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# Fostering the delivery of safe physical activity environments

The role of risk management plans

**Fostering the delivery of safe physical activity environments**  
**The role of risk management plans**

Report to the Department of Human Services

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# EXECUTIVE SUMMARY

## Background

There is wide consensus that the vast majority of physical activity related injuries could be avoided through the implementation of prevention strategies and practices (Finch and McGrath 1997; Finch and Owen 2001). The National Sports Safety Framework, states that “much can be done to prevent (injuries)”. From a strategic perspective, improving safety in physical activity requires a multi-level effort, with a cooperative, strategic approach required across the spectrum from the global level (such as recreational organisations, government) to the local level (such as facilities, sports medicine providers, individuals) (Finch and McGrath 1997). In 1999, the National Injury Prevention Advisory Council identified risk management plans as the ‘best buy’ for preventing injuries during sport and active recreation (National Injury Prevention Advisory Council 1999). It stated that the implementation and continuous review of risk management plans is required as a pivotal element in injury prevention ‘best practice’ and legal duty of care at all physical activity facilities. These include ‘Health and Fitness Centres’, ‘Health Clubs’, ‘Leisure Centres’, ‘Recreation Centres’, and the like. Despite this, information about the actual adoption of sports safety policies and practices at the community level is scarce.

At present, the ultimate responsibility for physical activity risk management standards and the administration of ‘best practice’ for a particular facility lies with the facility management. There is an assumption that professional judgment is exercised in decision-making, and resources are obtained from a wide variety of reputable sources. There is, however, no lead agency for managers of Australian health and fitness facilities to promote standards of care for group fitness, multipurpose or gym areas of operation. Facility management companies, local councils and/or private operators manage facilities that conduct a large number of physical activities ‘under the one roof’ and there is little evidence of strategic or operational guidance or support from governing professional association bodies. This would mean that Australian facilities are unlikely to benchmark their own risk management policies and practices against an industry standard.

The reasons why certain risk management policies and practices are implemented at health and fitness facilities has not been formally researched, and it is unknown whether there are different facilitators and barriers to their adoption in metropolitan, regional and rural facilities. Whilst it is known that attitudes and beliefs can influence risk taking behaviour in general and the provision of health environments, there is a paucity of information about safety attitudes in relation to sports participation. This is a developing area internationally. In particular, there have been no published studies of facility user’s attitudes, beliefs and knowledge of physical activity injury prevention in multi-activity facilities. This is important because it could be a major driver of safety initiatives adopted at physical activity settings.

## Aims and Objectives

The overall aim of the research presented in this report was to explore the extent to which physical activity environments/settings facilitate and promote injury prevention activities. There has been recognition that the adoption of risk management plans in such settings currently offers the best buy for injury prevention (National Injury Prevention Advisory Council 1999).

In particular, this project has attempted to:

- identify the extent to which injury prevention and risk management practices are implemented in settings that are responsible for delivering, and supporting, a range of physical activities
- describe the nature of these practices and the reasons why they have been adopted
- explore and contrast differences in the implementation and uptake of risk management practices in metropolitan and regional areas
- identify the direct influences of the safety practices amongst people who use these settings for their physical activity
- explore the attitudes of different stakeholders, including the users of these settings, to injury prevention programs
- identify how the risk management practices directly influence, or could potentially influence, the safety behaviours, knowledge and attitudes of physical activity participants.

## **Facilities**

Four Victorian health and fitness facilities were selected from a database of over 340 facilities to participate in the study: one metropolitan, one regional and two rural facilities. The four facilities were selected on the basis of geographic location and their infrastructure including the provision of a swimming pool, resistance training area, group fitness or aerobics area and multipurpose area. A Facility Demographics Questionnaire was developed to collect basic quantitative information about each facility, including: the range of physical activity programs provided, the role of the Facility Manager, insurance, facility accreditation, participant numbers, staffing levels and responsibilities in respect to safety and risk management

## **Methods**

A research team was established and an Steering Committee including representatives from the Department of Human Services, Victorian SmartPlay Program and the Victorian Health Promotion Foundation (VicHealth). The study used both quantitative and qualitative methods. Qualitative research methods were used to ascertain information on the 'how' and 'why' of injury risk management policies and practices within facilities, particularly the identification of facilitators and barriers.

The three main methods used in the study included:

**Literature review:** An extensive literature review was undertaken to determine what is known about injury risk management in health and fitness facilities. Particular attention was given to the development of risk management plans and the barriers towards their wide scale implementation in the physical activity context.

**Key informant interviews:** These were conducted with appropriate staff within the four facilities. Facility Managers were requested to identify up to four other key informants to participate at their facility that held senior, middle or junior management responsibility. A semi-structured interview schedule was developed to facilitate informed discussion about the key areas of the study. This was modelled on previous research into sport safety practices by sporting clubs and centres (Finch and Hennessy 2000; Casey 2001; Donaldson, Hill et al. 2003). Questions focused on the policies and procedures employed at the facility, the attitudes of the people who utilise the facility towards safe participation in physical activity and perceptions of the significance of the facility within the local geographical community.

**Facility user survey:** This survey aimed to quantify safety attitudes, beliefs and reported practices of facility users, in order to make comparisons between venues. The survey instrument was designed collect information about users' perceptions, attitudes and beliefs about safety and injury prevention at health and fitness facilities. It was modelled on similar previous studies investigating safety perceptions, attitudes and beliefs of organised sports participants (Eime, Finch et al. 2002; Finch, Donohue et al. 2002).

In addition, to these three methods simple logbook observations were noted by the researchers during their visit to each facility. These observations focused on subtle and indirect safety features or practices utilised with the study facilities.

Data was analysed using standard (both qualitative and quantitative) analysing techniques, and discussion and recommendations were formulated based on reflection of similarities and differences between metropolitan, regional and rural facilities, differences between user survey data and findings from key informant interviews and across programs within each facility.

Two facilities participated in the pilot study, one metropolitan and one regional physical activity facility. These facilities both met the inclusion criteria and allowed for the methods to be trialled. A total of seven key informant interviews were conducted during the pilot phase. The instruments were reviewed for clarity and succinctness with only minor changes required.

## Results

**Facility demographics** The definitions of 'organised' and 'unstructured' sports and 'recreational' games used for the purposes of this study were:

- **Organised sports** – sports administered by either the facility management team, or a local sporting club. Registration to play is often a requirement of participants, and competition between teams is a feature of these sports.
- **Unstructured sports** – sports that are accommodated by the facility (often the same as the organised sports available at the facility), but that do not require official registration to play. An example of this is a basketball court available to casual users to play basketball with one another, without having to formally register a team.
- **Recreational play** – open space that allows for spontaneous recreational pursuits that may be physically active or passive. An example of this is a grassed area that accommodates people sitting in the sun reading a book, or people playing games with their children.

The total approximate number of adults (aged over 18 years) utilising the facility over the last 12 months amounted to more than 10,000 people at each facility. The facility demographics survey instrument did not ask for the actual number of casual users who utilised the facility over the last 12 months, but gave a range of options with the highest number being 'more than 10,000'.

The highest percentage of users (25%) attending the Metropolitan facility were aged between 31-40 years, and the lowest (2%) overall users of the facility were aged 70+. The Regional facility catered for a younger demographic, with the highest percentage of users (40%) attending aged 18 and under. Similarly, the highest proportion of users (30%) at Regional 1 facility were 18 and under. However, the lowest percentage (1%) at the Regional facility came from the 70+ age group, while the lowest percentages of age groups from the Rural 1 facility were evenly estimated (10%) amongst 19-30, 31-40, 41-50, 61-70 and 70+ year-olds. The highest proportion (30%) of users utilising Rural 2 facility were aged 19-30, with the lowest proportion (5%) estimated to be amongst 61-70 and 70+ year-olds.

Both the Metropolitan and the Regional facilities employed more than 95 staff with Rural facility 1 employing 10 and Rural facility 2 employing 15. These figures include casual, full time and part-time positions.

**Survey findings** A total of 729 participants completed the survey. Twenty-six people who completed the survey did not meet the criteria for eligibility, and were excluded. The final analysis consisted of 703 surveys. The actual response rate was 74%. At each venue, the survey was administered from 9 am – 12 pm, and then again from 5 pm – 9 pm every day.

Overall, 93% of participants reported their gender. Of these, 412 were female (63%) and 239 were male (37%). In total, 645 participants (92%) reported their age. The age of the participants ranged from 18-78 years, with a mean age of 37 years. Over two thirds (66.4%) of participants in this study were aged between 18 and 40 years.

The history of attendance at the particular venue ranged from 0.5 to 240 months. Over half (55.6%) the participants reported that they had been attending the facility for 12 months or more. The average duration of attendance was 27 months.

The three most commonly reported factors that had an impact on their choice of health and fitness facilities were:

- its close proximity to home/work (58%)

- the health and fitness programs offered by the facility (36%)
- the range of exercise equipment provided by the facility (25%).

The safety of the facility was reported by 12% of participants as a consideration in facility selection, ranking ninth on the list of reasons that influenced facility selection.

The highest proportion of participants (44%) indicated that the primary reason for attending a health and fitness facility, as opposed to other sources of physical activity, was to improve health and fitness. Over half of the participants (56.8%) indicated that they visited the facility to engage in physical activity at least 2-4 times a week. Over half the participants (53%) reported that they spent at least 30 minutes in physical activity per visit. A small proportion (2%) of participants reported spending three hours or more in physical activity per visit.

Swimming and gym work were two of the most popular activities participated in by survey respondents at their facility. Aerobics was dominated by female participants (38% of surveyed females) and, in gym work and swimming, there were a higher proportion of male participants. There were significantly more female aerobics participants and more males participating in gym work and swimming.

Fewer than half of the participants (47%) reported that they practised physical activity safety measures, while 11% did not know if they practised any at all. Amongst the participants who did report using safety measures, a range of safety measures was reported. Common safety practices included stretching before and after physical activity (49%), wearing protective equipment or clothing (2%), using the correct techniques for their physical activity (5%) and abiding by the rules and the regulations of the facility (3%). The proportion of females that reported adopting safety measures was significantly higher than that in males.

The majority of participants (95%) were of the opinion that it was safe to engage in physical activity at the facility. An additional question found that 72% of participants agreed that safety was an issue that concerned them. Almost one-third (28%) of participants indicated that their facility was safer than other centres in the same location. The majority of participants (80.8%) believed that either themselves or the facility staff (73%) were responsible for injury prevention at the facility.

A large proportion of participants (72%) were unsure if the facility had a formal policy recognising the health and welfare of participants. When asked if they had undertaken any forms of pre-activity assessment at the facility, fewer than half of participants (44%) indicated they had.

In regards to injury prevention, 32% of participants reported that the facility had provided them with information for their chosen physical activities. When asked whether injury prevention was promoted at the facility, 44% of participants agreed that it was.

In a hypothetical question, participants were asked if they would report an injury if it was sustained during physical activity at the facility. Over half of participants (53%) were sure they would, while 24% stated that they would possibly report an injury. The main reasons for reporting an injury were to alert staff to danger on the premises (64%) and to prevent the same injury from happening to other participants at the facility (63%).

In total, 8% of participants reported that they had suffered an injury within the past twelve months. The activity most commonly associated with injuries was gym work (71%), followed by swimming (53%) and aerobics (35%).

Whilst a considerable number of participants (98%) strongly agreed or agreed that safety was an important aspect of physical activity and that being injured affected their level of enjoyment (89%), only 43% of participants reported that safety was their number one priority when participating in physical activity. Physical activity, in general, was not considered to be associated with a high risk of injury (62%).

Nearly two thirds (63%) of participants strongly agreed and agreed that facilities should do more to promote safety, however when asked if more could be done to increase the safety of participants at their facility, 43% of the participants were uncertain.

Nearly half (46%) of participants strongly agreed or agreed that it was safer to participate in physical activity at a facility than at other areas, such as a park or outdoor court.

The proportion of respondents who reported adopting physical activity safety measures increased as regionality increased (from 33% in metropolitan, 50% regional, 53% rural 1, 69% rural 2).

When asked if the participant perceived injury prevention to be promoted at the facility, the general response was positive. A higher proportion of respondents at the regional (49%), rural 1 (50%) and rural 2 (47%) facilities agreed with this statement, in comparison to the metropolitan facility (31%).

**Key informant interviews:** Despite differing structure, size and geographic location, key informant provided a clear and consistent picture of trends across all facilities. Similar tensions exist and similar problems are faced by all facilities in terms of safety and risk management. Injury prevention was rated 9.4 out of 10 in terms of importance within facilities. All staff who work in these physical activity centres were seen to play an equal role in managing, promoting, educating, training, leading, modelling and ensuring that safety and injury prevention is taken seriously by patrons in the facility. Key informants clearly had varying expectations of staff according to the position they hold. Three main types of staff were identified: program staff; management staff; and, administrative staff. This positive picture of the importance of safety and injury prevention was set against an equally consistent view that there are varying expectations and requirements on staff to maintain expertise in safety and injury prevention. Within facilities, staff training and availability of resources were identified as the most important avenues for ensuring consistent application of appropriate safety practices.

Users of facilities also fell into three broad groups: casual users; members or regular users of the facilities; and, users with specialist needs such as people referred by their doctor. Pre-participation screening, exercise instruction and ongoing surveillance are the main ways in which facility staff ensure safety measures are implemented and maintained within facilities. Key informants were less than certain about the levels of understanding possessed by users and they perceive them to vary considerably in their level of concern for safety and the actions they are prepared to take to reduce their level of risk.

The interviews also illustrated the tensions felt by many staff in facilities resulting from priorities set by owners or organisations who have a vested interest in the centre. The pressures for a viable commercial business created tensions at times and they were generally pleased that insurance companies placed requirements for safety and risk management within facilities. At the facility level, there is general dissatisfaction and quite high levels of frustration amongst key informants that there are no appropriate regulations for safety and risk management practices beyond occupational health and safety and insurance requirements. Similarly, there are limited guidelines for safety and injury prevention and these are spread across a variety of organisations each of which have to be accessed separately by the organisation. There is also no single regulatory body that can mandate safety standards from Facility Managers or their organisation. It is clear that many informants think that it is this lack of external accountability that produces a less safe environment within the physical activity facilities used by patrons with varying needs. The lack of support for, or consistent action in respect to requiring training by staff, is one of the most obvious outcomes. Key informants argue that external accountability or leadership through training, education programs, would result in safer practices and enforceable risk management strategies which would also make their requirements on users much clearer. This lack of formal requirements and uncertainty means that there is no requirement for staff training, little chance of consistent practice, no clear locus of responsibility with the result being a gradual shift in emphasis away from safety and concern for injury prevention, particularly in the younger client group.

Interviews showed that a strong gap exists between the staff's perception of users' knowledge and expectations of them and the facility and between facility owners and their requirements. There is clear potential for targeted information for specific groups of users who either display lack of concern for safety or who have pre-existing inappropriate opinions about risk and prevention. The two main groups that have emerged from the key informant findings are young males and men

who have a prior history of involvement with sporting codes such as football. They recommend that general information targeted to all users would be required to enhance the understanding of the importance of injury prevention. There is also clear potential for specific work to be done within facilities by staff to reduce the gap in *their* knowledge of user's expectations and knowledge in respect to safety and injury prevention. This will range from more explicit attention to the messages conveyed with facilities, to fact sheets about the role of staff and the facility, to monitoring programs to ascertain levels of knowledge of users. Trust both ways – between users and staff, seems to be the critical link. At present the elements of trust are assumed rather than clearly articulated by both groups.

It is also very clear from the findings of the key informant interviews that there are many internal and external changes occurring that put new or ongoing pressures on facilities. These changes have the potential to impact on a facility's staff to be able to deliver a safe environment. The pressures identified are linked to the group 'other' and to the fact that facilities are businesses that are designed to make a profit and remain viable. The external pressure from insurers' to keep the facility litigation-free is balanced against the owner's goals for a popular well used and high capacity facility. There appears to be an underlying assumption that safety is important to facilities but that it will take care of itself – unless, of course, something should go wrong then it would need to be addressed from a corporate damage-limitation perspective. Greater prioritisation of safety and risk management is required for its own sake and for the sake of the broader public health goals of increasing participation in physical activity.

Observations were also undertaken by the researcher whilst collecting data in each facility and these showed that little attention is paid to visual and indirect cues or messages about safety and injury prevention. At times there are also inconsistencies between the rules or standard operating procedures within the facilities and the application of them by staff or users. More attention was placed on the pool area and the gymnasium. Additional research in the area of indirect applications of injury prevention measures within facilities and between activities within the centres is needed.

## **Overall findings**

The findings of this study confirm that injury prevention and risk management practices are inconsistently, and often inadequately, applied across the study sample of metropolitan, regional and rural health and fitness facilities. The review of literature illustrates the same trends – that the implication for individuals, for their families, for their communities and for public health are far-reaching, and include the potential for detrimental outcomes economically, socially, politically and psychologically. It is clear that there are both 'environmental' and 'behavioural' factors involved, with a close link between the presence or absence of structures which enable injury prevention and risk management, through policies and procedures, as well as the physical properties to which they relate and application of them within facilities.

Five broad issues were identified in this study as impacting on injury prevention practices. These were variations in:

- the sources of influence over and/or control of injury prevention policies and practices including the absence of guidelines and standards;
- the responsibilities of facility managers and in the staffing levels of facilities including variations in the amount of time available to consider issues of injury prevention;
- the initial qualifications of facility managers and staff and in ongoing professional development and training;
- facilities, in terms of the profile of facility users, and in their attitudes and expectations; and
- other factors or combinations of factors.

## **RECOMMENDED ACTION PLAN**

### **Short-term**

- a peak body for health and fitness facilities is set-up. This body should have regulatory powers.
- a collation of existing risk management/injury prevention measures be undertaken to deliver to health and fitness facilities interim guidelines for safe conduct of activities. These should incorporate factors relating to age groups of clientele, type of activities undertaken, nature of clients (casual versus members).
- a system is developed to guide health and fitness facilities in the implementation and ongoing training of staff, both full-time, casual and volunteer.
- a program of professional development be developed in conjunction with TAFE and Universities to offer short courses in specific areas of risk management and injury prevention.
- a public campaign be launched to link the benefits of exercise with safe practices in health and fitness facilities.
- health and fitness facilities are assisted in delivering up-to-date material for their clients on exercising safely and be assisted in the implementation of these programs.

### **Long-term**

- the peak body develops procedures and protocols from existing practices, research literature, international guidelines and input from professionals in the area of risk management, injury prevention, health promotion and insurance.
- the peak body is responsible for the introduction of regulated procedures and protocols to all health and fitness facilities in the Victoria.
- the peak body sets minimum and preferred standards for staff in health and fitness facilities.
- the peak body lobbies tertiary educational institutions to include risk management/injury prevention studies as core subjects within their certificates and degrees both undergraduate and coursework postgraduate.



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# CHAPTER 1 INTRODUCTION AND AIMS

## 1.1 INTRODUCTION

Injuries are a potential outcome of, and a barrier to, physical activity (Finch and Owen 2001). Despite the increasing availability of safety information, injuries still occur. This report explores personal, social, environmental and structural barriers to adopting safety measures and identifies particular issues relevant to physical activity environments/settings. In particular, this report considers the extents to which people who attend environments and settings for physical activity:

- understand or consider injury risk
- rank safety as a priority
- consider safety issues in their choice of physical activity environment/setting
- consider that safety is solely the responsibility of the physical activity environment/setting or
- believe that additional injury prevention initiatives should be adopted at these settings.

This report also explores whether or not the bodies and organisations responsible for providing these physical activity environments and settings:

- are unaware of this knowledge
- do not, themselves, rate safety highly
- do not know how to implement prevention measures
- cannot implement preventive measures due to a range of barriers.

This report explores a full range of these issues in well-defined physical activity settings/environments across Victoria using a broad qualitative methodological approach. These settings are large facilities that provide and deliver a range of physical activities across the spectrum of general play/recreational activities to social/informal sport and formal sport. A large range of participants from all age groups and both genders use these facilities for activities such as swimming, general fitness/gym activities, social tennis, netball, basketball, etc. However, the delivery of injury prevention and safety initiatives across these activities is under the control of a single management at each multipurpose facility.

Finally, this report explores whether there are different levels of uptake or barriers to adopting safety measures in urban, rural and regional communities and considers whether injury prevention interventions likely to be different across rural and urban communities, and different physical activity settings.

## 1.2 AIMS

The overall aim of the research presented in this report was to explore the extent to which physical activity environments/settings facilitate and promote injury prevention activities. There has been recognition that the adoption of risk management plans in such settings currently offers the best buy for injury prevention (National Injury Prevention Advisory Council 1999).

In particular, this project has attempted to:

- identify the extent to which injury prevention and risk management practices are implemented in settings that are responsible for delivering, and supporting, a range of physical activities
- describe the nature of these practices and the reasons why they have been adopted
- explore and contrast differences in the implementation and uptake of risk management practices in metropolitan and regional areas
- identify the direct influences of the safety practices amongst people who use these settings for their physical activity
- explore the attitudes of different stakeholders, including the users of these settings, to injury prevention programs
- identify how the risk management practices directly influence, or could potentially influence, the safety behaviours, knowledge and attitudes of physical activity participants.

### **1.3 RATIONALE FOR THIS PROJECT**

Injuries are a potential adverse outcome of increased physical activity and a well-documented barrier to participation in such activity (Commonwealth Department of Human Services and Health 1994). Their prevention is therefore crucial to the success of strategies to promote physical activity (Finch and Owen 2001). Effective prevention of these injuries must be based on an understanding of the inherent nature of the physical activity, characteristics of its participants and both the external physical and social environments in which it takes place. Some recent Australian literature reviews have described the range of injury prevention measures appropriate for a range of physical activities including in-line skating, golf and aerobics (Sherker and Cassell 1999; Sherman and Finch 2000; Garnham, Finch et al. 2001). Fact-sheets promoting safety measures for these activities have subsequently been developed and disseminated through the Smartplay program (available from <http://www.smartplay.com.au/national/doclib/xpub/docliball.asp>). Despite the availability of this evidence-based advice, injuries still occur to a large number of participants of these and other activities. It is not known whether this is because physical activity participants, and the people responsible for delivering environments to support this activity, are unaware of this latest knowledge or rather if they do not know how to implement injury prevention measures. Alternatively, they may not consider injury/safety to be a serious issue or may be unable to implement preventive measures due to a lack of resources or other barriers. The full range of barriers towards physical activity safety need to be identified before effective promotion strategies can be developed.

A study conducted in the semi-urban area of the City of Hume (Finch and Hennessy 2000) explored safety provision in centres that supported a range of physical activities as well as sporting clubs. Only 52% of the general sports centres and sporting clubs were found to have a policy or written objective governing the health and safety of participants. Indeed, very few centres and sporting clubs from either the City of Hume (Finch and Hennessy 2000) or metropolitan Sydney (Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002) have implemented safety practices into their regular practices in a structured or organised way. To date, there has been no examination of whether or not similar poor levels of attention to safety issues are common in other areas, such as in general purpose physical activity venues or rural/regional communities. Identification of specific barriers towards safety in

rural/regional communities is particularly important because these areas generally have fewer resources, fewer qualified persons and less readily accessible information.

There is now a strong scientific case that regular participation in physical activity has significant health benefits (U.S. Department of Health and Human Services 1996). Public policy, environmental and social innovations are therefore being actively pursued to provide more opportunities for people to be safely physically active. Recent research has also established that physical activity in structured settings is a crucial component in the building and maintaining of a sense of community, a degree of 'social capital' in population groups (Putnum and al. 1993; Hancock, Labonte et al. 1999). Social capital is defined in terms such as 'support networks', shared values, trust and reciprocity (Hancock, Labonte et al. 1999). Structured physical activity (e.g. through sports clubs) is particularly important for building social capital in rural and remote communities (Dempsey 1990; Mahoney and Townsend 1998; Driscoll and Wood 1999).

Recent research (Casey 2001; Townsend, Moore et al. 2002; Casey, Finch et al. 2004) has begun to examine the role of sport, as a particular form of physical activity, in building social capital and community cohesion in small rural communities. Some interesting findings relating to safety issues have arisen from this work and provide a conceptual background to this project. Whilst football and netball, in particular, have always been vital to the identity of small country towns, when set against the backdrop of a massive rural decline in Australia, physical activity (especially organised sport) now provides one of the critical elements in maintaining the health of small communities in terms of their social capital. The impacts of this on safety issues are: a) the pressure on groups in rural areas to maintain viable sporting teams including difficulty with age matching of adolescents and prolonging the team membership of people too old and/or not physically fit enough to meet the physical demands of the activity; b) the pressure that this places on people to participate whilst injured (again to maintain viable team numbers); c) the risks faced by participants because there is no adequate local sports medicine service, or qualified sports first aiders, to attend to and treat injuries. Another issue in rural and regional communities is a lack of accredited and experienced coaches and other people who can educate others who may act to reinforce injury prevention strategies (Otago and Brown 2003). Together, these issues are of concern because non-age matching of juniors, poor physical condition, a lack of trained coaches, playing whilst injured/previous injury and inadequate treatment/assessment for injury have all been shown to be major risk factors for injury (Van Mechelen, Twisk et al. 1996; Finch and McGrath 1997).

In 1994, the Commonwealth Government released its health strategy policy and National Health Goals and Targets: Better Health Outcomes for Australians (Commonwealth Department of Human Services and Health 1994). Injury prevention/control was one of the major health areas targeted. This injury prevention/control strategy recognised sports injuries as a significant public health problem and a major barrier towards participation in sport, particularly in children and adolescents. It also recognised that such injuries can interfere with the enjoyment of sport and physical activity and limit the otherwise healthy consequences of physical exertion (Commonwealth Department of Human Services and Health 1994). More recently, sports injury prevention has been the cornerstone of other national public health frameworks (Australian Sports Commission 1997; Finch and McGrath 1997). The SportSafe Australia (Finch and McGrath 1997) framework links with Active Australia (Australian Sports Commission 1997) and, in doing so, provides guidance on preventing injuries across the full range of physical activity settings from general fitness activities to formal sport.

National action plans for sports safety specifically mention the adoption of risk management plans as a priority injury prevention activity in the context of sport and other physical activities (Commonwealth Department of Health and Family Services and Australian Institute of Health and Welfare 1998; National Injury Prevention Advisory Council 1999; National Injury Prevention Advisory Council 1999; Otago and Brown 2003).

In 1994, the Victorian Government's document *Taking Injury Prevention Forward* (Health and Community Services 1994) provided strategic directions for injury prevention and control initiatives for Victoria. Since that time, considerable progress has been made in policy, practice and research across a number of injury areas. The major research advances have been the result of efforts from quantitative research teams. As the injury prevention community is moving to wider implementation of injury prevention measures, it is becoming apparent that further research needs to be undertaken to understand ways to encourage uptake of injury prevention measures, to ensure compliance with such measures and to understand the role of risk perceptions, personal attitudes, social and cultural barriers, etc on this uptake and injury risk. Such research needs to adopt a largely qualitative focus which has very strong links to the existing quantitative research basis.

The current status of such an integrated research approach can be summarised as follows:

- qualitative methodologies have not been widely applied to the injury area in the past
- there is a paucity of relevant literature that can be drawn upon to guide the use of these methodologies in injury research
- the classical quantitative approach to injury prevention research needs to be supplemented by qualitative methodologies
- such approaches are needed to develop a conceptual basis for the implementation, and design, of effective interventions
- barriers to safety, both at an individual and the wider community/social level, need to be understood before interventions can be fully adopted and injury risk fully understood. At the individual level these include risk perceptions, attitudes and behavioural barriers. At the broader level, these include social structures, community cohesiveness, the roles/responses of people responsible for implementation, rural vs. regional vs. urban communities
- evaluations of the effectiveness of interventions need to take the above potential factors into account as they can influence the rate at which interventions are adopted and complied with (and hence giving a biased picture of the efficacy of interventions)
- risk perceptions and attitudes are important determinants of safety behaviour and can constitute, in themselves, significant risk factors for injury
- such factors also contribute significantly to a sense of community and social capital, particularly in rural and remote communities.

From the perspective of physical activity related injury research, this is a major need as the opportunities for a) conducting safety research involving specific interventions and b) actually achieving behavioural change for injury reductions depends heavily on the nature of the physical activity, the social culture underpinning that activity (such as the case of organised sport), the physical activity delivery setting, influences of significant others (e.g. peers, parents and coaches) and individual risk perceptions. Key questions that this report addresses are:

- how can we encourage organisations responsible for, and associated with, the delivery of safe physical activity to take up interventions?
- what are the roles and responses of the people in charge of the delivery of safe physical activity (e.g. parents, Facility Managers, educators, coaches) to safety issues?
- what is the best way to achieve grass roots implementation of safety measures?
- are there different social structures and factors that influence the delivery of safer physical activity in rural, regional and urban communities?
- what are the risk perceptions and other barriers towards improving safety in physical activity settings?
- are different factors more relevant for the delivery of safe recreational pursuits than formal sport?

Current efforts to prevent physical activity injuries in both the sports and active recreation contexts are significantly hampered by a lack of information about these factors.

#### **1.4 FOCUS OF THIS REPORT**

There is currently a lack of information about the extent to which risk management plans have been implemented at general purpose physical activity settings, such as large recreational and sporting venues and facilities. There is a suggestion that the level of uptake, and barriers towards adopting these measures, are different in urban, rural and regional communities, though the specific factors differentiating these practices have not been formally identified. Before those responsible for the delivery of safe physical activity and safe environments of this activity can begin to develop and implement 'best practice' injury prevention, adequate information about safety attitudes, knowledge and other barriers to safety is required. This project provides valuable information that could be used by peak and community bodies to prevent or reduce injuries to these participants in the future.

It is important that plans for enhancing safety for all physical activity participants addresses the issues and needs identified by the people involved at that grass roots level of participation. This report presents the results of surveys of participants and face-to-face interviews with the people responsible for delivering the physical activity settings. These findings could be used to identify priorities for safety action and will be provided to the Victorian Government's injury prevention unit and the Victorian Smartplay Committee.

There is a demonstrated need from those involved in delivering physical activity across a range of settings for information about safety and injury prevention across all levels and types of participation. It is important that this information can be used by a variety of groups and participants, involved at different levels of participation. As a result of the research and information gathering undertaken for this report, significant progress could be made towards developing injury prevention resources aimed at the following target groups including:

- physical activity groups and sports clubs at the community-level
- physical activity participants and sports bodies
- the wider Victorian sporting and physically active community

- students and participants of training programs, e.g. coaches and administrators of sports facilities.

