



# **Increasing the Participation of Older Australians in Golf**

**December 2012**

### **About the Australian Golf Industry Council**

The Australian Golf Industry Council (AGIC) was established in late 2006 and is an incorporated body uniting all key sectors of the Australian golf industry to work in a coordinated way to grow, develop and promote the game and industry of golf. There are seven current members of the AGIC:

- Australian Golf Course Superintendents Association (AGCSA),
- Australian Ladies Professional Golf (ALPG),
- Australian Sporting Goods Association (representing golf equipment suppliers & manufacturers) - ASGA,
- Golf Australia (GA),
- Golf Management Australia (GMA),
- PGA of Australia (PGA),
- Society of Australian Golf Course Architects (SAGCA).

### **The History of the AGIC**

A meeting in Sydney on 8 September 2006, involving a wide range of Australian golf administrators and key industry stakeholders, considered the major challenges facing the Australian Golf Industry into the future. At this meeting there was unanimous agreement to the need for a more co-ordinated industry approach. Following assessment of various golf industry models overseas the meeting agreed to the formation of a new peak industry group to be known as the Australian Golf Industry Council (AGIC).

The PGA of Australia, who initiated the meeting on behalf the other professional bodies (PGA Tour of Australasia and ALPG) and Golf Australia, agreed to provide Secretariat services for the AGIC for the initial 12 month period. This was later extended for the 2008/09 calendar years.

The inaugural Chair of the AGIC, Max Garske, the CEO of the PGA of Australia, has commented that “the formation of the AGIC is an important step which will help to ensure that the leaders of both the sport and the business aspects of the Australian Golf Industry come together on a regular basis and work together for the common good of the game and the industry”.

**Contents**

<b>Section</b>	<b>Page</b>
1. Introduction .....	5
1.1 A Business Case for Increasing the Participation of Older People in Golf .....	5
2. An Overview of Participation in Golf in Australia.....	5
2.1 Overall Participation in Golf.....	5
2.2 Frequency of Participation in Golf .....	6
2.3 Participation in Golf by Older Australians.....	6
2.4 Older People in the Australian Population.....	7
2.5 Older People and the Health System .....	7
2.6 Wellbeing and Golf.....	7
2.6.1 Recommended Levels of Physical Activity for Older Australians .....	7
2.6.2 Physical Activity and Golf .....	8
2.6.3 Key Factors in Maintaining Positive Mental Health .....	8
2.6.4 Golf and Mental Health.....	8
2.7 Equipment Needed to Play Golf.....	8
2.8 Golf Playing Facilities.....	9
2.8.1 Golf Club Participants.....	9
2.9 The Golf Economy .....	9
2.9.1 Golf Related Employment .....	10
3. Increasing the Number of Older Australians Playing Golf.....	10
3.1 Strategic Context for Increasing the Number of Older Australians Playing Golf.....	10
3.2 Experience in Golf Participation Programs .....	11
3.3 Development of Participation Programs for Older Australians .....	11
3.3.1 Development Officers.....	11
3.3.2 Recruitment and Development of Field Officers.....	12
3.3.3 Training of Field Officers .....	12
3.3.4 Number of Field Officers .....	12
3.3.5 Development Forums .....	12
3.4 Financial Subsidies for Participation .....	12
3.5 Marketing and Promotion of Participation Programs.....	12
3.6 Increased Participation Targets .....	14
3.7 Program Governance.....	14
3.8 Program Funding .....	14
3.8.1 In Kind Support .....	15
3.9 Research in the Benefits of Golf Participation.....	15
3.9.1 The Need for a Study of Health, Fitness and Well-being of Australian Golfers .....	15
3.9.2 Study Aim.....	15
3.9.3 Study Design.....	16
3.9.4 Proposed Study Budget .....	17
4. The Benefits Associated with Increasing Older Australians Participation in Golf.....	17
4.1 Health Related Benefits .....	17
4.1.1 Key Elements of a Study to Identify Health Benefits .....	17
4.1.2 Literature Review. ....	17
4.1.3 A Physical Inactivity Economic Model .....	18
4.1.4 Health Status Modelling Assumptions.....	19
4.1.5 Scenario Modelling of Increased Participation. ....	19
4.2 Results .....	20
4.3 Conclusion – Impacts on Health Costs .....	20
4.4 Economic Benefits .....	20
4.5 Key Assumptions re: Economic Contribution of Older People .....	20
4.6 Estimated Revenues Generated by an Increased Number of Older People Playing Golf ....	21
4.7 Likely Participation Scenarios .....	21
4.7.1 Assumed Participation Levels .....	21
4.8 Revenue Generated.....	21
4.8.1 Golf Facility Related Revenue .....	21
4.8.2 Equipment Sales Revenue .....	22
4.9 Accumulative Impact.....	22
4.9.1 Rates of Accumulative Impact.....	23
4.10 Overall Revenues .....	24
4.11 Employment Outcomes.....	25
4.12 Return on Funding Invested in Increasing the Participation of Older Australians.....	25

