



# Communication with vulnerable swimmers at public pools

Follow-up study 2017

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## Background



- The drowning death of Paul Daniel Rayudu, a 23 year old international student, at a public swimming pool in 2014 highlighted the need for pool lifeguards to be able to easily identify potentially vulnerable swimmers (weak or non-swimmers) before they enter the water.
- Three recommendations were made by the Coroner investigating the death at Inquest (COR 2014 0761, 18 August 2016), two related to improving communication with potentially vulnerable swimmers.
- In response, a pilot study was conducted in November 2016 to evaluate the suitability of draft communication resources that were developed for patrons that may be weak or non-swimmers. The study was conducted at WaterMarc and Olympic Leisure Centre, as well as Malahang Community Festival; all within the Banyule City Local Government Area in Victoria.
- Following placement of the communication resources at the pools, pool patrons were surveyed. Risk & Research Services at Life Saving Victoria (LSV) conducted the study in collaboration with Banyule City Council and Belgravia Leisure.
- Overall findings from the study revealed that 49% of respondents noticed any advertising or information on public swimming pool safety after arriving at the pool. This is consistent with previous studies regarding aquatic safety signage recall. Only 11% of respondents noticed the new communication resources for weak or non-swimmers. However, the resources demonstrated a potential positive influence on vulnerable swimmer behaviour with almost a third (29%) of weak or nonswimmers reportedly telling a staff member they were a non-swimmer/not confident in the water.
- The communication resources were only in place for a brief period of time prior to the first study. It was therefore recommended that a follow-up study be conducted to determine any change over time regarding recognition, recall and behaviours and patterns following the implementation period.
- This report summarises the findings of the follow-up project, which evaluated the impact of the communication resources at 12-month follow-up.

## Research Aims

Specific aims of the follow-up project were to determine:

1. Whether recognition and recall of communication resources by weak/non-swimmers increases with increased exposure to the messages.
2. Whether the proportion of weak/non-swimmers reporting that they would inform a staff member of their vulnerabilities before entering the water increases with increased exposure to the messages.

3. Any barriers and enablers in the use of communication resources to encourage weak/non-swimmers to inform a staff member of their vulnerabilities before entering the water.
4. The impact on public swimming pool staff in the use of communication resources for weak/non-swimmers in interacting with patrons.



## Methodology

### Setting

- The study was conducted at two public swimming pools in metropolitan Melbourne, Victoria, Australia in collaboration with Banyule City Council and Belgravia Leisure. WaterMarc is a large centre with four pools (50m pool, Leisure/toddler pool, Learn to swim pool, Warm water pool) a water play space, waterslide; and high patronage, whereas Olympic Leisure Centre is much smaller with two pools (25m pool, Toddler pool) and a spa; and has lower patronage.

### Population

- Participants included adults aged 18 years and over:
  - Patrons visiting the centres.
  - Centre staff including lifeguards, duty managers, operations managers, receptionists and swim teachers.

## Communication resources

- The vulnerable swimmer communication resources (stand up banners, posters, wristbands, electronic notices and brochures) under evaluation were installed in both pools in November 2016 (Image 1).



Image 1: Selection of the non-swimmer communication resources displayed at each facility and in the questionnaire

## Methodology

### Patron questionnaire

- A follow-up questionnaire, adapted from the original questionnaire used in 2016, was used to evaluate the impact of the resources on a variety of public pool visitors, with a particular emphasis on weak and non-swimmers.
- Patrons were surveyed over two weekdays and four weekend days (Fridays, Saturdays and Sundays) between 17<sup>th</sup> and 26<sup>th</sup> November 2017, during periods recommended by management staff at WaterMarc and Olympic Leisure Centre; periods that typically experience higher visitation numbers, thus maximising the potential response rate, particularly among the target group of weak or non-swimmers.
- Independent, trained staff administered questionnaires randomly to consenting pool patrons after they paid their entry fee and passed through reception.
- Questionnaires were completed with the assistance of trained interviewers to ensure consistency of data collection.

- Data was entered into the Cvent online survey management tool and analysed with IBM SPSS 22.

#### **Staff feedback**

- Staff interviews and focus group sessions were conducted with consenting centre staff at each centre.
- These were recorded and transcribed by the interviewer for accuracy. Following transcription, the audio files were deleted for anonymity.