Finally, this project has focused on the development and application of qualitative methodologies in the context of settings for physical activity. The methods would also be applicable across the broader sport and recreational injury area which encompasses a broad range of settings and contexts in which injuries occur including formal sport, general fitness activities, school sport and recreation, active recreational pursuits (e.g. cycling, in-line skating, horse-riding, etc), swimming pool use at home, etc. Whilst, in the first instance, the particular case examples are from general fitness and sport facilities, it would be expected that the broader conceptual basis would have a clear and wider applicability to other recreational injury issues (such as swimming pool fencing, recreational and other activities participated in by children, non-organised sport, playground safety, etc.); community level (non-competitive) sport; other injuries in the home, etc.

The information gathered through this project will also be able to inform the development of checklists of safety actions/policies/practices that are considered important for physical activity across all settings.

In summary, this report has begun the process of development towards a number of priority research directions including:

- the conduct of innovative and relevant research which links with the Victorian Government's strategies for injury prevention and which informs the ongoing identification of strategic issues and policy development
- understanding of the risk perceptions and other behavioural influences associated with both injury risk and safety practices for physical activity injuries (e.g. parental attitudes/behaviour; knowledge/beliefs/attitudes; structural influences - e.g. delivery of safe venues/facilities; role of teachers and coaches; social and community structures - especially social capital influences; gender)
- understanding how these behaviours and associated factors influence the adoption or uptake of injury prevention measures such as safety advice, training opportunities, safety equipment, policy change, risk management plans, etc
- exploration of the extent to which these behaviours and their influences differ in rural/regional and urban areas
- an integration of qualitative and quantitative research approaches in injury research.

## CHAPTER 2 BACKGROUND TO THE PROBLEM

### 2.1 PHYSICAL ACTIVITY PARTICIPATION

The psychosocial and physical health benefits of regular physical activity participation are well documented (Pate, Pratt et al. 1995). Physical health benefits include reducing the risk of developing chronic conditions such as hypertension, diabetes, heart disease and cancer, whilst assisting to reduce overweight and obesity and ensuring psychological well-being (Department of Human Services 1998). The scientific evidence for these benefits has provided the foundation for physical activity emerging as a priority of public health concern in many countries around the world, including Australia (Pate, Pratt et al. 1995; Australian Sports Commission 1997).

At the broad community level, regular physical activity participation has been shown to provide other important benefits, including social and economic benefits. The building of 'social capital', whereby a sense of community is strengthened through the interaction of its individual members, has been identified as a mechanism for this social benefit (Department of Human Services 1998; Driscoll and Wood 1999). Physical activity provides an opportunity for the increased social interaction amongst individuals that facilitates this community cohesiveness. Such sport and recreational opportunities have been identified as important 'threads' for building 'community spirit' and holding together communities at times of stress and uncertainty, particularly in rural communities facing land degradation, economic rationalism and gradual loss of 'quality of lifestyle' (Driscoll and Wood 1999).

The physical activity level of Australians is a continuing concern of public health researchers. The Australian Bureau of Statistics (ABS) reported that 55% of persons aged 18 years and over participated in sport or physical activities during 1998-1999 (Australian Bureau of Statistics 2000). The *Active Australia* program reported that 28% of Australians aged over 18 years participate in sport or physical activity organised by clubs or associations (Active Australia 2000).

The total number of adults aged 18 years and over participating in organised sport and physical activities in Victoria in 2000 was 922,800, which constituted 28% of the resident population at the time (Active Australia 2000). The five most popular organised sports and physical activities were listed as aerobics (5%), tennis (3%), golf (3%), netball (2%) and lawn bowls (2%). These figures differed, however, from the ABS rankings for the same time period: aerobics (10%), walking (18%), swimming (14%), golf (10%) and tennis (8%) (Australian Bureau of Statistics 2000). Methodological differences between the studies may account for these discrepancies, such as the definition of 'participation'. The ABS did not limit their survey to only include participation in organised sport and physical activity. Rather, the ABS survey included walking and other forms of physical activity in its list of activities for respondents to choose from.

### 2.2 URBAN VERSUS RURAL CONTEXTS

Many studies describe the poorer health status of rural Australians compared with Australians living in metropolitan areas (Department of Human Services 1998; Driscoll and Wood 1999; Casey 2001; Townsend, Moore et al. 2002; Casey, Finch et al. 2004). The *Active for Life* report noted

higher death rates for heart disease, stroke and all cancers, and higher levels of obesity to rural Victorians (Department of Human Services 1998).

Even though more Australian adults live in capital cities (64% of the population) than in non-capital city areas (36% of the population) a greater proportion of people who live outside of capital cities engage in organised sport: non-capital city areas (31%), capital city dwellers (26%) (Department of Human Services 1998). Whilst the proportion of Victorians who are sedentary and those who engage in low level physical activity is directly proportional to increasing rurality, the proportion of rural Victorians who are moderately and highly active seems to be similar to their metropolitan counterparts. However, there is a variation in types of physical activity participation due to a lack of access to a wide range of facilities in rural compared to metropolitan areas. Consequently, rural Victorians have been identified as a key target group for physical activity promotion (Department of Human Services 1998). With a decreasing population in rural Victoria due to young people moving to urban areas for employment and education, much of the infrastructure that supported cohesiveness of rural townships in the past is slowly eroding (Driscoll and Wood 1999; Townsend, Moore et al. 2002; Finch, Mahoney et al. 2003; Payne, Simpson et al. 2003). Sport and recreation seems to play an important community function in promoting cohesiveness, increasing community trust and facilitating social wellbeing (Townsend, Moore et al. 2002).

Sporting clubs are generally responsible for the delivery of organised sport to community members, and depend heavily on volunteers in metropolitan, regional and rural areas. However, the future of rural and regional sport participation stands to be substantially more affected by declining sport volunteer rates (Payne, Simpson et al. 2003). Predicaments that are specific to rural communities include the effect of an ageing population on volunteerism, and a decline in the population as a result of young people moving away for work and education. The extent to which these issues affect the operations of physical activity facilities in rural and regional areas is not known.

### **2.3 THE PUBLIC HEALTH BURDEN OF PHYSICAL ACTIVITY RELATED INJURY**

Sport and physical activity injuries have a significant effect on public health because they can create a barrier to regular participation and hence optimal health attainment (Finch and Owen 2001). Should an individual sustain a sport or physical activity injury severe enough, they are likely to stop participating in enough physical activity to achieve the long-term, accrued benefits of regular participation. Injuries therefore decrease an individual's ability to undertake, and therefore reap the benefits of, health promoting physical activity (Finch, Owen et al. 2001). However, as noted by Finch and Owen, "there is limited information (available) about injury as a barrier to participation in physical activity and/or sport and recreational injuries" (Finch and Owen 2001).

One Australian study explored injury and disability as a barrier to engaging in regular physical activity and estimated the proportion of sedentary Australians who identified it as a barrier to participation was 24% (Finch, Owen et al. 2001). This figure increased to 40% for Australians over the age of 60 years. Fear of injury was also a barrier to participation in regular physical activity, and injury or related disability was likely to be a concern for overweight Australians engaging in physical activity.

Injury as a result of physical activity or sport is known to be a public health problem of significant concern in Australia (National Injury Prevention Advisory Council 1999; Finch and Owen 2001). It

is important to note that in the literature the terms 'sports injury' or 'sport and recreation injury' are used interchangeably to encompass both formal sport and more general physical activity-related injuries. The potential adverse outcomes of sustaining an injury through sport and physical activity are summarised in Table 1.

**Table 1: The potential adverse outcomes of sport and physical activity injuries.**

<p><b>Prevention or limitation of participation by:</b></p> <ul style="list-style-type: none"> <li>- time lost from sport/physical activity</li> <li>- non-participation</li> <li>- limiting athletic participation/performance (in terms of frequency, duration, etc)</li> <li>- limiting performance (achievements), whether or not there is also time lost to sports/physical activity</li> <li>- being potentially career threatening to elite athletes and others who can no longer perform their work</li> </ul>
<p><b>Affecting the health of participants by:</b></p> <ul style="list-style-type: none"> <li>- causing permanent physical, psychological or emotional damage and disability</li> <li>- creating significant treatment needs (e.g. surgery, ongoing management, etc)</li> <li>- creating significant rehabilitation needs</li> <li>- resulting in fear of future injury</li> <li>- resulting in non-participation and subsequent implications for future health status</li> </ul>
<p><b>Significant financial costs through:</b></p> <ul style="list-style-type: none"> <li>- incurring health system expenditures</li> <li style="padding-left: 20px;">health insurance costs</li> <li style="padding-left: 20px;">costs of insurance against injury</li> <li>- being associated with other financial costs to the individual (e.g. protective equipment such as braces)</li> <li>- being associated with significant costs to industry (both sporting and employment)</li> <li>- being associated with loss of potential income for individuals and sporting clubs/organisations</li> <li>- being associated with time away from school/work/home duties</li> </ul>

*(Source: (Finch and Owen 2001).*

The magnitude of the physical activity injury problem is significant. In 1990, it was estimated that such injuries cost the Australian community \$1 billion annually (Egger 1991). In a more recent report that estimated the total lifetime cost of injury sustained in Victoria in 1993/1994 at \$2,583 million, sport and recreational injuries accounted for 12.5% of all medically-treated injuries in Victoria (Watson and Ozanne-Smith 1998). In New South Wales, sports injuries were ranked as the third most costly injury mechanism in terms of direct injury costs (after falls and road traffic accidents), amounting to at least \$40,045,177 in 1998-1999 (Potter-Forbes and Aisbett 2003).

Whilst the state of rural Victorians' health is known to be poorer than that of Victorians residing in metropolitan areas, there is an implication that the physical and psychosocial health of rural individuals and communities might be improved through the mechanism of sport and recreation participation (Finch, Mahoney et al. 2003)). Rural residents are believed to be at higher risk of sustaining physical activity injuries due to decreased access to coaching and health professional personnel, decreased availability of volunteers to deliver sport, and a more relaxed attitude towards injuries (Finch, Mahoney et al. 2003; Payne, Simpson et al. 2003). However, because

there is little known about the impact of physical activity injuries in rural and regional areas, more information is required to develop an informed rural health policy with respect to prevention strategies for physical activity injuries (Dixon and Welch 2000).

## **2.4 THE ROLE OF RISK MANAGEMENT PLANS IN PREVENTING PHYSICAL ACTIVITY INJURIES**

There is wide consensus that the vast majority of physical activity related injuries can be avoided through the implementation of prevention strategies and practices (Finch and McGrath 1997; Finch and Owen 2001). Indeed, the *National Sports Safety Framework*, states that “much can be done to prevent (sports injuries)”. From a strategic perspective, improving safety in sport requires a multi-level effort, with a cooperative, strategic approach required across the spectrum from the global level (such as recreational organisations and government) to the local level (such as sports medicine providers and individuals) (Finch and McGrath 1997). The *National Sports Safety Framework* therefore emphasised the importance of risk management plans for sports and sporting facilities in improving injury prevention. It further stated that, the implementation and continuous review of risk management plans is required as a pivotal element in injury prevention ‘best practice’ and legal duty of care at all physical activity facilities.

In 1999, the National Injury Prevention Advisory Council identified risk management plans as the ‘best buy’ for preventing injuries during sport and active recreation (National Injury Prevention Advisory Council 1999). This reaffirmed the key recommendation of the *National Sports Safety Framework* (Finch and McGrath 1997). The development of risk management plans has received an increasing amount of support from the sport and recreation sector over recent years. However, much development in this area has been motivated by, and focused on, dealing with actions only to reduce financial and legal risk. Australian state governments, through their respective departments of Sport and Recreation, have taken action to provide resources to community sport and recreation providers to improve the uptake of risk management practices (Table 2).

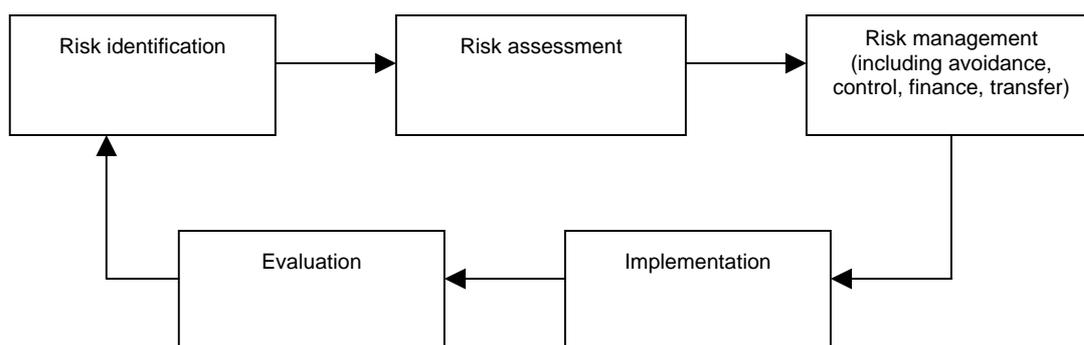
Although risk management plans have been acknowledged as potentially beneficial for preventing injuries in physical activity, information about the actual adoption of sports safety policies and practices at the community level is scarce. A study of 64 clubs/centres conducted in the City of Hume found that although sports bodies reported engaging in some sports safety actions, they rarely had formal, written policies that outlined their commitment to preventing participation injuries (Finch and Hennessy 2000).

A sports safety plan arises from risk management principles applied to a sporting context in order to a) mitigate the legal and insurance risk exposure of sport, and b) help create a safer environment in which to play sport (Finch and McGrath 1997; Harvey, Finch et al. 1998). Whilst there are several approaches in the literature that describe how to formulate “staged and systematic” sports injury prevention methodology, the underlying principles integrate risk identification, risk assessment, risk management, implementation and evaluation in a cyclical fashion (Figure 1).

**Table 2: Risk management and sport safety resources provided to sport and recreation organisations by Australian state governments.**

State	Office	Publications or Resources Available to Sporting Organisations via Website
Tasmania	Office of Sport and Recreation Tasmania	A Sporting Chance. Risk management for sport and recreation organisations. Web address: <a href="http://www.development.tas.gov.au">www.development.tas.gov.au</a>
Queensland	Sport and Recreation Queensland	Risk Management Training Program. Web address: <a href="http://www.sportrec.qld.gov.au">www.sportrec.qld.gov.au</a>
Western Australia	Department of Sport and Recreation (WA)	Risky Business. A Club Guide to Risk Management. Web address: <a href="http://www.dsr.wa.gov.au">www.dsr.wa.gov.au</a>
South Australia	Office for Recreation and Sport (SA)	Risk Management Resource for Recreation and Sport Organisations. Web address: <a href="http://www.rec sport.sa.gov.au">www.rec sport.sa.gov.au</a>
New South Wales	NSW Sport and Recreation	Safe Sports Facilities. Making Physical Activity Safer and More Accessible. Web address: <a href="http://www.dsr.nsw.gov.au">www.dsr.nsw.gov.au</a>

**Figure 1. The risk management cycle**



*(Adapted from Finch and McGrath, 1997)*

In order for a sport safety plan to achieve its aims of reducing the incidence and severity of sporting injury, it must be regularly monitored, reviewed and updated (Harvey, Finch et al. 1998). It has been suggested that a 'checklist' audit could be applied to both sporting clubs and physical activity facilities, such as recreation or leisure centres. This checklist system should ideally be part of a continuous process, with regular ongoing review.

A *Sport Safety Audit Tool* (SSAT) was developed and extensively validated in order to overcome the barriers of limited resources and lack of specific expertise in the area of sports injury prevention within community sporting clubs (Donaldson, Hill et al. 2003). This tool was applied to 200 sporting clubs in metropolitan NSW, including community soccer, rugby league, netball, and rugby union clubs (Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002; Donaldson, Hill et al. 2002). The results of these studies highlighted that a SSAT is a useful tool for collecting baseline data, benchmarking practices and for targeting sports safety interventions by community sports clubs (Donaldson, Hill et al. 2003). The level of uptake and use of this tool by other community sporting clubs and physical activity settings is yet to be reported.

A recent exploratory study of junior Australian rules football and netball clubs in two Victorian rural communities, found that safety policies and practices required improvement, so that they could influence an increase in the prevention of injuries sustained by players (Casey 2001; Casey, Finch et al. 2004). In this study, the rural football and netball clubs indicated that they had difficulty accessing current sports safety information. Other contextual issues were identified in this study that exemplified rural sporting clubs' barriers to the uptake of injury prevention measures, such as insufficient volunteer numbers and players, and a lack of qualified personnel.

## **2.5 RISK MANAGEMENT PRACTICES IN HEALTH AND FITNESS FACILITIES**

The identification of risk management plans as 'good buys' for injury prevention also extends to physical activity facilities (National Injury Prevention Advisory Council 1999). This includes facilities known commonly as 'Health and Fitness Centres', 'Health Clubs', 'Leisure Centres', 'Recreation Centres', and the like. These physical activity facilities differ from sporting clubs in that a facility manager or management company oversees a wide range of physical activities at the one venue. These might include swimming, aerobics, court sports and gymnasium, and comprises both structured and unstructured activities. Sporting clubs, by contrast, generally administer one sport, although they may utilise physical activity facilities for the conduct of their sports, such as a local netball club hiring their courts at a council run facility.

The *National Sports Safety Framework* identified that the provision of a safe sporting environment was the responsibility of facility owners/managers, particularly when the activity was organised by the facility rather than a club (Finch and McGrath 1997). Facility sport safety plans were highlighted as providing the basis of a facility's duty of care to clubs, organisations, its employees, volunteers and participants.

Facility management companies, local councils and/or private operators all manage facilities that conduct a large number of physical activities 'under the one roof'. One would anticipate that an overarching physical activity safety plan would be in operation that encompasses the entire facility, alongside more specific variations for each area of physical activity participation, such as for swimming pool areas.

Industry-driven, voluntary codes of practice (or 'guidelines') are "not intended to be standards of practice or to give rise to duties of care" (American College of Sports Medicine 1997). Rather, they are intended to identify operating procedures that, if adopted by a facility, would improve the quality of service delivered to their clientele. The ultimate responsibility for administration of 'best practice' for a particular facility lies with the facility management. It assumes that professional judgment is exercised in decision-making, sourced from a wide variety of available, reputable resources.

In comparison with long-established professions such as medicine or law, it was not until the 1990's that the health/fitness 'industry' identified one set of international 'standards' that were recognised by the courts as the accepted standard of care (Eickhoff-Shemek 2002). The American College of Sports Medicine (ACSM) attempted to rectify this situation with their 1992 publication 'ACSM's Health/Fitness Facility Standards and Guidelines', which was subsequently updated in 1997 (American College of Sports Medicine 1997). This peer-reviewed document identified six standards and numerous associated guidelines for the standards of care for a health/fitness facility (Table 3). Many of these are related to safety of facility users.

**Table 3: ACSM Standards for Health/Fitness Facility Standards**

Standard	Operations
1	A facility must be able to respond in a timely manner to any reasonably foreseeable emergency event that threatens the health and safety of facility users. Toward this end, a facility must have an appropriate emergency plan that can be executed by qualified personnel in a timely manner.
2	A facility must offer each adult member a pre-activity screening that is appropriate to the physical activities to be performed by the member.
3	Each person who has supervisory responsibility for a physical activity program or area at a facility must have demonstrable professional competence in that physical activity program or area.
4	A facility must post appropriate signage alerting users to the risks involved in their use of those areas of a facility that present potential increased risk(s).
5	A facility that offers youth services or programs must provide appropriate supervision.
6	A facility must conform to all relevant laws, regulations, and published standards.

*Reproduced from. ACSM's health/fitness facility standards and guidelines. Champaign: Human Kinetics; 1997*

The 1997 revised ACSM standards were an effort to articulate 'standards' of duty of care that all facilities must adhere to in the best interest of their users, and provided over 500 'guidelines' that were intended to guide good practice (American College of Sports Medicine 1997). The ACSM also recognised the importance of standards published by professional organisations as admissible evidence determining legal duties in negligence cases (Eickhoff-Shemek 2002). Studies have since been conducted that evaluated the uptake of these ACSM standards at the facility level (Eickhoff-Shemek 2002; Eickhoff-Shemek 2002), with 'gaps' in compliance then prioritised. The ACSM now plays a leading role in encouraging facilities to become compliant with these guidelines in the US.

The risk of litigation has been highlighted as a key marketing 'selling point' for US-based Facility Managers to become compliant with ACSM standards, even though the marketing message is delivered through the use of a 'stick' rather than a 'carrot'. Information about the potential for risk of litigation by facilities that do not adopt such guidelines has been fed back to Facility Managers to highlight areas of operation that require attention in order to prevent injury at health and fitness facilities. General, organised-club sport safety information does not meet all of the specific needs of health and fitness facility operations. Whilst there is some important common ground, such as administration of appropriate first aid, hydration policies and injury recording procedures, the above list of health and fitness facility-specific items have been communicated to Facility Managers by the ACSM as a way of establishing a priority for action by managers to prevent injury at health and fitness facilities.

Unfortunately, there is currently no equivalent of the ACSM standards in Australia. Whilst the ACSM guidelines could be adopted in Australia, they probably require some translation to the local context. There is currently no lead agency for managers of Australian health and fitness facilities to promote standards of care for group fitness, multipurpose or gym areas of operation.

Fitness Australia, including its state representative Fitness Victoria, is acknowledged as the peak 'industry' member organisation representing health and fitness facility owners and managers. However, Fitness Australia does not currently have health and fitness facility standards and guidelines, or a policy in place that supports the application standards to the Australian context. At present, physical activity risk management standards at facilities seems to be driven by the Facility

Managers or management companies themselves, with little evidence of strategic or operational guidance or support from governing professional association bodies. This would mean that Australian facilities are unlikely to benchmark their own risk management policies and practices against an industry standard.

One Australian exception to this is that of aquatics management. In partnership with Sport and Recreation Victoria and the Victorian Aquatic Industry Council, the Royal Life Saving Society (Victorian Branch) developed a resource that outlined the risk management standards for public pool environments (Royal Life Saving Society Australia 2001). Australian Standards for Public Pools were identified, together with links and information about affiliated resources and agencies, such as the Building Control Commission and Victorian Legislation and Parliamentary Documents. This resource outlined risk management, legal principles, standards, safety considerations, appropriate signage, checklists, and provided information about relevant resources and agencies pertinent to the management of public pools, amongst other aquatic facilities. It recognised the range and complexity of safety and injury prevention issues that must be addressed by the management of the pool area, and provided an outline of standards that the management of the facility must address.

Although Standards Australia have produced a set of standards for the management of risk in sport and recreation activities (Standards Australia 2002), these standards are broad and do not meet the specific needs of health and fitness Facility Managers.

Sports safety has been recognised as an essential component of risk management, and therefore an essential component of reducing insurance and litigation risk exposure (Otago, Reynolds et al. 2002). However, a study conducted by Otago et al. (2002) found that only 24% of the 45 respondents from Victorian sporting organisations and associations identified that a link existed between insurance and a sports safety plan (Otago and Brown 2000). Interestingly, nearly half (44.4%) of the respondents stated 'that no such link existed for them', and 28.9% were uncertain whether a link existed. When combined, nearly three quarters of respondents from Victorian sporting organisations and associations did not know there was a link between sports safety and risk management, or thought that this link did not apply to their situation.

Risk management policies and practices provide the infrastructure for optimal safety during physical activity participation (Finch and McGrath 1997; McInnis, Hayakawa et al. 1997; Otago and Brown 2000; Eickhoff-Shemek 2002; Eickhoff-Shemek 2002; Otago, Reynolds et al. 2002), and therefore minimise litigation exposure. This is important because risk management seems to be driven by punitive consequences (such as litigation), rather than any specific incentives for good injury prevention performance through the use of risk management. The reasons why certain risk management policies and practices are implemented at health and fitness facilities has not been formally researched, and it is unknown whether there are different facilitators and barriers to their adoption in metropolitan, regional and rural facilities.

## **2.6 UPTAKE OF RISK MANAGEMENT PRACTICES AND SPORT SAFETY PLANS**

Although, the implementation of risk management plans is recognised as the 'current best buy' for preventing injury in sport (National Injury Prevention Advisory Council 1999), it would seem that they are not yet universally adopted. As stated previously, in a study of the risk management practices of sporting clubs and centres in the City of Hume, only 52% possessed formal, written

policies that identified injury prevention of physical activity participants as an important goal (Finch and Hennessy 2000). It is not known to what extent health and fitness facilities possess formal, written policies that identify the same. It is also not known from the existing literature whether this differs in urban and rural contexts.

The only published Australian study of Facility Managers focused on squash venue managers and their attitudes towards protective eyewear for all squash players (Eime, Finch et al. 2003). The study interviewed squash venue managers to determine their knowledge, beliefs and attitudes towards injury prevention for that sport. One particular issue identified was that whilst being generally supportive of increasing protective eyewear for participants, many venue managers did not actively promote wearing of protective eyewear due to their own lack of knowledge about appropriate eyewear and where it could be obtained.

In a study of rural sporting contexts, the SportSafety Project aimed to identify and implement physical activity injury prevention initiatives that were specific to rural Victorian environments (Otago and Brown 2000). It aimed to characterise applicability of injury prevention measures devised in metropolitan areas to rural sporting environments. The economic and geographical constraints of rural communities warranted a different approach to sports safety infrastructure, including injury surveillance, research and prevention activities. The determining factors for the uptake of physical activity countermeasures at health and fitness facilities within rural and regional communities are currently not well understood. It is not known whether different approaches exist or should be used between metropolitan, regional and rural facilities.

Whilst it is known that attitudes and beliefs can influence risk taking behaviour in general and the provision of health environments, there is a paucity of information about safety attitudes in relation to sports participation. This is a developing area internationally. In particular, there have been no published studies of facility user's attitudes, beliefs and knowledge of physical activity injury prevention in multi-activity facilities. This is important because it could be a major driver of safety initiatives adopted at physical activity settings.

## CHAPTER 3 METHODS

The overall aim of this study was to explore the extent to which health and fitness facilities facilitate and promote injury prevention activities. A research team was established and an advisory group comprising of representatives from the Department of Human Services, Victorian Smartplay Program and the Victorian Health Promotion Foundation set-up. The study was divided into three main phases:

- literature review
- key informant interviews (developing and piloting of an interview schedule, and conduct of key informant interviews)
- facility user survey (developing and piloting of a facility user survey and conduct the surveys).

### 3.1 LITERATURE REVIEW

An extensive literature review was undertaken to determine what was already known about injury risk management at health and fitness facilities. In addition, the literature review assisted to identify the applicability of qualitative and quantitative methodologies to the physical activity injury context. The use of such methodologies in contexts other than injury-related settings, and their translatability to physical activity injury were explored. Particular focus was given to the development of risk management plans and the barriers towards their wide scale implementation in the physical activity context.

Information was identified and collated from a number of both formal and informal sources, including:

- searches of computerised CD-ROM and other bibliographic databases, including Medline, PubMed, Sports Discus and CINAHL, for the past 15 years (1998 – 2003). Key words used included: *sports safety, active recreation, injury prevention, rural communities, risk management, safety policies, safety practices, qualitative methodology.*
- direct contact with government departments and other injury prevention bodies to identify what has been done and what the major gaps are
- Internet searches using a range of search engines
- examining reference lists of literature located
- material known specifically to the project team or referred to by key informants

The collated information was entered onto an Endnote database to establish a bibliography on risk management for physical activity related injury research.

### 3.2 KEY INFORMANT INTERVIEWS

Key informant interviews were utilised in order to gain information about the breadth and depth of injury prevention issues that would not otherwise have been possible through quantitative methods alone. This qualitative research component of the study made no attempt to gain a statistically

representative sample of a larger population group. Rather, it sought to select key informants whose own management and decision-making experiences would provide insight into daily operations of a range of physical activities, including swimming, group fitness classes, gym work and a number of individual or team sports.

The use of applied qualitative research methods in health and fitness facilities was appropriate as it allowed access to information relating to the 'how' and 'why' aspects of injury risk management policies and practices. It was possible using these approaches to determine what policies and practices are adopted and utilised at facilities and to identify perspectives on facilitators and barriers to their widespread uptake and implementation from the perspective of those involved in developing and/or applying them on a daily basis.

### 3.2.1 Sampling frame

This study sought information from health and fitness facilities in Victoria. Funding was approved to gather data from one metropolitan, one regional and two rural facilities. Australian Bureau of Statistics (ABS) definitions were utilised to classify 'rural' and 'regional' settings.

The facilities chosen for this study were sourced from a database of over 340 Victorian 'Health and Fitness' facilities from the Victoria Council on Fitness and General Health (VICFIT) Inc. Due to the qualitative nature of the study, facility selection was not randomised. Rather, a convenience sample of facilities was selected on the basis of geographic location and their infrastructure.

The definitions of 'metropolitan', 'regional' and 'rural' facility classifications were adapted from those used by the ABS:

- **metropolitan** –located within a capital city statistical division, with an urban population of 100,000 or more
- **regional** –located in Statistical Local Areas (SLAs) whose index of remoteness is 10.5 or less and which contains urban centres with a population between 10,000 and 99,999
- **rural** –located in SLAs whose index of remoteness is 10.5 or less and which contain a centre with a population of less than 10,000, or whose index of remoteness is greater than 10.5

The selection of facilities within the same or neighbouring local council areas was viewed as counterproductive to the project aims, as it was assumed that Facility Managers would be subject to similar council requirements with respect to policies and procedures. Facilities containing all of the following physical activity attributes were selected:

- a swimming pool
- resistance training area
- group fitness or aerobics area
- multipurpose area.

These facility attributes were considered to cater for many more participants than would facilities that specialised in only one or a combination of just a few of the above.

Fifteen rural and regional facilities meeting the inclusion criteria were identified. One regional and two rural facilities were opportunistically selected, with preference being given to facilities that were geographically remote from one another. One metropolitan facility was excluded because it was deemed to be representative of a 'world class' standard by the research project team, and thus not representative of a typical metropolitan physical activity facility. Consequently, another metropolitan facility, meeting the inclusion criteria, was selected at random.

Facility Managers were posted an invitation letter to participate in the study. Those who agreed to participate were included in the study. Where Facility Managers did not return phone calls or letters of invitation after three attempts, the facility was excluded, and another facility sourced. One metropolitan Melbourne and one rural facility on the original list were excluded from the study on this basis. The metropolitan facility's management team did not provide a definitive response to the invitations to participate in the study. The originally-selected rural facility's manager had very recently resigned from their position, and the facility had appointed an acting manager until a new facility manager was recruited.

A letter of invitation to participate in the study was sent to the four Facility Managers, and followed up by a telephone call. The study sought to collect data from up to five key informants at each facility. Facility Managers were requested to identify up to four other key informants to participate at their facility that held senior, middle or junior management responsibility. These key informants were invited to participate, and none declined the invitation. Follow-up phone calls confirmed interview times and dates.

Key informants from each facility were selected on the basis that they had management responsibilities and experiences which shaped the day-to-day risk management issues addressed by health and fitness Facility Managers and middle managers.

### **3.2.2 Pilot testing**

In order to trial the interview methodology, two facilities participated in the pilot study. One metropolitan and one regional physical activity facility was invited to participate in the pilot study. These facilities both met the inclusion criteria of the main study, and each had a university link to one of the study's investigators, and was known to be willing to provide input into the development of the project. The Facility Managers from both of the invited pilot facilities accepted the invitation to participate.

