the number one:

“I think a checklist is good obviously! I mean I think adult supervision should be number one...” (National Water Safety Organization)

All participants ranked this checklist secondary message as their favourite if it not phrased as an acronym and ‘Active Adult Supervision’ is first on this list.

Secondary message #2: “Pools capable of holding a water depth 2 feet or deeper must adhere to the City of Ottawa Enclosure Bylaw (No. 2013-39)”

The second secondary message was not as popular with the interviewees. Although the bylaw is stated, many of the participants deemed it unlikely that citizens would fence such a small pool. The Pool Company interviewee stated that the focus for this campaign needs to stick with supervision: “So the images you have are fairly small pools, if you look at the very first one, that pool sells for thirty dollars and you are surrounding it with a fence that would be about a 1000. That message will be lost on the consumer almost immediately. On all of the portable thirty dollars range you want to really focus on supervision and emptying that pool when its not in use. That is the message, get the water out. And don’t leave your child unintended around the water.” (International Pool Manufacturer)

One participant explained that they would reject this message all together and then would not further explore the website for other pool safety tips. Overall, none of the participants preferred this secondary message.

Findings of interviews about different image and design options

The following section will describe the participants' opinions on selected mock images and overall design and colour scheme of the ads. There were limited observations and comments on overall design and colour of the ads. Overall, the findings show that the majority of participants preferred the blue design options to the green one, as they associate it with water. In their opinion, a blue design thus matches better with the content of the message.

There are four different images used in these campaigns to understand what image will have a greater effect on behaviour change for the target audience. The first two images focused on fencing, the second focused on emptying the pool, and the third focused on supervision. All images were retrieved from the Internet and are just examples of possible images to use in the campaign. Once the campaign draw up is complete, the City of Ottawa will hire a photographer to capture a similar image.

Fencing: Young girl outside 4-sided fenced portable pool and young boy outside gated portable pool

Although most participants appreciated the fact that there was clear four-sided fencing around the small pool, all participants agreed that citizens would be unlikely to spend a lot of money fencing a small portable pool even if it was the law. All participants explained the need to emphasize supervision in this campaign and detailed how having an image focusing on fencing may confuse readers. "Lets look at the imagery you have... The words dont go along with the pictures. They may dismiss what you are saying." (International Pool Manufacturer)

Empty Pool: Steps to empty small portable turtle pool

Participants perceived this image as clear and easy to understand. They enjoyed the two images that provided steps illustrating to empty small portable pools after use. "I really liked the part that had the empty and put away for this one..." (Local Water Safety

Organization). Participant from the National Water Safety Organization even came up with a new slogan that would pair well with the idea of emptying the water out of these pools: “I mean another one would be like Fill & Spill... you know, like Fill it Up...and then like Spill it Out” (National Water Safety Organization). However, most interviewees believed it might not be effective to have this campaign image on its own for the campaign since supervision is the main focus; furthermore, if combined with another image (like in campaign ‘E’) there is too much image crowding.

Supervision: *Supervised children in gated portable pool*

All participants unanimously voted the image illustrated in campaign ‘E’ as the favourite image. Interviewees thought this image paired well with the overall primary message of supervision. The City of Ottawa participant explained: “If adult supervision is what we're looking toward as another key component then having some visual where there is a parent looking like they are actively supervising children in the water, then that would also be a key priority.” (City of Ottawa Official)

Interviewee from the National Water Safety Organization further highlighted her approval of the image by stating: “That is right... I like the adult in the background I think you're highlighting your active supervision.” (National Water Safety Organization)

Phase 2 pretest: Marketing Team

After phase 1 of Weinreich’s (2010) pretest stage involving interviews with pool safety experts, these results and a review of the current literature was presented to the marketing team. The interview with the marketing team was not to determine the information needed to be mobilized, but what would hook the target audience to want to learn about portable pool safety and keep their children safe.

The marketing team’s first advice was that the all five mock campaign ads had too much wording, especially if they still require translation on the same advertisement. “But these ones are very text heavy so hard to read, especially if its on the side of the bus that's driving by you are catching like one or two words.” (Marketing Team).

The solution to this problem was suggested to use the ‘SAFE’ checklist from secondary message #2 and build it into a four-ad campaign with a consistent primary

message and branding. “I can see a great campaign built around those acronyms. I think you have four different messages in one ad there. So I think you need to break it down more. And then you can have one that is about fencing, you can have one that is about supervision... You can make it look consistent. So it looks like a consistent brand”
(Marketing Team)

The second challenge identified in this phase of the pretest stage is the use of the word ‘Portable’ pool. “Do people know what portable pool is? Do they call them that? Its more of a technical term, s not a marketing term. “ (Marketing Team). The marketing team agreed with most of the portable pool experts and chose primary message #2 as their favourite; However, they believed that the terms ‘Kiddy Pool’ or ‘Inflatable Pool’ would be better recognized by the target audience. The final mock designs created after phase 2 of the pretest are shown in Figure 18.

**HAVE A KIDDIE POOL?
MAKE IT SAFE.** **AVEZ-VOUS UNE PISCINE
POUR ENFANTS?
PENSEZ SÉCURITÉ.**

✓ **Adult Supervision**
Surveillance d'un adulte

ottawa.ca/poolenclosures

**AVEZ-VOUS UNE PISCINE
POUR ENFANTS?
PENSEZ SÉCURITÉ.** **HAVE A KIDDIE POOL?
MAKE IT SAFE.**

✓ **Empty Pool**
Videz la piscine

ottawa.ca/poolenclosures

**HAVE A KIDDIE POOL?
MAKE IT SAFE.** **AVEZ-VOUS UNE PISCINE
POUR ENFANTS?
PENSEZ SÉCURITÉ.**

✓ **Pool Fencing**
Clôtures de piscine

ottawa.ca/poolenclosu

Figure 19. Final Mock Designs After Phase 2

Step 5 & 6. IMPLEMENTATION and EVALUATION/FEEDBACK

Weinreich (2010) describes that in the implementation phase, the program is introduced to the target audience. Preparation is essential for success, and implementation must be monitored to ensure that every element proceeds as planned. Finally, the evaluation and feedback phase assesses the effects of the program as a whole as well as the individual elements of the strategy (Weinreich, 2010). Evaluation has occurred throughout the process of campaign development, not just at the end, and feedback has been used at each stage to improve the campaign. These last two steps are of high importance to a successful campaign. It is hoped that further research can be done on the evaluation of this campaign after the City of Ottawa's summer 2017 implementation.