### Executive Summary

Golf is played by more than one million Australians with more than 500,000 players being aged 55 years or older.

Data collected by Australian Golf Industry Council member Golf Australia indicates that golf is played regularly by older Australians. Around 64 per cent of these people belong to one of Australia's some 1,800 golf clubs and the remainder play as green fee players on a range of golf courses.

Playing golf on a regular basis can have positive health outcomes for participants both in terms of physical and mental wellbeing.

The Australian Golf Industry Council (AGIC) is seeking \$6,000,000 in Government funding to establish and implement a four year program to engage almost 100,000 older Australians in golf. AGIC members will contribute a further \$2,200,000 in resources, support and marketing.

The program will leverage AGIC members' extensive experience in engaging other community cohorts, including people with disabilities with golf. A key element of the program will be the recruitment and development of a national network of Field Officers with particular expertise in the needs of older people.

The program will also aim to involve partnerships with a range of organisations that represent the needs of older Australians to support and promote the opportunities for older Australians to become engaged in golf.

AGIC is also seeking a further \$200,000 in funding to undertake a study to fully evaluate the health, fitness and well-being of older Australian golfers.

AGIC has engaged Deakin Health Economics to undertake a desktop review of the anticipated savings in health services expenditure that could be achieved through increasing the number of older people playing golf on a regular basis.

Deakin Health Economics has identified that if a 20 per cent increase in new regular older golfers was achieved, the new cases of physical inactivity-related disease are estimated to potentially fall by 670; deaths would reduce by 250; and Disability and Life Years (DALYs) would reduce by 2,700. The associated opportunity cost savings to the health sector would be approximately \$10.4 million.

Golf also provides a range of opportunities to support improved mental health outcomes through regular physical activity, social engagement and learning new skills.

Through this business case, AGIC has estimated the broader economic impacts associated with engaging almost 100,000 older Australians in playing golf.

It is estimated, that over a four year period that such an increase in participation would generate

- \$389.37m in revenues across golf clubs and off course golf related retailing with more than \$250m being spent on goods and services; and
- More than 2,000 jobs with some 1,170 jobs being directly associated with golf clubs and off course golf related retailing and more than 800 indirect jobs in a range of other sectors.

**1. Introduction**

Golf is played by significant number of people in Australia – in 2010 it was estimated that more than 1.1 million people, aged 15 years and older, played golf at least once.

The participation in golf creates economic outcomes through expenditure on the services provided by golf courses, driving ranges and the purchase of golf equipment. This all generates related employment. An increase in the participation in golf will increase demand for equipment and services and will have a positive impact on related employment.

People who regularly participate in physical activity, such as golf, experience improved physical and mental health outcomes and have less need for health related services. A reduced demand for health services has an economic benefit through a reduced expenditure on services and interventions.

A significant number of people who play golf are older Australians – i.e. aged 55 years or more. Older Australians also generate a significant demand on health services. It stands to reason that increasing the number of older people playing golf will have a positive impact on their health outcomes, reduce the expenditure on health services required by such people and generate positive economic outcomes.