A total of seven key informant interviews was conducted during the pilot phase – three from one facility and four from the second facility. Facility Managers were asked to identify up to four senior, middle or junior management staff members (excluding themselves) who would be an appropriate key informant. All invited key informants agreed to participate in the research.

The semi-structured interview schedule and facility demographics questionnaire were reviewed for clarity and succinctness, based on the experience of the pilot interviews. Minor wording changes were made to the interview schedule as a result of the pilot interviews, and the length of time for the conduct of the interviews was determined adequate at 1 hour. Although this information was utilised to refine the study methodology, the results of the pilot interviews were not included in the final data.

### **3.2.3 Ethics approval**

Prior to piloting, ethics approval was obtained from the Standing Committee on Ethics in Research Involving Humans from Monash University for both the key informant interviews and facility participant surveys. Subsequent ethics approval was obtained from the Deakin University Human Research Ethics Committee.

### **3.2.4 Facility demographics questionnaire**

A Facility Demographics Questionnaire (Appendix 1) was developed in order to collect basic quantitative information about each facility, including:

- the range of physical activity programs provided at the facility, as a means of characterising the facility further
- role of the Facility Manager, in order to ascertain to what extent the Facility Manager had 'hands-on' accountability for areas such as safety performance
- insurance, in order not only to understand what types of insurance are applicable at facilities and the cost of this insurance, but to identify the level of detailed knowledge of Facility Managers about these items
- facility accreditation, in order to collect information about potential continuing education distribution channels at the conclusion of the research study
- participant numbers, in order to form a basis for calculating sample sizes for the subsequent user survey
- staff, to identify the level of human resources available at each facility, and how many staff were involved in enforcing the facility's policies and procedures

Collecting information about facility demographics was important in order to make facility comparisons, and for the data to be available for cross-tabulation with quantitative information gathered from the participant survey.

A plain language statement outlined that in agreeing to participate in the study, Facility Managers were required to complete a Facility Demographics questionnaire prior to the Key Informant Interviews taking place. Facility Managers were sent an electronic copy of the questionnaire, and asked to fax back the completed questionnaire before their interview.

### **3.2.5 Interview schedule**

A semi-structured interview schedule (Appendix 2) was developed in order to facilitate informed discussion about key areas of the study. Previous Australian studies investigating injury prevention at the community-level of sport provided the foundations of the broad topics investigated (Finch and Hennessy 2000; Casey 2001; Donaldson, Hill et al. 2003). The interview schedule was therefore modeled on previous research into sport safety practices by sporting clubs and centres (Finch and Hennessy 2000; Casey 2001; Donaldson, Hill et al. 2003). This methodology was specifically used to improve the sensitivity and accuracy of the survey questions. Open open-ended questions were used to seek information relating to three broad areas:

- the policies and procedures employed at the facility
- the attitudes of the people who utilise the facility towards safe participation in physical activity
- perceptions of the significance of the facility within the local geographical community.

Each of these areas was seen as influential in shaping actual injury prevention behaviour of individuals at the facility delivery level.

To assist with defining the context for these interviews, a concept diagram of physical activity injury prevention responsibility in facilities was developed in conjunction with the interview schedule (Figure 2).

The complementary concept diagram (Figure 2) served the purpose of diagrammatically outlining the study's definition of physical activity participation injury prevention at the facilities. Facility Managers were acknowledged as having overall responsibility for the safety performance of their facility. The facility's operations were then divided into 'participation' and 'non-participation' areas. It was important to distinguish 'participation' injury from other types of injury, such as those that would typically fall under the Occupational Health and Safety domain, as this was not the purpose of the study. Middle managers (or 'coordinators') were identified as next in the chain of command for injury prevention within their area of accountability. The articulation between management, program staff (such as instructors, lifeguards and coaches), and users of the facility was demonstrated diagrammatically for ease of explanation and clarity.

An explanation of the diagram was provided to key informants at the commencement of the interview, together with a plain language example of it in context. Key informants were encouraged to ask questions about the definition, and the interview proceeded once they had indicated their understanding.

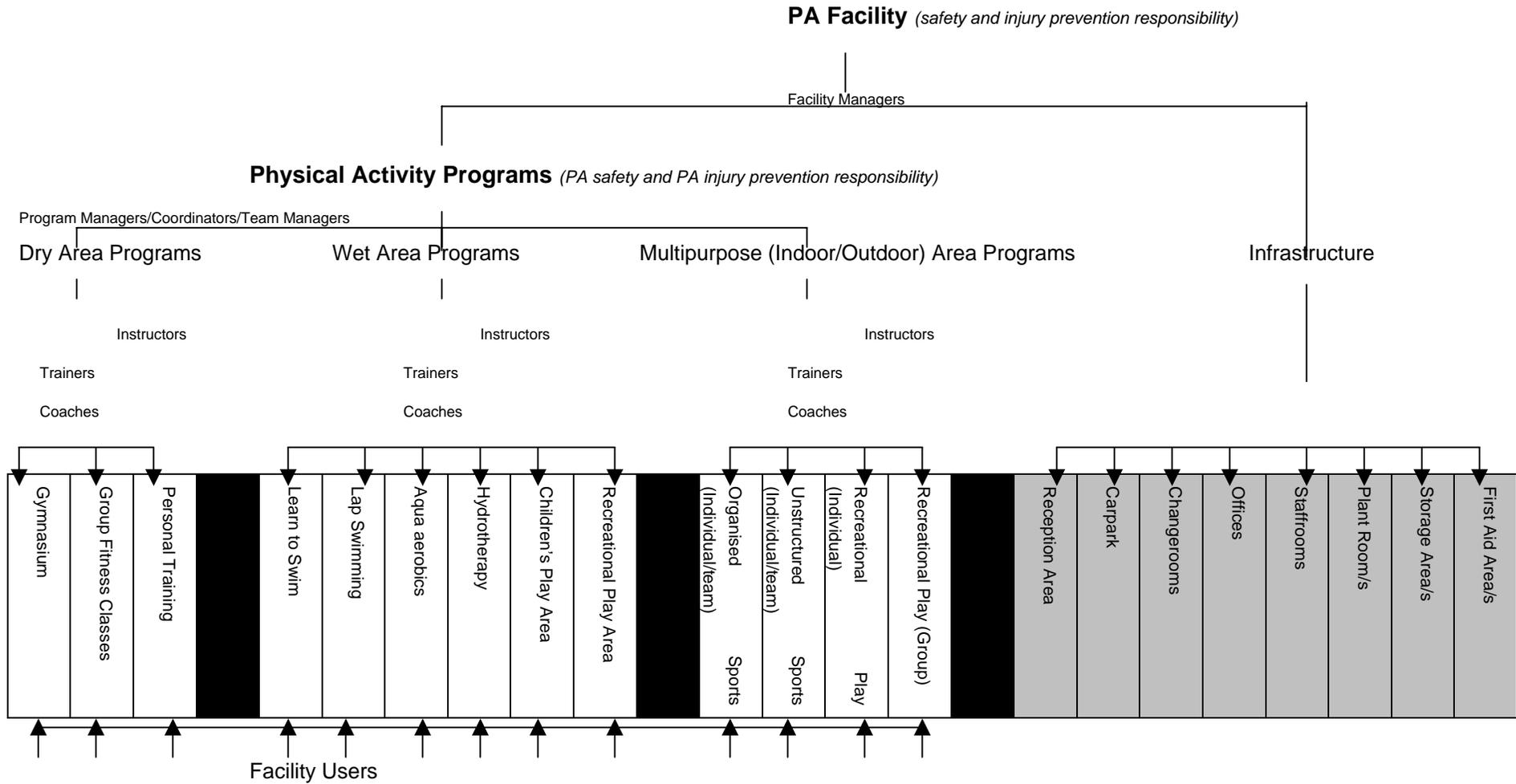
### **3.2.6 Key informant interviews**

The data collection consisted of one face-to-face meeting with key informants, of approximately 1 hours' duration. The interviews were audio taped, with the informed consent of key informants. Following the semi-structured interview, key informants were asked a series of closed questions about their personal education and training levels. This component of the research methodology was included in order to ascertain the perspective of the key informant, according to their experience, education or training. Data was collected in this sequence so that information from the closed questions did not bias the open-ended interviews. For instance, being asked questions about personal levels of education at the start of the interview could potentially have been interpreted by key informants to represent the level of importance placed on this item by the researchers.

### **3.2.7 On-site researcher observations**

During the four-day data collection period at each facility, the researchers also noted simple logbook observations about safety features or practices specifically utilised by that facility. These observations were guided by information collected from key informant interviews, e.g. if a key informant referred to 'safety signage' as the main form of injury prevention communication at the facility, the researchers noted both subjective and objective observations such as:

**Figure 2. Physical activity injury prevention responsibility in facilities**



- was there indeed any safety signage prominent throughout the facility?
- what was the subjective impact of this safety signage on a user of the facility?

### **3.2.8 Data analysis**

Descriptive statistics were used to analyse the facility demographic data. Comparisons were made between facilities under each category of questions.

Audio taped Key Informant interviews were transcribed and then coded using open, axial and selective coding using grounded theory, i.e. the themes were grounded in the dataset (Cresswell 1998). Open coding was used to form initial categories of information, and then axial coding was used to identify central phenomena and causal conditions. Finally, selective coding was used to integrate conditional propositions that emerged from axial coding. The Results and Discussion sections of this report were written using a constant comparative method.

All closed option question responses were pre-coded and analyses using descriptive analysis.

## **3.3 FACILITY USER SURVEYS**

Health and fitness facilities differ from organised sports settings in that they provide a range of physical activity participation opportunities, at the one site, to members and the general public. A survey instrument was designed collect information about users' perceptions, attitudes and beliefs about safety and injury prevention at health and fitness facilities (Appendix 3). This survey was modeled on similar previous studies investigating safety perceptions, attitudes and beliefs of organised sports participants (Eime, Finch et al. 2002; Finch, Donohue et al. 2002). It aimed to quantify safety attitudes, beliefs and reported practices of facility users, in order to make comparisons between venues.

### **3.3.1 Sampling frame**

At each facility, both management and reception staff was consulted regarding the most appropriate place to locate the survey stand – positioning that would minimise disruption to the normal operations of the facility, whilst maximising exposure for survey recruitment. In all four facilities, the survey stand was located at close proximity to the reception desk in order to capture both incoming and outgoing users. Careful consideration was also given to providing enough distance from the reception desk so that survey administration would not impede the normal operations of the facility.

Facility users were approached and invited to participate in the survey as they walked into the facility. Where a refusal was received because the user wanted to attend a program (most notably, a scheduled group fitness class) at a certain time, they were invited to complete the survey at the conclusion of their workout, and many did so. Those who declined the invitation to participate in the survey were probed for a brief response regarding their reason for non-participation, and this response was recorded. Facility users accepting the invitation to participate in the survey and who were over the age of 18 years were included in the study. Users who were utilising the facility for the first time, as well as long-standing facility users, were included.

Facility users who did not wish to be included in the study were recorded as non-respondents, and their reasons for non-participation were documented, as well as their gender. This enabled a response rate for the project to be calculated and to determine any possible sources of bias in the method of participant recruitment.

Each facility user invited to take part in the study was greeted with a verbal introduction that included the researcher's name, the academic bodies affiliated with the research and the title of the project. A summary of the project's purpose and aims were provided, along with directions on how to complete the survey. Respondents were advised the survey would take 5-10 minutes to complete and informed of the confidentiality of the survey in order to reassure respondents about the anonymity of their responses.

A plain language statement was provided with every questionnaire administered. Consent was implied with the respondent's completion of the survey. For identification purposes, each survey was dated and stamped after completion and placed in the return box. The researcher remained present throughout the data collection period to ensure any queries concerning the survey and project were answered.

Data collection was restricted to four days at each venue. The administration of the survey took place over a period of four weeks from 21 July to 14 August, 2003. A total of 16 days was focused exclusively on data collection.

The survey sample size at each facility was determined utilising preliminary demographic data provided by the Facility Managers during their key informant interviews. Due to a number of physical activity programs being offered at these health and fitness facilities, and to reduce the risk of overrepresentation of respondents from one activity over another, it was determined by the researchers that no more than 10% of users of any single physical activity program would be included in the overall results. A running end-of-day log was maintained to assist with meeting this requirement.

### **3.3.2 Facility user survey**

The questions relating to physical activity participation provided quantitative information about the attendance history of the health and fitness facility users, as well as qualitative information regarding their reasons for selecting the particular facility and their primary reason for attendance (Appendix 3).

The frequency, duration and physical activities performed by the survey respondents at the facility were recorded to provide information about the respondents' physical activity habits. The respondents were then asked to estimate how often they attended the facility per week and how much time they spent in physical activity per visit. The respondents were also asked to identify the range of physical activities they performed at the facility.

To ascertain the degree to which the respondents were physically active, a question was asked about the length of time the respondents spent in physical activity outside of the facility. This provided some insight into the role and importance of the facility to the respondent.

Respondents were asked whether or not they practiced any physical activity safety measures when engaging in physical activity at the facility. The term 'safety measure' was defined in the

survey in an effort to clarify the meaning (for respondents) the researchers placed on this activity. The responses provided for physical activity safety measures were used to investigate the association between attitudes and behaviours, i.e. whether respondents' attitudes towards safety and injury prevention were reflected in their behaviours.

A key issue in the section on respondents' knowledge and awareness of safety at the facility was determining the influence of safety and injury prevention promotion on the respondents and their awareness of it in the facility. The survey probed for the level to which injury prevention was perceived by respondents to be promoted. Questions relating to the respondents' knowledge of injury prevention promotion, staff qualifications, health policies and practices, and injury occurrence at the facility were asked, and the responses collected indicated the degree to which injury prevention promotion influenced respondents' attitudes and behaviours.

Respondents were asked to report their self-reported history of injury at that facility. This provided a background description of injury occurrence within the facility. A twelve-month recall period was stipulated. This information should be interpreted with caution, however, as it is likely to be subject to recall bias.

For the purposes of clarity, a definition of physical activity injury was given prior to the commencement of injury history questions. The definition of injury adopted in this study, was "any unintentional damage to the body resulting from participation in physical activity with one or more of the following consequences:

- a reduction in the amount or level of physical activity and/or
- a need for advice or treatment and/or
- adverse economic or social effects"

Respondents were asked how likely they were to participate in physical activity with an existing injury; whether they would stop an activity if they sustained an injury; and whether an injury would deter them from ever participating in physical activity again.

Respondents' attitudes towards injury and their perception of the role and responsibility of the facility in the event of an injury were examined. Another question concerned the respondents' use of any practices to prevent further aggravation of their injury. The aim of this question was to probe the respondents' knowledge of injury and injury rehabilitation.

To examine the respondents' general attitudes and beliefs towards safety and injury prevention, statements regarding safety, risk of injury and injury responsibility were posed. These statements were constructed from previously validated surveys and the responses based on a 5 point Likert scale for analysis. The responses ranged from strongly agree, agree, uncertain, disagree to strongly disagree. The leading statement in this section addressed safety as an important aspect of physical activity participation, and was used as a benchmark to compare the responses from the remaining statements. The responses from respondents who marked strongly agree or agree with the initial statement, and then later provided conflicting responses with the other statements indicated a discrepancy between attitude and practice.

It is believed that sustaining an injury can influence a person's attitude towards safety. In order to examine this possibility, a number of statements regarding safety and injury were incorporated. It is likely that the responses from a participant who had experienced injury at their facility would

differ to that of a participant who has never been injured at their facility. Other questions focused on safety and the responsibility of injury prevention in a physical activity setting. These statements were included to evaluate the value that the respondent placed upon their safety, while seeking to identify the respondents' views about ownership of injury prevention.

To assess the respondents' perception of risk of injury at a health and fitness facility, several statements about the respondents' experiences and opinions of the safety standards of the facility were posed. The information provided by these statements gave rise to respondents' expectations of safety at a health and fitness facility.

Respondent demographic data, such as gender, date of birth, highest level of education, current occupation and postcode of usual residence was also collected. This information was used to form a profile of each of the respondents, as well as a profile of the generalised group of respondents of each facility. This enabled comparisons to be made from one health and fitness facility population to another.

The user survey was piloted in order to determine length of time for completion, and clarity of questions. Regular users of health and fitness facilities, and sports injury prevention researchers, known personally to the research team, assisted to provide feedback about the survey prior to its inception.

### **3.3.3 Data analysis**

Survey responses were all pre-coded before entry into a database. All responses given in an 'other' category or as an extended response were examined in detail and specific codes assigned to them. In order to analyse the length of time respondents had been attending the facility, a box for 'months' and a box for 'years' was provided in the survey. A number of respondents reported attending the facility for less than a month. These responses were assigned a new code and the time scale adjusted to include these respondents. The range for attendance duration was increased from 1 – 240 months to 0.5 – 240 months.

The questions examining the respondents' attitudes, knowledge and beliefs about injury prevention and safety were scaled on a 5 point Likert scale. On a range from 1 to 5, 'strongly agree' was assigned the value of '1' and 'strongly disagree' was assigned a value of '5'. In order to analyse and interpret the attitudinal questions, percentages were calculated for each of the responses. The responses were grouped and presented as 'strongly agree', 'agree', 'uncertain', 'disagree' or 'strongly disagree' in the results for ease of interpretation. Any unanswered questions were regarded as missing data and assigned a negative value.

Once the data coding was completed, it was sent to a data entry firm for double entry. Any discrepancies in the data were checked against the relevant survey and modified accordingly. It was then entered into an SPSS (Statistical Package for the Social Sciences) v11.0 database. Once data cleaning was completed, frequencies and range checks were performed in order to identify any missing data.

Continuous data was analysed by descriptive statistics and presented as mean, median and range or 95% confidence intervals (95%CI). Categorical data was presented with 95%CI and chi-square analysis performed to determine any significant associations between gender, physical participation, injury occurrence and injury prevention practices.

## CHAPTER 4 CONTEXT OF THE SAMPLED FACILITIES

In order to provide a descriptive context for the study, some basic information about facility demographics was collected from all four facilities. The four facilities participating in this study were selected on the basis that they met certain criteria, one of the elements being that they each offered aquatic, gym, group fitness and multipurpose programs to their users. Rather than select facilities that offered only some of these physical activity programs, it was agreed by the researchers that the facilities who managed all of the aforementioned activities would have a wider point of view than facilities who managed only some of the activities.

It was important to know the basic demographic profile of each facility, in order to make detailed comparisons between them, such as the number of people who used the facility, whether or not the facility was accredited or insured, and the number of staff employed at the facility. Each of these demographic details were thought to be important to build a 'perspective' from which answers to key informant questions and survey respondents could then be analysed.

### 4.1 RANGE OF PHYSICAL ACTIVITIES OFFERED

Health and fitness facilities were invited to participate in this study according to the range of physical activity programs they offered their users: namely wet area, dry area and recreational activities (Table 4).

A distinction was made between 'Children's' and 'Recreational Play Areas' to better describe activities undertaken within the wet area of the facility:

- **children's play area** - a shallow-water play area, often separate from the main pool area, appropriate for recreational play of small children and babies (sometimes called a 'toddlers' pool').
- **recreational play area** - usually a section of the main pool area, often cordoned off by a lane rope, appropriate for recreational play of older children and adults. This area generally does not permit lap swimming.

The above definitions used the descriptive language commonly employed by Facility Managers to identify these areas of aquatics management. The definitions of 'organised' and 'unstructured' sports and 'recreational' games used for the purposes of this study were:

- **organised sports** – sports administered by either the facility management team, or a local sporting club. Registration to play is often a requirement of participants, and competition between teams is a feature of these sports.
- **unstructured sports** – sports that are accommodated by the facility (often the same as the organised sports available at the facility), but that do not require official registration to play. An example of this is a basketball court available to casual users to play basketball with one another, without having to formally register a team.
- **recreational play** – open space that allows for spontaneous recreational pursuits that may be physically active or passive. An example of this is a grassed area that accommodates people sitting in the sun reading a book, or people playing games with their children.

**Table 4: Range of physical activity programs at participating facilities**

Physical Activity Programs Offered	Metro	Regional	Rural 1	Rural 2
<b>DRY AREA PROGRAMS</b>				
Gymnasium	✓	✓	✓	✓
Group Fitness Classes	✓	✓	✓	✓
Personal Training	✓	✓	✓	x
<b>WET AREA PROGRAMS</b>				
Learn to Swim	✓	✓	✓	✓
Lap Swimming	✓	✓	✓	✓
Aqua Aerobics	✓	✓	x	✓
Hydrotherapy	✓	✓	✓	x
Children's Play Area	✓	✓	✓	✓
Recreational Play Area	✓	✓	✓	✓
<b>GAMES (INDOOR / OUTDOOR)</b>				
Organised Sports (Individual)	x	✓	x	✓
Organised Sports (Team)	x	x	✓	✓
Unstructured Sports (Individual)	x	✓	✓	✓
Unstructured Sports (Team)	x	✓	✓	✓
Recreational Play (Individual)	✓	✓	✓	✓
Recreational Play (Group)	✓	✓	✓	✓

✓ = provided; x = not provided

The Metropolitan facility (M) did not provide structured or unstructured sporting programs for users because it did not have a 'sports hall' area, or outdoor courts in which to conduct these programs. However, this facility did have an outdoor pool surrounded by grassed areas where users could partake in recreational play.

The Regional (R) facility did not provide for organised team sports, but did provide for organised individual sports such as gymnastics.

Rural 1 (R1) facility did not provide aqua aerobics classes for users. They did however provide all other aquatic programs identified by the researchers. Organised individual sports were also not a feature, however organised team sports were.

Rural 2 (R2) facility did not provide personal training services, or hydrotherapy programs to their users, but did provide for all other physical activity programs identified by the researchers.

It is important to note the local context of certain physical activity programs. Some physical activity programs may not have been provided to users due to structural limitations, i.e. this feature was not part of the structure of the facility, such as a basketball stadium. However, some programs may not have been provided as a reflection of poor local demand for these programs, or lack of adequate skills and qualifications of staff required conducting these programs.

## 4.2 PROFILE OF THE FACILITY MANAGERS

Facility Managers were asked whether or not they assumed any other positions within the facility in addition to their Facility Manager role. The Metropolitan and the Rural 1 Facility Managers did not, i.e. their only role was that of Facility Manager. The Facility Managers of the Regional and Rural 2 facilities assumed 2 other roles (Table 5):

**Table 5: Additional duties assumed by Facility Managers**

<b>Facility Manager</b>	<b>Additional duties assumed within facility</b>
Regional	OHS Officer Duty Manager
Rural 2	Wet Area Programs Coordinator OHS Officer

Facility Managers were asked to estimate the length of time they had been with their current employer, and their total amount of experience in similar positions (Table 6).

**Table 6: Length of time with current employer and total experience of Facility Managers**

<b>Experience</b>	<b>Metro</b>	<b>Regional</b>	<b>Rural 1</b>	<b>Rural 2</b>
Length of time in employment with current employer	0-6 mths	3-5 yrs	11+ yrs	1-3 yrs
Total amount of experience in this and similar positions	5-7 yrs	No response	11+ yrs	1-3 yrs

The Metropolitan and Rural 2 Facility Managers held university degrees as their highest level of education with respect to injury prevention, both having had completed a Bachelor of Applied Science (Physical Education). These Facility Managers completed these degrees 5-7 and 7-9 years ago, respectively, and indicated that there was no requirement to periodically update their level of education and training in injury prevention.

The Regional and Rural 1 Facility Managers held TAFE and other qualifications as their highest level of education with respect to injury prevention, and included:

- Level 2 First Aid (Regional Facility Manager)
- Risk Management training (local government)
- Risk Management training (internal company training provided by employer)
- Fitness Instructor (Rural 1 Facility Manager).

The Regional and Rural 1 Facility Managers both stated that there was a requirement to periodically update their level of education and training with respect to injury prevention, and that the timeframe for these updates was 6 months to less than 1 year.

### **4.3 INSURANCE AND ACCREDITATION**

Facility Managers reported that all four facilities participating in this study were insured. The type and level of insurance was further explored (Table 7).

Given that all of the Facility Managers held the same responsibility within their facility, i.e. to manage the overall business operations of the facility, similar answers would have been anticipated to the responses relating to type and level of insurance. A range of responses relating to type of insurance were collected and a number of questions were left unanswered by Facility Managers. The responses to the survey were collected quantitatively. When these responses were probed during the qualitative interviews, Facility Managers said that they provided no response, or 'not applicable' as their response because they a) did not know the answer to the question, or b) did not feel the 'need to know' this information, for their position, e.g. they felt there was a 'need to know' that the facility was insured, but not the actual dollar level of insurance. This level of detail was thought to be more relevant to Council or Head Office Risk Managers instead of Facility Managers.

The Facility Manager of Rural 2 facility was the only manager who was personally accredited, registered with or a member of a professional association (Royal Life Saving Society). The remaining three Facility Managers were not members of a professional association.

Rural 2 facility was the only facility that was accredited, registered with or a member of a professional association (member of Fitness Victoria and Royal Life Saving Society). The remaining three facilities were not members of any professional associations; however the Facility Manager of Rural 1 facility indicated that it was facility policy to pay for individual staff memberships to such professional associations. While this policy was highlighted by the Facility Manager, the Facility Manager was not a member of any professional association as an individual.

The importance of this information pertains to the distribution channels for injury prevention continuing education for Facility Managers. Where a manager or a facility is a member of a professional association, there is a clearly defined pathway (through a continuing education program) for distributing new research information to update the practices of those 'in the field'. However, where a manager or a facility is not a member of a professional association, research findings need to be distributed through more creative channels, as these continuing education pathways are less defined. Attention needs to be given to how best to update Facility Managers that are not members of any professional associations with the latest information in order to adopt injury prevention best practices at their facility.

### **4.4 FACILITY USER PROFILE**

The total approximate number of adults (aged over 18 years) utilising the facility over the last 12 months amounted to more than 10,000 people at each facility. The facility demographics survey instrument did not ask for the actual number of casual users who utilised the facility over the last 12 months, but gave a range of options with the highest number being 'more than 10,000'. The total number, of casual users (i.e. users utilising the facility on a once-off, or a sporadic basis, paying for patronage only at their time of usage) approximated by Facility Managers based on their knowledge of the facility's turnover, amounted to more than 10,000 people at each facility. The approximate peak number of memberships (i.e. users purchasing an on-going commitment to the

facility) is shown in Table 8 below. The highest peak membership number was recorded at the Metropolitan and the Regional facilities, although the Metropolitan and Rural 2 facilities had been open to the public less than 2 years and the Regional and Rural 1 facilities open to the public for over 2 years.

**Table 7: Types and levels of facility insurance**

<b>Facility</b>	<b>Type of insurance</b>	<b>Level of insurance</b>
<b>FACILITY INSURANCE</b>		
Metro	Public liability	Unsure of value
Regional	Council responsibility	\$5 – less than 10 million
Rural 1	Public liability	No response
Rural 2	Public liability	\$15 – less than 20 million
<b>INSURANCE RELATING TO STAFF</b>		
Metro	Council policy	No response
Regional	Professional indemnity	\$5 – less than 10 million
Rural 1	WorkCover and OHS (Local Government)	No response
Rural 2	Professional indemnity	\$5 – less than 10 million
<b>INSURANCE RELATING TO VOLUNTEERS (if applicable)</b>		
Metro	Council policy	No response
Regional	Volunteer workers disability	\$0 – less than 1 million
Rural 1	WorkCover and OHS (Local Government)	No response
Rural 2	Not applicable	No response
<b>INSURANCE RELATING TO PATRONS</b>		
Metro	Council policy	No response
Regional	Public liability	\$0 – less than 1 million
Rural 1	Public liability	No response
Rural 2	Not applicable	Not applicable

The ‘capacity’ of each facility was not analysed in this study, although it may have been interesting to know the level at which facilities were operating relative to their capacity to operate.

**Table 8: Approximate peak number of members at facilities over the last 12 months**

<b>Facility</b>	<b>Approximate peak membership number (last 12 months)</b>
Metropolitan	2,000 – less than 5,000
Regional	5,000 – less than 10,000
Rural 1	800 – less than 1,000
Rural 2	400 – less than 600

Facility Managers provided an estimated age-group breakdown of the users utilising their facilities (Table 9). The total percentage breakdown of age groups from the Metropolitan facility did not equate to 100 per cent. It was assumed that this was a calculation error on the part of the facility manager, rather than attributing 1 per cent of estimation of user age groups into the 'don't know' category.

**Table 9: Age distribution of facility users**

<b>Age group of facility users (years)</b>	<b>Metro (%)</b>	<b>Regional (%)</b>	<b>Rural 1 (%)</b>	<b>Rural 2 (%)</b>
18 and under	20	40	30	20
19-30	20	20	10	30
31-40	25	20	10	20
41-50	15	10	10	10
51-60	10	5	20	10
61-70	7	4	10	5
70+	2	1	10	5
Total	99%	100%	100%	100%

The highest percentage of users (25%) attending the Metropolitan facility were aged between 31-40 years, and the lowest (2%) overall users of the facility were aged 70+. The Regional facility catered for a younger demographic, with the highest percentage of users (40%) attending aged 18 and under. Similarly, the highest proportion of users (30%) at Regional 1 facility were 18 and under. However, the lowest percentage (1%) at the Regional facility came from the 70+ age group, while the lowest percentages of age groups from the Rural 1 facility were evenly estimated (10%) amongst 19-30, 31-40, 41-50, 61-70 and 70+ year-olds. The highest proportion (30%) of users utilising Rural 2 facility were aged 19-30, with the lowest proportion (5%) estimated to be amongst 61-70 and 70+ year-olds.

#### **4.5 EMPLOYED STAFF**

Both the Metropolitan and the Regional facilities employed more than 95 staff. The Regional 1 facility employed between 30 and 35, and the Regional 2 facility employed between 25 and 30 staff (Table 10).

The only Facility Manager who identified any volunteers or parents as playing a part in the operations of the facility was the Regional Facility Manager. This Facility Manager estimated that between 15 and 20 volunteers played a part in operations per week, performing the following functions:

- program assistants
- work experience
- fieldwork students
- board members

- gardening and maintenance.