## **Findings**

### **Promotion activities**

#### **WaterMarc**

- Active promotion of the vulnerable swimmer initiative included:
  - Asking casual patrons at reception if they can swim 25 metres;
  - Providing wristbands to patrons identified as weak or non-swimmers based on their response to the above question.
- Passive promotion of the vulnerable swimmer initiative including:
  - Placement of resources around the centre, including banners, posters and electronic notices.

#### **Olympic Leisure Centre**

- Passive promotion of the vulnerable swimmer initiative included:

Placement of resources around the centre, including banners, posters and electronic notices.

## Respondent details

- 171 patrons responded to the survey – 123 at WaterMarc and 48 at Olympic Leisure Centre.
- 43 respondents reported that they were 'Weak swimmers' (15.4%) or 'Non-swimmers' (10.1%) (Figure 1).
- When asked to describe their ability to swim and float, 51 respondents were classified as weak or non-swimmers. 28 (13.9%) reported that they 'cannot float or swim', and 23 (16.9%) estimated they could 'comfortably float for over 1 minute and swim little distance' (red bars, Figure 2). This cohort was considered to be the target of the vulnerable swimmer campaign and is the primary group reported on in this evaluation.

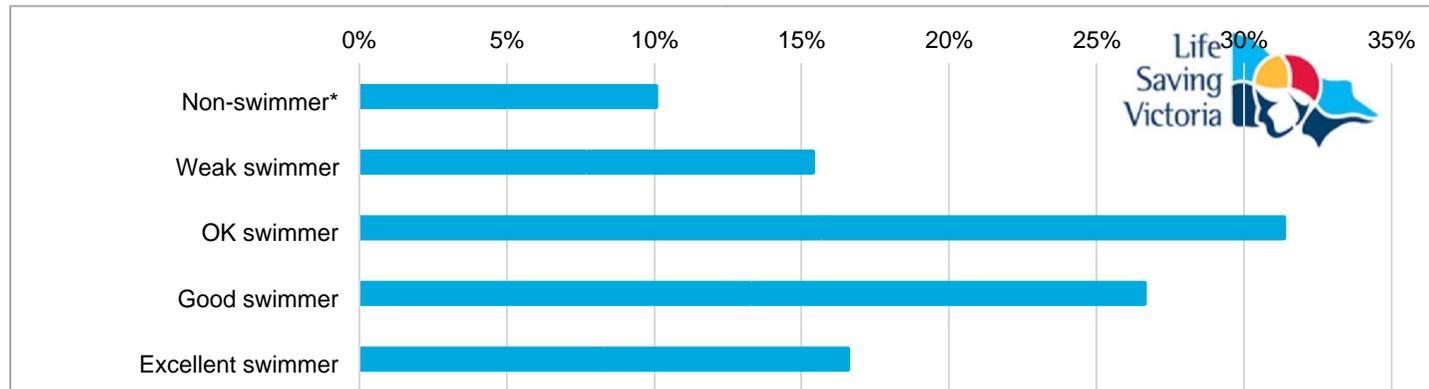
### Demographics and characteristics of visit

- Table 1 outlines the variation in both the demographics and the characteristics of visit between the weak or non-swimmer cohort and the remainder, who reported higher levels of swimming skill.

	Weak and non-swimmers (n=51)	Others (n=115)
<b>Demographics</b>		
Gender	64.7% female (33)	58.9% female (66)
Age range	43.1% aged 35-44 years (22) 17.6% aged 25-34 years (9)	50.0% aged 35-44 years (57) 25.4% aged 45-54 years (29)
Country of birth	20.5% China (8) 15.4% Australia (6) 12.8% Somalia (5)	69.3% Australia (79) 4.4% China (5)
Language spoken at home	26.1% English (12) 21.7% Chinese languages (10) 15.2% Somali (7)	67.5% English (77) 5.3% Somali (6) 4.4% Chinese languages (5)
<b>Characteristics of visit</b>		
Company	35.3% with two other people (18)	26.3% with 2 other people (30)
Frequency of visit	64.7% weekly (33)	57.9% weekly (66)