**1.1 A Business Case for Increasing the Participation of Older People in Golf**

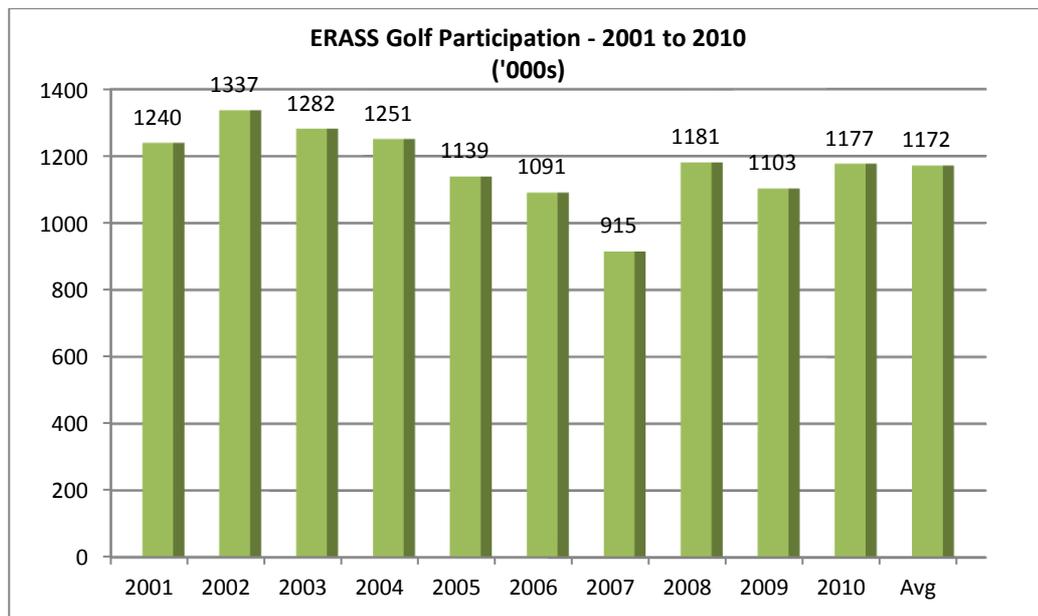
AGIC is seeking \$6M in government funding over four years to undertake a range of programs designed to engage a greater number of older Australians in increased participation in golf. To this end, this document presents a business case for such funding and identifies the economic benefits that would accrue through achieving the increased participation of older people in golf.

**2. An Overview of Participation in Golf in Australia**

The following section provides an overview of participation in golf in Australia.

**2.1 Overall Participation in Golf**

Golf is played throughout Australia by people of all ages. The *Participation In Exercise, Recreation and Sport Survey 2010* (ERASS) undertaken by the Australian Sports Commission identified that more than 1,177,000 people aged 15 years or older played golf at least once during the twelve month 2010 ERASS survey period. The participation in golf has varied from year to year in the period 2001 to 2010 with the average number of participants (over 15 years old) being 1.172 million as noted in the chart below.



The ERASS Survey reports a *standard error* of some +/- 41,000 participants at 1.172 million making for participation being between 1.131 and 1.213 million

The 2011 *Golf Census* undertaken by Golf Australia has identified that 584,300 people played golf at least three times in 2011. These players include golf club members and non-member golf players.

## 2.2 Frequency of Participation in Golf

Understanding the frequency of participation in golf is key to better understanding the economic and health related benefits associated with participation in golf. The more frequently people participate in golf then the more likely it is that they will:

- Spend more on golf equipment and golf facilities thereby generating more employment at golf facilities and/or golf equipment related retail businesses; and
- Develop positive health outcomes through regular physical activity and therefore reduce their need for health services.

Given the differences between the 2010 ERASS golf participation levels of people who have played golf at least once in the last 12 months and the 2011 *Golf Census* participation levels of those who played at least 3 rounds in 2010, then it can be assumed that many people (i.e. some 500,000) play golf once or twice only in a twelve month period.

The 2011 *Golf Census* notes that there were 584,300 “regular” (i.e. played 3 or more rounds in 2011) participants in Australian golf in 2011. The 584,300 regular players accounted for 75.2 per cent of all rounds of golf played in 2011 (or 16.421 million rounds) – this equates to slightly more than 28 rounds per year per player on average.

Of the 584,300 “regular” players the 2011 *Golf Census* notes that 370,587 are golf club members and 213,712 are not members of golf clubs.

## 2.3 Participation in Golf by Older Australians

Older Australians form a substantive component of golf participants.

Of the 1,170,000 people who indicated they played golf in the 2010 ERASS some 238,000 were aged 55 to 64 and another 264,000 were aged 65 or more which older people representing more than 42 per cent of all golf participants.