**Table 10: Number of staff employed at facilities and capacity of employment**

<b>Staff</b>	<b>Metro</b>	<b>Regional</b>	<b>Rural 1</b>	<b>Rural 2</b>
Total number of staff employed	95+	95+	30-35	25-30
Number of staff in 'senior management' positions	5	4	1	1
Full-time capacity				
Part-time capacity	5	2	1	1
Casual capacity	0	2	0	0
	0	0	0	0
Number of staff in 'middle management or coordinator' positions	8	10	2	4
Full-time capacity	7	10	0	2
Part-time capacity	1	0	2	2
Casual capacity	0	0	0	0
Number of staff in 'program staff' positions	55+	55+	10	15
Full-time capacity				
Part-time capacity	6	12	0	0
Casual capacity	0	4	3	0
	120	90	7	15

# CHAPTER 5 KEY INFORMANT INTERVIEWS

## 5.1 INTRODUCTION

This section explores the findings of the key informant interviews with senior staff within the four facilities. The interviews focused on both knowledge and perceptions of these people in respect to physical activity injury prevention and safety. Policies and practices within facilities were considered, as was the role of staff, the perspectives of users, the experiences of the people being interviewed, the broader connections between the facility and the community and any other issue of relevance. As outlined in the methods section, the interview data has been thematically analysed and the findings are presented in the following sequence:

- policies and practices within facilities
- the mechanisms for providing training to staff and users in respect to injury prevention
- requirements for compliance
- perceptions of the attitudes of users towards injury prevention and safety
- the significance of the facility in the broader community
- barriers to safe physical activity participation.

We have also observed, or commented on, trends and gaps which are obvious within the interview data. The term 'user' is used throughout this report to describe the people who are mentioned in key informant interviews as those who are 'clients' or 'patrons' of the facilities. There is a strong indication that despite key informants using a generic term to refer to users of their facilities, they were often describing different groups of people all with different needs, expectations and experiences of the facility, its staff, of physical activity.

In broad terms, interview data indicates that the users of the facilities surveyed consist of 3 main groups:

- **casual users:** these include people who visit the facility or centre occasionally to use some of the facilities such as the swimming pool or the gym. They are typically irregular in their use of the facilities, are not formal members of it and fall outside the training and education programs offered by the facilities. This group would primarily experience the staff as supervisors overseeing their activities and as gatekeepers of the facilities. Some key informants differentiated this group from other users by referring to them as 'the general public.'
- **members or regular users of the facilities:** these include people who have formally joined the facility and pay a fee expecting to use the facilities on an ongoing and long-term basis. These users enroll in programs and are often subjected to fitness assessments and work with staff to develop a specialised personal fitness program which is monitored over time. Their experience of the staff is one of educator, advisor, trained professional and supervisor of their personal goal. Specialist programs are often organised for this group of users.
- **users with specialist needs:** these people attend the facility because they have been referred to it by their doctor or by a specialist health care provider. They may be suffering from a health-related problem which requires a specialist physical activity program (e.g. diabetic or CHD exercise regime), may be in temporary rehabilitation because of an injury or weakness

(e.g. a car or sports injury sufferer or elderly falls prevention group), or may be needing specialist support at a particular time of life such as pre- or post-natally. This collective group experiences the facility as providing specialist, flexible, care-linked interventions under the supervision of trained staff.

Clearly the experiences of each user group vary, as does the level of support provided and their attitudes to, and expectations of, the facility and its staff and practices.

## 5.2 POLICIES AND PROCEDURES

### 5.2.1 Current trends

All key informants stated that they believe physical activity injury prevention to be either important or the top priority for their facility.

*It comes (down) to safety. Safety is the number one concern for any facility management team (KI3).*

They were asked to rate the importance of injury prevention at their facility on a scale from 0 - not important to 10 - extremely important. Their responses ranged between 8.5 and 10, with an average rating of 9.4. This indicates that injury prevention is viewed as critical for facilities.

It is clear from the responses that the prevention of physical activity injuries is seen as complex and multifactorial, and that each layer or activity is significant to the overall success the facility will have in respect to safety and injury prevention.

*We try to give patrons a certain quality of life. They may come to us inactive, so we basically want to make them active and we want to prevent injury at the same time (KI6).*

*They come in here to participate in physical activity, and if we're not providing safety for them, they're not going to come back for a start." (KI9)*

Key informants identified that the risk of injury was a concern for three main groups: the owner/local council or shire; the staff employed at the facility; and, users of the facility. It was also clear from responses received that physical activity injury prevention is critical from the perspective of business viability and the facility's business objectives.

*It's very important quite simply from a commercial point of view. We can't sell memberships if we don't provide a safe service. ... Because it's such a litigious society, we need to be extremely cautious about what we're prescribing. ... We need to obviously ensure that that's in line with current trends and facility knowledge, just to ensure that the services we provide are safe. We would go under if we weren't doing so." (KI10)*

Key informants cited a number of resources that influence their injury prevention policies. By resources they are referring to items that influence policies and practice and provide a benchmark against which their actions can be judged. These include:

- codes of practice - industry-accepted standards for conducting health and fitness facility operations
- world standards – authoritative world-wide recommendations or guidelines that steer operations
- boards of management – committees that provide direction to facility management teams
- OHS committees – where physical activity injury prevention issues meet occupational health and safety issues, such as manual handling and structural building safety
- licensing operations agreements from state bodies – the standards of practice outlined by Facility Managers in order to gain their license to operate the facility
- risk management departments within local governments or councils
- facility operations manuals – the specific methods by which the facility is operated on a day-to-day basis.

Another factor identified as influencing facility policies is the fluidity of management. One facility noted that despite being taken over they are still in the process of integrating the policies and procedures utilised by the former management team with those of the management team.

The key informants who held middle management or coordinator positions within their facility were generally the people who are personally responsible for developing policies or practices. Key informants who hold senior management positions, such as the Facility Manager role, are responsible for final approval of any new policies and procedures.

*The original thinking for policies within a particular business unit comes from coordinators - the people who are responsible for those areas. Ultimately the decision to implement those policies, to re-do them or whatever, comes from my level. Now in ... policy decisions with regards to safety and injury prevention from my level, it does happen but with a view to risk management. I look at exposures to public liability claims, to indemnity claims, so yes, a lot of decisions that come from my level are in regards to occupational health and safety, which is quite separate from this but is still very much intrinsically related (K110).*

All key informants were consistent in their beliefs about who was responsible for the ongoing maintenance of safe physical activity participation within their facilities. The belief is that everyone is responsible to some degree and in relation to their job-specific accountabilities and the activity in question.

*I think everyone's responsible - right from volunteer staff and casual staff members- right up to management and even the patrons themselves (K18).*

The importance of injury prevention was evident through policies and practices, but data does not provide any indication that these are clear and straightforward in any one facility let alone across the range of facilities studied. Each specific context has its own pressures and requirements. For instance:

*As far as this facility is concerned, and the way that council is structured, I strongly believe that our policies and procedures ... reflect industry standards and consumer expectations. ... A lot of the policies and procedures are there for*

*safety, ... and we try and use those procedures and policies to build the centre around them (KI3).*

Many examples were provided by key informants that demonstrate the types of injury prevention policies that exist in the facilities and these are operating at a range of levels from signage to the provision of lockers to suitably qualified staff and expert committees. Examples include:

*It might be in education, it might be an actual physical thing, i.e. a signage thing or awareness. It might be something related to the amount of staff we've assigned to different activities, the supervision requirements of what we consider to be acceptable. It may be actually restricting activity that we feel may lead to injury (KI1).*

*We have a policy on bags in the gym. It's the reason why we have lockers in the centre in order to keep the gym clear of trip hazards (KI2).*

*All our members who are active members of the gym, undergo self-reported health screening to identify any pre-existing ailments. Obviously as a result of that, we can make sure that we avoid any contraindicative exercise in their programs. We continually supervise the gym floor, so there's always somebody on the gym floor. And obviously we try to review the programs as regularly as we can – our policy lasts for ten weeks (KI10).*

Some key informants, however, were not easily able to identify injury prevention policies (as distinct from practices).

*Through policies? You mean written policies? We actually just have a verbal understanding through gym instructors (KI5.)*

As a manager of several business units within the facility, one key informant observed that there are differences in the regulation of policies and operations amongst business units across and within facilities, namely the crèche, the gymnasium and group fitness areas.

*I manage the gymnasium, exercise area and the crèche. For example, we have Children's Services Regulations and Guidelines set by those governing bodies, which helps, I think, enforce them. They're mandatory in the crèche. You must comply with certain standards otherwise you get your licence taken away from you or you get a non-compliance warning, and you get a certain period in order to comply. I suppose that's what's lacking in our industry, as in the health and fitness industry (KI2).*

Facility practices are the means by which the injury prevention policies are implemented and enforced within the daily operations of the facility.

Some key informants had difficulty articulating how the importance of injury prevention is demonstrated through their practices.

*It's difficult because it varies, depending on the policy. One way would be, I guess, documenting it as much as we can (in order to) implement the policies, but also the quality (KI1)*

Other key informants were clear and the range of injury prevention practices included:

- appropriate rostering of staff for adequate supervision of activity
- qualifications of staff, and on-going staff training
- staff communication and team meetings for providing updates
- staff task checklists for quality and feedback to management
- maintaining orderly facility hire bookings
- regular equipment audits by staff
- communication of facility standards and safety messages to patrons
- pre-participation screening to identify patrons at 'higher risk' of injury.

As with policies, key informants noted that each area of operation in the facility, including the gymnasium, the group fitness area, the swimming pool, and the multipurpose recreational area, utilised their own appropriate injury prevention practices. Interestingly, virtually all examples and comments related to the gym area.

The approach taken to managing physical activity safety measures was clearly team-based in one facility.

*We certainly see risk management as a clear responsibility for all staff, ... across all levels, which would be a high priority. We try and put that message out to all staff, that it's everyone's responsibility in terms of risk management. ... There's specific staff who have occupational health and safety as a key part of their duties, so they have even more responsibility (K17).*

### **5.2.2 Staff and user training in physical activity injury prevention**

Staff in facilities were described by key informants according to the nature of the function they fulfilled. They tend to fall into one of three different groups:

- program staff: those responsible for delivering exercise prescription programs
- management staff
- administrative staff.

It was clear from responses that key informants expect and assume that program staff will have completed injury prevention elements as part of their basic training prior to employment at the facility although there was no clear indication of certainty in their responses about the level or quality of that training. For instance:

*I guess we do assume to a certain extent that they've got that level of training through the qualifications that they've attained. We don't employ people who are not qualified to do what they're doing, so I guess there is a certain level of assumption there. We've got to assume they've been through the proper training (K110).*

Other ways in which injury prevention training for staff occurs within facilities includes:

- in-house workshops
- monthly 'injury updates' in commercially available magazines
- internal brochures.

The operations departments within the facility, and/or in local government were seen as a critical resource to support the work of the facility.

*We utilise our operations department. They can always give us advice on anything ... and if they don't have the answers (or) they don't have the materials, they'll find it." (KI2)*

Additionally, some key informants pointed out that the role of coordinators within the facility was to make sure that practices in their area of responsibility were enforced. This was seen as a means of on-going training for staff. Screening sheets are used in larger facilities to advise staff of a user's medical and physical activity history.

The adequacy of training and resources available to key informants was brought into question, and the regulation of standards amongst the health and fitness sector was highlighted as an area requiring improvement.

*That's where I suppose the fitness industry is ... not even guide(d). We don't even have guidelines, you know, like with medical clearances etc. We have policies in place because I want to enforce a safe environment, but if a member arks up and doesn't want to fill one in, then we get back from (industry bodies like) VicFit that it's not mandatory, its just recommended. It's very difficult (being a) manager of a department who only has recommendations and guidelines. What do you adopt and what don't you adopt? What do you have to adopt and what not? So I think there are some grey areas (KI2).*

Answers to the question about the education and training of those responsible for setting and revising physical activity safety measures within facilities varied. One key informant suggested that the responsible person in their facility had no training, while other key informants were unsure of the extent of the training and education of the person responsible. Some examples include:

*Basically the person responsible is myself, through my certificate 3 and 4 in fitness. We get taught basic injury prevention in the course, but it focuses on exercise techniques rather than anything else. Day to day techniques on exercise -I have gained experience that way. In other areas, I haven't got much experience (KI11).*

*Truthfully, probably not that high I suppose. Nothing at the university level or that sort of education level, although there may be people such as myself who have done a five day course in OHS. ... It's probably a lot of experience more than anything, or influences from someone as they train you. It's been passed on to you through the learning process I suppose (KI3).*

In respect to the users of the facilities, the information provided by key informants in all facilities indicates that whilst they provide specific physical activity injury prevention education and

instruction to individual users they did not and cannot provide general injury prevention training to all users. For instance, one key informant stated:

*Sort of 'specific' training. However, we don't train (patrons in) general practice(s). We don't go that far (KI1).*

Training of users is provided by facilities in the following main ways:

- **close supervision of activities.** The supervision of patrons, and the on-going services provided to them, were viewed as important opportunities for training and re-training of users.

*... then again close supervision. ... We're constantly revising and updating our knowledge of correct exercise techniques. If the patron is identified as doing an exercise incorrectly, it is attended to. ... Likewise when the programs are reviewed every eight to ten weeks, there's training or re-training provided to the patron (KI10).*

Member users of the facility are provided with this individualised training, casual users are not.

- **fitness appraisals.** During fitness appraisals users are taken through a fitness program and the staff member/instructor explains how to do the exercises and covers important issues of safety.
- **specialist programs.** One facility mentioned that they are initiating a program of additional training and education for users which has the potential to cover injury prevention information.
- **educational resources .** This area included any activity within the facility which seeks to promote safety, injury prevention and occupational health and safety related issues. This includes safety signage, verbal instruction and advice. For instance:

*Slippery area signage would be near our water fountains all the time (KI2).*

*For stretching, we have a stretching chart hanging on the wall (KI10).*

*We have posters, but that's about all we have really. It is a small gym with a small set-up. Word of mouth is a lot easier (KI11).*

Other resources identified were: the facility's operations manual which outlined policies and procedures; the facility's Operations Manager; fitness magazines. Some key informants highlighted that facility staff may go out of their way to source educational resources for patrons, but that these resources were not generally available.

The level of supervision required by different users in respect to injury prevention and safety was consistently reported by key informants. Responses were clearly linked to age. For example:

*I think our battle is more associated with younger people. ...We find that they require the most education, eg. no running on pool deck and that sort of thing (KI1).*

*Obviously somebody who works in a multi million dollar company is going to know about risks (and) is going to know about occupational health and safety, whereas a student may not even know (what) occupational health and safety is (KI2).*

The specific needs of each area of the facility played an important contribution as did the amount of information that needed to be conveyed. It is clear from responses that the older groups of users are exposed to safety messages in an ongoing way and in a group rather than in one block of time. Messages are also linked to the activities far more than as an overarching issue.

Some key informants felt that it was their responsibility to educate patrons about injury prevention through supervisory-type activities as well as through formal training. They mentioned that their job would be easier if they spent the time with users at the beginning of their membership and that this would:

*“prevent them from getting into bad habits” (KI2).*

### **5.2.3 Compliance issues**

All but one key informant stated that they believed that their facility is compliant with the legislative requirements. The level of awareness of the facility’s legal obligations under injury prevention legislation, however, varied considerably between facilities. This is worrying.

*As far as I’m aware, and I certainly hope so (KI8).*

The key informant who did not believe that the facility is compliant highlighted the dynamic nature of facility operations, and the difficulties faced by facility management teams in maintaining the currency of knowledge. They stated:

*Look, no because I believe that our industry is very dynamic in that it’s always evolving. It’s a relatively young industry and to keep in step is often quite difficult. Particularly in a centre like this. We’ve got a pool, a health club, a crèche, a sports hall. Potentially you’re lining up to a half a dozen organisations to provide you with information about changes to legislation and policy, and keeping in step with all those decisions is not always easy. As a result of that, at some time there is the potential for us, and I’m sure other centres to lag behind. Not because we’re negligent, it’s just a big job (KI10).*

Other key informants also acknowledged the size of the task that facilities, particularly small ones, have of keeping up-to-date with the legislation:

*We comply as close to what is required as possible. I suppose one of the difficulties I believe is just the amount of legislation that’s out there, and trying to stay abreast of any changes. There’s no doubt there’s just reams and reams of legislation that probably applies to our business. Obviously where we know there is legislation, we comply, but there may be areas we just can’t stay abreast of. It becomes difficult (KI7).*

Key informants were also asked to identify what resources and support they used to maintain their awareness of their facility’s legal obligations under injury prevention legislation. The different management models utilised at the facilities participating in this study showed that the awareness of legal obligations was not managed in a uniform way across all facilities – some relied on the Shire officers to support them others used legal advice or the company’s risk manager. Other

specific methods of gaining awareness about legal obligations or risk management issues included:

- the facility's insurance policy. (The risk management expectations of the facility's insurer were articulated in the facility's insurance policy.)
- internal training provided by their employer
- previous personal experiences of staff
- staff meetings and seating on specialist committees
- self-directed learning
- specialist contractors.

Key informants referred to legislation and Australian standards as a basis for decision-making, but there was acknowledgement that assistance is needed from external sources in order to stay well-informed. For facilities that are not council-operated, resources are made available from their head office or via a web-based directory. Key informants at regional and rural facilities cited using internet-based resources, the library, and sharing communication with other facilities, whereas key informants at metropolitan facilities did not.

Within some areas of operations, particularly the management of gym and group fitness areas, key informants universally reported a gap in appropriate guidance available to assist them to comply with legislation, or identify safe standards of operation. For instance, a helpful example provided by one key informant included:

*In the health and fitness side, there's very little guidance to assist with compliance to standards, other than what the basic qualification for employment should be, and there's been some dispute over this issue. ...Examples include safety of equipment layout, suitability of equipment, use of equipment, policies on how we deal with a suspected case of anorexia. There are risks and there's very little guidance in the industry about how we manage through some of those issues, so basically it's left to the staff and the management at the facility to set their own standards. ... In terms of operations support and guidance, I don't think there's much at all. There is guidance in terms of doing a bench press and that sort of thing, but I don't know if it gives a great deal of guidance in regards to OHS or just in injury prevention in general (KI1).*

A comparison was made between the range and types of support provided to key informants in different areas of facility operations, in order to highlight management resource needs. Key informants were able to identify one regulatory body to which they could refer for guidance on issue resolution in the childcare industry. In comparison, key informants described having to contact a number of industry and association bodies to seek guidance about addressing health and fitness safety issues, and expressed dissatisfaction in the level of guidance and resources available to assist them with their injury prevention management tasks.

*Like I said, the fitness industry isn't like the childcare industry. With the crèche, you've got the Children's Regulations, you need to comply. If you don't, you get shut down. If there's a change in the regulation, the publication changes every couple of years. You get a new copy of the regulation. You need to then be*

*assessed to make sure that you comply with all the regulations and if not you get shut down for a while until you comply. Now that doesn't happen in the health and fitness industry. I don't get VicFit knocking on my door, as I do the Department of Human Services knocking on my door for the crèche saying "OK, this is the legislation about medical clearances, this is the legislation on how far treadmills have to be from one another, this is the legislation for how many weights can go on a weight tree stack". I don't have that level of information. I can certainly use them as resources, and I have asked for them, but they are reluctant to say "that is legislation". They just always roll out words like "this is what we recommend, this is a guideline, it's not law" (K12).*

Managing facility operations without ready access to accepted standards, or regulation, or legislation was viewed as problematic, and open to confusion, error and potential decreases in facility safety standards. Privacy legislation was seen to protect patrons from having to disclose any personal information. The gap in accepted facility standards being available to Facility Managers as the framework for enforcement of injury prevention policies and procedures at facility level was seen as counterproductive to managers' safety intent.

*So that's when it's really (easy) for a (patron) to, for example, compete or argue with me why they feel they shouldn't provide me with a medical clearance, that's when it's very difficult because I don't have a backup. So you know, you try and push things like, "it's in your best interest, it's in your best safety. This has been recommended by VicFit that everyone over the age of 45 needs a medical clearance because you've got your increased risk of heart disease etc". And then they wonder where's the policy on it. And then you give them the policy but what backs this up? The privacy policy backs them up saying that they don't need to provide that type of information. So it is very difficult from that point of view to be able to enforce your own policies that you've got in place at the centre because there's no governing body to back you up. Whereas in Department of Human Services, it's like OK, this is the policy on feeding and nappy changing and it is enforced with the parents. And yes, it is a centre policy but it's legislation so the parents can't really say much about it anymore because it's final and that's law (K12).*

The main strategies used by facility staff to stay abreast of new knowledge in physical activity injury prevention include:

- workshops
- industry seminars
- participation in specific courses, such as continuing education courses in rehabilitation
- information distributed by the unions
- directives from governing bodies, such as changes to qualification standards in lifeguarding
- risk management officers from local government councils or shires
- brochures and reading material sent by companies marketing continuing education courses
- accountability activities of department coordinators to actively seek out information relating to their area of responsibility

- operations manuals
- participating in meetings, such as OHS meetings
- subscription to periodicals and magazines
- Internet searches, particularly the American Sports Medicine sites.

One Key Informant expressed the view that this type of information was made available to Facility Managers reactively, rather than proactively. This individual perceived there to be a low frequency and quantity of updates to knowledge in the field of physical activity injury prevention.

At the facility that had recently transferred its operations from a management company to council operated, one key informant provided an interesting perspective. They felt that that the currency of knowledge in that facility management team had been compromised because the local government was not seen as specialising in health and fitness facility management. Access to new knowledge in this field, by virtue of the council not actively participating in industry forums to the same degree that a facility management company would participate, was viewed as diminished.

In the aquatics area, the Royal Life Saving Society was identified as providing both a voluntary industry standard that articulates safety standards, and a regular auditing mechanism which provides feedback to Facility Managers to improve their operational compliance.

### **5.3 FACILITY USERS' ATTITUDES TOWARDS PHYSICAL ACTIVITY SAFETY**

In order more fully to appreciate injury prevention decision-making and normal operations of each facility, key informants were asked their perceptions of the safety attitudes and knowledge of users of the facility. These questions sought to gain insights into common-place behaviours, attitudes and practices that may not necessarily be documented through the formal policies and procedures of the facility.

Key informants were asked to comment on the attitudes of users to safety. All key informants agreed that there is a *general* awareness of the issues relating to physical activity safety amongst users but that this is not consistent as there is an enormous diversity in attitudes and behaviours. Word such as '*awareness*', '*they think about it*', and '*it may not be at the forefront of their minds*' best reflect the views of key informants about the level of interest or concern. The emphasis is clearly linked to the focus of the individual and why they are at the facility.

All key informants held middle or senior management positions within the facilities and all were in agreement that facility management and staff display a consistent and serious attitude towards safety and injury prevention. The view is summed up in the following quote:

*Well, we have a duty of care to patrons, so it's important that the staff take it seriously, and I enforce that they do. I can guarantee that they don't look at it as something of a non-issue. It's certainly a serious issue (KI2).*

There is little consistency of opinion on users' attitudes towards physical activity injuries. There is acknowledgement that the facility's demographic profile results in a range of attitudes to safety, for instance:

*"Whose attitude? What age group?" (KI5).*

Some key informants found it difficult to provide a comment, stating that the age demographic of users in their facility is too large a range to generalise.

Similarly, whether or not patrons view safety as a serious issue for themselves or for other users, or view it as a natural part of physical activity participation, received a range of responses. Some key informants were uncertain, whilst others were more definitive. Some key informant responses showed, through the language they used, (shown as underlines in the quotes) that they clearly had little idea about users' attitudes but hoped that it was important to them, for instance:

*I hope they wouldn't treat it as a natural part of participation (KI9).*

*I suppose it's an individual choice as to how seriously they take their own safety. I would think most people certainly want to be able to use the facility and ensure that it's a safe environment and they take precautions to ensure their own safety as well (KI7).*

*I think they are aware of it. But again, to your casual or public user, (they are) no more (aware) than they are going into a shopping centre, they deem it acceptable (K11).*

This is contrasted by a more definite position taken by other key informants, including,:

*Patrons take it extremely seriously, definitely (KI11).*

*We do get some people through who are really big on safety. They'll be the first to let us know if something is wrong, which is great. It brings our attention to potentially hazardous activity. However there are some patrons that come through as well who are the first to be running around and doing something that could cause a lot of harm (KI3).*

An important point raised by one key informant was that if patrons did not view participation safety seriously, then a high level of incidence of injuries would be evident within facilities. In support of this, another key informant estimated that only 10% of users engaged in exercise at a level beyond what had been safely recommended to them by qualified instructors. The role of staff in ensuring safety was identified as critical.

*I don't think they (the users) would (care), other than their own safety. They probably just rely on our staff to be qualified and know what they are doing." (KI9)*

On the whole, maturity, age and individual injury risk profile were identified as having an influence on whether or not users view safety as a serious issue. Key informants identified particular user groups which display safety practices and show concern for safety, injury and injury prevention, including the following groups: those who have been injured; those who have a predisposing medical concern/condition; females; and older adults. In respect to users who have been injured, the following quote is indicative of the type of responses received:

*They treat it (injury) seriously. They might say, "I'm not going to push myself too much you know, I'm conscious of this (injury) so I don't want to make it worse" (KI11).*

Experience and age were consistently identified as important factors. Although the older adult demographic is viewed as more safety conscious, the user's level of experience is perceived as influential in their safety attitudes and/or their behaviour.

*Generally all my older clientele that come through have a positive safety attitude. That's generally what they're here for, the risk management. The group that comes through this afternoon, they're involved in the falls management group (KI5).*

Groups identified as likely to take safety and injury prevention less seriously are young men and young women. For instance, for young men:

*If they do hurt themselves, they see it as a bit of a macho image (KI5).*

*Some people say, "oh well, I do football. Of course I'm going to get hurt." So some are very casual about it (KI3).*

One key informant suggested that the practices of teenage girls during physical activity participation might predispose them to injury, even though they did not necessarily disregard injury as a serious issue. Due to body image concerns, some teenage girls have been seen to deliberately alter their body mechanics during physical activity to draw attention (or not) to the changing dimensions of their body.

*We do have a group of young girls who are very body conscious. They tend to do things incorrectly so as not to draw attention to themselves. They probably don't realise it's a risk to do so (KI5).*

There was no consistent view in respect to parents bringing their children to facilities. Some key informants noted that parents and teachers play a crucial role in raising awareness and developing appropriate attitudes whilst others clearly see parents as potentially a problem. One key informant cited the fact that often in the pool area staff are seen by parents to be the equivalent of babysitters for their children and in the event that a children may act inappropriately or unsafely and the staff member requests the parents to intervene, they can be very unsupportive of the staff member and show little concern for safety. Parents are very influential in terms of the long-term decision making about safety and this can be problematic if a child does not want to participate. Pushy parents with injured children were cited as an example of a potential problem for facility staff and they can be the cause of children failing to participate in physical activity in the long term.

Common sense is not widely regarded by key informants as a factor that will influence users' attitudes to safety or act as a dependable preventive measure for physical activity injuries. For instance, "*One man dived into a 0.6 metre pool, anyone else would have thought it was common sense*" (KI6). One key informant was unclear how much credence could be attributed to common sense or how much is the impact of the actions of the facility and staff. He stated:

*I don't know - what they deem to be common sense or how much of that is the education we've provided to them through our signage or lifeguards speaking to them or instructors telling them they should warm up prior to an exercise (KI1)*

Factors identified by key informants that influence the level of awareness or concern for safety and injury prevention by users include:

- the level of awareness displayed by staff or previous physical activity personnel they have encountered: An experience with a trainer or other sport or physical activity ‘professional’ may have negatively impacted upon attitudes to safety and a user’s knowledge about injury. For instance, one key informant described the impact of previous sports training on the expectations of males involved in physical activity as,

*Those who have been involved in football or some sort of sport where they’ve had the instruction of trainers who believe that if you can do 100 push ups and 100 sit ups, you’re the man for the team. They forget that they’re going to have long term injuries from doing full sit ups. (K15).*

Most key informants commented on the fact that most male users’ knowledge of injury prevention has been derived from football “... in general the only thing they learn ... they’ve learnt in football – and 9 times out of 10 that’s wrong - the old knee squats and things like that - things have changed but in a general rule, that’s the only education they’ve ever had in preventing injury (K14).

- the ‘tone’ or culture of the facility: the safety culture of the facility itself was acknowledged as being influential in shaping users’ safety attitudes and behaviours.
- personal characteristics of users: personal work background, educational background, and the education, training and support provided by the facility staff were raised as having an important influence on an individual’s level of knowledge about general safety and physical activity safety resources.

*From our membership base, 20-30% would have some concept of how to prevent injuries, what measures to take in terms of equipment and safety measures they can take to prevent injury. But largely they perceive that it is our job (K110).*

Predisposition to injury prevention on the part of individual is seen as a crucial influencer. For instance, “ young men between the ages of 15 and 21 are probably the hardest group to educate because they know it all” (K15).

Additionally, the amount of time an individual has to commit to their participation in physical activity will impact upon their attitude to safety.

- media: key informants identified external influences such as health and fitness articles in newspapers as being important influencers.
- eagerness to get fit: as one key informant stated “You give them a program, show them how to do it and they go too hard at it too soon, looking for results too quick(ly). These patrons cause themselves injury, and you don’t see them back here anymore ... it’s a common thing.” (K14)

In terms of the extent to which users select facilities based on safety policies and procedures, some key informants believe that they are a high priority and thus very important in a user’s decision to select a facility. Others believed that different aspects of the facility and its programs, such as convenience, cost, location and quality, were more important. In the view of one key informant, the ‘image’ created by a range of factors all added weight to these considerations,

*I think it's a big factor. (Patrons) look (for) qualified staff, (and) the banner of the 'X' shire. You know, 'X' shire, they must be the local government and must have codes of practice. They must have policies. I suppose that's crucial (K14).*

Others again did not believe that the physical activity safety policies and procedures are a priority at all.

*I don't think it's a factor from the patrons' point of view. ... I don't even think they know what membership forms they're filling out half the time. And they probably don't even relate filling out a form with safety (K110).*

*I've never been asked about them. No one has ever queried about that. ... I don't think it's a big factor in (patrons choosing to use the facility), but it maybe in the background (K18).*

In terms of marketing of the facilities based on safety or injury prevention, one key informant expressed the view that it was not worth focusing on and would not be an important factor in most people's decision-making. Qualified staff available at the facility is seen as an imperative for providing support to all patrons, irrespective of the patrons' knowledge of safe participation in physical activity. For instance:

*A lot of the kids are used to jumping in the river and that sort of thing around here and sometimes they just have no knowledge of basic safety measures such as diving into the shallow end of the pool. They sort of take things for granted because there's a lifeguard up there who'll help me if something goes wrong (K111).*

The recent high profile of public liability issues and common sense were identified as two factors that shaped patrons' knowledge of physical activity safety strategies.

In respect to key informants' perceptions about users' knowledge of general safety and resources available to promote safe physical activity, key informants commented on how their knowledge tended to translate into routine actions to increase their own safety. They cited the following as examples: reporting of damaged equipment; the use of protective aids including eyewear; using plastic drinks bottles rather than glass; using a towel in the gym; showering before swimming; and drinking liquids to reduce the chances of dehydration.