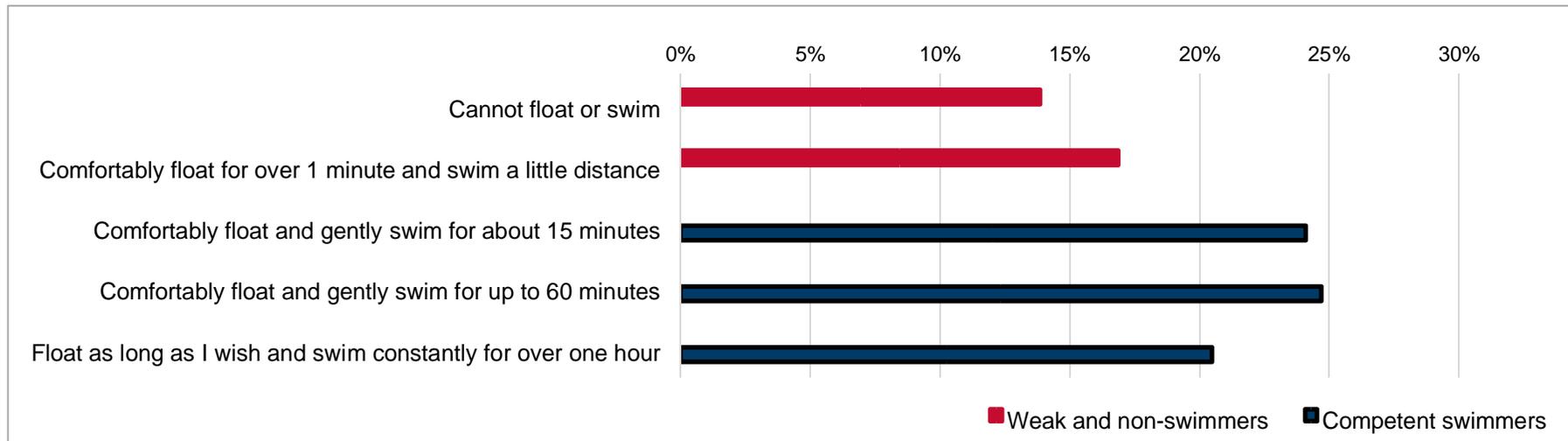
**Table 1: Recall of vulnerable swimmer communication resources**





\*A non-swimmer is defined in this report as ‘a person who cannot swim 25 metres or float on their back for more than 1 minute, feels uncomfortable taking their feet off the bottom and/or has little or no experience swimming’.

**Figure 1: Self-reported estimates of general swimming ability**



**Figure 2: Self-reported estimates of swimming and floating competency**

**Aim 1: To determine whether recognition and recall of communication resources by weak/non-swimmers increases with increased exposure to the messages.**

## Unprompted recall by weak or non-swimmers



- In November 2017, 16.3% (7) of weak or non-swimmers said they had seen or heard any information specifically targeting weak or non-swimmers in the past 12 months, compared to 5.9% in November 2016. The break down of recall by pool and year is shown in Table 2.
- Just three weak or non-swimmers said they did anything differently as a result of seeing or hearing this information: one informed a staff member or lifeguard, one stayed in the shallow end and one swam with someone they knew was a good swimmer

	Weak or non-swimmers only				All respondents				
	2016		2017		2016		2017		
	n	%	n	%	n	%	n	%	
<b>UNPROMPTED RECALL</b>									
<b>Olympic Leisure Centre</b>	0	0.0%	3	33.3%	2	5.70%	20	52.60%	
<b>WaterMarc</b>	2	8.3%	4	11.8%	11	13.30%	22	24.40%	
<b>Both pools combined</b>	2	5.9%	7	16.3%	13	11.00%	42	32.80%	
<b>PROMPTED RECALL</b>									
<b>Olympic Leisure Centre</b>	-	-	6	46.2%	-	-	21	58.3%	
<b>WaterMarc</b>	-	-	14	42.4%	-	-	26	30.2%	
<b>Both pools combined</b>	-	-	20	43.5%	-	-	47	38.5%	