Conclusion

This manuscript focused discussion on using Weinreich's (2010) process model and interviews with pool safety experts as well as marketing experts to create a portable pool safety social marketing campaign. This article goes through the six steps outlined by Weinreich (2010) as well as using theories such as positive messaging, negative messaging, and social norm theory in the development of the campaign messages. Through interviews, the City of Ottawa employee, local water safety organization, national water safety organization, and an international pool manufacturer gave their opinions and suggestions on the most effective campaign messages, images, target audience, and promotional channels. The mock campaign ads were then presented to marketing team in whom they gave their ideas and suggestions on how to hook the target audience in wanting to learn more about portable pool safety. A final campaign was crafted and will be implemented in Ottawa for the summer of 2017.

Furthermore, although other social marketing drowning prevention strategies exist, there has been little effort from Canadian experts in mobilizing portable pool safety knowledge through social marketing. This research demonstrates that a multi-faceted drowning prevention spectrum is the most effective way to promote pool safety in our local context of Ottawa. As supported by the data analyzed in this study, stakeholders

emphasized a multi-partner and multi-site approach, and one that relies heavily on a social marketing foundation. This thesis project contributed to filling this gap by creating a new social marketing campaign to address the changing residential leisure swimming practices of the increased use of portable pools.

Chapter 4
Concluding Overview

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Overview of Results & Thesis Conclusion

The purpose of this study was to provide insight into research-based policies and practices of effective childhood drowning prevention strategies by exploring the role of various stakeholders in promoting pool safety and analyzing potential barriers to the uptake of these safety messages. This thesis also developed a new research evidence-based campaign, vetted by pool safety and marketing experts, to mobilize portable pool safety knowledge through the use of social marketing.

This research reveals that there is a lack of knowledge and awareness regarding pool safety practices and local bylaws that continues to put children at risk of being exposed to pools with less parental supervision, non-compliance of pool enclosure permits, and less knowledge on the drowning risks, prevention and lifesaving strategies. Using grounded theory and social marketing theory, this thesis sought to firstly understand stakeholders' perceived roles in mobilizing pool safety knowledge, and secondly, better understand pool safety messaging to ultimately help childhood drowning rates continue to decline. Furthermore, the value of this research is also in the creation of a 2017 social marketing campaign to communicate the dangers of portable pools to Ottawa citizens. This campaign, in the form of a bus advertisement, will be used to mobilize pool safety knowledge on the need of adult supervision, pool enclosures, and the emptying of small pools to ensure safety for children near backyard portable pools in Ottawa. Additionally, the marketing tool could be further evaluated and generalized to other aspects of safety promotion.

The experts who aided in the creation of this campaign were recruited based on their potential knowledge of pool safety and social marketing campaigns. For the first manuscript, interview questions with these experts focused on their perceived roles as stakeholders in mobilizing pool safety knowledge to citizens and determining what key messages they deemed as important to mobilize. For the second manuscript, interviewees were asked their opinion on what a portable pool safety campaign should include to be most effective for the target population.

In the first manuscript, the research objective was to explore stakeholders perceived roles in mobilizing pool safety knowledge and to understand the barriers associated with the uptake of pool safety initiatives. Using grounded theory, it was determined that stakeholders perceive they have a role in mobilizing pool safety knowledge. Three overarching themes emerged from the data which aligned with the proposed Drowning Prevention Spectrum: pool safety experts perceive their responsibility in mobilizing pool safety knowledge through their role in developing knowledge and skills as a safety educator; developing and promoting campaigns and products through their role as a marketer of behaviour change; and through their role in the development and enforcement of policies and legislation. All of the stakeholders labeled a part of their role as ‘education’. Stakeholders commented that having a role as an educator included educating their staff, educating community members, being a role model in every day life, and having a story telling role in educating the community about the dangers of water and the importance of pool safety. Most interviewed stakeholders gave examples of pool safety marketing initiatives that their organization is apart of; however, only a City of Ottawa employee, National Water Safety Organization, and the Marketing Team used the term “marketing” to explain their role in mobilizing pool safety knowledge. The creation and enforcement of local policy was also said to be a major part of pool safety and the mobilization of pool safety knowledge for the National Water Safety Organization through research, and building services through regulating building permits as well as constantly enforcing and inspecting private home pools for safety infractions.

Interviewees were also asked what they perceived as some of the major barriers to the uptake of pool safety information and initiatives. Interviewed stakeholders revealed that the main social-ecological barriers included personal barriers (cost and time), social barriers (policy and awareness), and physical barriers (aesthetics). While the themes presented were consistent with many of those identified in the current literature (Carey, Chapman, & Gaffney, 1994; Morrison, 1999), this research also filled gaps through the understanding of these perceived personal, social and physical barriers which will aid in the implementation of knowledge mobilization initiatives for all stakeholders.

The results of the first manuscript demonstrates that even though all interviewed stakeholders perceive they have a role in mobilizing pool safety knowledge, there are still barriers in the uptake of pool safety knowledge by citizens and pool owners. There is a lack of communication and teamwork between stakeholders when tackling the issue of pool safety awareness. The results also demonstrate that there is a need for the use of marketing techniques such as audience segmentation to attract pool owners to learn about safety best practices, especially within new residential leisure swimming practices of the increased use of portable pools.