*They're quite good actually. We have soccer, they wear knee pads. Netballers, wrist pads, goal posts. Hockey, they always wear protective equipment (K111).*

Reporting of potential safety risks was not limited to the interior of the facility. One facility cited the example of users' reporting the speed of cars in the car park as a potential problem for the facility and its users. Despite the number of examples given by key informants about safety practices, there is no sense of consistency in their views of how they are applied within the facilities. For instance,

*We do have squash courts and no, they don't wear protective eyewear. We have not put up any signs. That was an issue that was brought up just recently (K15).*

Most key informants had little idea whether their users had any formal training in physical activity safety. Several key informants suggested that some patrons might have had formal training as part of their work (this is evident particularly amongst users who are medically qualified) or through their sporting background. It was interesting that many key informants are clearly aware of users who are doctors as this group is highlighted but no other professional group is noted. The currency of the education or formal training that a user possesses was discussed with many key informants expressing concerns about outdated injury prevention knowledge and activities that are potentially harmful.

*When a member complains about something, then we know that the member has been educated in that area because they've worked in a department where they've had exposure to this type of information (KI2).*

In terms of communicating about physical activity injury prevention, key informants believed that questions about injury prevention are raised by both users and staff with staff generally contributing a greater proportion of this communication,:

*"if any patrons raised a question about safety, they would have to be prompted to do so"(KI10).*

A different viewpoint suggested that it is the patrons who raise most questions about physical activity safety:

*"probably the patrons, more so. They're the ones that are constantly using the facility, so if something's not quite right, they will ask" (KI8).*

One key informant said that the staff at their facility were very keen to share information with one another and that this was a crucial attribute of a safe environment – staff who assumed they knew everything about safety, injury prevention, the different activities and the human body were potentially a problem for facilities. There was common agreement that staff need to be reflective, qualified, questioning, and approachable.

Interview data shows that facility staff provide the following in terms of safety and injury prevention – they are engaged in: teaching; educating; facilitating specific events (e.g. invited speakers); evaluating; guiding; monitoring; counseling; advising; talking on a one-to-one basis; disciplining; guiding; managing routines and equipment; supervising; and acting as a role model. The most obvious function was the provision of information usually arising out of a request by a user. This includes instruction on the correct execution of an exercise program, either for a new program or new user or as a reminder about an existing program, "...a lot would come in and say, "oh gee, I've forgotten how to do my program, can you help me out with this?" (KI6). Emphasis was clearly on the role of staff in the gym area of the facility although the pool area was clearly seen as an important area for staff to play a role.

Primary prevention issues raised by staff include the importance of avoiding dehydration, the correct techniques for equipment use, and using safe equipment (such as plastic water bottles instead of glass bottles). Issues to prevent recurrence of injury after the injury event focused on providing advice and education.

Key informants mentioned that often users are not willing to ask for assistance until after an injury or problems has occurred. For instance:

*younger males - they come into the gym and they think they know what they're doing and think they can lift certain weights, but they can't. A whole lot of time they could injure themselves lifting too many weights, that sort of thing. After that, they come back and tell us (KI11).*

Communication systems, such as feedback forms used within the facility, were also mentioned by several key informants as being important mechanisms for injury prevention within the facility.

Key informants were also asked about the extent to which facility users sought support from staff in the event of an injury. Key informants are unanimous in their response. They all believe that patrons do seek appropriate professional support if they are injured. It was acknowledged that there were different levels of staff expertise available to provide injury management support, but that basic first aid is a minimum standard expected of staff. Interestingly when asked about this most key informants interpreted the question as focusing on people with pre-existing injuries using the facility rather than the actions of people who are injured whilst using the facility.

*We always have staff on hand with first aid qualifications. All our staff are required to have CPR qualifications as well. And I think nearly every occasion that someone's injured, it would be a staff member that's rendering the first aid (KI7).*

The validity of current injury reporting systems utilised within facilities was also questioned. It was a common view that occasionally a person who is injured, will go home or leave the facility without reporting the injury. A number of key informants also pointed out that a proportion of their facility patrons are individuals and community groups who utilise the facilities for rehabilitation purposes, and that the facility staff work in partnership with local medical and allied health professionals to accommodate these patrons within the scope of their capability.

The findings from the interviews is summarised succinctly by one key informant when they said:

*"patrons' age ranges from 6 months to 80 years and there's a broad range of thoughts about safety in between" (KI1).*

One consistent finding is clear from the data, the one group who appear to consistently disregard safety and injury issues in facilities is young males and there is clearly an important opportunity to focus on the pre-existing knowledge of male users of facilities using football as the vehicle for information and change.

## **5.4 SIGNIFICANCE OF THE FACILITY TO THE LOCAL COMMUNITY**

This series of questions explored the perceptions of Facility Managers about the role and significance of the facility within the broader community in which it is located. The questions provide insights into core areas of importance in respect to physical activity and injury and the role that the facility can, and does play, in the delivery of safe physical activity environments. The main themes that emerged from the interviews relate to the delicate balancing act that the facility and its staff play in providing a safe, high quality and trusted environment, whilst at the same time, promoting social connectedness within the community.

The results of the interviews indicate that the key informants are unanimous in their opinion that physical activity is important within their local community. The facility is seen as critical to the enhancement of both the physical and social health and well-being of members of the community and considerable sensitivity exists in respect to the role that it plays in engaging people within the community. Issues of trust underpin much of the interview data.

The interviews showed that there is a clear bias, which was openly acknowledged by some of the key informants, towards valuing physical activity to the extent that their own interests and personal career choices have resulted in them working in environments that promote physical activity in a community setting. As such they are biased because they believe in the value of physical activity and are not able to comment on whether their opinions are representative of the community at large. One key informant in a rural community, however, felt confident that in their community *“sport is everything to a small town like this ... they live for it (K11)”*. Other key informants were more hesitant about generalising about its significance. Despite being questioned about the role of physical activity *in their community*, virtually all key informants focused on the role that *their facility* played in promoting physical activity rather than commenting on the role of physical activity within the community per se.

The results of this section fall into 3 broad areas of relevance to this study:

- local incentives for physical activity in general
- the facility’s role in promoting public health messages
- factors impacting on the role of the facility to promote safe physical activity.

The following will consider each of these separately although interview data indicated that for all key informants they are interlinked and interdependent.

#### **5.4.1 Local incentives for physical activity in general**

The promotion of lifelong, regular physical activity participation as a national priority area, was acknowledged by many key informants, as was the recognition of physical activity as a preventive measure in public health. All key informants see their facility as playing a crucial role in achieving this national priority.

*The strategy is, from the national level, to get people more involved in physical activity and to get the public more involved - we’ve got to have the resources to do that, and that’s why the facility exists (K12).*

The following specific local area issues were identified by key informants as playing a crucial role in physical activity participation and activity rates within the community in general:

- *climatic factors*: in the key informants’ experience, participation rates are higher in communities, and thus in facilities, which have a warmer climate;
- *availability of opportunities to participate*: participation rates are linked to access to a wide range of physical activities;
- *local government commitment*: participation rates are higher in areas with demonstrate high levels of commitment by the local government;

- *socioeconomic status*: participation rates are higher in areas with higher income levels, with higher levels of education, and where there is less health disadvantage; and
- *personal factors*: participation rates are higher where people perceive that facilities accommodate difference and diversity amongst the population. For instance, one key informant stated that there are increasing numbers of overweight participants using the facility because of the presence of an 'overweight' trainer.

All key informants recognised the burden of disease for specific population groups within their communities, such as obese children and older adults, and identified the facility's critical role in assisting to achieve health targets within that area. For example,

*I think physical activity is very important and there's data showing that this region is actually fairly poor in terms of physical activity and its health. Within the state, we have the worst incidence of heart disease, and we have, I think, a lower life expectancy than the average area in Victoria (K17).*

*We sort of fall into the local government's corporate vision, if you could say that - to breed a healthy community - that's what we're doing (K14).*

#### **5.4.2 The facility's role in promoting public health messages**

Key informants all expressed a strong connection between physical activity and social interaction. For example,

*If you're out walking around the lake with your dogs, everyone says hello to you and gives you a quick smile. It's just a community feel (K18).*

Additionally, all key informants identified the significant contribution and role of the facility in promoting social interaction.

*This centre is probably the hub of the town. Everything revolves around what this place is doing and what services we're providing. ... You go anywhere. You go to Horsham, you go to Gippsland, the manager of your local leisure centre will tell you that it's the hub of the town (K110).*

They were also in agreement that their facility had a key role in building social interaction through physical activity by promoting opportunities for people to get to know other people.

*What we try to do at all times is promote the social aspects of our centre so we create opportunities for members who don't know each other to get to know each other. ... if some parents didn't have their young son or daughter doing gymnastics, they may not have met some of their best friends. ... From my point of view, I would know probably ten percent of the people I know if I didn't play football in town. And that's just the way it works. Everything revolves around clubs and their leisure time because it's just the way their social network functions (K110).*

Additionally, key informants commented on the crucial role of the facility in providing programs that were aimed at bringing specific groups within the community together. One key informant

however, made an important distinction between community members describing some as 'members' of the community and others as 'the general public'.

*All our programs and events and things that we hold at the centre are not necessarily only for our members. They're also for the public. ... We're part of Active Australia Day (KI2).*

Trust, as an element of social interaction, was a very important element within many key informant interviews. This is of particular relevance to the promotion of safe physical activity environments or the perception of the facility as providing one. Facility staff are extremely aware of the link between trust and safety. Issues of trust were very subtle within interview data and related principally to three areas:

- key informants' experiences of the way the users experienced the facility, its staff and its service
- issues of quality in respect to services
- users' experiences of the way that their needs (and their bodies) are respected by the staff.

In respect to the way the users experienced the facility, responses included how responsive the facility staff were to suggestions made by users or the time it took for suggestions to be fulfilled. For example,

*I know that when we do something that patrons don't like, or we're not able to implement (a program or service) straight away or fix a problem, they do become a little bit distrustful of us (KI5).*

In respect to the link between quality of services provided by the facility and safety, respondents are very mindful of the role of staff in monitoring and surveillance. Several key informants felt that there is a fine line beyond which staff cannot tread for fear of user's reactions. For instance,

*We've got a lifeguard who's very vigilant. We've tried to educate him as to what's the difference between prevention and what's just plain downright mean. People have complained about him. Prevention can sometimes go overboard, and then the community members do not want to come here (KI5).*

Another important aspect bound up in issues of trust between users and facilities and safety is the area of perceptions about the way user's needs are met. Facilities are placed in a position of trust for the nature of the activities they provide and the sensitivity they show to the individual needs of users. For example,

*Sometimes patrons come into the gym, then they come back to us next week saying, "I was really sore, what did you do to me?" If we don't look at what their program entailed and talk to them about where they are sore straightaway, they get a bit of a preconceived idea that we don't care, and I suppose mistrust us (KI5).*

Responses to these questions provide valuable insights into the delicate balance that exists between the users' perception of a facility as being safe, having high quality risk management policies and practices, of being responsive to their needs and respecting their bodies and the

perception that staff are mean and that the facility does not care about them. The threat that users will not come back and will be discouraged from future participation because of the facility staff is a concern constantly in the minds of facility management. These factors will be important to the way a facility and its staff see their obligations and the emphasis they place on particular aspects of safety and risk management.

The opening of the facility in a community was identified as a change that has had an important impact on the promotion of physical activity and public health messages within that community.

*The learn-to-swim program has been very valuable to the community. When we first opened here, our average age to swim was about 8 years of age ... and the average age of learn-to-swim is now probably 4 or 5 years of age. We have 5 year olds doing laps now when we used to have 8 year olds that wouldn't put their head under water (KI6).*

Similar positive impacts on community fitness and participation rates were described by key informants in other facilities. Examples include:

*I had a conversation with a new member this morning. She said both her, her husband and her son just joined and all three of them had never been to a gym before. ... It demonstrates to me that the way ... we've marketed the place has been done right because we actively market to attract people who have never been into the gym in the past. ... At the moment as it stands, that's fifty percent of the people who come through the door (KI10).*

*It has affected a lot of the (participation in) exercise in town. There's not many opportunities for people to use a centre like this. ... It's two and a half hours to the next town. It's just unbelievable. There's a lot of talent out here. Swimmers, athletes, that sort of thing that never got the opportunity to take their sport one step further and give it a go. ... And it brings a lot of tourism to the centre, attracting a lot of other people who would otherwise go somewhere else to participate (KI11).*

Implications of these issues include the increased role for facilities to promote safety practices for new participants in physical activity and the ongoing responsibility they have for maintaining trust and creating a supportive environment for all users.

#### **5.4.3 Factors impacting on the role of the facility to promote safe physical activity**

Many examples were provided by key informants that demonstrated changes in the local community which have affected or impacted upon the facility. There were five main factors identified as providing relevant contextual links to issues of safety within facilities.

- **local government elections.** For one facility, recent local government elections have resulted in new policies being adopted. Some of these policies were not considered to be of immediate financial benefit to the facility; however, they have been implemented because promises were made during the council election campaign.

*New councils come in and they have different ideas. They want to make their mark. And that's fair enough, but we need to be aware of those sorts of things.*

*We've had a change lately, the Mayor, one of his campaign promises was to introduce a Seniors Card for acceptance of membership at a discount price. I don't know if it added any benefit to the centre, but it was something that we've had to do as a directive from council (K11).*

- **increasing competition within the community or area.** Within this same locality, the opening of a new health and fitness facility and the introduction of new providers of similar health and fitness services have impacted on one of the study facilities. The effect is the potential loss of users to the facility as the new facility competes to attract members. By focusing on the quality of the programs and services delivered at the facility, the key informants felt that they had been able to limit the financial impact of new local competition on their business.
- **changing demographics and markets for facilities.** Differentiation of provision has been important in some facilities, both as a way of competing with other facilities but also as a way of attracting new users. One important new target group is the older adult population. Management teams have been able to create and expand new income streams for their facilities.

*We're focusing on the fifty-plus market as a money and financial thing, but also trying to tap into that and encouraging older people that it's never too late to keep moving (K14).*

Similarly, the growth and expansion of the population of one community was identified as affecting accessibility and convenience for users with those living on the outskirts of the town now needing to travel greater distances to utilise the facility.

Both expansion in community size and growing number of community members using the facilities, means that they can be pushed to capacity. This has implications for safety practices. One key informant stated that increasing numbers using their facility means that an extension should be added to accommodate the full membership that they currently have.

*We're packed at capacity here, so a change hasn't taken place and that's a negative problem (K18).*

Another key informant expressed concern that increasing numbers can result in overload of facilities without limits attached.

*Monday nights we have an average of twenty people in the gym at once and it's just that there's too many people in there wanting to actually have a proper workout. Probably a bit too popular at the moment (K111).*

- **influence of external factors.** Several factors outside the control of Facility Managers were identified as relevant. These included seasonality and weather. The seasonal nature of sport causes fluctuations in the rate and volume of participation by users in facilities in some communities. Similarly, the Christmas period creates a marked drop in participation with very few patrons visiting the facilities. Changes in the weather also create impacts for facilities, such as warm weather increasing the number of people using the pool.

*Our weekend numbers in the winter months go down. We've got a heated pool, the numbers should go up. They go down because patrons who would otherwise*

*be attending the facility, go to football. Grand final day - generally the gym is dead quiet (KI6).*

- **the impact of building a new facility.** Community reaction to the development of a new facility for community use had created some insightful reactions from community members, rate payers and users. The cost of building and maintaining what was perceived of as an expensive health and fitness facility within one community had generated much discussion amongst community members. This shows that users have differing expectations of council owned facilities versus privately owned facilities. For instance:

*Being a new facility, the cost involved in creating it, housing it, and maintaining it is always a hot topic within the council and within the community. We do get a lot of arrogance from rate payers wanting discounts, etc. because they feel like they own shares ... because they pay their rates (KI2).*

*... two years old. Big controversy over building it. People verbally attacked me on the streets ... a chap in town attacked me just as I was buying my fruit and veggies one day and complained about the cost of the centre and how it wouldn't cope. Now that it has opened, it is probably three weeks of the year that it gets very, very busy that we have trouble coping during weeks of really hot weather. That's it. The other forty-nine weeks of the year we cope beautifully. Now people turn around and say to me, "oh I wish I hadn't been against all that." (KI6).*

Similarly, there had been a change in the facility management team at one facility approximately one year prior to the interview. The local council's decision to take over the management of the facility themselves, instead of outsourcing it to another management company, seemed to have a positive impact on the staff who worked at the facility, but did not necessarily impact on the patrons or the community.

*I think to be owned and operated by council is seen as a good thing. It's actually made it a lot more positive. The council wanted to take us on board as employees and that's a positive for the whole centre. It made, I suppose, our staff feel that they're doing a good job with what they're doing. Patrons, I don't think it's had that great of an effect on them (KI3).*

Not all key informants identified changes in the community that had an effect on their facility. They perceived themselves as 'lucky'.

## **5.5 FACTORS THAT PROMOTE SAFE PHYSICAL ACTIVITY PARTICIPATION**

All key informants recognise that they have a duty of care towards the users of the facilities, however the facility's insurance policy was cited as being a key motivating factor for implementing risk management practices at health and fitness facilities in order to promote safe physical activity participation and prevent injury. The facility's insurance policy provides an important 'prompt' for facilities to implement risk management policies and practices. For instance:

*Look, yeah, definitely now that I think about it more. I suppose from my experience the insurers came in and audited us and they said "you've got to put barriers up here there and everywhere", and I think that prevented injury. If the*

*insurers didn't come out and say you have to do this, I don't think it would have happened at the centre (K13).*

*I think they've got a huge role to play because ultimately they're going to be the ones paying the bill if we're not doing what we're supposed to do. If we're negligent in prescribing exercise and we do something wrong, then they're the one footing the bill and as a result everybody else's premiums go up. They've got a key part to play (K110).*

## **5.6 BARRIERS TO SAFE PHYSICAL ACTIVITY PARTICIPATION**

Barriers to safe physical activity are complex and interrelated and have been clearly evident in the findings described to this point. They range from locus of responsibility to specific factors inherent in the ways facilities manage and are supported in their role.

The following section draws together the main issues that emerged from the interviews and provides examples of the components inherent in each of these as described by the key informants:

- **uncertainty about safety standards and lack of formal requirements**

Four main themes emerged within this perceived barrier to safety. First, key informants feel that there is no specific leadership from any organisation, nor resources available, to provide them with information and guidance about preventing injuries in their facilities, particularly in the gymnasium. Second, key informants were emphatic that the lack of any imposed requirement for external regulation of safety standards means that safety will always be sacrificed to other more pressing demands such as financial accountability. Regulation of safety standards, similar to the Department of Human Services regulations for the operations of childcare facilities, was considered the 'missing link' or barrier to effective safety policies and practices.

Third, the image and operations of the leisure industry will serve as an ongoing barrier to safety while the public perception of their work is that of fun and games. Fourth, lack of 'honesty' within the industry about the relative importance of safety is an important barrier. As one key informant stated, *'it would be unlikely that any of the participants of this study would willingly say that injury prevention and safety were anything less than 'very important', as it was generally understood to be a core element of a facility manager's role'*. However, the day-to-day safety practices of Facility Managers do not necessarily reflect this importance.

- **lack of appropriate training and supervision for staff**

Key informants were unanimous in their view that staff training and adequate supervision of staff would also be crucial barriers to safety within facilities. They identified the following potential areas: insufficient knowledge, insufficient experience, lack of appropriate training, and lack of knowledge of how to make use of existing resources as being of ongoing concern. Similarly, being overwhelmed by the amount and complexity of materials was also seen as important. All key informants recognised that safety knowledge and 'best practice' are fluid and to be effective in the long-term there is a continual need for vigilance and for continuing education of staff to maintain the highest possible safety standards. Many facilities may

consider that 'once trained' is sufficient. Additionally, the personalities of some staff members can be seen as a potential barrier, particularly staff who are resistant to change and who lack a willingness to stay up to date in respect to training. The level of research skills available amongst the staff within facilities, as well as the time and resources required, were also seen as barriers to ascertaining or further investigating the type of information required within facilities about safety or causes of injury.

- **consistency of practices**

All key informants identified the importance of screening for fitness and health status for participants wishing to use the gym equipment but none mentioned the need to undertake such screening for other activities, such as the pool. When probed by the researcher about the logic of this practice, many stated that it would be an unsustainable endeavour as all facilities had casual users. Some key informants believed that the culture of health and fitness facilities is such that patrons view injury as inevitable. The same appears to be the case for staff, as there is little, if any, recognition of the inherent dangers of their other activities for the public. Users participating in swimming, recreational sports, or group fitness classes are not required to partake in a pre-participation screening. Some facilities, however, require that a waiver form be completed prior to participation.

- **gradual shift in expectations and standards over time**

Some key informants, particularly those who had worked at a variety of centres, described the potential barrier to safety as something that builds up over time within a facility. They described situations where staff become increasingly 'relaxed' in their approach to safety, injury and risk and to the surveillance and checking mechanisms within facilities to the point that routine functions such as signing in for use of equipment is not conducted routinely.

Key informants recognised that safety knowledge and 'best practice' was fluid. They recognised that there was a continual need for vigilance, and for continuing education in this field in order to maintain the highest possible safety standards.

- **locus of responsibility**

Lack of general agreement (or even confusion) over whether it is the role of the facilities to provide basic knowledge and training in injury prevention and safety or whether it is the duty of other social structures such as families, mentors or the media, is a clear barrier as the locus fails to rest in one clear jurisdiction. Similarly, the skills and competencies of health and fitness staff in providing injury prevention knowledge to the wider community to benefit public health can be limited to the physical environment of the facilities thus resulting in inconsistencies in getting the message heard by the community at large. As one informant stated, the important link to safety barriers is that some people who use the facilities are not receiving training and people who are not using the facilities are also missing out. For instance, staff could provide falls prevention knowledge to members in the community who are not accessing the services within health and fitness facilities.

- **generational values about safety**

A clear barrier to safety is age-related in terms of both users and staff. Different standards and expectations are clearly evident according to age (as described earlier). Some patrons, particularly those who are over the age threshold for requiring a medical clearance prior to

participation, feel offended when asked to provide clearance from their doctor. Conversely, the age of Facility Managers was described as a potential barrier to safety as it influences the level of importance afforded to injury prevention and safety issues. It was suggested that younger, less experienced Facility Managers are more likely to be more conscious of, and give higher priority to, safety issues.

- **financial barriers**

This barrier includes: resource allocation including such things as the number of supervisors per session; perspectives on what the value of safety is against other priorities within the facility; the locus of decision making regarding priorities and expenditure within and outside the organisation; and, the concern that there may not be adequate comprehension by Facility Managers of the extent to which safety issues affected the facility's bottom line. It was a view shared by several key informants that safety issues are prioritised lower than other activities that more apparently affected the bottom line, thus creating a barrier to safety. The view was also expressed that the decision to allocate financial resources to certain operations was not entirely that of Facility Managers. Councils/shires and lead organisations can have a large influence in facility budget allocation, including the staffing budget.

Overall, these main barriers can be organised into three broad groupings: those related directly to the facility, its processes and expectations, staffing and priorities i.e. the 'culture' of the organisation; those relating to the knowledge and expectations of users; and those related to 'upstream' factors outside the control or influence of the facilities and users such as industry standards, locus of responsibility for leadership and societal expectations.

Acknowledging that potential problems exist seemed to be universal across all facilities and key informants, while solutions were harder to identify. Those who did provide solutions that also span these broad areas. These include:

- encouraging users who attend on a casual basis to join the facilities because, as a member, they receive the benefits of a personalised program;
- integrating the use of auditing within facilities as a means of getting some form of consistency in practice in general but also in respect to safety and physical activity injury prevention;
- conducting research into injury prevention in order to make facilities safer for users; and
- the need for an updated and modernised view of the operational processes within this industry to reflect current times. (It was pointed out by one key informant that there was a peak interest and participation in health and fitness facilities in the 1980's, but that there is little observed evidence of progress in the way operations are managed in the 20 subsequent years of operation).

On the whole it was evident that many key informants are of the opinion that for many years 'luck' has played a big part in physical activity injury prevention at the facility level rather than good management and informed decision-making. All key informants believe that more can, and should, be done to improve safe participation in physical activity at health and fitness facilities. In order to avoid the problems alluded to in the following quote, key informants feel that there is a great deal to be done:

*I have no idea (whether the information in the manuals is important to me).  
Actually ...god knows what's in them at all. We don't actually have any*

*documents specifically about the health and safety act ... that kind of stuff. ... Basically not even from head office, where we get them from ... I have no idea. I have no idea" (K111) observations at the facilities*

## **5.7 REFLECTIONS ON THESE FINDINGS**

The information obtained from the key informant interviews has been collated and is illustrated on Table 11 (see below). As the table shows, it is clear that a consistent picture is evident across facilities in metropolitan, regional and rural Victoria. Similar tensions exist and similar problems are faced by all facilities in terms of safety and risk management. All staff operating within facilities were seen to play a key role in managing, promoting, educating, training, leading, modelling and ensuring that safety and injury prevention are rated highly within facilities and to users. This is set against the backdrop of inconsistent requirements for ongoing training and support for staff to achieve this. Despite this, within facilities staff training and availability of resources are identified as the most important avenues for ensuring consistent application of appropriate safety practices. Pre-participation screening, exercise instruction and ongoing surveillance are clearly the main ways in which facility staff ensure safety measures are implemented within facilities. Users of facilities vary in their level of concern for safety and their actions to reduce risk. A strong gap emerges between the users, the staff's understanding of their expectations, and the category of 'others' (i.e. facility owners or insurers) and their requirements. There is clear potential for targeted information for specific groups of users who either display lack of concern for safety or who have pre-existing inappropriate opinions about risk and prevention. The two main groups that have emerged from these findings are young males and men who have a prior history of involvement with sporting codes such as football. General information targeted to all users is however also required. There is also clear potential for specific work to be done within facilities by staff to reduce the gap in their knowledge of user's expectations and knowledge in respect to safety and injury prevention. This will range from more explicit attention to the messages conveyed with facilities, to fact sheets about the role of staff and the facility, to monitoring programs to ascertain levels of knowledge of users. Trust both ways – between users and staff, seems to be the critical link here. At present the elements of trust are assumed rather than clearly articulated by both groups.

At the facility level, there is general dissatisfaction and quite high levels of frustration amongst key informants that there are no appropriate regulations for safety and risk management practices beyond occupational health and safety. Similarly, there are limited guidelines for safety and injury prevention and these are spread across a variety of organisations. There is also no single regulatory body that can mandate safety standards from Facility Managers or their organisation. It is clear that many informants think that it is this lack of external accountability that produces a less safe environment within the physical activity facilities used by patrons with varying needs. The lack of support for, or consistent action in respect to requiring training by staff, is one of the most obvious outcomes. External accountability or leadership through training, education programs, would result in safer practices and enforceable risk management strategies.

It is also very clear from these findings that there are many internal and external changes occurring that put new or ongoing pressures on facilities. These changes have the potential to impact on a facility's staff to be able to deliver a safe environment. The pressures identified are linked to the group 'other' and to the fact that facilities are businesses that are designed to make a profit and remain viable. The external pressure from insurers' to keep the facility litigation-free is balanced against the owner's goals for a popular well used and high capacity facility. There appears to be

an underlying assumption that safety is important to facilities but that it will take care of itself - unless of course something should go wrong then it would need to be addressed from a corporate damage-limitation perspective. Greater prioritisation of safety and risk management is required for its own sake and for the sake of the broader public health goals.

**Table 11: Summary of findings from key informant interviews**

Broad factor	Sub category	Specific features	Perceptions linked to safety and injury prevention (as identified by key informants)
Facility Users	<p>There are three different types of users:</p> <ul style="list-style-type: none"> <li>Casual</li> <li>Members</li> <li>Users with specialist needs</li> </ul>	<p>For each type of user consideration needs to be given to the following:</p> <ul style="list-style-type: none"> <li>Time and commitment to physical activity</li> <li>Demographic characteristics</li> <li>Reasons for using the facility</li> <li>Individual profile: maturity, experience, background, individual risk factors</li> <li>Level of knowledge or understanding of injury and safety practices</li> </ul> <p>If parents accompanying young children, what are their requirements and expectations are.</p>	<p>Expect the facility to be safe and the staff to be qualified</p> <p>Will not use the facility if they perceive it to be unsafe</p> <p>Current practices are affected by their past experiences and training</p> <p>Resistant to ask for help until it is too late</p> <p>Do not feel obliged to report injury</p> <p>Context specific factors such higher tolerance of injury in rural communities</p>
Facility Staff	<p>There are three main groups of staff</p> <ul style="list-style-type: none"> <li>Program staff</li> <li>Management staff</li> <li>Administration staff</li> </ul>	<p>For each type of staff member consideration needs to be given to the following:</p> <p>Personal or professional commitment to ongoing training, consistent work practices and best practice in safety and injury prevention</p> <p>Level of expertise in respect to safety and injury prevention and the role they play in the facility</p> <p>Level of responsibility for safety and injury prevention policies and practices within the facility</p> <p>Expectation they hold in respect to their role in safety and injury prevention</p>	<p>Expect that it is everyone's job within the organisation</p> <p>Value safety and injury prevention as high priority</p> <p>Vary in their understanding of user's knowledge of safety and injury prevention</p> <p>Have little idea what users' expectations of them and the facility are in respect to safety and injury prevention especially in the event of an injury</p>
Other	<p>There are other relevant agencies or groups that play a clear role including:</p> <ul style="list-style-type: none"> <li>Owners</li> <li>Insurers</li> <li>Professional bodies</li> </ul>	<p>Limited data obtained but sufficient to conclude that each of these has their own perspective or need in respect to the facility, the staff, the users and safety/injury prevention. For example:</p> <p>Owners: pressure for viability and growth; accountability to stakeholders, the organisation's or facility's objectives and balancing seasonal fluctuations</p>	<p>Context specific factors: geographic location, demographic characteristics</p> <p>Size of facility and operational aspects</p> <p>Priority given to safety and injury prevention against other competing priorities i.e. proactive versus reactive stance</p> <p>Perceived role of the facility within the community i.e. its role in promoting health and cohesion</p>

## CHAPTER 6 OBSERVATIONS AT THE FACILITIES

### 6.1 INTRODUCTION

The overall aim of this study was to explore the extent to which physical activity environments/settings facilitate and promote injury prevention activities. Promotion can take the form of direct approaches as discussed in the previous section (Section 5), as well as more subtle or indirect approaches. Key informants stated that the 'culture of the facility' was an important determinant of the extent to which safety and injury prevention were seen to be important to both staff and users. Without more detailed research into what both key informants and users would ascribe as the attributes of the term 'culture of the facility' it is difficult to explore in depth. A tangible way of identifying whether safety and injury prevention were at the forefront of the user's thoughts as they operate within the study facilities is through the visual cues that appear within the facilities. During their visits, one researcher maintained a logbook which she used to record any significant impressions about the facilities or messages conveyed by survey respondents and key informants that fell outside the scope of the formal research tools being used. One of the important features of this log book is that it provides an additional means of considering the way safety and injury prevention are considered more subtly in the facilities.