The 2011 *Golf Census* has identified that of the:

- 412,412 of playing golf club members, 58.3 per cent are aged 55 years or older.
- 370,587 of regular golf players who are golf club members that:
  - 102,000 or 27% of regular golf players are aged 55 to 64; and
  - 115,000 or 31% of regular golf players are aged 65 years or older.

Golf is particularly popular among older Australians for a range of reasons including having time to participate, golf being an activity that is suitable for the physical capabilities of older people and having the financial capacity to participate.

The 2011 *Golf Census* also identifies the number of golf rounds played in the year and that the 370,587 regular golf club members played some 13,760,000 rounds.

With 58 per cent of regular golf club members being 55 years or older this accounts for some 7,985,000 of these rounds played and has these older players playing more than 33 rounds per year on average.

## 2.4 Older People in the Australian Population

ABS data notes that in 2012, people aged 65 and older are projected to be 16.2 per cent of the Australian population or some 3.7 million people and that by 2022 they will represent 19.3 per cent of the population or more than 5.2 million people. The substantial component of this population will be people aged 65 to 85.

Given that golf is popular amongst older people there are opportunities through population growth to pursue substantive increase in the number of older people playing golf.

Australians are living longer than ever before, with one in seven people being over 65 years of age. Since 1901, Australians have added 40 years of life, with the 80 plus being the fastest growing age group. By 2030, ABS projects there will be more people over 65 than under in five years. Most of the increase in years lived are lived in good health.

Age also increased the likelihood of someone living by themselves, with 20 per cent of 60-79 year-olds living alone in a private dwelling, compared to 34 per cent of those 80 years and over. Social isolation is associated with 50 per cent increase risk of morbidity and mortality.

## 2.5 Older People and the Health System

Older Australians are highly represented in the health system. The report "Older Australians in Hospital" (Australian Institute of Health and Welfare 2005) shows that on the night of 30 June 2004, around 55,200 people spent the night in hospital and over half (53 per cent or 29,000 people) were aged 65 and over.

## 2.6 Wellbeing and Golf

The benefits of regular physical activity are well documented, with improved cardiovascular health and reduced risk of all-cause mortality reported. For older persons, physical activity can improve muscle strength, general fitness and contribute to a reduction in fracture risk.

Adding to the physical benefits, being physically active also delays the onset or slows the progression of certain dementias, reduces depression, manages anxiety, generates up to five years more of disability-free life and increases rates of living independently.

Being physically active also confers social benefits, providing an essential source of social interaction, shared interests, sense of community and place within groups, and builds self-esteem and confidence at an individual level. Moreover, participants in sport more likely to have greater levels of generalised trust in people, feel safe while at home or walking at night and have higher levels of connectedness and physical and mental health than those involved with other types of organisations.

There are additional multiple positive mental and physical health benefits from being in a natural environment.

### 2.6.1 Recommended Levels of Physical Activity for Older Australians

Recommended guidelines for adults and older Australians (defined as over 65 years) specify at least 30 minutes of moderate intensity physical activity on most, if not all, days. Despite this, approximately 70.60 per cent of males and 77.77 per cent of females 55 years and over in Australia self-report maintaining a sedentary or low level of activity. The 2003 Burden of Disease report attributes 6.4 per cent of the overall health burden in men and 6.8 per cent in women to physical inactivity. In terms of Disability Adjusted Life Years (DALYs) lost, the major contributors to this health burden are ischaemic heart disease (51 per cent), type 2 diabetes (20 per cent), stroke (14 per cent), colorectal cancer (9 per cent) and breast cancer (7 per cent).

## 2.6.2 Physical Activity and Golf

Golf provides opportunities for regular physical activity for people of all ages and is an activity in which many older people (and people of all abilities –see Section 3.2) can participate. As noted in Section 2.3, people aged 55 and older make up a significant element of Australians playing golf.

A graphic example of the health benefits of golf is a 2008 study conducted by the Karolinska Institutet in Sweden (published in the *Scandinavian Journal of Medicine & Science in Sports*). The study found that the death rate amongst golfers is 40 per cent lower than the rest of the population, which equates to an increased life expectancy of five years. The study is based on data from 300,000 Swedish golfers and shows that golf has beneficial health effects regardless of gender, age and social group, with the effect even greater for golfers from blue-collar professions than for those from white-collar professions.