The second article focused on using Weinreich's (2010) social marketing process model and interviews with pool safety experts as well as marketing experts to create a social marketing campaign to emphasize the risks associated with portable pools. This article goes through the six steps outlined by Weinreich (2010) as well as using theories such as positive messaging, negative messaging, and social norm theory in the development of the campaign messages. Through interviews, the City of Ottawa employee, local water safety organization, national water safety organization, and an international pool manufacturer gave their opinions and suggestions on most effective campaign messages, images, target audience, and promotional channels. The mock campaign ads were then presented to the marketing team in whom they gave their ideas and suggestions on how to hook the target audience in wanting to learn more about portable pool safety. Through the use of social marketing theory, interviews with experts, and the 3 elements of the proposed Drowning Prevention Spectrum (knowledge/ skills, campaigns/products, laws/policies), a final campaign was crafted and will be implemented in Ottawa for the summer of 2017. Although other social marketing drowning prevention strategies exist, there has been little effort from Canadian experts in mobilizing portable pool safety knowledge through social marketing. Therefore this thesis project contributed to filling this gap by creating a new social marketing campaign to address the changing residential leisure swimming practices of the increased use of portable pools.

This research demonstrates that a multi-faceted drowning prevention spectrum is the most effective way to promote pool safety in the local context of Ottawa. As

supported by the data analyzed in this study, stakeholders emphasized a multi-partner and multi-site approach to combat portable pool drownings; this approach relies heavily on a social marketing foundation.

Limitations

The first limitation to this study involved the scan of the literature to organize drowning statistics. Statistics were scattered throughout many reports and information was not readily available. For example, one report included the number of children who drowned in backyard pools in Canada; but when looking for results in Ottawa, statistics could not be found on childhood drowning specifically in pools. As well, since portable pool drownings is a new area of research, very limited literature is currently available. This was a limitation because additional literature could have increased the argument of the severity of this problem; however, limited current research also emphasizes the need for this thesis research.

The interview process and interview sample further contributed to the limitations of this study. Interviews which were conducted over the phone or in a joint-interview could have influenced results. Since the international pool manufacture was not located in Ottawa, a telephone interview was conducted. Although the telephone allows the interviewer to easily interview people that are difficult to access, one of the disadvantages of telephone interviews is the reduction of social cues. The interviewer does not see the interviewee, so body language can not be used as a source of extra information. However, social cues such as voice and intonation are available to the interviewer.

Another interview limitation was interviewing the marketing team through a joint-interview (or interviewing two people together, for the purposes of collection information about how the pair perceive the same event). A disadvantage of this joint interview could have been one person dominating the other through disruption or conflict.

Furthermore, the limited interview sample size could have been a limitation to this study. Although pool owners were not interviewed in this study, it is believed many of the major stakeholder groups involved in pool safety knowledge mobilization were covered. If pool owners were interviewed, it would be a large study on its own as

interviews would have to be conducted with pool owners of all demographics (age, minorities, different municipalities, and different swimming abilities).

Future Directions

Further qualitative studies should be executed to explore roles of additional pool safety stakeholders such as parents and schools to understand their unique perceived barriers in knowledge mobilization and perception of risk.

While this new portable pool social marketing campaign holds great potential, there are need for future studies examining the implementation and evaluation of this campaign. Furthermore, it would be interesting to study the difference of portable pool safety messaging that is positively framed versus negatively framed. The use of different social marketing channels such as point-of-purchase and social media should also be studied as additional tools to market the dangers of portable pools.

Finally, a future direction should include the powering of bylaw officers to change policy and enforcement of pool fencing in Ottawa and Ontario.

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Appendices

Appendix A: Interview Guide

Researcher Introduction:

First off, I'd like to thank you for agreeing to participate in my thesis project. I want to remind you that you can back out or refuse to answer any questions that you may feel uncomfortable answering. The interview will last 30-40 minutes, and I will ask you about your knowledge, perceptions, and role in mobilizing knowledge about pool safety. I will also show you a couple example of a portable pool campaign I have been working on and would like your input. At any point you have any questions please feel free to stop me and ask. All of your information and feedback will remain completely confidential. Only my supervisor and I will know your name and organization. In my paper I will solely describe you as _____ (Water safety organization, Media, City of Ottawa). You will be given a chance to review your transcribed interviews and approve the information recorded. If you don't have any further questions, lets start!

Interviewee Introduction (basic facts, test recording):

- What is your name, what is your profession, and under what organization?

Block A

The first part of this block of questions is focused on current pool safety knowledge mobilization.

- What do you think are some key risk factors for children drowning? Whether it be location, skills, age...
 - *Do you think backyard pool safety should be an important focus in decreasing child drowning rates in Canada?*
 - *You seem to be very knowledgeable on this subject, where do you get pool safety information and drowning statistics?*
 - *Training through work?*
 - *Research?*
 - *News?*
- What do you think needs to be in place to reduce drowning risks for children in backyard pools?
 - *Supervision? Fencing? Devices? Lessons?*
 - *Do you know of any current backyard pool safety initiatives?*
 - *What do you think are some perceived barriers of pool owners associated with uptake of these initiatives or devices?*

The second part of this block of questions will focus on their perceived roles in mobilizing pool safety knowledge:

- How would you describe or define what your organization/department does in terms of pool safety?

- Do you think you (and your organization) have a role in mobilizing pool safety knowledge?
 - *Why? Why not?*
- If Yes...
 - *What do you think your role is in mobilizing pool safety knowledge?*
 - *Do you see yourself as more of an educator or an enforcer?*
 - *Do you think your role is more about increasing awareness or effecting behaviour change?*
 - *What are some of your organization's current pool safety messages?*
 - *How to ensure these messages are effective?*
 - *How do you ensure reaching audience?*
 - *What are some challenges?*
- Which other stakeholders/ organizations do you think should be involved in promoting backyard pool safety? (Schools? Public health?)
 - *What do you think their primary responsibilities are in regards to this topic?*
 - *How would they be different than your organization's roles?*
- Are you familiar with the City of Ottawa pool enclosure bylaw? (Ensuring backyard pools—2ft. or deeper-- are enclosed by fencing and have locked gates) Show diagram
 - *What can you suggest as a way that you and your organization would hypothetically mobilize this knowledge?*
 - *Apart from the city, who else should have a role in ensuring compliance of this bylaw?*

Block B

The second block of questions will focus on their perceptions on a new marketing tool on portable pool safety.