Observational strategies including observational journals or log books are frequently used for research studies which focus on either social interactions or public places. Techniques can include structured or unstructured approaches whereby researchers neither manipulate nor stimulate the behaviour of those people or situations being observed (Punch 1998). As this was an exploratory study with researchers having never visited the facilities prior to collecting data, an unstructured approach to recording observations was deemed most appropriate. It was important not to set predetermined categories to be noted, but rather to observe all subtle aspects of relevance to this study and to identify those which emerged through thematic analysis of the final log book. This observational approach was designed to be an informal aspect of the study but the analysis of the log book indicated that it provided additional data worthy of reporting especially because it allowed the opportunity to check the consistency of messages provided by participants with the visual and procedural cues evident within the facilities. The researchers also utilised the facilities at each site when they visited them so that they could experience it from a user's perspective. It should be noted however that the level of detail recorded in log books was small so the following discussion should not be misinterpreted as indicating high levels of subtle activity within facilities.

The themes linked to safety and injury prevention that emerged from the data collected through the observational logbook were:

- visual indicators linked to safety and injury prevention
- rules for users of the facilities
- techniques for differentiating users

## 6.2 VISUAL INDICATORS LINKED TO SAFETY AND INJURY PREVENTION

There were two features described within the log book: signs used within the facilities and other specific safety features evident to the public. Signage was an important feature within all facilities although there appeared to be no consistency between facilities in terms of application and siting. In all facilities 'rule boards' were prominently displayed in the gym area as were 'pool rules' in the pool area. Additional signage which was observed within the study facilities included 'Slippery when wet' signs around a water fountain; 'No diving' signs and flags indicating the end of pool lanes in the pool area, and, photograph instruction cards with the names of exercises and correct execution techniques demonstrated displayed on the walls of stretching areas in one facility. The only other incidental signage linked to safety that was observed were: a 'Living Longer, Living Stronger' poster which was prominently displayed throughout one facility, (this specifically targeting the older adult user group); a poster on the importance of stretching in one gym; and, a 'safety alert' poster near the spa area in one facility. One facility also provided an educational brochure on choosing appropriate group fitness classes.

The most important subtle safety/injury prevention features that were obvious within the study facilities included: gym instructors being always on duty in the gym (at least whilst the researcher was there); railings and a ramp for the hydrotherapy pool in one facility; and, chalk available in the resistance training area for use with free weights in most gyms. Some of the safety features that might have been expected but which were not present in the study facilities were mirrors in the gym for users to self-monitor the execution of their exercises and there were cramped conditions within the gym especially in the space surrounding and between the pin-loaded machines in one gym.

## 6.3 RULES FOR USERS OF THE FACILITIES

Facility rules that were observed by the researcher that were clearly designed to be evident to the users of the facilities included:

- instructions stating that 'no casual gym visits were permitted, i.e. that all users must be a member to use the facilities
- the rule that no 'large' dumbbells or other free weights were available on the gym
- the rule that at non-peak times of day when no gym instructors were rostered onto the gym floor, activities could only be undertaken by members.

During the visits, the researcher observed two weaknesses in respect to the consistent application of rules within the facilities. The log book entries are provided to illustrate the context of the issue:

*(Log book entry A) 'Monday night in the gym was busy so all pieces of equipment were being used. People who were waiting to get onto a piece of equipment 'hovered' around it. There did not seem to be any rules about how far away they should stand away from the equipment as it was being used. It all seemed very cramped and unsafe';*

(Log book entry B) *'I performed key informant interviews later in the week and found out then that all casual participants are supposed to 'sign in' when entering the gym floor. I had not observed this, nor was I alerted to this procedure when I participated. I went back after the interview to confirm that there was indeed a 'sign in book' sitting on the gym desk. The procedure is there, but the staff do not seem to enforce it'.*

## **6.4 TECHNIQUES FOR DIFFERENTIATING USERS**

The third main way in which safety and injury prevention activities operated at a subtle or indirect way within facilities was through differential management and provision on the basis of the different kinds of users, different kinds of needs, and different pressures on facilities. These fall outside the formal provision of specific programs for specific groups or according to specific need and could be described as exceptions (however in some situations they are operating consistently). Examples of this level of activity which were observed by the researcher included:

- casual group fitness classes and swimming permitted without a membership to the facility
- casual gym usage based on signing a form to indemnify the centre with no screening for risk factors carried out
- staff members visibly present on the gym floor and accessible to participants if they need to ask any questions.

In two of these situations it may be that these actions actually have the potential to reduce levels of scrutiny and thus increase the risk to different user groups as they are operating without screening or supervision.

## **6.5 REFLECTIONS**

The researcher observed that there appeared to be inconsistency with these informal processes across all study facilities and between activities within facilities. This reflects the inconsistencies reported in the key informant interviews. There are clear opportunities for increased attention on the role of indirect promotional materials such as those described above to enhance the messages of attending to safety and guarding against injury whilst using the facilities. A guide for Facility Managers which gives specific advice on the role and value of the different media that can be used would clearly be helpful. For instance, information on using visual materials especially the positioning of rules and guidance sheets, handouts and fliers, and the positioning of equipment and supporting information linked to it would appear to be invaluable. Additional specific research on the role of visual cues within such environments would also help to provide insight into its potential contribution within risk management strategies.

## **CHAPTER 7 FACILITY USERS – BEHAVIOURS AND PERCEIVED INJURY RISKS**

### **7.1 RESPONSE RATE**

A total of 729 respondents completed the facility users survey. Although all efforts were made to invite facility users to take part in the study, 243 people refused to participate in the survey. The reasons for non-response were lack of time (80%), no interest (12%), being without reading glasses (3%), non-applicability (3%), length of the survey (2%) and inability to read the survey (1%). An overall response rate of 75% was achieved.

Twenty-six people who completed the survey did not meet the criteria for eligibility, and were excluded from the analyses. The final analysis consisted of 703 surveys. Taking this into account, the actual response rate was 74%.

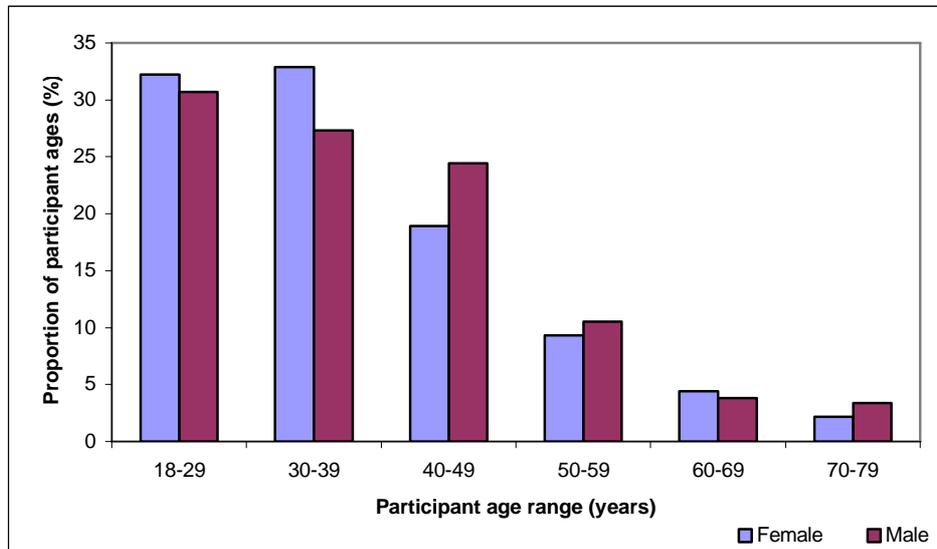
At each venue, the survey was administered from 9 am – 12 pm, and then again from 5 pm – 9 pm every day. This may have limited the selection of a sample that represented the user population of the facility. Varying the times of survey administration may have allowed for a broader sample, as well as a higher response rate.

The time frame in which the survey was administered may have introduced some selection bias as only users who attended the facility in the week data collection took place would have been incorporated into the study. Users who attended less often than once a week would not have been represented in the study sample; hence the frequency of facility visits per week may be over-represented in this study.

### **7.2 PROFILE OF SURVEY RESPONDENTS**

Overall, 93% of respondents reported their gender. Of these, 412 were female (63%) and 239 were male (37%). In total, 645 respondents (92%) reported their age (Figure 3). The age of the respondents ranged from 18-78 years, with a mean age of 37 years. Over two thirds (66.4%) of respondents in this study were aged between 18 and 40 years.

**Figure 3. Age distribution of surveyed facility users**



*(n = 645, 58 missing)*

### 7.3 PHYSICAL ACTIVITY PARTICIPATION HABITS

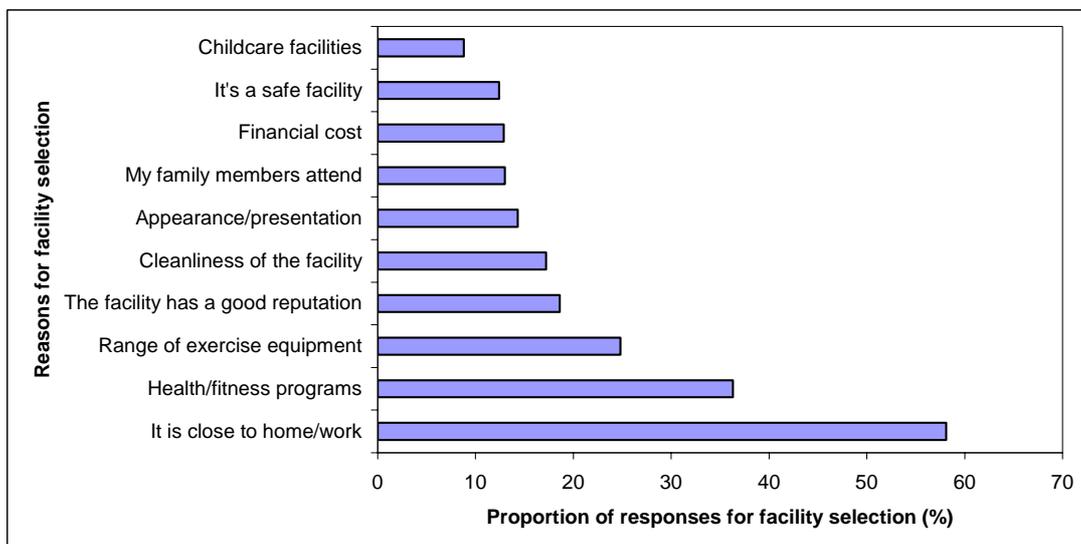
The history of attendance at the particular venue ranged from 0.5 to 240 months. Over half (55.6%) the respondents reported that they had been attending the facility for 12 months or more. The average duration of attendance was 27 months.

Figure 4 shows the factors that respondents reported had an influence on their choice of health and fitness facilities. The three most commonly reported factors that had an impact on the selection of the facility were:

- its close proximity to home/work (58%)
- the health and fitness programs offered by the facility (36%)
- the range of exercise equipment provided by the facility (25%).

The safety of the facility was reported by 12% of respondents as a consideration in facility selection, ranking ninth on the list of reasons that influenced facility selection.

**Figure 4. The ten most commonly stated reasons for selecting a particular health and fitness centre**



The highest proportion of respondents (44%) indicated that the primary reason for attending a health and fitness facility, as opposed to other sources of physical activity, was to improve their health and fitness (Figure 5). Responses in this figure do not equal 100 as respondents were invited to select more than one option if appropriate.

**Figure 5. Five most commonly reported reasons for attending a health and fitness centre**

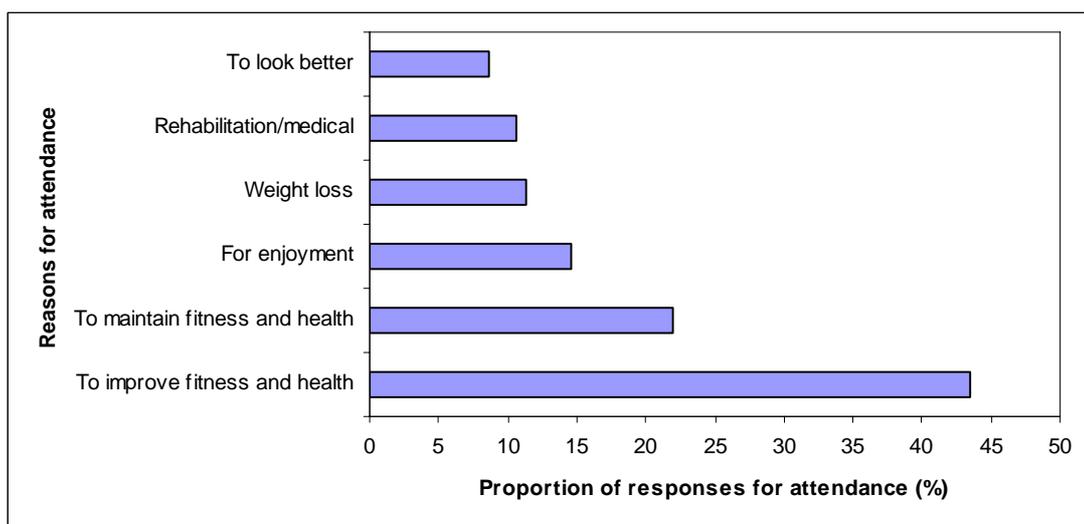


Table 12 lists the frequency of participant visits per week to their fitness facility. Over half of the respondents (56.8%) indicated that they visited the facility to engage in physical activity at least 2-4 times a week.

**Table 12: Self-reported frequency of visits per week to engage in physical activity at the surveyed facilities**

Visits per week	n	% of sample	95% CI
Less than once a week	7	1	(0.3, 1.7)
Once	214	31	(27.4, 34.2)
2-4 times	395	57	(53.1, 60.5)
5-6 times	66	10	(7.3, 11.7)
7 times or more	13	2	(0.9, 2.9)

Over half the respondents (53%) reported that they spent at least 30 minutes in physical activity per visit (Table 13). A small proportion (2%) of respondents reported spending three hours or more in physical activity per visit.

**Table 13: Self-reported time spent engaging in physical activity per visit per week.**

Time spent per visit	n	% of sample	95% CI
Less than 30 minutes	26	4	(2.3, 5.1)
30 minutes-1 hour	371	53	(49.5, 56.9)
1-2 hours	252	36	(32.5, 39.7)
2-3 hours	36	5	(3.6, 6.8)
3 hours or more	13	2	(0.9, 2.9)

*(n = 698, 5 missing)*

The amount of time that was spent engaging in physical activity outside of the facility is shown in Table 14. Per week, 23% of respondents spent 4 hours or more participating in physical activity in conjunction with physical activity undertaken at the facility. For 7% of respondents, engaging in sessions at the facility was their only source of physical activity all week.

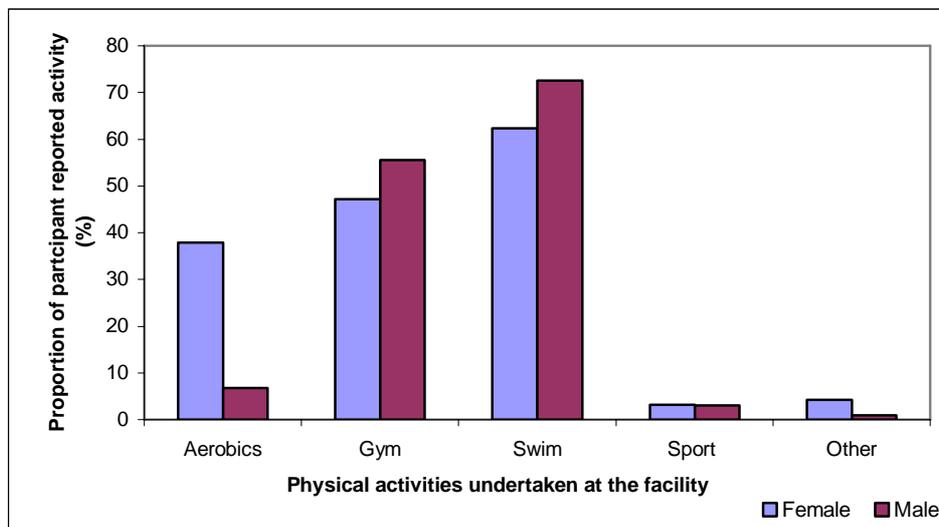
**Table 14: Time spent engaging in physical activity outside of the facility per week**

Time spent outside of the facility in physical activity	n	% of sample	95% CI
None	51	7	(5.6, 8.2)
Less than an hour	102	15	(11.3, 15.7)
1-2 hours	158	23	(19.4, 25.5)
2-3 hours	124	18	(15.2, 20.1)
3-4 hours	97	14	(11.6, 17.5)
4 hours or more	162	23	(18.7, 25.6)

(694, 9 missing)

Swimming and gym work were two of the most popular activities participated in by survey respondents at their facility. Aerobics was dominated by female respondents (38% of surveyed females) and, in gym work and swimming, there were a higher proportion of male respondents (Figure 6). There were significantly more female aerobics respondents and more males participating in gym work and swimming.

**Figure 6. Physical activities undertaken by respondents at the facility**



(n = 695, 8 missing)

To gain an understanding of the safety culture of health and fitness facilities, respondents were asked if they routinely adopted any safety measures. As summarised in Table 15, fewer than half of the respondents (47%) reported that they practiced physical activity safety measures, while 11% did not know if they practiced any at all. Unfortunately, information was not collected on their motivations to comply with these measures.

**Table 15: Respondents' general attitudes towards safety and injury prevention**

Safety attitude questions	Response (%)				
	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Attitudes towards safety and injury prevention					
Safety is an important aspect of physical activity	56.4	41.4	1.8	0.3	0.2
If I wore protective equipment or clothing I would be safer to participate in physical activity	15.4	41.8	29.3	12.4	1.1
I think warming up before participating in physical activity is important	60.6	35.6	3.0	0.5	0.3
Being injured affects my level of enjoyment in physical activity	39.2	50.1	5.9	5.9	4.2
I think there is a high risk of injury in participating in physical activity	4.2	16.2	17.1	55.2	7.1
I think there is a significant risk of injury in participating in competition level sport	11.9	46.8	14.4	24.6	2.3
I would rather risk being injured than be too concerned about safety	4.5	18.4	15.4	4.8	13.6
I only participate in physical activity if I think it is safe	9.4	51.1	13.3	23.1	3.2
I only participate in physical activity if I know I won't be injured	4.4	23.5	16.2	47.2	8.6
Safety is my number one priority when participating in physical activity	10.3	32.5	16.9	35.6	4.7
I believe that people should adopt the appropriate safety measures for every physical activity they partake in	24.6	67	5.6	2.1	0.6
I believe that each individual is responsible for their own safety	28.4	57.4	7.8	5.7	0.8

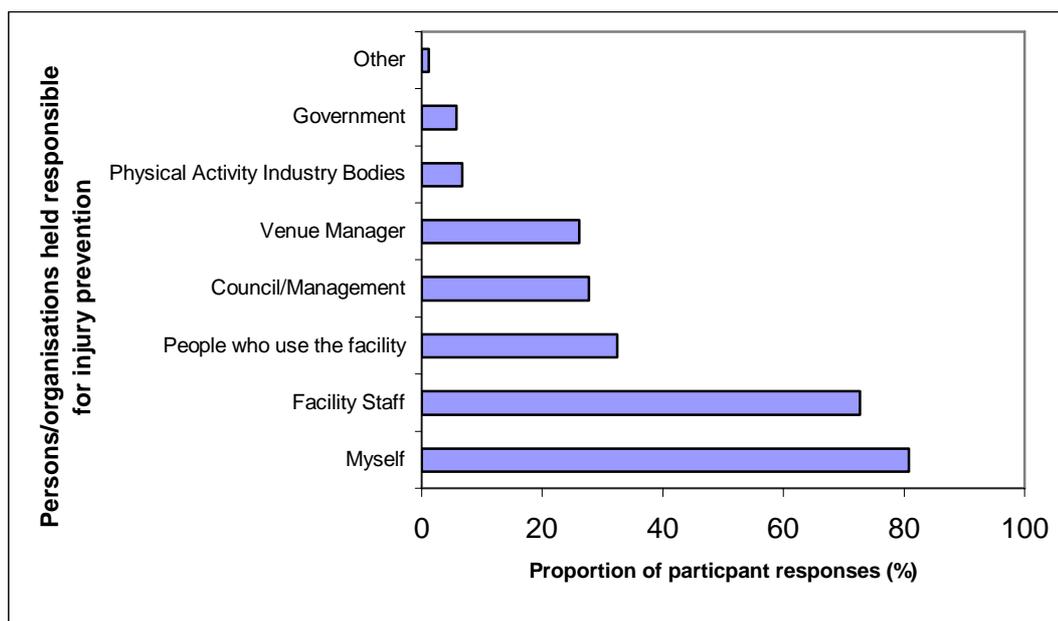
Amongst the respondents who did report using safety measures, a range of safety measures was reported. Common safety practices included stretching before and after physical activity (49%), wearing protective equipment or clothing (2%), using the correct techniques for their physical activity (5%) and abiding by the rules and the regulations of the facility (3%). The proportion of females that reported adopting safety measures was significantly higher than that in males.

#### 7.4 BELIEFS ABOUT SAFETY AT THE FACILITY

The majority of respondents (95%) were of the opinion that it was safe to engage in physical activity at the facility. An additional question found that 72% of respondents agreed that safety was an issue that concerned them. Almost one-third (28%) of respondents indicated that their facility was safer than other centres in the same location.

Figure 7 shows that the majority of respondents (80.8%) believed that either they or the facility staff (73%) were responsible for injury prevention at the facility. Respondents were invited to select more than one response if appropriate.

**Figure 7. Respondents' views on who was responsible for injury prevention within the facility**



(n = 686, 17 missing)

Respondents' knowledge of staff qualifications and formal sport policies was assessed. Overall, 51% of respondents believed the facility staff involved in physical activity programming and delivery had the appropriate qualifications and a large proportion of respondents (72%) were unsure if the facility had a formal policy recognising the health and welfare of respondents. When asked if they had undertaken any forms of pre-activity assessment at the facility, fewer than half of respondents (44%) indicated they had. Of those who had, more than a third (38%) were gym respondents.

In regards to injury prevention, 32% of respondents reported that the facility had provided them with information for their chosen physical activities. When asked whether injury prevention was promoted at the facility, 44% of respondents agreed that it was. Of the respondents who were in agreement, 76% of respondents reported that injury prevention was promoted verbally. Visual promotion (60%) ranked second and written (24%) injury prevention advice was the least commonly selected option. Respondents could select more than one option for this question.

In a hypothetical question, respondents were asked if they would report an injury if it was sustained during physical activity at the facility. Over half of respondents (53%) were sure they would, while 24% stated that they would possibly report an injury. The main reasons for reporting an injury were to alert staff to danger on the premises (64%) and to prevent the same injury from happening to other respondents at the facility (63%). For those that responded to the hypothetical scenario with possibly, the severity (31%), nature (28%) or type of injury (19%) were the most common factors they would consider before reporting an injury.

If respondents had an existing injury, 38% indicated that they would be likely to continue engaging in physical activity. Furthermore, 39% would persevere with their physical activity even if they sustained an injury while participating in it. Conversely, 8% of respondents would completely stop engaging in an activity forever if they were injured during its undertaking.

## **7.5 SELF-REPORTED INJURY HISTORY**

In total, 8% of respondents reported that they had suffered an injury within the past twelve months. The activity most commonly associated with injuries was gym work (71%), followed by swimming (53%) and aerobics (35%). The respondents who reported a previous injury were asked additional questions about the impact of the injury and the practices implemented to prevent further aggravation of that injury. Despite 68% of respondents not reporting their injury formally to the facility, over half of those injured (53%) received some form of assistance from staff.

The majority of respondents (90%) stated that they performed certain practices to prevent further aggravation of their injury. Among the practices describe were: altering the intensity of physical activity (44%), changing the type of physical activity (39%) and altering the frequency of physical activity (28%) was commonly associated with preventing further injury aggravation. The most reported consequence of sustaining an injury at the facility was time off from physical activity (49%).

## **7.6 PERCEPTIONS OF SAFETY AND INJURY PREVENTION**

The respondents' attitudes and beliefs relating to safety and injury prevention with regard to physical activity are also shown in Table 15. Whilst a considerable number of respondents (98%) strongly agreed or agreed that safety was an important aspect of physical activity and that being injured affected their level of enjoyment (89%), only 43% of respondents reported that safety was their number one priority when participating in physical activity.

In support of the 92% of respondents that strongly agreed or agreed that people should adopt appropriate safety measures when participating in physical activity, 96% believed that warming up before physical activity participation was important. Responses were divided, however, for the

statement regarding increased safety with protective equipment or clothing use. While 57% of respondents strongly agreed or agreed with this statement, 29% of respondents were uncertain.

Physical activity, in general, was not considered to be associated with a high risk of injury (62%). However, 59% of respondents strongly agreed or agreed that competition level sport posed a significant risk of injury. In contrast, 56% of respondents stated that the possibility of injury would not deter them from participating in physical activity.

More than half (62%) of respondents disagreed or strongly disagreed that they would risk injury over being too concerned about safety, with 61% of respondents indicating that they would only participate in physical activity if they thought it was safe. Furthermore, over three quarters (86%) of respondents strongly agreed or agreed that safety was their own responsibility.

The responses to the statements concerning the respondents' perception of safety is shown in Table 16. Nearly two thirds (63%) of respondents strongly agreed and agreed that facilities should do more to promote safety. However, when asked if more could be done to increase the safety of respondents at their facility, 43% were uncertain.

Nearly half (46%) of respondents strongly agreed or agreed that it was safer to participate in physical activity at a facility than at other areas, such as a park or outdoor court. Forty-two per cent of respondents agreed that safety education was provided to them by the facility. However, over half (53%) of the respondents reported that safety policies at the facility would significantly decrease their risk of injury. Furthermore, 34% of respondents agreed that more safety information was needed at their facility.

## **7.7 COMPARISON ACROSS THE SURVEYED FACILITIES**

Table 17 summarises the participant demographics for each of the four facilities. Almost half (41%) of the questionnaires analysed in the study were collected from the regional facility. The ratio of female to male respondents in the study was 3:2, with the highest proportion of females (75%) from rural facility 2. The mean age and the age range of respondents were similar across all four facilities.

The majority of respondents at each facility were aged under 40 years (Figure 8). The metropolitan and regional facility had the highest proportion of respondents between the ages of 18-40 years.

**Table 16: Respondents' perceptions of safety at the facility**

Safety perception of this facility	Response (%)				
	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
There needs to be more information about safety for the range of physical activities at this facility	4.0	34.0	35.0	25.3	1.7
Safety policies at this facility would significantly decrease my risk of injury	6.0	46.7	40.2	6.3	0.6
Safety education is provided to me by this facility and/or its staff	3.7	42.0	36.6	15.5	2.2
I believe it is safer to participate in physical activity/sport at a facility than at other places (e.g. park, outdoor courts)	6.5	39.3	25.0	26.4	2.6
Sport facilities should do more to promote safety	7.0	55.7	27.4	9.9	0.0
I believe more could be done to increase the safety of respondents at this facility	3.0	28.3	43.1	23.8	1.9

**Table 17: Comparison of respondent demographics across facilities**

Facility	n	% Female	% Male	Mean age (years)	Age range (years)
Metropolitan	210	65.5	34.5	38.0	18-78
Regional	291	61.2	38.8	34.8	18-76
Rural 1	129	58.1	41.9	38.2	18-78
Rural 2	73	74.6	25.4	39.3	18-76

**Figure 8. Comparison of the distribution of respondent ages across four facilities**

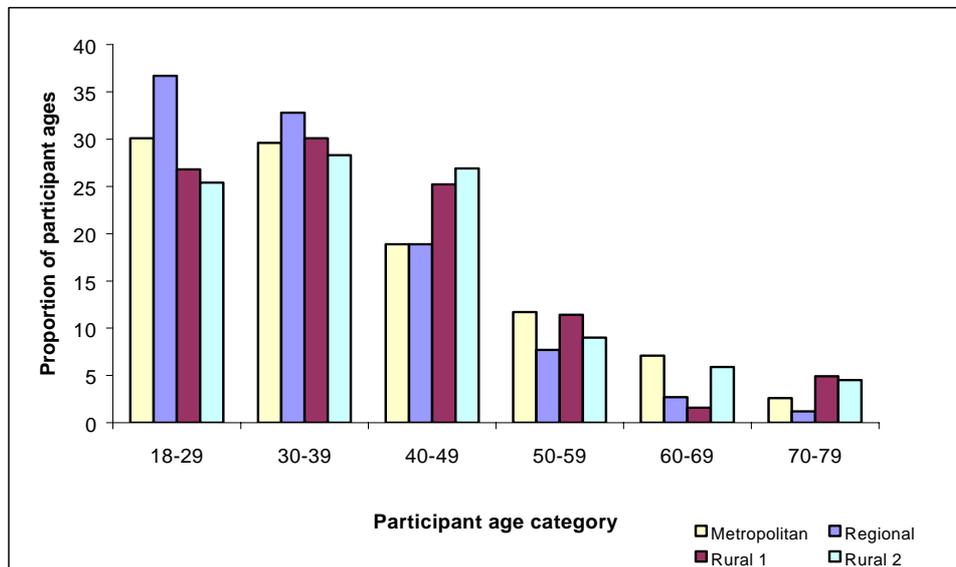


Table 18 shows the attendance frequency for the respondents at all four facilities. The responses for each category were proportionally similar across all facilities, with 2-4 times the most commonly selected category of attendance. Of respondents who reported attending the facility 7 times or more, 3% were from the regional facility.

Nearly two thirds of respondents at each facility spent 1-2 hours in physical exercise at the facility (Table 19). Furthermore, twice the number of respondents from the regional and rural 2 facilities selected 2-3 hours, with fewer than 5% of respondents selecting 3 hours or more.

There were no significant differences in the time spent engaging in physical activity outside of the facility (Table 20). Almost a third of respondents at each facility reported spending 1-2 hours in physical activity outside of the facility per week.

