DISCUSSION

There is an awareness amongst injury prevention practitioners that a resurgence of drowning deaths of young children in private swimming pools and spas could occur if public awareness of this issue does not remain high and an effective enforcement regime is not implemented in Victoria. This is supported by the findings of Paine and Cassell's (2003) survey of council building surveyors / inspectors. There are a number of valuable initiatives underway, particularly the Municipal Pool and Spa Safety Guideline and the database of swimming pools and spas. Also underway is a review of Australian Standard 1926.1 Fencing for Swimming Pools.

The concern is that although there has only been one death in the period since the completion of data collection for the current study, the exposed population will inevitably change with a new group of parents without knowledge of the risks private swimming pools and spas pose to young children.

In summary, the current study examined 20 deaths of young children who drowned in private swimming pools and spas in Victoria between 1997 and 2001. The results of the study revealed that:

- there was a gradual reduction in the number of deaths from 12 in 1989 to two in 2001;  
- 65% of the deaths were of male children;  
- 50% of the incidents occurred between 6:00 pm and 9:00 pm;  
- 50% of the incidents occurred on the weekend, particularly a Sunday;  
- 60% of the incidents occurred in Summer (December to February);  
- there was an even distribution between the number of incidents that occurred at a premises the child was visiting and the child's own premises; and  
- 75% of incidents occurred in metropolitan Melbourne.

Further analysis of these incidents revealed that they resulted from a combination of the following two factors:

- absence of carer supervision immediately prior to the incident; and  
- inadequate safety barriers, primarily doors and gates, between the location of the child and the pool/spa.

It was demonstrated that 0-5 year old children rarely drown in private pools and spas when they were actively engaged in water recreation. Instead, three distinct patterns of events emerged.

1. child left unsupervised inside the house, negotiated non-conforming barriers forming part of the house to access the pool/spa area, and entered the water unbeknown to their carer;  
2. child outside (with knowledge of carer) unsupervised or under indirect supervision, breached an inadequate safety barrier and entered the water unbeknown to their carer; and  
3. following the cessation of water recreation (by self and others) child breached an inadequate safety barrier, re-enters the pool / spa after being

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10 This has been reduced further to zero in 2002 and 2003.
told by carers to wait for supervision or that they were not allowed to re-enter the water.

This finding presents a challenge for future public education and awareness surrounding the issue of carer supervision in the context of private swimming pools and spas. Life Saving Victoria's *Keep Watch* message promotes adequate supervision as "constant visual eye contact", which is a reasonable expectation when children are engaged in water recreation or bathing. However, this approach is problematic in the context of the scenarios found in the current study. Particularly scenario 1 where the child was thought to be located inside the house. It appeared that carers believed that the barriers in place were compliant with the legal requirements and sufficient to prevent the child from exiting the house. This in turn may have reduced their level of supervision, the first line of defence against a drowning incident.

Safety barriers therefore become a back-up defence, which increases the need for such barriers to be compliant to the highest standard, maintained in working order at all times and inspected regularly. That is not to advocate that safety barriers are a substitute for adequate carer supervision, but to acknowledge that it is an unreasonable expectation that carers maintain constant visual eye contact with their child all day. Safety barriers should be an essential added precaution, promoted as equally as important as supervision.

In relation to scenario 2, when the child was located outside the house, the mere presence of an adult or at most indirect supervision was clearly not enough to prevent the young child from drowning in pools / spas without barriers separating them from the rest of the yard. In these instances the child was in the proximity of a water hazard and Life Saving Victoria's message of "always keep watch when children are around the water", a realistic expectation, was not taken up by carers. Swimming pools and spas where the house and perimeter fence constitutes the safety barrier are a continuing concern. In these instances young children have no protection from the pool/spa once they are located outside the house. It is not a realistic expectation that young children remain inside the house or that carer supervision be visual and constant any time the child is outside.

Furthermore, young children do not understand the concept of water as a hazard. Safety barrier legislation should go further to require these swimming pools and spas to be separated from the house via a barrier conforming to AS 1926.1. In many instances this would consist of the erection of one or two panels of fencing adjoining the perimeter fence.

One other factor that arose in a number of cases was a drowning incident following earlier water recreation. In some cases the child had requested to re-enter the water and was either told no or to wait for adult supervision. Again, young children do not understand that the presence of a carer in the water with them is essential to ensure their safety and survival. It is therefore important that following the cessation of water recreation, even for a short period, barriers are properly secured, gates are never propped open and supervision is maintained.