- Specific to pool safety, what are different ways/ or channels you've seen information mobilized?
 - *What ways do you think are most effective?*
 - *Does this change for different demographics? (Age? Gender? Ethnicity?)*
- What channels does your organization use to mobilize knowledge about pool safety?
 - *Posters? Websites?*
 - *Are there any challenges to these channels?*
- Researchers have identified a new risk of drowning in backyard portable pools. Portable pools are defined as “any movable structure intended for swimming or other water recreation. Examples include wading pools, inflatable pools, and ‘soft-sided, self-rising’ pool”
 - *How can we better address and reduce this risk?*
- Through social marketing I hope to create a behaviour change to decrease these drowning rates!

- *What is the key behaviour change you would like to see in this portable pool safety social marketing campaign?*

Show participants different portable pool safety campaign messages I have created:

- What are your perceptions of these pool safety messages?
 - *Which one do you think will have the most impact on behaviour change?*
 - *Why?*
- What image do you think will have the most impact on behaviour change?
 - *Why?*
 - *What are your opinions on Positive vs. Negative messaging (showing what needs to be done, vs. showing what the consequences would be)?*
- If you had to narrow it down, who would be the target audience of this campaign/ who would benefit the most from this information?
 - *Parental status?*
 - *Location?*
 - *Socioeconomic Status?*
 - *Women or Men?*
- What would be the best channel to reach this audience?

Thank you so much. You have been an excellent participant. I really appreciate you taking the time to talk to me.

Do you have any further comments or questions?

Appendix B: Information Sheet for Participants

Study Purpose: The purpose of this study will be to provide insight into research-based policies and practices of effective childhood drowning prevention strategies by exploring the role of various stakeholders in promoting pool safety and analyzing their key safety messages in Ottawa, Ontario. A new marketing tool will also be proposed to address changing residential leisure swimming practices of the increased use of portable backyard pools.

Funding: This research received no specific grant from a public sector organization, commercial or non-profit.

Participation: One interview that will last approximately 45 minutes about the participant's perceptions of current pool safety knowledge mobilization techniques, their personal role, and potential future strategies. The interviews will take place in the May or June of 2016, in person at the convenience of the participant (if residing in Ottawa), or via Skype (if outside of Ottawa). The participants will agree that their interview will be tape recorded and manually transcribed. Participants will be given the opportunity to review their interview transcripts. A consent form (available in both English and French) will be signed prior to the interview.

Recruitment: All participants must be fluent in English and will be key stakeholders involved in the mobilization of pool safety knowledge in Ottawa, Ontario. Participants will be purposively recruited based on they're affiliation with the subject matter.

Risks: The participant must understand that their participation is to answer questions about their perceptions of current pool safety knowledge mobilization techniques, their personal role, and potential future strategies. The participants are free to refuse to answer any question that may create slight discomfort. The participant must understand that they may withdraw from this research at any time.

Benefits: Participation in this research will result in a better understanding stakeholders' roles in pool safety knowledge mobilization and aid in the creation of a new marketing tool promoting portable pool safety in Ottawa, Ontario.

Confidentiality and anonymity: The information shared will be kept strictly confidential. The content used for this project only, and dependent on confidentiality. Anonymity is guaranteed. If portions of the interview are quoted in the research, only the participant's connection to the project will be stated (City Official, Water Safety Organization, Media, or Pool Company) and information leading to identification will be removed.

It is up to the individual to decide whether to take part or not. If he/she decides to take part they are still free to withdraw from the study at any time and without giving a reason.

If there are any questions or would like more information about this study, please contact the researcher using the following contact details: Kylie Valentino

For further advice and information: Eileen O'Connor

Appendix C: uOttawa R.E.B. Approval

File Number: H04-16-05

Date (mm/dd/yyyy): 06/03/2016



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Eileen	O'Connor	Health Sciences / Human Kinetics	Supervisor
Kylie	Valentino	Health Sciences / Human Kinetics	Student Researcher

File Number: H04-16-05

Type of Project: Master's Thesis

Title: Preventing childhood drowning in backyard, residential pools in Ottawa, ON: Contextualizing knowledge mobilization of legislation and marketing campaigns

<u>Approval Date (mm/dd/yyyy)</u>	<u>Expiry Date (mm/dd/yyyy)</u>	<u>Approval Type</u>
06/03/2016	06/02/2017	Approved

Special Conditions / Comments:
 N/A

Appendix D: Lifesaving Society Guerilla Marketing Campaign



Appendix E: Phase 1 Pre-established Advertisements

Kids Can Drown In Any Size Pool.
PORTABLE POOLS are a serious threat.



- ✓ Swim & CPR courses
- ✓ Active adult supervision
- ✓ Fence (2 ft. or deeper)
- ✓ Empty small pools

Pools capable of holding a water depth 2ft or deeper must adhere to the City of Ottawa's Pool Enclosure Bylaw (No. 2013-39).



ottawa.ca/poolenclosures 

KIDS CAN DROWN IN ANY SIZE POOL
PORTABLE POOLS are a serious risk.



Pools capable of holding a water depth 2 ft. or deeper must adhere to the City of Ottawa's Pool Enclosure Bylaw (No.2013-39)

ottawa.ca/poolenclosures 


Buying a Portable Pool?
MAKE IT SAFE




- Swim & CPR lessons
- Active adult supervision
- Fence pools with depth >2ft.
- Empty small pools

ottawa.ca/poolenclosures 

KIDS CAN DROWN IN ANY SIZE POOL.
PORTABLE POOLS are a serious risk.



Pools capable of holding a water depth 2 feet or deeper must adhere to the City of Ottawa's Pool Enclosure Bylaw (No.2013-39)

ottawa.ca/poolenclosures 

Buying a Portable Pool?
make sure its SAFE



- ✓ Active adult supervision
- ✓ Swim & CPR lessons
- ✓ Fence pools with depth >60cm
- ✓ Empty small pools

ottawa.ca/poolenclosures 

Appendix F: Ottawa Pool Enclosure Bylaw 2013

Pool Enclosure By-law No. 2013 – 39

This consolidation of By-law Number 2013-39 is provided for reference purposes only. Every effort is made to ensure the accuracy of this consolidation up to and including the last amending by-law. For legal requirements, please refer to copies of the official amending by-laws, which are available upon request from the City Clerk and Solicitor Department.