**Table 18: Frequency of respondent attendance at the four facilities**

Facility	% of sample				
	Less than a week	Once	2-4 times	5-6 times	7+ times
Metropolitan	1.4	32.4	59.9	5.8	0.5
Regional	0.7	29.5	53.8	12.8	3.1
Rural 1	1.6	33.1	58.3	5.5	1.6
Rural 2	0.0	27.4	57.5	13.7	1.4

**Table 19: Time spent at the facility in physical activity across all four facilities**

Facility	% of sample				
	< 30 mins	30 mins-1 hour	1-2 hours	2-3 hours	3+ hours
Metropolitan	1.4	32.4	59.9	5.8	0.5
Regional	0.7	29.5	53.8	12.8	3.1
Rural 1	1.6	33.1	58.3	5.5	1.6
Rural 2	0.0	27.4	57.5	13.7	1.4

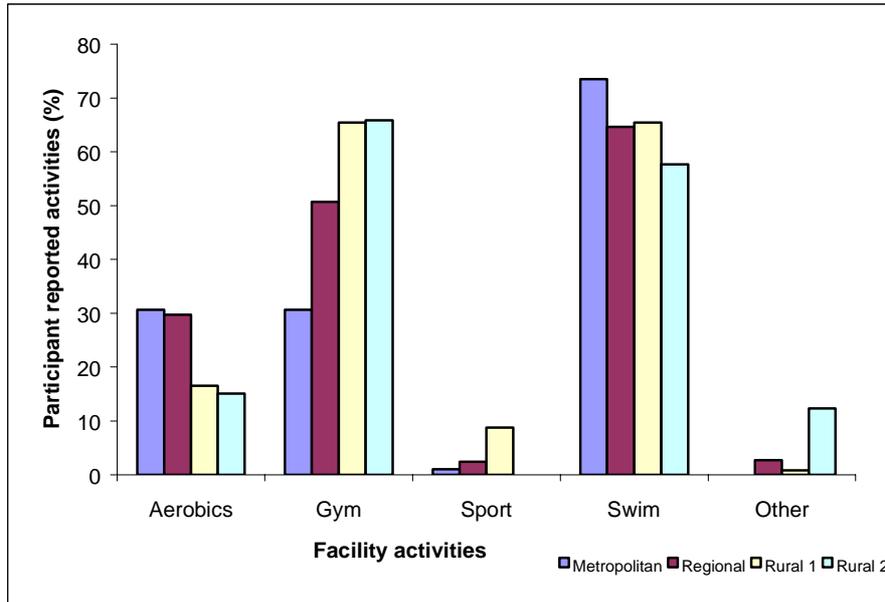
*(n = 698, 5 missing)***Table 20: Time spent engaging in physical activity outside of the facility per week**

Facility	% of respondents					
	None	<1 hour	1-2 hours	2-3 hours	3-4 hours	>4 hours
Metropolitan	8.1	19.3	23.2	17.4	11.6	20.3
Regional	9.1	12.2	24.1	16.1	14.3	24.1
Rural 1	2.3	10.9	20.3	19.5	17.2	29.7
Rural 2	6.8	17.8	20.5	23.3	13.7	17.8

*(n = 694, 9 missing)*

Figure 9 shows that at the time of the study, swimming, followed by the gym, were the most commonly reported selected activities at each of the facilities. Respondents were informed that they could select as many activities as appropriate. From the total number of responses, it can be assumed a number of respondents undertook more than one physical activity at the facility.

**Figure 9. Commonly reported activities participated in at each venue**



The proportion of respondents who reported adopting physical activity safety measures decreased as regionality increased (from 33% in metropolitan, 50% regional, 53% rural 1, 69% rural 2). Respondents from rural facility 2 had the highest positive response. The ratio of rural facility 2 respondents who practiced physical activity safety measures, in comparison to their metropolitan counterparts, was 2:1. Just on a third (33%) of respondents from the metropolitan facility reported that they performed physical activity safety measures.

This did not seem to relate to perceptions of the safety at their facilities (Table 21). Rural facility 2 had the highest proportion of positive responses than its metropolitan and regional counterparts.

**Table 21: A comparison of respondents' perceptions of safety at their facility**

Facility safety questions	% of responses			
	M	R	R1	R2
In your opinion, is this a safe facility?	93.8	94.3	96.8	94.0
Is safety an issue that concern you?	78.4%	69.0.0%	67.7%	72.2%
Is your opinion, do you think this facility is safer than other facilities in this locality?	31.9	24.6	25.6	33.3

The majority of respondents at each of the facilities believed that themselves and the facility were responsible for injury prevention within the facilities. There were no major differences in the proportion of responses across facilities.

When asked if the participant perceived injury prevention to be promoted at the facility, the general response was positive. A higher proportion of respondents at the regional (49%), rural 1 (50%) and rural 2 (47%) facilities agreed with this statement, in comparison to the metropolitan facility (31%).

Tables 22 and 23 compares the respondents' perceptions of safety and injury prevention across the facilities. Generally, over 90% of respondents at each of the facilities viewed safety as an important aspect of physical activity participation. However, fewer than 50% of all respondents considered safety to be their number one priority when engaging in physical activities.

Over 70% of respondents across all four facilities strongly agreed or agreed that individuals were responsible for their own safety and that appropriate safety measures should be performed for all physical activities. Respondents from rural facility 2 recorded the lowest proportion of strongly agree or agree in response to these statements, with 75% and 84% respectively.

Sixty eight per cent of respondents from the metropolitan facility reported that they would only participate in physical activity if they thought it was safe. Furthermore, 36% strongly agreed or agreed that they would only participate in physical activity if they knew they wouldn't be injured. Contrary to these statements, 27% would rather risk being injured than be too concerned about safety. In comparison, only 11% of rural facility 2 respondents strongly agreed or agreed with this statement.

The regional facility respondents were unified in their belief that being injured affects the level of enjoyment in physical activity (90%). They also associated a high risk of injury in physical activity (24%) and competition level sport (61%). For these statements the regional facility had the highest proportion of strongly agree or agree responses.

There was a general consensus in response to the effectiveness of physical activity measures in minimising the risk of injury to respondents, with the highest proportion of agreement from the rural facilities. Rural facility 1 strongly agreed or agreed with the concept of warming up before physical activity (98.4%) and rural facility 2 strongly agreed or agreed that warming protective equipment or clothing would increase their safety in physical exercise (60.6%).

**Table 22: Comparison of respondents' perceptions about their safety across facilities**

	Strongly agree/agree (% respondents)				Strongly disagree/disagree (% respondents)			
	M	R	R1	R2	M	R	R1	R2
Safety is an important aspect of physical activity	98	98.5	96.7	95.8	0.5	0.0	0.0	2.8
If I wore protective equipment or clothing I would be safer to participate in physical activity	58.7	56	55.3	60.6	11.7	12.8	14.6	19.7
I think warming up before participating in physical activity is important	96.5	95.5	98.4	94.4	0.0	1.1	0.8	1.4
Being injured affects my level of enjoyment in physical activity	88.5	90.3	88.5	88.4	5.5	4.1	8.2	0.0
I think there is a high risk of injury in participating in physical activity	17.5	23.6	18.7	20.6	65	58.2	66.7	63.2
I think there is a significant risk of injury in participating in competition level sport	59.1	61	57.3	50.7	27.7	24.3	32.2	24.6
I would rather risk being injured than be too concerned about safety	26.6	23.5	22.5	11.3	57.3	60.8	59.6	80.3
I only participate in physical activity if I think it is safe	68	56	58.5	59.2	20.5	29.9	27.7	26.7
I only participate in physical activity if I know I won't be injured	35.9	23.5	26	25.7	50.5	61.6	53.7	54.3
Safety is my number one priority when participating in physical activity	43.0	40.1	46	47.1	39.5	41.2	42.8	34.3
I believe that people should adopt the appropriate safety measures for every physical activity they partake in	90.8	93.6	92.8	84	2.5	2.3	1.6	7.2
I believe that each individual is responsible for their own safety	86.6	87.1	87.1	75.3	6.2	5.7	4.8	13

**Table 23: Comparison of reported perceptions of facility safety across facilities**

<i>Safety at the facility</i>	Response (%)							
	Agree				Uncertain			
	M	R	R1	R2	M	R	R1	R2
There needs to be more information about safety for the range of physical activities at this facility	39.7	34.8	25.8	28.8	41.2	31.1	32.3	37.9
Safety policies at this facility would significantly decrease my risk of injury	42.3	52.5	46.7	37.3	45.9	36.1	36.9	46.3
Safety education is provided to me by this facility and/or its staff	32.5	45.2	50.8	40.9	45.4	33.8	30.3	33.3
I believe it is safer to participate in physical activity/sport at a facility than at other places (e.g. park, outdoor courts)	46.6	36.9	38.0	30.3	22.3	23.2	25.6	39.4
Sport facilities should do more to promote safety	61.3	53.4	54.5	50.0	28.4	29.4	20.3	30.3
I believe more could be done to increase the safety of respondents at this facility	30.2	30.5	22.1	25.4	50.0	39.7	41.8	38.8

# CHAPTER 8 DISCUSSION AND CONCLUSIONS

## 8.1 INTRODUCTION

Despite growing awareness of the importance for health of participation in physical activity, and of the threat to physical activity participation posed by injury, the findings of this study confirm that injury prevention and risk management practices are inconsistently (and often inadequately) applied across the study sample of metropolitan, regional and rural health and fitness facilities. As the review of literature indicates, the implications of this for individuals, for their families, for their communities and for public health are far-reaching, and include the potential for detrimental outcomes economically, socially, politically and psychologically.

This study included both quantitative and qualitative approaches to data collection. Creswell (Cresswell 1998) notes that qualitative methods are particular useful in circumstances where an issue or topic might include variables which are not easily identified, and/or where there are behaviours for which explanatory theories are not readily available. As the following discussion indicates, the qualitative methods used in this research project have enabled the identification of a wide range of variables, as well as the highlighting of the interplay between variables.

In explaining the inconsistency and frequent inadequacy in the application of injury prevention and risk management activities, it is clear (both from the literature and from this project) that there are both 'environmental' and 'behavioural' factors involved. There is a close link between the presence or absence of structures enabling injury prevention and risk management (for example, policies, procedures, codes of practice, etc., as well as the physical properties to which they relate) in health and fitness centres, and the enactment or application of those structures. It is, in a sense, a circular argument. Only if the structures exist are they able to be applied, but the ways in which they are applied and the expectations concerning their application will also impact on the structures themselves and their effectiveness.

In public health terms historically, the classic example of this is the concept of immunisation which, in the middle decades of the 20<sup>th</sup> century all but eradicated diseases such as whooping cough from Australia. However, the perception that it was no longer a threat led to less rigorous implementation of immunisation programs and a decline in the structures which had provided access to such programs. The resulting decline in immunisation levels saw diseases such as whooping cough returning to significant levels during the latter years of the century (Bowes and Hayes 1999).

While some of the facilities in this study had structures in place enabling injury prevention and risk management, the extent to which such structures existed, were used and/or used effectively varied considerably. A number of factors were identified through the Facility Demographics Questionnaire and the Key Informant Interviews which might explain this variation in the extent and effectiveness of injury prevention and risk management practices within the study facilities.

## **8.2 KEY ISSUES UNDERPINNING INCONSISTENCIES IN INJURY PREVENTION PRACTICES**

Four broad issues were identified as impacting on injury prevention practices within the health and fitness centres in which this study was undertaken:

- variations in the sources of influence over and/or control of injury prevention policies and practices (including the absence of guidelines and standards covering health and fitness centre operations)
- variations in the responsibilities of facility managers and in the staffing levels of facilities (and therefore, variations in the amount of time available to consider issues of injury prevention)
- variations in the initial qualifications of facility managers and/or staff, and in ongoing professional development/training in the area of injury prevention
- differences between facilities in terms of the profile of facility users, and in their attitudes and expectations
- Other factors/combinations of factors.

The following discussion explores these key reasons for the inconsistencies in injury prevention practices across the facilities studied, and identifies ways in which the factors undermining effective injury prevention strategies might be overcome in both the short-term and the longer-term. The discussion is organised around four key issues or themes: guidelines and standards; responsibilities; education & training; user expectations.

### **8.2.1 Guidelines and standards: lack of comprehensive guidelines and standards for health and fitness facilities**

While there was clearly variation in the extent to which facilities had in place policies and procedures relating to injury prevention and risk management, to some degree at least the study indicated that this could be traced back to the lack of comprehensive guidelines and standards for the safe operation of health and fitness facilities in Australia (see Section 2.5). Despite the National Injury Prevention Advisory Council highlighting, in 1999, the responsibility of health and fitness facility owners and/or operators to provide a safe environment, no national standards or guidelines have been developed which cover the scope of activities occurring in such facilities. Key Informants noted that, although standards have been developed for some areas of operation (for example, the documented industry standards for the safe operations of aquatic areas and child-care areas), in other areas peak bodies have yet to develop such standards, while in some areas no peak industry body even exists. In view of this inconsistency, it is not surprising that Key Informants in this study expressed concern about the paucity of resources in some areas of operation to enable them to benchmark safety standards and make informed decisions regarding safe operations.

It was noted that unique injury prevention policies and practices were required for each area of operations, and that the ability of a single facility management team to offer expertise in injury prevention in each area of operations appears to have an inverse relationship to the number of physical activity programs they offer. Because of this, there is a reliance on leading industry bodies to set the standard for injury prevention, and to communicate it to facility managers. Since Key Informants rated injury prevention very highly against other priorities, they seemed prepared to

consider and to implement these standards at their facility, if they were available and known. However, even if all peak industry bodies had developed standards for the safe operation of health and fitness facilities, the multiplicity of peak organizations with which facility managers would need to liaise to keep abreast of the requirements was seen by Key Informants as daunting.

To overcome these problems, there is a need for the development of clear guidelines and standards, covering the whole range of activities undertaken within health and fitness facilities, and for their unambiguous communication to facility managers and staff through a single mechanism.

### **8.2.2 Responsibilities: Variations in the responsibilities of facility managers and in the staffing levels of facilities**

The responsibilities of facility managers and the level of staffing within facilities vary considerably. While two of the facilities had managers whose role was simply management, the other two facility managers also had additional responsibilities, including oversight of occupational health and safety. These multiple responsibilities may be seen as a 'two-edged sword': while they may enhance awareness of safety issues (because of the OHS responsibilities), they also impact on the amount of time available for overall management, including development of policies and procedures relating to injury prevention.

Despite the fact that all facilities were said to be used by more than 10,000 people per year, the levels of staffing varied considerably across the facilities. Both the metropolitan and regional facilities had more than 55 staff each, whereas the rural facilities had only 10 and 15 staff respectively. In addition, the manager of the regional facility noted the involvement of 15 to 20 volunteers per week. Potentially, low staff to user ratios may mean inadequate supervision and a reduced capacity to implement injury prevention strategies. However, it may be that the variation in numbers of employees relates more to the time fraction of employees, with the metropolitan and regional facilities employing more casual and/or part-time staff. If this is the case, where larger numbers of staff and/or volunteers are involved, more robust management strategies (including clearer specification of roles and responsibilities) are likely to be required to ensure consistency of application of injury prevention policies and practices.

The locus of responsibility for ensuring that injury prevention strategies are adopted and implemented within health and fitness facilities also appears from this study to be variable. Risk management departments of local government councils and facility management companies were seen as an important resource for facility managers, and Key Informants felt well-resourced by having easy access to this level of risk management expertise to assist them in their general information-seeking or decision-making. However, there was still a considerable responsibility placed on Key Informants to 'fine-tune' general risk management principles to the level required for implementation. An example raised at both the regional and metropolitan facilities was that of safe distances between pieces of equipment in the gymnasium. Risk management policies identified the need for pieces of equipment to be positioned at a 'safe distance' from one another, however actual distances apart were left to Key Informants to determine.

Variations in the nature of injury prevention policies may also reflect the specific concerns of the organizational departments or structures from which they emerge, rather than reflecting a 'big picture' approach to the issue of injury prevention. For example, the types of injury prevention and

risk management practices described by Key Informants in this study related to a range of business administration areas, including:

- human resources – such as appropriate qualifications of program staff delivering physical activity instruction to patrons
- finance – the financial impact to the facility of patrons not returning due to injury was recognized by Key Informants, and objectives such as “zero injuries” (KI10) were built into business plans
- communication – the methods by which facility standards and safety messages were delivered to patrons, such as signage and verbal instruction
- operations – such as regular auditing of equipment to maintain safety of usage.

While a range of facility management policies addressed injury prevention and risk management in the study facilities, these policies were strongly associated with setting and maintaining occupational health and safety facility standards, and were driven by legal and insurance requirements rather than any injury prevention incentives. Physical activity injury prevention policies were incorporated into and managed under the occupational health and safety umbrella, and no facility in this study managed physical activity injury prevention as a distinct entity.

As well, there appears to be a decided variability in the ‘formality’ of policies and procedures both within and between the facilities studied. While some are formal written policies, others are at best informal ‘shared understandings’. The danger with such informal ‘policies’ is that understandings are not always as clearly shared as they are assumed to be. There is also the danger that policies which are not written down may (at worst) be ‘lost’ or ‘revised’ unintentionally, or (at the very least) run the risk of being overlooked. This is particularly likely to occur in facilities where responsibility for the communication and implementation of policies and procedures is poorly defined. Just because a facility manager believes that everyone is responsible for injury prevention, does not mean that everyone takes that responsibility seriously. The notion of ‘everybody’ being responsible can very easily slide into ‘nobody’ being responsible. Conversely, it can also result in some staff members taking injury prevention and risk management beyond what is perceived by patrons to be a ‘reasonable level’, resulting in patrons resenting what are perceived to be unnecessary restrictions on their activities.

To address these issues, comprehensive policies relating to injury prevention and risk management within health and fitness facilities need to be developed and documented, including the responsibilities for implementation.

### **8.2.3 Education and training: variations in the capacity of facility staff to implement and facilitate injury prevention strategies**

The level of training and education in respect of injury prevention and risk management varied considerably across the facilities studied. Two of the facilities had managers with university degrees in which injury prevention was included, whereas two had managers with TAFE qualifications. However, the most telling difference appears to be in relation to ongoing professional development. The managers with university degrees had done their training more than 5 years prior to the study being undertaken; yet they stated that there was no requirement for them to periodically update their training in the area of injury prevention. By contrast, those with

TAFE qualifications stated that there was a requirement for regular (i.e. six- to twelve-monthly) updating of their education and training about injury prevention. This raises several important issues: what is the origin and enforceability of the requirement for ongoing professional development for managers of health and fitness centres? And is there a danger that managers with higher initial qualifications may be lulled into a false sense of security concerning their knowledge about injury prevention and risk management? It seems likely that, whatever the initial level of training, managers and/or staff who do not participate in professional development will fall behind in terms of the currency of their injury prevention knowledge and practices.

This study indicated that there may well be significant variations in the level of knowledge of facility staff and their competence in injury prevention and risk management. Lack of clear specification of competencies and a pattern in some facilities of relying on assumptions about knowledge and competence, based on staff being 'qualified', leaves facilities at risk of inconsistent and/or inadequate implementation of injury prevention and risk management practices. Moreover, the acknowledgement by some key informants in this study that skills in injury prevention and risk management are most likely gained through the 'basic training' undertaken by 'program staff' – ie. those responsible for delivering exercise prescription programs – implies that other staff in the facilities, including management and administrative staff may have no skills or knowledge in injury prevention and risk management. This could be of serious concern if the development and communication of policies and procedures (including those on injury prevention and risk management) is primarily their responsibility.

Another training-related concern is the fact that some facilities reported relying (at least to some degree) on printed material, including brochures and 'injury updates' in magazines. This approach relies on the willingness and capacity of staff to read, understand and be able to apply the information provided.

The capacity of staff and facilities to provide adequate training for facility users in injury prevention and risk management is another issue. Variability in the competence of staff both in the theories and techniques of injury prevention and risk management, and in the techniques of communication and education necessary to provide effective training to facility users, may result in users of some facilities being less capable of protecting themselves from injury. As well, the lack of a legislative requirement for users of facilities to show evidence of medical clearance before participating in programs or activities leaves staff in a weakened position in trying to implement injury prevention and risk management practices.

The ability to require (or even offer) injury prevention and risk management advice to casual users as distinct from regular members appears to be even more problematic. The differing service levels to these users was acknowledged by Key Informants, but little information was offered about injury prevention strategies for casual users, other than requiring these users to sign a waiver form. From a risk management perspective, the literature suggests that waivers may be effective in managing liability, but that they do not prevent injuries from being sustained. According to facility demographics data, a substantially greater proportion of physical activity participation at all four facilities was attributed to casual patronage, rather than member patronage.

#### **8.2.4 User profiles and expectations: differences between facilities in terms of the profile of facility users, and in their attitudes and expectations**

The data generated by this study indicates that there is considerable variation in the profile of users across the facilities, in terms of their age, the nature of their use and/or membership of the facilities, and their attitudes and expectations.

At the regional facility, 40% of users are aged 18 years or less, whereas in one of the rural facilities, 40% are aged more than 50 years. Data from key informant interviews suggests that the young, especially young males, are more inclined to risk-taking behaviour, and may therefore pose a higher risk in terms of injury. While older facility users were generally considered to be more cautious in their approach to physical activity, they may also face the risk of injury due to their age (including declining bodily flexibility and other potential age-related health issues), and a tendency to adopt patterns of physical activity that were commonly accepted in earlier times but which recent research has shown to be risky. Accordingly, facilities with higher proportions of users in the younger and older age groups may face increased injury risks when compared with other facilities, and may need to adopt specifically targeted injury prevention strategies.

Another aspect of the user-profile highlighted through the key informant interviews was the nature of the use and/or membership of the facilities. Three distinct groups of facility users were identified: casual users, who are occasional users and therefore tend to miss out on training and education programs offered in relation to injury prevention; members/regular users, who are commonly involved in pre-activity assessments, training and ongoing monitoring; and users with specialist needs whose activities are often undertaken under close supervision. Assessments by facility managers of the peak membership over the 12 months preceding this study indicate that fewer than 10% of users at the rural facilities were members. Potentially, this may mean that users of the rural facilities have a higher injury risk than users of the metropolitan and regional facilities, as they are less likely to be involved in education and training.

In addition to variations in the implementation of injury prevention policies and procedures by facility staff, and in the injury prevention knowledge of facility users, the attitudes and behaviour of users also affect such implementation. Responses from key informants as well as the facility users' survey indicate that there are variations in the extent to which safety is recognised by users as an important issue. Fewer than half of the respondents to the facility users' survey indicated that safety was a priority for them. Age appears to be a key correlate in lack of concern about safety, with younger people more likely to act in ways that might make themselves (or others) prone to injury. While one key informant noted that "only 10%" of facility users exercised in unsafe ways, this is cause for concern, since there is potential for others seeing such behaviour to adopt the view that unchecked behaviour of that nature by others must mean that it is acceptable. The potential for such a pattern to undermine the injury prevention practices in facilities is obvious. Even where facility users do not deliberately challenge injury prevention policies and procedures, there was inconsistency reported from the study facilities in the extent to which users adopt protective equipment.

The study also indicated a tendency for facility users to devolve responsibility for injury prevention to facility staff, rather than recognising their own role in preventing injuries. Key informants noted that facility users "look (for) qualified staff" and assume that the presence of qualified staff means that something will be done by the staff if a problem arises, thus allowing facility users to abdicate responsibility for injury prevention.

There was a clear distinction between the priorities of facility staff and those of facility users in relation to physical activity safety. While safety was said to be the number one priority of Key Informants, the survey of users found that, from a selection of ten options, 'it's a safe facility' ranked ninth in users' priorities when selecting a health and fitness facility. Given that the business objectives of facility management teams was to increase and retain patronage, it would seem reasonable from a marketing perspective that the selling points of health and fitness facilities were closely aligned to the priorities of its customers. This could be a factor in why the safety policies and procedures at facilities seemed to operate 'behind the scenes', and many were not overtly communicated to users.

### **8.2.5 Other factors/combinations of factors**

Location (in terms of being a rural, regional or metropolitan facility) did not appear to have any particular correlation with the extent of injury prevention or risk management practices implemented by facilities. However, the facility users' survey indicates that rural participants do appear to practice a higher level of physical activity safety measures when compared to their urban counterparts. This correlation needs testing via more widespread quantitative research, as well as qualitative research to explore the meanings behind it.

A combination of other factors, including staff turnover, changes in the nature of the health and fitness industry, and changes in the legislative frameworks affecting the industry (including changes affecting insurance), were highlighted as underlying factors in much of the uncertainty about injury prevention and risk management within the facilities studied. Keeping up with changes, and ensuring compliance, is made more difficult by the fact that there is not one single source or type of change. Respondents suggested that development of an industry-wide standard and a single regulatory body would reduce the complexity facing facilities and would encourage compliance.

Transitions in management were also identified as affecting the familiarity with, and levels of commitment to, injury prevention policies and procedures. Variations in staffing levels (often related to financial constraints) and the confidence of individual staff members in dealing with users' objections to procedures such as obtaining medical clearance may also affect the extent to which injury prevention and risk management policies and procedures are enforced. Moreover, the 'ad hoc' approach to establishing and maintaining staff awareness of the need to apply any existing injury prevention policies and procedures further undermines the capacity of facilities to implement effective injury prevention and risk management.

## **8.3 IMPLICATIONS**

This study has demonstrated considerable variations in the extent to which injury prevention and risk management practices are implemented in the study facilities. A range of factors underpinning these variations has been identified, including both structural factors and behavioural factors, as well as the interplay between the two.

Of critical importance are issues relating to the absence of consistent and relevant safety standards for Australian health and fitness centres, including standards relating to training of staff and key competencies. A key aspect of such training needs to be induction and ongoing

professional development training in relation to standards, policies and procedures, to ensure that shared understandings among staff are, indeed, shared.

Responsibilities for implementation of policies and procedures need to be clearly spelled out, and requirements of users in terms of safety practices need to be formalised and incorporated into enrolment procedures. Communication of the importance of injury prevention and risk management policies and procedures needs to receive higher priority, and the potential costs of failure to enforce injury prevention need to be given the same level of credence as the costs associated with loss of membership due to user resistance to such measures.

Ultimately, physical activity participation will only be sustained if it can occur safely, and the public health issues associated with a lack of physical activity – already at unacceptably high levels – will be exacerbated unless actions are taken to address the factors undermining the capacity of health and fitness centre staff to turn their commitment to safety into reality.

## **CHAPTER 9 RECOMMENDATIONS**

The recommendations and discussion that follow are attempting to address the multi-factorial problems in the physical activity settings studied. At the end of this chapter are recommendations for short and long term action plans.

### **9.1 INDUSTRY STANDARDS**

There is an obvious lack of standardization of practice and knowledge in regard to specific risk management needs in physical activity settings. The needs of each centre and facility will be inherently different because of the facilities and programs offered and the demographics of the client base. The following recommendations are made:

- a set of standardized risk management plans are drawn up for each of the main activities undertaken in physical activity facilities not already covered by industry standards eg., gymnasiums, group fitness classes, personal training, sports hall activities and any aquatic activity not covered by existing standards
- the standards should be developed by a peak body with credibility in the industry and be developed in conjunction with injury prevention /risk management /insurance experts
- the developed standards should include flexibility to cover a range of facilities taking into account the size, scope and location of each facility as well as the type of facility user (casual versus member)

### **9.2 STAFF QUALIFICATIONS AND TRAINING**

The findings of the study projected problems in areas of staff qualifications, the clients' perceptions of the qualifications of staff and communication between staff, management and clients. The following recommendations are made:

#### **General**

- Industry standards are set for minimum and preferred qualifications of staff employed in program delivery areas. The industry must look at appropriate qualifications for different levels of responsibility in program delivery and look at the knowledge and characteristics of both TAFE training and University trained professionals
- educational institutions (Universities/TAFE sector) which educate and train people to work in the fitness industry should be encouraged to incorporate both risk management and injury prevention education as a core in all programs

#### **Facility specific**

- facilities should aim to employ staff from educational programs where risk management/injury prevention training was a core component
- each facility should have written policies in place for:
  - induction of new staff
  - induction for promoted staff where their responsibilities have changed

- ongoing updates and new procedures training. This should not be dependent on the individual but rather a program structured by the facility manager and should include both full-time and part-time staff.

- to ensure that the recommendation above can be undertaken, the industry peak body should provide information relevant to the industry. This could be done by a continuing education program by way of seminars, by web-based communications or through written updated material
- facilities should ensure that policies and procedures are documented and updated given the high staff turnover evident from the study.

### **9.3 MOTIVATORS FOR THE UPTAKE OF INJURY PREVENTION MEASURES**

The key motivator appears to be the facilities' insurance policies. Even though this is clearly evident from the study, the uptake of injury prevention measures is non systematic and the effect of the insurance policy on practice is not clearly evident. It is clear that the motivation is low and that the barriers to the uptake of injury prevention measures are more significant. Until the barriers can be addressed, to make recommendations about motivators would be a paper exercise at best and would be too speculative to act upon.

### **9.4 BARRIERS TO THE UPTAKE OF INJURY PREVENTION MEASURES**

The identified barriers of uncertainty about safety standards, lack of formal requirements, consistency of practices, lack of appropriate training and supervision for staff would be addressed if recommendations 9.1 and 9.2 were adopted. The standards developed in 9.1 should address other barriers including the requirement for the screening of clients and the role of fitness facilities to educate their clients and the general public. This latter point could be linked to current practices in community health facilities.

#### **Recommendation:**

- the barriers identified in the study could largely be addressed by the setting of comprehensive industry standards.

#### **9.4.1 Facility clients**

The clients did not rank safety of the facility highly in terms of selection, however just under 50% did use safety measures and 72% agreed that safety was an issue that concerned them. The mixed messages coming from the client base would indicate that their knowledge of safety practices and procedures and the possible consequences of being injured were not fully understood. The recommendations are:

- the general public should be educated to understand the value and connection between
  - physical activity and general health
  - exercising safely in a safe environment
  - their own role in exercising safely
  - the role and responsibilities of physical activity facility providers.

- this education should include topics such as
  - hydration requirements
  - correct equipment e.g. shoe type
  - safe use of equipment
  - the role of physical activity in decreasing the risk of conditions such as diabetes and heart disease
  - what to look for in a safe facility

#### **9.4.2 Location specific**

The geographical location of the facilities studied provided different results from those expected, that is, the rural facilities and their clients seemed more aware of injury prevention practices than their regional or metropolitan counterparts. The reasons are unclear but one possibility is the smaller staff to client ratio in rural locations and hence the increased possibility of one on one instruction or on the client being known to the staff member.

#### **Recommendation:**

- facilities with high client to staff ratios should place more attention on the education of clients to ensure that exercise is undertaken safely either under supervision or independently, in these busy environments.

### **9.5 RECOMMENDED ACTION PLAN**

#### **9.5.1 Short-term**

- a peak body for health and fitness facilities is set-up. This body should have regulatory powers.
- a collation of existing risk management/injury prevention measures be undertaken to deliver to health and fitness facilities interim guidelines for safe conduct of activities. These should incorporate factors relating to age groups of clientele, type of activities undertaken, nature of clients (casual vs members).
- a system is developed to guide health and fitness facilities in the implementation and ongoing training of staff, both full-time, casual and volunteer.
- a program of professional development be developed in conjunction with TAFE and Universities to offer short courses in specific areas of risk management and injury prevention.
- a public campaign be launched to link the benefits of exercise with safe practices in health and fitness facilities.
- health and fitness facilities are assisted in delivering up-to-date material for their clients on exercising safely and be assisted in the implementation of these programs.

