



## SWIMMING POOLS ACT 1992: REGULATION AND COMPLIANCE IN NEWCASTLE, NEW SOUTH WALES

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**T**his article reports on compliance with the Swimming Pools Act 1992 in respect of private swimming pools, and the impact of a reinspection program on compliance in the City of Newcastle. It highlights aspects of the Swimming Pools Act 1992 that are least likely to be complied with, and identifies some characteristics which predict compliance.

### BACKGROUND

The drowning and near drowning of toddlers (aged 0-4 years) in private swimming pools raises emotive debate and community conflict<sup>1</sup>. Private swimming pools represent the single most dangerous water environment for children in this age group, with between 67 per cent and 100 per cent of all drownings in the 0-4 age group between 1991 and 1993.

Reduction of toddler drowning and near drowning is identified as a priority in the NSW Injury Goals and Targets<sup>2</sup>. The proposed 50 per cent reduction to be achieved by 2000 could be achieved by preventing all swimming pool drownings alone.

The major preventive actions available to reduce these events in NSW are:

- appropriate supervision of children who have permission to be at the pool side; and
- pool fencing to protect unsupervised toddlers.

On August 1, 1992 in NSW the Swimming Pools Act 1992 replaced legislation which had been passed in 1990. The major change in the new Act was the removal of the requirement for all private pools to have isolation fencing. The new legislation requires only pools built after August 1, 1990 to be surrounded by isolation fencing. Pools built before this date needed only to be surrounded by a child-resistant barrier that separates the pool from any adjoining premises.

Under the provisions of the Act, local councils are responsible for its regulation and enforcement. Each council is required to:

- take such steps as are appropriate to ensure that it is notified of the existence of all swimming pools within the council's boundaries to which this Act applies; and
- promote local swimming pool owners' awareness of the requirements of the Act.

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The difficulty with these provisions is that many councils believe the pool owner is responsible for ensuring a pool complies with the legislation and that the requirement for a council inspection applies only to pool installation under building application requirements. There is confusion about whether further inspections after installation are required. Although there is no clear requirement to inspect any swimming pools on a regular basis, there are provisions in the legislation to prosecute non-compliers. In practice it is up to councils to decide whether regular inspections of swimming pools are necessary to ensure owners' awareness of the legislation. In many cases, there appears to be a diffusion of responsibility due to a lack of direction from a central coordinating body.

In NSW there has been no evaluation of the level of compliance with the existing legislation, the effect of enforcing the legislation, or councils' fulfilment of their mandatory requirements.

The need to monitor compliance is illustrated by a survey of pool owners in Perth<sup>3</sup>, which revealed that 14 per cent of owners believed their gates and fencing would fail an inspection of compliance with the legislation. On inspection, 50 per cent of pools failed to comply with the legislative requirements. In all, 46 per cent of the gates had faulty self-latching devices and 32 per cent had gates on which self-closing mechanisms failed.

The Pool Fencing Advisory Committee\* recommended in 1993 that a regular survey or inspection program of private pools be undertaken to collect information on the number of private pools, including data on fencing configuration, pool owner and frequency of child visitors to the residence<sup>4</sup>. This has not been implemented.

This study was undertaken to estimate the compliance of pool owners in the City of Newcastle. Newcastle is in the Hunter Valley in NSW, with a population of 131,309 in 1991. Routine swimming pool inspections had not been carried out in the City of Newcastle area within the previous six years due to increased workload of health and building surveyors after the 1989 earthquake.

The study focused on unauthorised or unregistered pools and a sample of registered pools in the council area. It examined compliance with the Act of both these types of pools, estimated the change in compliance of the non-complying unregistered pools after the first inspection, and identified aspects of the Act least likely to be complied with. It also identified predictors of compliance with the Act.