A by-law of the City of Ottawa to regulate enclosures for privately-owned outdoor pools, and to repeal By-law No. 2001-259.

WHEREAS Section 10 (2), paragraph 6, of the *Municipal Act, 2001*, S.O. 2001, c. 25 (hereinafter the "*Municipal Act 2001*") authorizes a municipality to pass by-laws respecting the health, safety and well-being of persons;

AND WHEREAS Section 10 (2), paragraph 10, of the *Municipal Act 2001*, authorizes a municipality to pass by-laws respecting structures, including fences and signs;

AND WHEREAS Section 8(3) of the *Municipal Act 2001*, authorizes a municipality to regulate or prohibit in respect of matters within their jurisdiction, including fences, and to require persons to obtain permits and provide for a system of obtaining permits in relation to those matters;

AND WHEREAS Section 391.1 (a) of the *Municipal Act 2001* provides that a municipality may pass by-laws imposing fees or charges on persons for services or activities provided or done by or on behalf of it including permit fees for pool enclosure permits;

AND WHEREAS the Council of the City of Ottawa deems it necessary to regulate enclosures for outdoor pools within the City of Ottawa;

THEREFORE the Council of the City of Ottawa enacts as follows:

PART 1 - DEFINITIONS

1.

In this By-law,

"Agent" means a person duly authorized by the Owner in writing to act for or represent an Owner of a property on which a pool is being constructed or is located and contractor or trustee have the same meaning (*représentant*);

"Building" means any structure used or intended for supporting or sheltering any use or occupancy (*bâtiment*);

"City" means the City of Ottawa as established on January 1, 2001 by Section 2 of the City of Ottawa Act, 1999 (*ville*);

"Construct" means to do anything in the erection, installation or removal of a pool or enclosure, and constructed and construction have the same meaning (*construire*);

"Director" means the person in the office of Director of Building Code Services in the Department of Planning and Growth Management, or authorized delegates (*directeur*);

"dwelling" means a building used and occupied as a residence, but may not be a garage or shed (*habitation*);

"enclosure" means any combination of fence, wall, safety cover or other structure, including any permitted door, gate or other opening which surrounds a pool and restricts access to a pool (*enceinte*);

"gate" means a barrier swinging in a vertical axis used to close an access in an enclosure (*barrière*);

"former municipality" means the old municipalities of the City of Cumberland, the City of Gloucester, the Township of Goulbourn, the City of Kanata, the City of Nepean, the Township of Osgoode, the City of Ottawa, the Township of Rideau, the Village of Rockcliffe Park, the City of Vanier and the Township of West Carleton (*ancienne municipalité*);

"Hot tub" means a type of pool which may or may not include a lid or safety cover or jets of water; and shall include tubs which are commonly called 'spas' or 'whirlpools' (*bain tourbillon*); (2014-115)

"Officer" means any person appointed as a municipal law enforcement officer for the purposes of enforcing this by-law, and may be referred to as an inspector, property standards officer or officer, whichever is applicable to enforce this by-law (*officier*);

1. "Owner" includes: the registered owner of the land, or occupier of the land, on which a pool is being constructed or is located;
2. the person for the time being managing or receiving rent of the land on which a pool is being constructed or is located, whether on the person's own account or as Agent for any other person, or who would receive the rent if the land was let; and
3. any person who takes possession of a property under a charge or mortgage registered on title of the property on which a pool is being constructed or is located (*propriétaire*);
- 4.
5. "panel" means a section of an enclosure between two posts (*panneau*);
6. "permit" means a Permit issued by the Director of Building Code Services under this by-law for the construction of an enclosure (*permis*);
7. "pool" means an outdoor pool of water for swimming, bathing, wading or reflecting, including any Hot tub, which is capable of retaining a water depth equal to or greater than 600 mm at any point, but shall not include: facilities for the purposes of providing water to livestock, or for irrigation of crops which are associated with and located on land devoted to the practice of farming, and stormwater management ponds, or outdoor pools owned or operated by the City (*piscine*); and
8. "safety cover" means a rigid cover on a Hot tub, whirlpool or spa, which can be locked (*couvercle de sécurité*).

PART 2 – INTERPRETATION

2.

In the event of any conflict between the provisions of this by-law and any provision of By-law No. 2003-462, a by-law of the City of Ottawa respecting the erection, height and maintenance of fences, as amended, the provisions of this by-law shall prevail.

3.

Unless otherwise defined, the words and phrases used in this by-law have their normal and ordinary meaning.

4.

This by-law includes the schedules annexed hereto and the schedules are hereby declared to form part of this by-law.

5.

The headings and subheadings used in this by-law are inserted for convenience of reference only, form no part of this by-law, and shall not affect in any way the meaning or interpretation of the provisions of this by-law.

6.

Unless the context requires otherwise, references to items in the plural include the singular unless used with a number modifying the term, and words imparting the masculine gender shall include the feminine.

7.

It is declared that if any section, subsection, paragraph or part thereof is declared by any Court to be bad, illegal, or ultra vires, such section, subsection, paragraph part or parts shall be deemed to be severable and all other parts of this by-law are declared to be separate and independent, and enacted as such. (2014-115)

PART 3 - GENERAL PROVISIONS

8.

No Owner or their Agent shall construct or permit to be constructed a pool on a property unless they ensure that an enclosure that conforms with the requirements of this by-law surrounds the pool.

9.

The replacement of an enclosure shall comply with this by-law.

10.

No Owner or their Agent shall place water or allow water to remain in a pool unless an enclosure has been constructed, inspected, and deemed by the Director to be in compliance with the provisions of this by-law, except as provided in Sections 36 to 42.

11.

No Owner of a property on which a pool is constructed, or their Agent, shall fail to construct and maintain an enclosure in compliance with the provisions of By-law No. 2003-462, a by-law of the City of Ottawa respecting the erection, height and maintenance of fences, as amended.