### **9.5.2 Long-term**

- the peak body develops procedures and protocols from existing practices, research literature, international guidelines and input from professionals in the area of risk management, injury prevention, health promotion and insurance.
- the peak body is responsible for the introduction of regulated procedures and protocols to all health and fitness facilities in the Victoria.
- the peak body sets minimum and preferred standards for staff in health and fitness facilities.
- the peak body lobbies tertiary educational institutions to include risk management/injury prevention studies as core subjects within their certificates and degrees both undergraduate and coursework postgraduate.

## CHAPTER 10 REFERENCES

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# APPENDIX ONE: THE FACILITY DEMOGRAPHICS QUESTIONNAIRE



## FACILITY DEMOGRAPHICS

Completed by Facility Manager

When completing the questionnaire, please highlight or tick the box that best represents the situation at your facility.

### RANGE OF PHYSICAL ACTIVITY PROGRAMS

Please identify all the physical activity programs available at your facility:

1. Dry Area Programs
- Gymnasium
  - Group Fitness Classes
  - Personal Training
2. Wet Area Programs
- Learn to Swim
  - Lap Swimming
  - Aqua Aerobics
  - Hydrotherapy
  - Children's Play Area
  - Recreational Play Area
3. Games (Indoor/Outdoor)
- Organised Sports (Individual)
  - Organised Sports (Team)
  - Unstructured Sports (Individual)
  - Unstructured Sports (Team)
  - Recreational Play (Individual)
  - Recreational Play (Group)

## ROLE OF FACILITY MANAGER

4. In addition to your role as 'Facility Manager', do you assume any other positions within the facility?  Yes  No (go to Q5)

If 'Yes', please identify as appropriate:

- |  |  |
|--|--|
| <input type="checkbox"/> Program Manager               | <input type="checkbox"/> Dry Area Programs Coordinator |
| <input type="checkbox"/> Wet Area Programs Coordinator | <input type="checkbox"/> Multipurpose Area Coordinator |
| <input type="checkbox"/> Fitness Instructor            | <input type="checkbox"/> Sports Trainer                |
| <input type="checkbox"/> Coach                         | <input type="checkbox"/> OH&S Officer                  |
| <input type="checkbox"/> First Aid Coordinator         | <input type="checkbox"/> Nurse                         |
| <input type="checkbox"/> Medical Coordinator           | <input type="checkbox"/> Referee                       |
| <input type="checkbox"/> Other (please specify):       |  |

## INSURANCE

5. Is the facility insured?  Yes  No (go to Q6)  Unsure (go to Q6)

If 'Yes', name the type (eg. 'public liability') and level of this insurance:

### THE FACILITY

Name of type of insurance

Amount of insurance (\$)

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 1 million   | <input type="checkbox"/> 1 – less than 2 million   |
| <input type="checkbox"/> 2 – less than 5 million   | <input type="checkbox"/> 5 – less than 10 million  |
| <input type="checkbox"/> 10 – less than 15 million | <input type="checkbox"/> 15 – less than 20 million |
| <input type="checkbox"/> 20 – less than 50 million | <input type="checkbox"/> more than 50 million      |

### THE STAFF

Name of type of insurance

Amount of insurance (\$)

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 1 million   | <input type="checkbox"/> 1 – less than 2 million   |
| <input type="checkbox"/> 2 – less than 5 million   | <input type="checkbox"/> 5 – less than 10 million  |
| <input type="checkbox"/> 10 – less than 15 million | <input type="checkbox"/> 15 – less than 20 million |
| <input type="checkbox"/> 20 – less than 50 million | <input type="checkbox"/> more than 50 million      |

## THE VOLUNTEERS (IF APPLICABLE)

Name of type of insurance

Amount of insurance (\$)

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 1 million   | <input type="checkbox"/> 1 – less than 2 million   |
| <input type="checkbox"/> 2 – less than 5 million   | <input type="checkbox"/> 5 – less than 10 million  |
| <input type="checkbox"/> 10 – less than 15 million | <input type="checkbox"/> 15 – less than 20 million |
| <input type="checkbox"/> 20 – less than 50 million | <input type="checkbox"/> more than 50 million      |

## THE PARTICIPANTS

Name of type of insurance

Amount of insurance (\$)

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 1 million   | <input type="checkbox"/> 1 – less than 2 million   |
| <input type="checkbox"/> 2 – less than 5 million   | <input type="checkbox"/> 5 – less than 10 million  |
| <input type="checkbox"/> 10 – less than 15 million | <input type="checkbox"/> 15 – less than 20 million |
| <input type="checkbox"/> 20 – less than 50 million | <input type="checkbox"/> more than 50 million      |

## ACCREDITATION

6. Is your facility a member of/accredited/registered with a professional association (eg Fitness Victoria)? Yes No (go to Q7)

If yes, which professional association?

7. Are you personally a member of/accredited/registered with a professional association (eg Australian Institute of Management)?

Yes

No (go to Q8)

If yes, which professional association?

## PARTICIPANTS

8. What was the total approximate number of adults (ie. over 18 years old) utilising Ballarat Aquatic Centre in the last 12 months (including members, casual visits and sporting club members, etc)?

- 0 – less than 100       100 – less than 200       Don't know  
 200 – less than 400       400 – less than 600  
 600 – less than 800       800 – less than 1,000  
 1,000 – less than 2,000       2,000 – less than 5,000  
 5,000 – less than 10,000       more than 10,000

9. What was the approximate peak membership number (ie. the highest number of memberships recorded at a given time) at the facility in the last 12 months (including gym memberships, club/squad memberships, program memberships)?

- 0 – less than 100       100 – less than 200       Don't know  
 200 – less than 400       400 – less than 600  
 600 – less than 800       800 – less than 1,000  
 1,000 – less than 2,000       2,000 – less than 5,000  
 5,000 – less than 10,000       more than 10,000

10. Approximately how many casual users (ie. persons who do not have an ongoing membership at the facility) would the facility have serviced in the last 12 months?

- 0 – less than 100       100 – less than 200       Don't know  
 200 – less than 400       400 – less than 600  
 600 – less than 800       800 – less than 1,000  
 1,000 – less than 2,000       2,000 – less than 5,000  
 5,000 – less than 10,000       more than 10,000

11. What is the approximate age group break-down (use percentages) of people utilising the facility?

18 and under	<input type="text"/>	19 – 30	<input type="text"/>
31 – 40	<input type="text"/>	41 – 50	<input type="text"/>

51 – 60	<input type="text"/>	61 – 70	<input type="text"/>
70 +	<input type="text"/>	Don't know	<input type="text"/>

## STAFF

12. How many staff are employed at this facility (in numbers)?

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 5   | <input type="checkbox"/> 5 – less than 10  |
| <input type="checkbox"/> 10 – less than 15 | <input type="checkbox"/> 15 – less than 20 |
| <input type="checkbox"/> 20 – less than 25 | <input type="checkbox"/> 25 – less than 30 |
| <input type="checkbox"/> 30 – less than 35 | <input type="checkbox"/> 35 – less than 40 |
| <input type="checkbox"/> 40 – less than 45 | <input type="checkbox"/> 45 – less than 50 |
| <input type="checkbox"/> 50 – less than 55 | <input type="checkbox"/> 55 – less than 60 |
| <input type="checkbox"/> 60 – less than 65 | <input type="checkbox"/> 65 – less than 70 |
| <input type="checkbox"/> 70 – less than 75 | <input type="checkbox"/> 75 – less than 80 |
| <input type="checkbox"/> 80 – less than 85 | <input type="checkbox"/> 85 – less than 90 |
| <input type="checkbox"/> 90 – less than 95 | <input type="checkbox"/> more than 95      |

13. Of the total number of staff, how many hold a 'senior management' position?

- |   |                                    |
|---|------------------------------------|
| <input type="checkbox"/> None (go to Q14) | <input type="checkbox"/> 1         |
| <input type="checkbox"/> 2                | <input type="checkbox"/> 3         |
| <input type="checkbox"/> 4                | <input type="checkbox"/> 5         |
| <input type="checkbox"/> 6                | <input type="checkbox"/> 7 or more |

How many of these 'senior managers' are employed:

In a full-time capacity?

In a part-time capacity?

In a casual capacity?

14. Of the total number of staff, how many hold a 'middle management or coordinator' position?

- |   |                                 |
|---|---------------------------------|
| <input type="checkbox"/> None (go to Q15) | <input type="checkbox"/> 1 - 2  |
| <input type="checkbox"/> 3 - 4            | <input type="checkbox"/> 5 - 6  |
| <input type="checkbox"/> 7 - 8            | <input type="checkbox"/> 9 - 10 |

more than 10

How many of these 'middle managers or coordinators' are employed:

In a full-time capacity?

In a part-time capacity?

In a casual capacity?

15. Of the total number of staff, how many hold a 'program staff' position?

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 5   | <input type="checkbox"/> 5 – less than 10  |
| <input type="checkbox"/> 10 – less than 15 | <input type="checkbox"/> 15 – less than 20 |
| <input type="checkbox"/> 20 – less than 25 | <input type="checkbox"/> 25 – less than 30 |
| <input type="checkbox"/> 30 – less than 35 | <input type="checkbox"/> 35 – less than 40 |
| <input type="checkbox"/> 40 – less than 45 | <input type="checkbox"/> 45 – less than 50 |
| <input type="checkbox"/> 50 – less than 55 | <input type="checkbox"/> more than 55      |

How many of these 'program staff' are employed:

In a full-time capacity?

In a part-time capacity?

In a casual capacity?

16. Do any volunteers or parents take part in the operations of this facility?

- Yes  No (go to Q17)

If 'Yes', how many volunteers play a part in operations per week?

- |  |  |
|--|--|
| <input type="checkbox"/> 0 – less than 5   | <input type="checkbox"/> 5 – less than 10  |
| <input type="checkbox"/> 10 – less than 15 | <input type="checkbox"/> 15 – less than 20 |
| <input type="checkbox"/> 20 – less than 25 | <input type="checkbox"/> 25 – less than 30 |
| <input type="checkbox"/> 30 – less than 35 | <input type="checkbox"/> 35 – less than 40 |
| <input type="checkbox"/> 40 – less than 45 | <input type="checkbox"/> 45 – less than 50 |
| <input type="checkbox"/> 50 – less than 55 | <input type="checkbox"/> more than 55      |

In what capacity do they participate?

**PERSONAL DETAILS**

17. How long have you held your current position with this employer?

- |   |  |
|---|--|
| <input type="checkbox"/> 0 – less than 6 months       | <input type="checkbox"/> 6 months – less than 1 year |
| <input type="checkbox"/> 1 year – less than 3 years   | <input type="checkbox"/> 3 years – less than 5 years |
| <input type="checkbox"/> 5 years – less than 7 years  | <input type="checkbox"/> 7 years – less than 9 years |
| <input type="checkbox"/> 9 years – less than 11 years | <input type="checkbox"/> more than 11 years          |

18. In total, how much experience do you have in this and similar positions?

- |   |  |
|---|--|
| <input type="checkbox"/> 0 – less than 6 months       | <input type="checkbox"/> 6 months – less than 1 year |
| <input type="checkbox"/> 1 year – less than 3 years   | <input type="checkbox"/> 3 years – less than 5 years |
| <input type="checkbox"/> 5 years – less than 7 years  | <input type="checkbox"/> 7 years – less than 9 years |
| <input type="checkbox"/> 9 years – less than 11 years | <input type="checkbox"/> more than 11 years          |

19. What is your highest level of education achieved?

- |   |  |
|---|--|
| <input type="checkbox"/> High school            | <input type="checkbox"/> TAFE or trade qualification |
| <input type="checkbox"/> University degree      | <input type="checkbox"/> Higher degree               |
| <input type="checkbox"/> other, please specify: |  |

20. What is your highest level of education / training / certification / accreditation with respect to physical activity injury prevention?

- |   |  |
|---|--|
| <input type="checkbox"/> High school            | <input type="checkbox"/> TAFE or trade qualification |
| <input type="checkbox"/> University degree      | <input type="checkbox"/> Higher degree               |
| <input type="checkbox"/> other, please specify: |  |

Please specify the name of this level of education / training / certification or accreditation:

From what organisation did you obtain it?

21. When did you attain this level?

- |  |   |
|--|---|
| <input type="checkbox"/> 0 – less than 1 year  | <input type="checkbox"/> 1 – less than 3 years  |
| <input type="checkbox"/> 3 – less than 5 years | <input type="checkbox"/> 5 – less than 7 years  |
| <input type="checkbox"/> 7 – less than 9 years | <input type="checkbox"/> 9 – less than 11 years |
| <input type="checkbox"/> more than years       |   |

22. Is there a requirement to periodically update this level of education / training / certification / accreditation?

- Yes  No

If 'Yes', how often are you required to update this level?

- |  |   |
|--|---|
| <input type="checkbox"/> 0 – less than 1 month       | <input type="checkbox"/> 1 month – less than 6 months |
| <input type="checkbox"/> 6 months – less than 1 year | <input type="checkbox"/> 1 year – less than 2 years   |
| <input type="checkbox"/> 2 years – less than 3 years | <input type="checkbox"/> 3 years – less than 4 years  |
| <input type="checkbox"/> 4 years – less than 5 years | <input type="checkbox"/> more than 5 years            |

END OF SURVEY. THANK YOU FOR YOUR PARTICIPATION.

## APPENDIX TWO: THE KEY INFORMANT INTERVIEW SCHEDULE

Thank you for agreeing to participate in this research. At the present time there is very little information on the links between community level physical activity, injury and injury prevention. With your assistance, this study will fill some of the knowledge gaps in this area, particularly:

To what extent physical activity injury prevention activities are utilised at physical activity facilities?

What are the barriers or facilitators to adopting physical activity injury prevention measures?

I'd like to explain what this study means by 'physical activity injury prevention'. (Show 'Physical Activity Injury Prevention Responsibility in Facilities' concept diagram.) We understand that facility management is responsible for overall safety and injury prevention at the facility, including the areas identified as 'infrastructure' on the diagram. However, we are mostly interested in safety and injury prevention in areas where physical activity takes place, such as the pool, gym, and multipurpose areas. We are interested in speaking to facility staff to gain their perspectives on the current policies and practices, and in another part of the study, participants will also be surveyed to gain their perspectives on these topics.

This study aims to explore the extent to which physical activity environments and settings facilitate and promote injury prevention activities, and to identify the existing factors that act as barriers to adopting safety measures. Urban and rural Victorian physical activity facilities will be compared in this study.

Due to the range of physical activities that are conducted at the venue, (facility name) has been randomly chosen as an appropriate venue for this research. It is important to note that although the information gathered will be aggregated, it will remain confidential and individual facilities will not be identified in the final report. In addition, we will not be looking for 'right' or 'wrong' answers – we wish to instead look at 'why' and 'how' certain practices are adopted at your facility. It is hoped that the information collected in this project will provide information about how to assist venues to become a safer place for physical activity participation, and to what degree these actions will attract more participants to utilise facilities.

I would like to ask you a few questions and, with your permission, to tape this interview. The process will take approximately one hour. The interview will focus on 3 broad areas concerning physical activity safety and injury prevention – 1)the policies and procedures employed at this facility, 2)the attitudes and culture of people who utilise the facility, and 3)what this facility means to the physical activity opportunities and social interaction of local people.

Broad questions and prompts

### **1. How important do you think physical activity safety and injury prevention is *within* the facility?**

How would you rate it on a scale where '0' is 'not important' and '10' is 'extremely important'?

How is this importance demonstrated through facility policies? Please give an example of any policies that specifically address physical activity injury prevention.

How is this importance demonstrated through facility practices? Please give an example of any practices that specifically address physical activity injury prevention.

Are all staff required to undertake physical activity injury prevention training? If so, what is this training and who is it delivered by?

Do you or other members of the staff conduct any education or training programs (for staff or for participants) on physical activity safety, and if so what is the nature and level of this training?

Do you use any educational resources within the facility, for staff or for participants, that focus on physical activity injury prevention? If so, what are they?

How would you describe the education of facility participants with respect to physical activity injury prevention?

On a scale of 0 to 10, how important do you think physical activity safety and injury prevention are as factors in participants choosing to utilise this facility (where '0' is 'not important' and '10' is 'extremely important')?

## **2. At what level of management are physical activity safety measures set and revised at your facility?**

For instance, do your policies and practices come from an external place (eg. head office), or are they set by the facility manager or coordinators?

Whichever source they come from, do you know what is the extent of this person/team/committee's education or training in physical activity safety?

Are you personally responsible for any physical activity injury prevention policies or practices? If so, which ones?

To the best of your knowledge, do you think your facility is compliant with legislation in this area, and if so, how aware are you of your facility's legal obligations in this area? What resources does the facility utilise to assist with compliance?

To the best of your knowledge, does your facility comply with any other 'industry standards' or 'voluntary standards' in physical activity injury prevention? Please name these 'industry standards'.

How does your facility stay up-to-date with new knowledge in this field?

Who are the people at your facility who are responsible for the safe participation in physical activity at your facility?

## **3. Do you feel this facility applies 'best practice' towards physical activity safety for its participants?**

Against what standards do you benchmark these 'best practice' standards?

What actions are taken to encourage safe physical activity uptake at your facility?

How can safety measures best be implemented at your facility? Are there any barriers to safe physical activity participation?

If so, what are they, and how do you think they could best be overcome?

In your opinion, what are the *attitudes* of staff towards preventing physical activity injuries?

## **4. What are the physical activity safety policies (ie. written or unwritten guiding principles, specified plans or strategies) and procedures (ie. commonplace practices) this facility utilises to prevent injuries?**

Which ones exist right now?

Are there any policies/procedures that are currently being planned, or in the process of being adopted?

Are there any currently being revised?

Are there any that have been adopted in the past but were found not to be useful/feasible?

What barriers have there been in the past?

Are there any barriers you can identify now?

What have been the major motivators to implement certain policies/procedures in the past?

What are the major motivators to implement them now?

Do you think there is a role for any governing bodies to provide the facility with assistance with respect to physical activity risk management? If so, which governing bodies, and how can they assist you?

**Is there a role for the facility insurer to play a part in physical activity risk management?**

**5. In your opinion, what are the *attitudes* of people who participate in physical activity at this facility to physical activity safety?**

To what extent do they take safety (either their own or others) seriously?

How did you form this opinion?

Do you have any examples to illustrate the point?

To what extent do you think physical activity safety policies and procedures employed at this facility is a factor in participants choosing to utilise this facility?

**6. In your opinion, how much do people who are undertaking physical activity at this facility *know* about safely participating in their chosen physical activity?**

Do they know about sports safety strategies?

Do they ever ask questions of staff about safe practices in their physical activity?

Is it the participant or the staff member who generally raises questions of injury prevention (if it is raised)?

What sorts of concerns are raised?

To what extent do participants have any knowledge of general sports safety resources that they should use to prevent injury (such as protective eye wear)?

Do you think any of the participants who use this facility have any formal training in physical activity safety?

What are the demographics of the participants engaging in physical activity in this facility?

**7. In your opinion, how much do physical activity participants at this facility know about *sport/physical activity injury* rather than general safety and what are their attitudes to injury?**

Do they ask for training or require any additional resources?

Do they treat injury seriously or is it seen as a natural part of physical activity?

Do participants seek appropriate levels of professional support if they are injured?

Do staff at the facility remind them of best practice in respect to injury and recovery?

**8. How important do you think physical activity is within this local geographic community?**

Do you think it plays any role in bringing the community together or increasing trust within the community?

If so, how?

Can you provide examples?

**9. Have there been any changes in the local community that have affected the facility or vice versa?**

If there have been any changes, over what period have they occurred?

Have these changes impacted upon the facilities?

Was this impact positive or negative?

**10. Are there any other issues about physical activity safety, injury prevention, risk management that you think are important that we haven't touched on today? Are there any other issues about the role of this facility or its staff in preventing physical activity injuries that you think are important that we haven't touched on today?**

**DEMOGRAPHIC DATA**

**11. What is your primary position in the facility (tick one box only)?:**

- |  |  |
|--|--|
| <input type="checkbox"/> Facility Manager              | <input type="checkbox"/> Program Manager                     |
| <input type="checkbox"/> Team Manager                  | <input type="checkbox"/> Dry Area Programs Coordinator       |
| <input type="checkbox"/> Wet Area Programs Coordinator | <input type="checkbox"/> Multipurpose Court Area Coordinator |
| <input type="checkbox"/> Instructor                    | <input type="checkbox"/> Trainer                             |
| <input type="checkbox"/> Coach                         | <input type="checkbox"/> OH&S Officer                        |
| <input type="checkbox"/> First Aid Coordinator         | <input type="checkbox"/> Nurse                               |
| <input type="checkbox"/> Medical Coordinator           |  |

**12. Is your position a paid or unpaid position within the facility?**

- Paid                       Unpaid

**13. What is your employment status (tick one box only)?:**

- Full-time                       Part-time                       Casual

**14. What is your gender?**

- Male                               Female

**15. How long have you held your current position within this facility?**

\_\_\_\_\_ years      \_\_\_\_\_ months

**16. In total, how much experience do you have in this and similar positions?**

\_\_\_\_\_ years      \_\_\_\_\_ months

**17. Are you personally a member of/accredited/registered with a professional association (eg. Vicfit)?**  Yes                       No

If 'Yes', which professional association?

\_\_\_\_\_

**18. What is your highest level of education (eg. BAppSci(PE))?**

\_\_\_\_\_

**19. What is your highest level of education / training / certification / accreditation with respect to safe physical activity participation? (Can be formal or informal training)**

\_\_\_\_\_

**20. When did you attain the above level?** \_\_\_\_\_

**21. From what organisation did you attain the above level of education / training / certification / accreditation?** \_\_\_\_\_

# APPENDIX THREE: THE FACILITY PARTICIPANT SURVEY

Office use only  
Date:



## SPORTS SAFETY FACILITY PARTICIPANT SURVEY

Thank you for participating in this survey. The aim of this survey is to obtain information about your physical activity habits, injury prevention knowledge and injury prevention practises at this facility. Please answer each question by shading the most appropriate response for multiple choice questions and by writing on the dotted lines where indicated. It is important that you answer all questions as honestly as possible.

Shade box like this  unless indicated otherwise.

### PHYSICAL ACTIVITY PARTICIPATION

1. How long have you been attending this facility to engage in physical activity? (write the number in the appropriate box)

Months       Years

2. Why did you select this particular facility? (choose up to 3 options and number them in order of importance, e.g. 1= most important)

<input type="checkbox"/> It is close to home/work	<input type="checkbox"/> My family members attend	<input type="checkbox"/> Special promotional offer
<input type="checkbox"/> Childcare facilities	<input type="checkbox"/> Facility staff	<input type="checkbox"/> Health/fitness programs
<input type="checkbox"/> Public transport access	<input type="checkbox"/> Financial cost	<input type="checkbox"/> The facility has a good reputation
<input type="checkbox"/> Cleanliness of the facility	<input type="checkbox"/> Appearance/presentation	<input type="checkbox"/> Range of exercise equipment
<input type="checkbox"/> It is a safe facility	<input type="checkbox"/> Other (specify).....	

3. What is your primary reason for attending this facility? (shade one option only)

<input type="checkbox"/> For enjoyment	<input type="checkbox"/> Weight loss	<input type="checkbox"/> To improve fitness/health
<input type="checkbox"/> To look better	<input type="checkbox"/> To play a sport	<input type="checkbox"/> To maintain fitness and health
<input type="checkbox"/> My friends go	<input type="checkbox"/> To learn a new skill	<input type="checkbox"/> To use the facilities

Rehabilitation/Medical       Other (specify) .....

**4. On average how often do you attend this facility per week?**

once       2-4 times       5-6 times       7 times or more

**5. On average how much time do you spend in physical activity per visit?**

less than 30 mins       30-60 mins       1-2 hours  
 2-3 hours       3 hours or more

**6. How much time do you spend engaging in physical activity outside of this facility per week?**

none       less than 1 hour       1-2 hours  
 2-3 hours       3-4 hours       4 hours or more

**7. What physical activities do you undertake at this facility?**

Aerobics       Gym       Swim  
 Sport (Go to 7a)       Other (specify).....

**7a. What sport/s do you play? (shade more than one box if appropriate)**

Basketball       Netball       Squash  
 Volleyball       Badminton       Other (specify).....

**8. Do you practise any physical activity safety measures when participating at this facility? (A physical activity safety measure is any course of action that you perform in order to prevent injury)**

Yes (Go to 8a)       No       Don't know

**8a.** If "yes", list what safety measures you practise

.....  
.....

**SAFETY AT THIS FACILITY**

**9. In your opinion, is this is a safe facility at which to engage in physical activity?**

Yes       No       Don't know

**10. Is safety an issue that concerns you?**

Yes       No

11. In your opinion, do you think this facility is safer than other facilities in this locality?

- Yes  No  Don't know

12. Who do you think is responsible for physical activity injury prevention at this facility? (shade more than one box if appropriate)

- Myself  Facility staff  People who use the facility
 Council/Management  Physical activity industry bodies  Venue manager
 Government  Don't know  Other (specify).....

13. Do you think the staff members who are involved in physical activity programming and delivery have the appropriate qualifications for their role in this facility?

- Yes (Go to 13a)  No  Don't know

13a. If "yes", how do you know this?

.....
.....

14. Do you know if this facility has a formal policy recognising the health and welfare of participants as an important goal?

- Yes (Go to 14a)  No  Don't know

14a. If "yes", how do you know this?

.....
.....

15. What forms of assessment have you undertaken at this facility?

- None (Go to 17)  Fitness test  Health screen  Other (specify).....

16. Which activity was the assessment for?

- Aerobics  Gym  Swim  Sport  Other (specify) .....

17. Has this facility provided you with information about injury prevention for your chosen activity/ies?

- Yes  No  Don't know

18. Do you consider that injury prevention is promoted at this facility?

- Yes (Go to 18a)  No  Don't know

18a. If "yes", how is it promoted? (shade more than one box if appropriate)

- Verbal (e.g. instructions)  Visual (e.g. posters)  Written (e.g. pamphlets)

19. If you sustained an injury at this facility as a result of engaging in physical activity, would you report it?

- Yes  No  Possibly (Go to 19a)  Don't know

19a. If "possibly", please explain further.....  
.....

**20. What would be your reason for reporting an injury? (shade more than one box if appropriate)**

- Policy of the facility
- Prevent injury from happening to me again
- To receive treatment/first aid
- Alert staff to danger on the premises
- To register a complaint
- Prevent injury from happening to others
- Other (specify) .....

**INJURY HISTORY**

For the purposes of this survey sport or physical activity injury means any unintentional damage to the body resulting from participation in physical activity with one or more of the following consequences: a reduction in the amount or level of sports activity, a need for advice or treatment and/or adverse economic or social effects.

**21. If you had an existing injury how likely is it that you would participate in physical activity?**

- never
- unlikely
- it is a possibility
- likely
- extremely likely

**22. If you sustained an injury whilst participating in physical activity would you stop participating in the activity?**

- Yes
- No
- Possibly (Go to 22a)

22a. If "possibly", please explain further.....  
.....

**23. If you were injured whilst engaging in physical activity, would it prevent you from ever engaging in that physical activity again?**

- Yes
- No
- Possibly (Go to 23a)

23a. If "possibly", please explain further.....  
.....

**24. Over a period of the last twelve months, have you injured yourself whilst participating in physical activity at this facility?**

- Yes
- No (Go to 29)

**25. Did you report the injury to any facility staff member/s?**

- Yes (Go to 25a)
- No (Go to 27)

25a. If "yes", please specify whom.....

26. Did you receive assistance from any facility staff member/s?

- Yes (Go to 26a)       No

26a. If "yes", please specify.....

27. What was the impact of the injury? (shade more than one box if appropriate)

- |  |   |
|--|---|
| <input type="checkbox"/> Treatment by a doctor           | <input type="checkbox"/> Treatment at a hospital        |
| <input type="checkbox"/> Time off from work              | <input type="checkbox"/> Time off from school/education |
| <input type="checkbox"/> Time off from physical activity | <input type="checkbox"/> Other (specify).....           |

28. What practises do you use to prevent further aggravation of the injury? (shade more than one box if appropriate)

- |   |   |
|---|---|
| <input type="checkbox"/> Abstain from physical activity           | <input type="checkbox"/> Change the type of physical activity     |
| <input type="checkbox"/> Alter the frequency of physical activity | <input type="checkbox"/> Alter the intensity of physical activity |
| <input type="checkbox"/> Alter the duration of physical activity  | <input type="checkbox"/> Other (specify).....                     |

**SAFETY AND INJURY PREVENTION**

29. What does injury prevention mean to you in the context of physical activity participation?

.....  
.....  
.....

The following questions ask you to rate on a scale the amount you agree or disagree with the statement provided. Shade the most appropriate box for each of the following statements.

30. Safety is an important aspect of physical activity participation

- Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

31. If I wore protective equipment or clothing I would be safer to participate in physical activity

- Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

32. I think warming up before participating in physical activity is important

- Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

33. Being injured affects my level of enjoyment in physical activity

- Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

34. **I think there is a high risk of injury in participating in physical activity**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

35. **I think there is a significant risk of injury in participating in competition level sport**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

36. **I would rather risk being injured than be too concerned about safety**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

37. **I only participate in physical activity if I think it is safe**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

38. **I only participate in physical activity if I know I won't be injured**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

39. **Safety is my number one priority when participating in physical activity**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

40. **I believe that people should adopt the appropriate safety measures for every physical activity they partake in**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

41. **I believe that each individual is responsible for their own safety**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

## **RISK PERCEPTION OF THIS FACILITY**

42. **There needs to be more information about safety for the range of physical activities at this facility**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

43. **Safety policies at this facility significantly decrease my risk of injury**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

44. **Safety education is provided to me by this facility and/or its staff**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

45. **I believe it is safer to participate in physical activity/sport at a facility than at other places (e.g. park, outdoor courts)**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

46. **Sport facilities should do more to promote safety**  
 Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

47. I believe more could be done to increase the safety of participants at this facility

- Strongly agree     Agree     Uncertain     Disagree     Strongly disagree

**PERSONAL INFORMATION**

48. What is your gender?

- Female     Male

49. What is your age?

Years

50. What is the highest level of education that you have achieved?

- Primary School     High school     TAFE or trade qualification  
 University/Higher degree     Other (specify).....

51. Which of the following would best describe your current primary occupation category?

- Managerial (e.g. general manager, managing supervisor)  
 Professional (e.g. teacher/instructor, health & diagnostic practitioner, business professional)  
 Para-professional (e.g. nurse, police, transport technical worker, building technician)  
 Tradesperson (e.g. electric/electronic, builder, printer, vehicle tradesperson)  
 Salesperson & Personal Service Worker (e.g. sales representative, teller, cashier)  
 Labourer & Related (e.g. trades assistant, factory hand, cleaner, agricultural labourer)  
 Home duties  
 Student  
 Other (specify).....

52. What is your postcode of usual residence?

*Thank you for your valuable contribution*