## 2.6.3 Key Factors in Maintaining Positive Mental Health

Mental health is an increasing challenge for the Australian community - Depression alone is predicted to be the largest health problem globally by 2020. The personal, social and financial costs associated with mental health problems are enormous. In 2007-2008 the Australian Government spent \$5.32 billion on mental illness services (Department of Health and Ageing 2010), not including the additional burden of social problems such as substance misuse, violence and crime, absenteeism from work, family and relationship troubles and physical illnesses such as cardiovascular disease. It is clear that interventions are needed to prevent the onset of mental health problems before the situation worsens.

It is widely acknowledged that regular physical exercise has a positive effect on mental health, however, there are no specific time related guidelines for the amount of physical activity required to induce positive mental health outcomes.

A key factor in maintaining positive mental health is the opportunity to “belong” to a social network and having regular interaction with others.

Mental Health WA promotes the *Act, Belong and Commit* program for positive mental health for people of all ages -

- *Act* - keep mentally, physically and socially active:
- *Belong* - join a book club, take a cooking class, be more involved in groups you are already a member of, go along to community events
- *Commit* - take up a cause, help a neighbour, learn something new, take on a challenge, volunteer

## 2.6.4 Golf and Mental Health

Golf provides a range of opportunities for older people to be both physically active and to be engaged with others – both on and off the golf course. Golf readily enables people to *Act, Belong and Commit*.

The 2011 Golf Census estimates there are 804,207 golf club members, of whom, 412,412 are golf club playing members. This would indicate that there are many people who find value in being member of a golf club even though they do not play golf.

## 2.7 Equipment Needed to Play Golf

Regardless of the number of times that a person may play golf they require some golf equipment. At a minimum participation requires golf clubs and a golf ball – such equipment can be purchased, hired or borrowed. There is no data to indicate how access to golf equipment is distributed across the number of people playing golf however the total value of golf equipment sales is estimated to be more than \$284m per year.

For the purposes of a business case we have assumed that the significant majority of people who play golf have purchased golf equipment. It is also assumed that the more regularly that people play golf the more they invest in the purchase of golf equipment.

Advice based on sales data from a leading golf retail chain is that older people who are commencing participation in golf spend significantly more on golf equipment than younger people doing the same. The typical spend of older people in the range of \$500 to \$1,500 with many spending well beyond this range.

Advice based on sales data from a leading golf retail chain is that older people already playing golf also spend, on average, \$400 on golf equipment per year.

**2.8 Golf Playing Facilities**

Golf is played on any one of the approximate number \*1,600 golf courses (\*according to the 2012 AGIC Rounds Report) throughout Australia. Access to golf courses is largely through a financial membership at a golf club based at a golf course; the membership enables the member to access to course at varying times. The cost of golf membership varies significantly and membership fees are a significant source of operating revenue for the golf course.

For the purposes of this Business Case we have assumed that an average golf membership is \$950 per annum.

Many golf players are not members of a golf club and pay a fee (i.e. - green fees) each time they access a golf course – the cost of green fees vary between facilities.

For the purposes of this Business Case we have assumed that an average green fee is \$35 per round.

Aside from golf courses golf is also played, or least practised, at golf driving ranges. The *2010 Australian Golf Industry Report* estimates there are more than 140 golf-driving ranges across Australia.

For the purposes of this Business Case we have assumed that an average driving range fee is \$10 per visit.

**2.8.1 Golf Club Participants**

The 2010 ERASS notes that, of the 1,177,200 people aged 15 years or older played golf at least once in the survey period an estimated 527,000 persons aged 15 years and over participated in golf a club-based activity.

Data from the 2011 Golf Census relating to the number of golf rounds played indicates that, in 2010, more than 21,830,000 rounds of golf were played across Australian golf courses. Of these rounds:

- Golf club members played 63 per cent of the total rounds.
- Non golf club members played the remaining 37 per cent of the total rounds.