### METHOD

#### Determining location of swimming pools

The study began in June 1995. Two staff were responsible for determining the location of pools and the subsequent inspection of unauthorised and unregistered pools. Aerial surveillance maps of the City of Newcastle area (scale 1:8,000), dated February 1993, were obtained from the Lands and Information Centre. Magnifying glasses were

used to identify potential pools in each property, and these were located on council survey maps. Registration status of potential pool sites was determined using the council's computerised Property Lands Network and Spatial System (PLANES). Inspection dates of registered pools were identified. Pools that were recorded in PLANES, but not through the aerial surveillance, were placed on the survey maps to create a location register as well. A suburb list of identified unauthorised or unregistered pools was compiled.

A survey form was designed to cover all aspects of the Regulations. Particular attention was given to the type of pool or spa, pool location, pool position, fence description, compliance status of the fence, gate, doors, windows and warning signs with the Act, and – if non-compliant – the reasons for non-compliance.

All identified unauthorised pools were inspected and those not complying were reinspected. After this process and an education campaign (described below), an initial inspection was made of a sample of registered pools. This sample was selected by randomly selecting survey maps from a group of maps where 10 or more residential pools had been identified, with each survey map having equal chance of being selected.

A 20-cell grid was used on the selected maps to determine the starting street where inspections would take place. The longest street in the cell was the starting point for inspections. An alternate odd/even system was used to determine on which side of the street inspections should begin. When all residences in a street had been visited once, the next nearest street with a pool was started with the same designated starting side. Visits were made between 10am and 4pm and residences were inspected only if the owners were at home. Basic details were collected on those residences where the occupant was not home to determine inspection rates.

The inspection procedure for all pools was as follows: An appointment was made for the inspection. At the inspection the Swimming Pool Safety Program was briefly explained to the occupant, emphasising the safety aspects of the survey. Pool owners were asked to consent to the inspection. Refusal of permission to inspect at that time would lead to a notice for an inspection to be carried out within 24 hours. It was anticipated that the survey would take about 10 minutes. On completion of the survey, the occupant received a copy of the survey form and was advised of any action needed, and the time for compliance with this. The occupant was also advised of the consequences (i.e. penalties and liabilities) of not complying after the set date. The reinspection procedure was also explained, to ensure occupiers would comply at reinspection.

#### Education campaign

The Swimming Pool Safety Program included an educational component aimed to increase awareness of the need for pool safety and of the requirement for all pools to comply with the requirements of the Swimming Pools Act 1992. It consisted of a Swimming Pool Education Package and Display which was exhibited throughout the community, and a press release which generated local and national media exposure. The press release was aimed at all pool owners. Its purpose was to:

- inform pool owners of their obligation to notify the council of the existence of pools;

\*This committee was established to advise the Minister for Local Government and Co-operatives on appropriate amendments to the Swimming Pools Act 1992.



TABLE 1

CHARACTERISTICS OF ALL UNAUTHORISED OR UNREGISTERED POOLS AND A SAMPLE OF REGISTERED POOLS IN THE CITY OF NEWCASTLE		
	Unauthorised or unregistered pools (%) (n=211)	Sample of registered pools (%) (n=345)
Date of building		
Before 1975	11	6
1975-1984	34	22
1985-1990	32	41
1991-1995	9	30
Unknown	14	1
Years since last inspection		
Within past 5 years	—	20
5-9 years ago	—	46
10-13 years ago	—	13
No record of inspection	100	19
Type of pool		
In ground	61	86
Above ground	39	14
Type of fencing		
Isolation fencing	45	58
Perimeter fencing	54	42
No fencing	1	0.3
Compliance with the Swimming Pools Act 1992	10	17

- help identify unauthorised pools which may have been missed from aerial photographs;
- increase awareness of changes in the Swimming Pools Act 1992;
- inform pool owners of the survey;
- make pool owners aware of the dangers associated with pools; and
- notify the public that unauthorised pools had been identified.