12.

Nothing in this by-law permits the construction of a pool, deck, platform or other structure in a location which is not permitted under the Zoning By-law 2008-250, as amended.

13.

The Director is authorized to administer and enforce the provisions of this by-law.

PART 4 - PERMITS

PERMIT REQUIREMENTS

14.

(1) No Owner or their Agent shall commence the construction of a pool, or permit the construction of a pool to be commenced, without first obtaining a Permit from the Director.

(2) All pool enclosures, including replacement pool enclosures, shall require a Permit. (2014-115)

(3) Despite subsection (1), a Permit is not required in the case of a pool that has been dismantled and is being constructed in the same location and the same manner in which it was previously constructed provided that:

(a) a Permit was obtained for the original construction, and

(b) the construction meets the provisions of the applicable by-law that was in effect at the time the Permit was issued.

APPLICATION FOR A PERMIT

15.

An application for a Permit for a pool enclosure shall be in the form required by the Director, and shall be accompanied by the fee set out in Schedule 'A' of this by-law, two (2) sets of fully-dimensional plans, and with supporting documentation:

(a) identifying and describing in detail the work to be covered by the Permit for which an application is made;

(b) describing the property on which the pool is to be constructed;

(c) showing the location of the pool, all accessory equipment and proposed landscape features in relation to the enclosure, including but not limited to property lines, buildings and structures (including decks and sheds), rights-of-way, easements, septic beds and tanks, catch basins, swales, wells and retaining walls; (2014-115)

(d) describing complete details of the proposed enclosure, including location and type and the specifications of the proposed fence and gate;

(e) stating the names, addresses and telephone numbers of the Owner and the Agent performing the work;

(f) describing complete details of any existing fence or building proposed to be part of the enclosure, including details of gates, doors and windows;

(g) providing the manufacturer's specifications for the safety cover for hot tubs, if applicable; and

(h) providing any additional information required by the Director to enable the Director to determine compliance with this by-law.

CANCELLATION AND REVOCATION

16.

(1) An application for a Permit will remain active for a period of six (6) months from the date of receipt. After six (6) months, if the Permit is not issued, the application shall be deemed abandoned and the Director shall cancel the application and the application fee shall be forfeited.

(2) Despite subsection (1), a refund amounting to fifty percent (50%) of the application fee shall be provided to the applicant where the applicant requests in writing within two (2) business days of submitting the application to the City that the application be cancelled.

17.

- (1) A Permit may be refused or revoked by the Director if: (a) the proposed enclosure would contravene this by-law or any other applicable by-law;
- (b) the Permit was issued in error or on mistaken, false or incorrect information;
- (c) the required application fee has not been paid; or
- (d) construction of the enclosure and pool has not commenced within a period of eighteen (18) months from the date the Permit was issued;

(2) The application fee shall be forfeited in all cases except for in 17(1)(c).

18.

A Permit shall be valid for eighteen (18) months from the date the Permit was issued.

PART 5 – INSPECTIONS REQUIRED

19.

No Owner of a property on which a pool is being constructed, and an enclosure is being constructed, or their Agent, shall fail to;

- (1) notify the Director of commencement of construction; and,
- (2) schedule an inspection of the enclosure as follows: (a) prior to the pool being filled with any water; and
- (b) at the completion of construction of the prescribed enclosure.

PART 6 - ENCLOSURE SPECIFICATIONS

GENERAL SPECIFICATIONS

20.

No Owner of a property on which a pool is being constructed, or their Agent, shall fail to construct and maintain an enclosure that complies with the following specifications:

- (a) every enclosure shall be a minimum of 1.5 metres in height;
- (b) openings through or under any part of an enclosure shall be of a size so as to prevent the passage of a spherical object having a diameter of 100 mm;
- (c) an overhead garage door shall not be used as part of the enclosure;
- (d) no enclosure shall be located less than 1 metre from the nearest inside wetted surface of a pool wall;
- (e) any object, material or equipment shall not be placed, piled or attached against or near an enclosure so as to facilitate climbing of the enclosure, or diminish the structural integrity of an enclosure;
- (f) no attachment that can facilitate climbing shall be fixed or placed on the exterior face of an enclosure between 100 mm and 1042 mm, measured from the bottom of the enclosure;
- (g) a hedge or bush shall not be considered an enclosure;
- (h) barbed wire, chicken wire or other barbed or sharp material shall not be used in the construction of an enclosure; and
- (i) an enclosure shall not be used as a conductor of electricity.

21.

No Owner of a property on which a pool is being constructed, or their Agent, shall fail to ensure that every gate forming part of an enclosure:

- (a) is constructed in accordance with the provisions prescribed in this by-law;
- (b) is equipped with a self-closing device;
- (c) is equipped with a self-latching device that is located at least 1.35 m above the bottom of the enclosure; and
- (d) is equipped with a lock. (2014-115)

22.

No Owner or their Agent shall fail to ensure that where a double gate forms part of the enclosure, one of the two gates shall be affixed to the ground, and the other gate shall be constructed in accordance with Section 21.

23.

No Owner shall fail to ensure that every gate in an enclosure is closed and locked at all times, except when the enclosed pool area is in use, and this provision shall apply to every enclosure in the City, regardless of when it was constructed.

24.

No Owner shall fail to ensure that every gate in an enclosure that adjoins a space that is accessible to the public, including but not limited to a public park, a golf course, or a highway, is closed and locked at all times, except when the gate is in use for access or egress by the Owner or by anyone who has the property Owner's consent to enter or leave the property, and this provision shall apply to every enclosure in the City, regardless of when it was constructed.

25.

No Owner or their Agent shall fail to ensure that every door located in the wall of a building that is not a dwelling, where, the wall of a building is used as part of an enclosure and the building has direct access outside the pool area:

- (a) is equipped with a self-closing, self-latching and locking device that is located a minimum of 1.35 metres above the door threshold; and,

(b) the door is kept closed and locked unless the pool is in use.

26.