**2.9 The Golf Economy**

A study undertaken by the AGIC in 2010 identified that participation in golf and related activities makes a significant contribution to the Australian economy. The “2010 Golf Economy” study notes that participation in golf generates economic revenues totaling \$2,941m through various means as identified in the following table: -

<u>Activities</u>	<u>Revenue</u>	<u>% of Total Revenue</u>
<b>Golf facilities revenue;</b> this includes: -	\$1,601.8M	54%
Golf course and club operations		
Driving range operations		
Golf lessons and coaching services		
<b>Golf course capital investment</b>	\$234.3M	8%
This include the development of new facilities		

and the redevelopment of existing facilities		
<b>Golf equipment and related supplies</b>	\$284.6M	10%
This includes: - clubs, apparel & accessories, balls, shoes, bags & buggies, gloves		
<b>Tournaments and player earnings</b>	\$193.9M	7%
<b>Real estate</b>	\$67.0M	2%
<b>Hospitality &amp; tourism</b>	\$559.8M	19%
<i>Total</i>	<u>\$2,941.3M</u>	<u>100%</u>

**2.9.1 Golf Related Employment**

The “Golf Economy” study identified that 21,237 people are employed at golf courses around Australia and that “approximately two jobs are created at facility level for every 100 golfers that play the game” (based on Australian Sports Commission participation data).

Advice from the golf clubs is that, on average, 45 per cent of golf club revenues are spent on wages and salaries and that an average annual wage is some \$55,000. Given this advice an increase in golf facility revenue of some \$125k will create one additional job.

ABS industry data indicates that there is a multiplier effect for “sports and recreation” employment of some 1.8 – meaning that creating (5) jobs in the golf facility sector will likely create (9) more jobs in other sectors including wholesale, transport and/or food services making for (13) jobs in total.

Employment is also created in other areas – including the sale of golf equipment. 2006 ABS data for retail employment in Australia notes that “*sports and camping equipment retailing*” had 12,994 jobs – a proportion of these would be associated with the sale of golf equipment.

Advice from the golf retail industry is that there are some 1,800 people employed in “off course” golf related retailing (i.e. almost 14 per cent *sports and camping equipment retailing* employment). Industry advice is that some 13 per cent of revenue is spent on wages and salaries and that an average annual wage is some \$45,000.

Given this advice, an increase in golf retail sales of some \$350k will create one additional job. ABS industry data indicates that there is a multiplier effect for retail employment of some 1.55 – meaning that some (2) jobs in the golf retail sector will likely create (3) more jobs in other sectors including wholesale, transport and/or manufacturing making for (5) jobs in total.

**3. Increasing the Number of Older Australians Playing Golf**

AGIC aims to increase the number of older Australians playing golf and to invest in identifying a greater understanding of the benefits associated with playing golf.

This will be achieved through the delivery of a range of golf participation programs relevant older people – these programs will be delivered nationally in partnership with the golf’s various state sporting organisations (SSOs).

AGIC also intend to engage with Deakin University to undertake detailed research into physical, mental and social benefits associated with participation in golf.

**3.1 Strategic Context for Increasing the Number of Older Australians Playing Golf**

Increasing the participation of older Australians is in line with AGIC member Golf Australia’s Strategic Plan which has a particular focus on *Participation*, which aims to increase the overall participation in golf and achieve increased:

- Physical, mental and social health benefits;
- Golf club membership – and the health of Clubs and Centres; and

- Membership retention – combination of the above.

Golf has a particular advantage relative to most other sports in that it has the capacity for young and old, abled and disabled, highly skilled and beginner and all stages in between to play together on a “level playing field” - the handicapping system caters for this diversity. It can be conceived that golf can provide an opportunity for grandparents to have an activity they can enjoy with their grandchildren.

### **3.2 Experience in Golf Participation Programs**

AGIC and its supporting members are already actively involved in a range of programs designed to grow the participation of Australians in golf – this includes the:

- MYGolf program – which is aimed at children aged 8 to 16 and is conducted through a number of centres throughout Australia
- Golf Disability Alliance - which works with a number of groups to improve the opportunities for participation in golf for people with a disability; this alliance comprises of representatives of each of the disability groups: - ie
  - Amputee Golf Australia
  - Blind Golf Australia
  - Deaf Golf Australia
  - Special O
  - Wheelchair
- Indigenous Golf Advisory Board - which aims to improve access to golf for indigenous Australians

The Golf Victoria SSO has conducted a very successful pilot program to encourage women to “*Give Golf a Go*” – this program has been identified as being particularly suitable for mature age beginners.