### Predictors of compliance

The data collected on the sample of registered pools were analysed to identify predictors of compliance, using multiple logistic regression. Pool position (in ground, above ground), fencing configuration (isolation, perimeter), years since last inspected (0-4 years, 5-13 years, never), installation year (1991-1995, 1960-1990) and a set of interaction strata for years since inspection and installation year (0-4 years and 1991-1995, 0-4 years and 1960-1990, 5-13 years and 1960-1990, never and 1991-1995, never and 1960-1990) were examined for possible associations with overall pool compliance and gate compliance. Gate compliance was of interest as it was the most common cause of non-compliance.

### RESULTS

There are about 50,500 residential properties in the City of Newcastle local government area. A total of 211 unauthorised or unregistered pools and about 3,300 authorised pools were identified. One hundred and thirty-two pools were identified using the PLANES database but were not identified on the aerial surveillance maps, and 79 pools were identified on the survey maps but were found not to be registered. All the unauthorised pools were inspected, but only 345 (41 per cent response rate) of the registered pools approached could be inspected as the house occupants were not home for the other 422 pools when the inspector called.

TABLE 2

PROPORTION OF ALL UNAUTHORISED OR UNREGISTERED POOLS AND A SAMPLE OF REGISTERED POOLS IN THE CITY OF NEWCASTLE NOT COMPLYING WITH SWIMMING POOLS ACT 1992		
	Unregistered pools (%)	Registered pools (%)
<b>All pools</b>		
Fences		
Missing sections	11	6
Gaps > 10cm b/w members	2	1
Gaps > 10cm under fence	7	3
Fence height < 1.2m	6	1
Design of fence allows climbing	7	3
Footholds in/near fence	6	5
Unstable/poor construction	4	3
Retaining walls	0.4	1
No fence	0.4	0.2
Total	20	20
Gates		
Faulty/missing self-latching	42	31
Faulty/missing self-closing	40	35
Swings inward	1	10
Gaps > 10cm under gate	2	0.2
Latch height/shielded	17	5
Unstable/poor construction	2	1
Footholds in gate	1	1
Total	65	56
Warning signs		
Sign absent	52	47
Sign not in pool area	3	1
Sign not permanently affixed	1	0.2
Sign lacks adult supervision required	2	—
Total	58	48
<b>Perimeter fenced pools only</b>		
Doors		
Latch height	30	19
Faulty/missing self-latching	6	1
Total	36	19
Window		
No screening/child-effective locks	24	28

The characteristics of the unauthorised or unregistered pools and the sample of registered pools is shown in Table 1. Unregistered pools were more likely to have been built before 1985, were more likely to be above-ground pools, and only 10 per cent (21 pools, 95 per cent CI: 6.0 per cent-14.2 per cent) were found to comply with the Swimming Pool Act 1992. Only 17 per cent (60 pools, 95 per cent CI: 13.0 per cent-21.0 per cent) of the registered pools complied with the Act.

The reasons for non-compliance for the two types of pools were categorised into problems with the fence, gate or warning signs (Table 2). The unregistered pools were more likely to not comply with the Regulations regarding gates and warning signs compared to the registered pools. The unregistered perimeter fenced pools were more likely to not comply with the regulations regarding doors.

### Changes in compliance following reinspection of the unregistered pools

Of the 188 unauthorised or unregistered pools which did not comply with the Act, 165 were successfully reinspected within 90 days of the notice. Of these, 145 pools complied on reinspection. Twenty pools still did not comply and 23 pools

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were not reinspected within the study period due to insufficient time (follow-up inspections were undertaken by council health and building surveyors). Assuming that pools complying under first inspection would still comply (10 per cent) and those that were not reinspected still did not comply, a total of 89.0 per cent (95 per cent CI: 84.9 per cent-93.1 per cent) of pools would comply if a non-compliance notice were served and reinspection took place. This represented a significant increase in compliance of 79 per cent ( $p < 0.0001$ ).

The features of the 20 pools still failing to meet the legislative requirements were fencing (5 pools), gates (8 pools), doors (2 pools), windows (1 pool) and warning signs (7 pools).

### Predictors of compliance

The only significant predictor of overall pool compliance was fencing configuration. It was found that pools with isolation fencing were 1.93 times more likely to comply overall with the Swimming Pools Act 1992 ( $p < 0.05$ ).