Sections 20 to 25 do not apply to the doors or windows of a dwelling that form part of an enclosure.

27.

The Director may approve plans for the construction of an enclosure that is a fence, wall or other structure that provides an equivalent enclosure to that prescribed in this by-law.

CHAIN LINK CONSTRUCTION SPECIFICATIONS

28.

Every enclosure of chain link construction shall:

- (a) comprise of chain link with a diamond mesh not greater than 38 mm, consisting of either 12 or 14 gauge galvanized steel wire;
- (b) have galvanized steel support posts spaced at intervals of not more than 3 metres;
- (c) have every support post securely imbedded in the ground, which shall extend at least 1.2 metres below grade, or be constructed in such a manner as to be non-frost susceptible; and which posts shall be encased in concrete at least 50 mm thick all around;
- (d) have every end and corner post be a minimum of 48 mm in diameter;
- (e) have every intermediate post be a minimum of 38 mm in diameter;
- (f) have a horizontal top rail of galvanized or vinyl coated steel which shall be a minimum of 32 mm in diameter; and
- (g) have a horizontal bottom rail of galvanized or vinyl coated steel which shall be a minimum of 32 mm in diameter. A minimum 9 gauge vinyl coated galvanized steel tension cable may be substituted for the horizontal bottom rail.

VERTICAL BOARD CONSTRUCTION SPECIFICATIONS

29.

Every enclosure of vertical board construction shall:

- (a) have vertical boarding of not less than 25 mm by 100 mm, attached to a top and bottom rail, and the space between vertical boards shall not exceed 38 mm; (2014-115)
- (b) where it is board on board design, have spacing between the boards which does not exceed 100 mm, provided that there is a minimum clear space of 1.2 metres between the rails. (2014-115)
- (c) be supported by posts of not less than 100 mm by 100 mm, spaced at intervals of not more than 2.4 metres;
- (d) have every support post securely imbedded in the ground and shall extend at least 1.2 metres below grade, or be constructed in such a manner as to be non-frost susceptible; and which posts shall be encased in concrete at least 50 mm thick all around;
- (e) for the portion of the posts below grade, be of natural cedar, pressure treated wood, or alternatively, be treated with a wood preservative that is acceptable to the Director; and
- (f) have a top and bottom rail of not less than 50 mm by 100 mm.

WROUGHT IRON, ALUMINUM, OR VINYL TYPE CONSTRUCTION SPECIFICATIONS

30.

Every enclosure of wrought iron, aluminum or vinyl type construction shall:

- (a) be of sufficient strength to provide an effective enclosure;
- (b) have no openings between vertical members of a size so as to allow the passage of aspherical object having a diameter of 100 mm;
- (c) have every support post spaced not more than 3 metres apart;
- (d) have every support post extend at least 1.2 metres below grade, or be constructed in such a manner as to be non-frost susceptible; and shall be encased in concrete at least 50 mm thick all around; and
- (e) have top and bottom rails spaced so that a minimum clear space of 1.2 metres is provided between the rails.

ABOVE GROUND POOLS

31.

(1) No Owner of an above ground pool or their Agent shall fail to ensure that an above ground pool is enclosed by an enclosure that meets the provisions of this by-law if the vertical walls of the above ground pool are less than 1.5 metres in height.

(2) Despite subsection (1), the pool structure shall form the enclosure of the above ground pool where: (a) the vertical walls of an above ground pool are at least 1.5 metres in height and do not possess any horizontal members that may facilitate climbing; and

(b) the ladder area, or deck, which provides access to the above ground pool, is enclosed by a gated enclosure which complies with the requirements for enclosures set out in this by-law.

HOT TUBS

32.

No Owner or their Agent shall fail to construct and maintain an enclosure surrounding a hot tub that complies with this by-law, unless the Hot tub includes a safety cover meeting the requirements of Section 33.

33.

A safety cover shall be considered an enclosure in compliance with this by-law where:

- (a) the Hot tub has a substantial, structurally adequate cover that is capable of supporting a 90 kilogram load, or is in compliance with the American Society for Testing and Materials standard ASTM F1346 – 91 for Hot tub and pool safety covers; and,
- (b) the safety cover is permanently attached to the Hot tub or to its supporting structure.

34.

No Owner shall fail to ensure that a Hot tub safety cover is securely fastened and locked to prevent access at all times when the Hot tub is not in use.

35.

No Owner or their Agent shall fail to provide an Officer with manufacturer's specifications on a Hot tub that is being constructed with a safety cover, establishing that the safety cover and Hot tub meet the requirements of this by-law.

TEMPORARY ENCLOSURES

36.

No Owner or their Agent shall fail to construct a temporary enclosure surrounding a pool when the pool that is being constructed does not have the prescribed enclosure.

37.

Every temporary enclosure shall be constructed as follows:

(a) with steel "T" posts spaced at not more than 2.4 metres centres, and embedded at least 300 mm into the ground, with 38 mm diamond mesh chain link fencing at least 1.5 metres high, that is securely fastened to the posts at 200 mm centres, and horizontally secured at the top and bottom by an eleven-gauge steel lacing cable threaded through the mesh and looped and fastened to each post;

(b) every opening in a temporary enclosure shall be closed and locked when the temporary enclosure is not being used for access or egress; and

(c) no gap in the temporary enclosure shall allow the passage of a spherical object having a diameter of 100 mm or greater.

38.

No Owner or their Agent shall fail to ensure the temporary enclosure is inspected and deemed compliant by the Director prior to filling the pool with any water.

39.

No Owner or their Agent shall fail to complete the construction of the prescribed enclosure no later than 14 days after the pool has been filled with water.

40.

No Owner or their Agent shall enclose a pool with a temporary enclosure beyond 14 days following the day the pool was filled, except where an Owner or their Agent has obtained an extension in writing from the Director.

41.

After the construction of the prescribed enclosure and where the pool has been filled, a gap of one panel with posts spaced at intervals of not more than 3 metres may be removed and replaced by a temporary enclosure for up to 14 days.

42.

The Director may approve the construction of other temporary fencing, where it provides an equivalent enclosure to that specified in this by-law.