A number of issues require further consideration by appropriate authorities in Victoria, such as:

- should there be some responsibility on the swimming pool and spa manufacturing and supply industry to make people aware of the requirements when they purchase a pool or spa?;
should other professionals such as land conveyancing and Real Estate Agents also have some responsibility to distribute information about safety barrier legislation?;¹¹

do anomalies still exist in the system that create confusion for pool owners regarding their responsibility to fence their pool?

does the 2001 legislation adequately address the problems of access and has there been enough public awareness?

what issues prevent councils from informing people of their responsibilities?; and

is it feasible to send out a letter to every home owner in the state reminding them of their obligations as a prevention measure?

Evidence from the current study indicated that prior to the 2001 legislation, pool owners were confused by legislation and were not aware of their exact responsibilities. A more proactive approach regarding safety barrier information is required in Victoria to address this, such as public awareness at the local level. For example, information sheets for distribution to all Victorian households via the local paper during water safety week or the beginning of summer periods. This should include information about safety barrier requirements, who to contact for advice, the process for new pool and spa installation, carer supervision, maintenance, inspections, resuscitation and a checklist/guidelines for recommended safety practices. The following checklist produced by the Building Commission (2000) is a good example:

- are any safety measures fitted to gates, doors and windows still operating or sitted correctly (e.g. self-closures, latches, flyscreens etc)?;
- are there tree branches, pot plants etc, within a 1.2 metre radius of the safety barrier that could be used to climb the barrier to access the pool or spa?;
- are there chairs, boxes, pool pumps etc that could be used to climb the barrier to access the pool or spa?;
- are any fences (especially timber paling fences) still in good repair and non-climbable?; and
- are adjoining properties free of potential hazards or climbable objects?.

As a result of the work undertaken by groups such as the Royal Life Saving Society / Life Saving Victoria, the Swimming Pool and Spa Safety Working Party, the Building Commission and the Municipal Building Surveyors Group Inc, many of the solutions to the problem of drowning of young children in private swimming pools and spas have been formulated and to some extent successfully implemented in Victoria. The number of deaths has reduced from 12 in 1989 to two in 2001, zero in 2002 and 2003 and one so far in 2004. This success has resulted from a combination of legislation, public awareness and education and almost a unique coming together of government agencies and public health and safety organisations. Unfortunately there has already been a drowning death of a child under five years of age in a private swimming pool in 2004, the first death in three years. This serves as a timely reminder that public awareness regarding the necessity of carer supervision needs to be maintained and a state wide approach to safety barrier inspections needs to be implemented.

¹¹ The Building Commission has developed a fact sheet containing essential information that could be distributed.
In the coming years there is the potential for complacency, and ill maintained safety barriers could lead to a resurgence of these drowning deaths. Local Councils should ensure that they know where swimming pools and spas are in their community and implement a program of regular inspections. The implementation of the Municipal Pool and Spa Safety Guideline and database of swimming pools and spas in Victoria should ensure that this occurs. Funding is a potential barrier to the successful implementation of these strategies. If this is the case, the Municipal Building Surveyors Group Inc with the assistance of Local Councils and the Swimming Pool and Spa Safety Working Party need to be proactive in identifying a source of ongoing funding.

**RECOMMENDATIONS**

Based on the findings of the current study it is recommended that:

1. amendments should be made to the Private Swimming Pool and Spa Safety Barrier regulations to require the erection of safety barriers between the pool/spa and the remainder of the outside area. This should be a requirement for new pools and the feasibility of requiring this for existing pools should be determined.

2. improvements should be made to the current level of safety barrier compliance to relevant regulations by promoting and supporting measures to establish a safety barrier inspections program, such as a database of pools and spas in Victoria and the Municipal Pool and Spa Safety Guideline; and

3. continued education / public awareness:
   
   a. awareness that many young children drown because the child re-entered the pool or spa in the period of time immediately following the cessation of water recreation, therefore carer supervision needs to be vigilant during this time and ensure that access points to the pool (doors and gates) and locked and never propped open;

   b. development and distribution of education materials to:
      
      i. Real Estate Agents selling or buying property and those wishing to sell and / or buy a property with a swimming pool or spa whether inground or above ground; and
      
      ii. retailers of portable and / or inflatable swimming pools.

   c. education material to include information on:
      
      i. safety barriers;
      
      ii. supervision such as the RLSSA *Keep Watch*;
      
      iii. water familiarisation benefits and location of classes; and
      
      iv. CPR, including contacts for classes.

   d. establish an information hotline both website and telephone hotline for:
      
      i. swimming pool and spa retailers, installers and maintenance personnel;
      
      ii. Local Government Authorities;
      
      iii. building surveyors;
      
      iv. home sellers or buyers;
      
      v. Real Estate Agents;
vi. swimming pool and spa owners; and
vii. prospective swimming pool and spa owners.
REFERENCES