Installation year, years since last inspection and the interaction effect of installation year and years since last inspection were significant predictors of gate compliance. Pools installed between 1960 and 1990 were 0.54 times as likely to comply with gate requirements as pools built between 1991 and 1995. Pools that had been inspected 5-13 years ago were 0.59 times as likely to comply with gate requirements as pools inspected 0-4 years ago. There was no difference in the likelihood of gate compliance between pools that have never been inspected and pools that were inspected within the past four years, although this finding may be due to a failure to record inspections which may have occurred.

There was no difference between pools that had been inspected in the past five years regardless of the age of the pool. Pools inspected 5-13 years ago and installed between 1960 and 1990 were 0.54 times as likely to comply with gate requirements as pools inspected 0-4 years ago and built between 1991 and 1995.

When compliance was examined in relation to the time since inspection as a continuous variable for all pools that had previously been inspected only, it was found there was a significant decrease in the likelihood of compliance with each year since last inspected.

## DISCUSSION

The main findings of the study were as follows:

- The great majority of pools installed before 1990 and not inspected in the past five years were the most likely to not comply with the Swimming Pools Act 1992.
- Pool owner education through community awareness programs alone is not effective in ensuring that swimming pools meet the requirements of the Act.
- If the status of swimming pools in the City of Newcastle is indicative of most areas in NSW, considerable work is needed to ensure that pools are meeting basic safety requirements.

We found very low rates of compliance with the Swimming

Pools Act 1992; only 17 per cent of registered pools and 10 per cent of unregistered pools complied. This finding is of particular concern in relation to registered and authorised pools, which were council-approved and were inspected at the end of a community pool safety awareness campaign aimed at improving compliance.

Compliance of the unauthorised or unregistered pools with the Act improved markedly after the reinspection program, increasing from 10 per cent to 89 per cent. Of all pools inspected during this program, 79 per cent of those which subsequently complied did so as a direct result of advice given during the first inspection.

Although the educational program was not formally evaluated, the observation that only the 17 per cent of registered and authorised pools were found to comply suggests the greatest possible effect of the education campaign would be only in the order of 5-10 per cent. Comparing this with the large increase in compliance after the reinspection program suggests the latter is a more effective method for gaining an increase in compliance.

The major factor of non-compliance is attributed to defective pool gates. The logistic regression modelling of gate compliance revealed there was a significant improvement if the premises had been inspected 0-4 years previously, regardless of the age of the pool. Before 1990 there was no defined standard, as there is with the current Act, and it was based on what the council inspector deemed to be unsafe. These less stringent safety requirements at the time of inspection for older pools may account for the difference in current compliance with the legislation. If this were the case, inspection of older pools is justified to ensure they comply with the existing safety requirements.

While the logistic regression modelling was helpful, the fundamental findings should attract the greatest attention. Pools in the City of Newcastle area are in need of improvements if owners are to meet their responsibilities under the Swimming Pools Act 1992.

The Council of the City of Newcastle will continue the inspection program to ensure compliance is maintained. Establishing a pool register and location register allows the council to target problem areas more efficiently. It also facilitates continuing assessment of compliance and evaluation of the impact of new strategies on the level of compliance over time.

## ACKNOWLEDGMENT

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1. Carey V, Chapman S, Gaffney D. Children's lives or garden aesthetics. *Aust J of Public Health* 1994; 18:25-32.
2. New South Wales Health Department. New South Wales Goals and Targets for Injury. March 1995.
3. Harris A, Warchivker I, de Klerk N. Isolation fencing and the prevention of toddler drownings in backyard pools: an economic analysis. Economics Program, Murdoch University, Working Paper No 68, April 1992.
4. This committee was established to advise the Minister of Local Government and Co-operatives on appropriate amendments to the Swimming Pools Act 1992.
5. Pool Fencing Advisory Committee. Monitoring of Serious Immersions in Private Pools in New South Wales. April 1994.