**Table 2: Unprompted and prompted\* recall of vulnerable swimmer communication resources**



\*Prompted recall was not assessed in 2016

## Prompted recognition by weak or non-swimmers



- To determine prompted recognition of the non-swimmer communication resources that had been displayed in each facility over the past 12 months (in the form of posters, banners, brochures and electronic notices), respondents were shown the sample of four posters (Image 1).
- When prompted, 43.5% (20) of all weak or non-swimmers recalled seeing these resources at the pool in the past 12 months (Table 2). They most commonly saw them on banners and posters or heard about the initiative from centre staff, including lifeguards.
- Of the 33 weak or non-swimmers who visited the pool weekly, 46.7% recalled seeing these resources. This similar proportion indicates that frequency of visitation was unlikely to be a factor in recognition.
- Although unprompted recall remained low at WaterMarc (11.8%) despite active promotion of the program, 42.4% of weak or non-swimmers recalled the communication resources when prompted.
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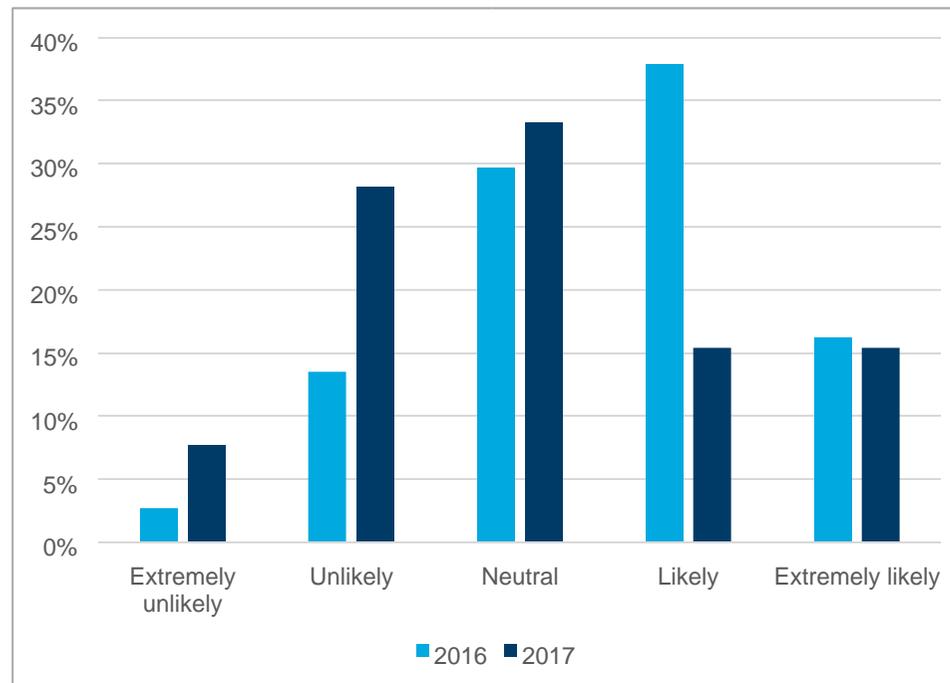
Prompted recall was also higher than unprompted recall at Olympic Leisure Centre (33.3% vs. 46.2% respectively). After viewing the communication resources, 58.1% (25) of all weak or non-swimmers felt they could relate to the pictures. Note that prompted recall was not tested in 2016 rather patrons were asked to provide feedback on the potential design of the communication resources.

## **Aim 2: To determine whether the proportion of weak/non-swimmers reporting that they would inform a staff member of their vulnerabilities before entering the water increases with increased exposure to the messages.**