PART 7 – COMPLIANCE AND OFFENCES AND PENALTY PROVISIONS

COMPLIANCE

43.

(1) An Officer may enter onto any lands at any reasonable time for the purposes of determining

compliance with this by-law or with an Order issued pursuant to the by-law.

(2) An Officer may, for the purposes of an inspection under subsection (1): (a) require the production of documents or things relevant to the inspection;

(b) inspect and remove documents or things relevant to the inspection for the purposes of making copies or extracts; and

(c) require information from any person concerning a matter related to the inspection.

(3) An Officer may be accompanied by such persons as are necessary for conducting the inspection or for carrying out any required work.

(4) Upon request, an Officer shall produce identification.

(5) No person shall hinder or obstruct, or attempt to hinder or obstruct an Officer in the discharge of his or her duties under this by-law.

ENFORCEMENT ORDERS

44.

Where an Officer determines that a contravention of this by-law has occurred, the Officer may make an Order requiring the Owner of the property on which the contravention occurred, or their Agent, to:

(a) discontinue the contravening activity;

(b) require the pool to be immediately emptied of water; or

(c) carry out such work, and if applicable under such conditions, as may be required to correct the contravention and to bring the enclosure into conformity with the requirements of this by-law.

45.

An Order under Section 44 shall set out:

(a) reasonable particulars of the contravention sufficient to identify the contravention and the location of the property on which the contravention occurred;

(b) the work to be done to restore the enclosure to a condition where it complies with the requirements of this by-law;

(c) the requirement to obtain all necessary permits or other approvals prior to performing any work; and

(d) the date or dates by which there must be compliance with the Order.

46.

No Owner or their Agent shall fail to comply with an Order issued pursuant to Section 44.

SERVICE

47.

An Order issued pursuant to Section 44 shall be served personally, be posted in a conspicuous place on the property where the contravention occurred, or be sent by registered mail to the last known address of the person contravening this by-law.

48.

Where an Order under Section 44 is served personally, it shall be deemed to have been served on the date of delivery to the person or persons named.

49.

The posting of an Order issued pursuant to Section 44 on the affected property shall be deemed to be sufficient notice of the Order on the person to whom the order is directed on the date it is posted.

50.

Where an Order issued pursuant to Section 44 is sent by registered mail, it shall be sent to the last known address of the Owner or their Agent who caused or permitted the contravention, and the Order shall be deemed to have been served on the fifth day after the Order is mailed.

51.

Where a person does not comply with an Order issued under this by-law, an Officer, with such assistance of others as may be required, may effect compliance at the expense of the Owner.

52.

(1) The City may recover the costs of effecting compliance with an Order under Section 44 by action or by adding the costs to the tax roll and collecting them in the same manner as property taxes.

(2) The Director shall deliver to the Owner written notice of the costs to the last registered address of the Owner as identified in the assessment roll.

(3) The total cost of effecting compliance with an Order as set out in Section 51 shall include an administration fee in the amount of 15% calculated for the period commencing on the day the City incurs the costs and ending on the day the cost, including the interest, are paid in full.

53.

The Director is authorized to give immediate effect to any Order, notice or direction carried out under Section 51 and is authorized to enter upon the property at any reasonable time for that purpose.

54.

The amount of the costs as set out in the notice of costs provided under subsection 52 (2), and the applicable interest and the applicable administration fee, that remain unpaid by the Owner after 30 days of the date of the notice of costs may be added to the tax roll and collected in the same manner as property taxes and the amount of the costs, including interest.

OFFENCES AND PENALTIES

55.

Every person who contravenes any of the provisions of this by-law is guilty of an offence.

56.

A person who is convicted of an offence under this by-law is liable to a minimum fine of \$500, and a maximum fine of \$100,000 as provided for in subsection 429(3), paragraph 1 of the Municipal Act, 2001.

57.

Every person who fails to comply with an Order issued pursuant to Section 44 of this by-law is guilty of an offence and the offence is hereby designated a continuing offence as provided for in subsection 429(2) (a) of the Municipal Act, 2001 and the person convicted of a continuing offence under this by-law is liable, for each day or part of a day that the offence continues, to a minimum fine of \$500 and a maximum fine of \$10,000, and despite Section 56, the total of all daily fines for the offence is not limited to \$100,000 as provided in paragraph 2 of subsection 429(3) of the Municipal Act, 2001.

58.

When a person has been convicted of an offence under this by-law, the Superior Court of Justice or any court of competent jurisdiction, in addition to any penalty imposed on the person convicted, may issue an order:

(a) prohibiting the continuation or repetition of the offence by the person convicted; and

(b) requiring the person convicted to correct the contravention in the manner and within the period that the court considers appropriate.

PART 8 – REPEAL

59.

By-law 2001 – 259 of the City of Ottawa entitled "Pool Enclosure By-law", as amended, is hereby repealed effective March 1, 2013.

PART 9 – TRANSITION

STATUS OF PREVIOUSLY ISSUED OR CONTINUED ENCLOSURE PERMITS

60.

With the exception of Sections 23 and 24, enclosure permits issued or continued under the Pool Enclosure By-law 2001 – 259, as amended, are hereby continued and remain in force and shall be deemed to be issued under this by-law for regulatory and enforcement purposes, provided that the enclosure in question was lawfully constructed and in conformity with the provisions of By-law 2001-259 or with a pool enclosure by-law of a former municipality, is maintained in good repair, and used as an enclosure on the date of enactment of this by-law.

TRANSITION AND IN FORCE DATES

61.

The implementation of the provisions of this By-law will be made according to the following schedule:

(a) Sections 32 to 35 shall be in force and take effect upon the enactment of this By-law; and,

(b) all other sections of this By-law shall be in force and take effect on March 1, 2013, and shall apply to permits issued as of March 1, 2013.

SHORT TITLE

62.

This By-law may be referred to as the "Pool Enclosure By-law".
ENACTED AND PASSED this 13th day of February, 2013.

SCHEDULE "A"

FEE

Pool Enclosure Permit \$200.00