### **Self-reported behaviour change**

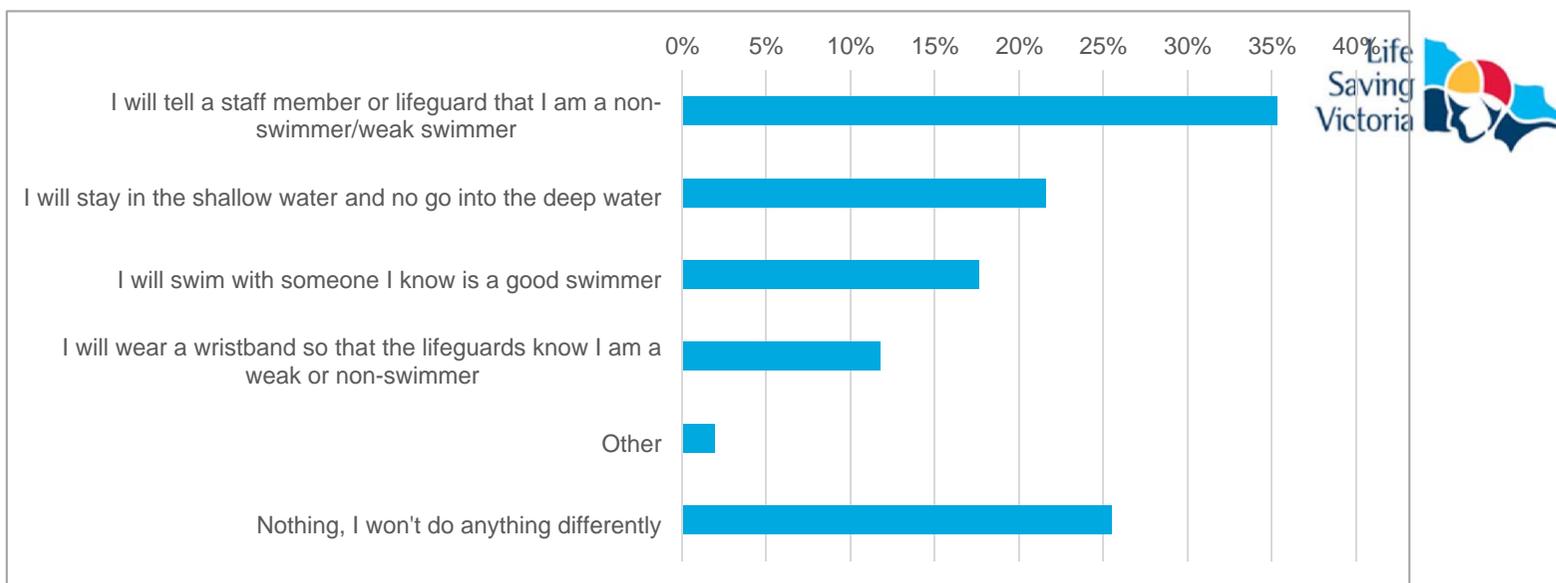
- Compared to 2016, weak or non-swimmers were less likely to tell a staff member/lifeguard that they were a weak or nonswimmer, as observed by a decrease from 54.1% likely or extremely likely in 2016, to 30.8% in 2017 (Figure 3). There was a corresponding increase in the proportion that were unlikely or extremely unlikely to inform a staff member/lifeguard (16.2% in 2016 vs 35.9% in 2017).
- In addition, of the 35 weak or non-swimmers surveyed at WaterMarc, 10 (28.6%) had worn a wristband in the previous 12 months. They felt either positive (7) or neutral (3) about wearing a wristband. Due to the small sample of respondents that wore a wristband, no further inferences can be drawn regarding the impact of wristband wear.



**Figure 3: Likelihood of weak or non-swimmers informing a staff member or lifeguard that they are a non-swimmer or not confident in water after viewing the communication resources, 2016 vs. 2017**

### Self-reported behaviour change

- After seeing the sample of vulnerable swimmer resources displayed at each facility (Image 1), 58.8% (30) of weak or nonswimmers reported a number of things they would do differently in future (Figure 4):
  - 35.3% (18) would tell a staff member or lifeguard that they are a non-swimmer/weak swimmer (this correlates with Figure 3 in which 30.8% were likely to inform a staff member);
  - 21.6% (11) would stay in the shallow end of the pool;
  - 17.6% (9) would swim with someone they know is a good swimmer.
- However, 25.5% (13) said they won't do anything differently (Figure 4).



**Figure 4: Intended behaviour change after seeing the vulnerable swimmer pictures**

**Aim 3: To determine any barriers and enablers in the use of communication resources to encourage weak/non-swimmers to inform a staff member of their vulnerabilities before entering the water.**

The following feedback was provided by staff through interviews and focus group sessions conducted across the two centres.

**Barriers**

- The use of the term ‘non-swimmer’ reportedly confused a number of patrons, particularly those with English as an additional language. This was also indicated in the 2016 survey, where some patrons thought a ‘non-swimmer’ meant someone who was not swimming on that particular visit.

- The concept of a 'competent swimmer' differs among patrons. For example, a swim teacher mentioned the Somali women tended to perceive a good swimmer as someone who can swim a few strokes before standing up.
- Reception staff found it difficult to elicit accurate swimming ability information from groups of male youth. Peer pressure meant weak or non-swimmers may have refused a wristband or felt they could not disclose their vulnerabilities. Lifeguards then observed these vulnerabilities in the swimming pool and attempted to engage with these patrons and explain the initiative to them,



### **Enablers (WaterMarconly)**

- The use of wristbands assisted lifeguards with their scanning and awareness of patrons who may require greater attention, without distracting them from their duty to other patrons.
- The orange wristbands contrasted well against other pool deck features and lifeguards remarked they were easy to notice.
- Effective verbal communication of the key messages of the initiative helped to inform patrons that its purpose is to make sure everyone at the pool has a safe and enjoyable visit.
- With management championing the initiative, WaterMarcstaff understood the program's importance and they were proactive at reinforcing the key messages.

which was at times an intimidating task.

A lack of external promotion (in the broader community) of the project's key messages was thought to have delayed patron buy-in; it was between three and six months from implementation before there was apparent acceptance of the program.

A lack of active promotion by staff at Olympic Leisure Centre is likely to have limited the program's impact there.

## **Aim 4: To determine the impact on public swimming pool staff in the use of communication resources for weak/non-swimmers in interacting with patrons**



### **WaterMarc**

#### **Impact on staff**

- It was beneficial for reception staff to ask all casual patrons: “*Can you swim 25m of our 50m pool?*”. They then reassured patrons that it was not to deter entry, rather to ensure that everyone enjoys the pool safely. There was a high level of receptivity to the swimming ability questions, especially after the first 3-6 months. Most patrons thanked staff for their extra care and acknowledged the importance of the initiative.
- Approximately one patron per month would advise a staff member that they were a weak or non-swimmer without prompting, usually older visitors. It was more common for a lifeguard to observe, approach and engage with weak or non-swimmers once they were in the pool.
- As mentioned previously, staff were at times challenged by groups of male youth who were not typically receptive to wearing wristbands and despite a number being later identified by lifeguards as weak or non-swimmers.
- Approximately 20,000 wristbands were given out over the year. Wristbands and extra safety measures did not negatively impact visitation numbers. No one was observed removing their wristband.

#### **Recommendations by staff**

- The content of the communication resources should be refined in order to have more impact.
- The wording should be clearer, with simple large text and symbols, as ‘non-swimmer’ is difficult for some patrons to understand.
- Update images (several staff felt the non-swimmers in the images looked too relaxed).
- Expand the vulnerable swimmer initiative to other centres and promote the key messages in the broader community to enhance buy-in from all stakeholders.
- Keep wristbands orange as they contrast well against other pool deck features.
- Patrons should be reminded to keep the wristband on until their visit is complete.
- Explore methods to address peer pressure related to self-reported swimming ability among male youth.

#### **Overall impressions**

- Staff from a range of positions regarded the project as successful and worthwhile, despite the barriers identified.
- Lifeguards found the wristbands particularly beneficial for ease of identifying those most at risk.
- WaterMarc staff were keen to continue promoting the program and felt that with greater investment across more centres in addition to increased public understanding, it will be more effective overall at keeping weak or non-swimmers safer at public pools.

## Olympic Leisure Centre

### Impact on staff

- None of the staff interviewed at Olympic Leisure Centre had been informed by a patron that they were a weak or non-swimmer before entering the water over the past 12 months.
- Staff had not asked patrons about their swimming competency and subsequently, no wristbands were given out.
- Staff were unsure of the effect of the project at their centre, with no issues or benefits recalled.
- Many visitors during the women-only sessions have very limited aquatic experience and they therefore require increased attention by facility staff anyway. Sometimes the Somali women's group would inform the lifeguards on duty that they're "going down the deep end". The women also tended to look out for each other in the pool environment, ensuring their friends were holding onto, or recreating near an edge.

### Recommendations by staff

- Staff could sensitively work to educate Somali women about what constitutes sufficient swimming competency.
- Translate finalised resources into Somali at Olympic Leisure Centre, and into common languages specific to other centres.

### Overall impressions

- While this initiative had minimal impact at Olympic Leisure Centre from a staff perspective, further engagement with, and promotion of elements of the vulnerable swimmer program could be useful in improving patron safety and education.



## Discussion



- This evaluation demonstrated an increase in both unprompted and prompted recall and recognition of the vulnerable swimmer resources across both pools 12 months after the initiative was launched. Based on the survey responses, there appears to be limited impact for the resources alone to elicit any considerable change in the likelihood of weak or nonswimmers informing staff about their vulnerabilities. This is evidenced by almost half of all non-swimmers having seen the resources, yet very few reporting any change in behaviour.
- From the perspective of staff at WaterMarc, the vulnerable swimmer program overall has been a successful and worthwhile initiative, despite the barriers identified. This is evidenced by the fact that staff handed out approximately 20,000 wristbands without objection from patrons; that surveyed patrons who wore a wristband felt either positive or neutral about doing so; and that over time, the initiative was accepted as part of the entry process at WaterMarc.
- With just under one-third of patrons likely to tell a staff member or lifeguard that they are a weak or non-swimmer, a solution should be sought to encourage the remaining two-thirds to feel confident to inform staff of their vulnerabilities. Strategies are discussed in the recommendations section.

# Recommendations



## Print resources (from pilot study and follow-up study)

Refining the print resources prior to wider roll-out of the initiative will be key to its success. The recommendations, including suggested modifications, come from patron feedback from the pilot study as well as a review of the principles of effective signage.

- Consider using terminology other than 'non-swimmer' unless it will be complemented by public education on what a nonswimmer is. The term 'non-swimmer' has been confused by patrons with limited English and has also been interpreted as referring to someone who is not swimming on this particular visit.

### Suggestions:

- Identify alternative terminology;
- Very clear messaging, using simple words that can be easily understood by people with limited English; -  
Translation of these messages into common languages.

- Use simple, large text and symbols
- Use colours that contrast strongly with the blue hues of public pools.

### Suggestions:

- Bright colours, such as the bright orange used for the wristbands, which the lifeguards said stand out well against the water.

- Update the images of the people to make them look more relatable.

### Suggestions:

- Include people who appear uncomfortable/vulnerable in the water, wearing a wristband and/or interacting with a lifeguard;
- Retain the variety of cultural backgrounds in the people photographed.

# Recommendations



## Other recommendations

- Staff training
  - Develop a training manual, which can assist public pools in effective implementation, promotion and management of the initiative to ensure patron buy-in and community safety. The program should be able to be tailored to suit the specific needs of a facility, based on factors such as their clientele, size and resources;
  - Provide regular training to staff (e.g. every three months as well as at staff induction), and include regular reviews at staff meetings to identify any issues and possible solutions.
- Community education
  - Seek avenues to promote key messages in the local community, for example through local media, migrant resource centres and other community centres;
  - Encourage staff to engage in conversation with regular visitors who may be weak or non-swimmers, to discuss where else they swim and explain the different skill levels required for different aquatic environments.
- Conduct further research
  - Review the program after another 12 months (following any adjustments). This may be through staff and patron surveys, workshops and focus groups with staff; and liaising with LSV to compile feedback across a number of centres.

## Conclusions



- This evaluation of the vulnerable swimmer communication resources formed an important component of a targeted response to the need to identify weak or non-swimmers at Victoria’s public swimming pools. The evaluation identified the strengths and weaknesses of the communication resources; and from this, it recommended the methods by which the program can become a more effective tool for ensuring the safety of weak and non-swimmers at public pools.
- Whilst the vulnerable swimmer communications program has had a somewhat positive effect on patrons to date, it has the potential to have a much stronger impact on the safety and experience of the weak or non-swimmers. It requires noticeable, clear and effective resources, a commitment to the program by public pools, effective promotion in the community, broader community education on swimming competency and clear communication between centre staff and visiting patrons.
- These actions will assist lifeguards to effectively identify weak or non-swimmers and address them in a positive manner that will help to ultimately improve their safety and enjoyment when they visit their local public pool.

- This has the potential to have broader positive impacts by giving people an understanding of what a weak or non-swimmer



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is, which may in turn lead them to provide this information to their families and friends, and may even result in safer behaviours around open water environments such as beaches, rivers and lakes.

With time, commitment, promotion and well-designed resources, the vulnerable swimmer communications program has the potential for smooth integration into the pool visit experience and increased safety for weak or non-swimmers.