AGIC now proposes to make this program national and it is applicable to men and women.

The development and operation of golf participation programs for older Australians will draw upon the experiences, capabilities, structures and relationships relating to the above programs delivered by AGIC members.

### **3.3 Development of Participation Programs for Older Australians**

AGIC and its supporting members would develop range of participation programs that would be relevant to the needs and abilities of older Australians. These programs include: -

- Teaching programs that enable older players to learn the fundamentals of golf in a positive manner and in a way that contributes to improved gross motor skills for older people
- Skill challenges that enable older people to identify how their golf skills are improving
- New varieties of golf for both indoor and outdoor settings – including formats around having to complete a lesser number of golf holes than the current norms

AGIC will also engage relevant expertise from external sources to assist and advise in the development of participation programs relevant to the needs and abilities of older Australians.

It is envisaged that older Australians will have access “indoor” forms of golf as well as shorter versions of the game based around 3, 6 and 9 hole formats. A golf handicap can be gained from 9 holes up and people can transition to longer forms.

#### **3.3.1 Development Officers**

The programs for older people will leverage the experienced gain through the employment of existing Development Officers.

Many of the above programs are supported by the employment of Development Officers who visit Schools and conduct classes from 1 day “tasters” to full term lessons. They also conduct special training is conducted for teachers to enable them to continue the program, and Clubs are aligned to the School. The Development Officers also support Clubs and to become accredited in the delivery of programs.

### **3.3.2 Recruitment and Development of Field Officers**

These programs would be supported by a national network of Field Officers who have effective knowledge of the needs of older people and how teaching golf and participation in golf need to be adapted to these needs.

### **3.3.3 Training of Field Officers**

The Field Officers would receive specific initial training with respect to the needs of older Australians as well as the in the appropriate delivery of the participation programs targeted at older Australians. The Field Officers would be an extension of the development resources and roles already in existence.

Just as the junior focused Development Officers have been trained in basic pedagogical learnings, the senior focused Field Officers would be trained in fundamental learnings of maturation impacts on the body and mind. This will include a special addendum to the Community Coach 1 and PGA level 3 will be established to include:

- Maturation implications in physical and mental health;
- Understanding disabilities and the allowances to enable participation; and
- The physical, mental and social health benefits of participation in golf and associated activities.

### **3.3.4 Number of Field Officers**

The number of Field Officers is determined by the need to have national representation and the projected number of older people participating in various programs. For example, Golf Australia has set a standard of Field Officers dealing with no more than 200 participants in a given week in order that participants can receive effective support.

The program will commence with at least one (1) Field Officer role working with each of the Golf SSOs making for eight (8) Field Officer roles in total – in some cases these roles may be part time.

### **3.3.5 Development Forums**

AGIC also will to conduct annual “development forums” for the Field Officers and other relevant development roles (see Section 3.3.1). These forums will enable the effective review of participation programs, an update of operatives understanding of the needs of older people and to identify any actions required to improve the effectiveness of programs and engage an increased number of older Australians.

The development forums will include presentations from external expertise with respect to engaging older people.

## **3.4 Financial Subsidies for Participation**

There are a range of costs associated with golf participation – see 2.6 and 2.7. The programs will provide funds to subsidise the costs borne by golf clubs associated with the conduct of participation development programs. This may include the provision of golf equipment for introductory programs.

## **3.5 Marketing and Promotion of Participation Programs**

Promoting the opportunities for older people to participate in golf will be a key factor in engaging older people in golf.

The participation programs and related opportunities would be promoted through a marketing campaign – it is envisioned that the marketing effort would involve the development of:-

- Promotional material that can be used in a range of channels including :-
  - Electronic and print media (e.g. a national advertising campaign in the Seniors Australia magazine would be in the order of \$115K)
  - Online material – this would be used by AGIC and its supporting members as well as a wide range of partners
  - Key events – such as Seniors Week as well as other events that engage older people
  - At golf facilities/clubs – to target older people who play golf infrequently
- Partnerships with organisations that represent the needs of older Australians for example National Seniors and the Council of the Ageing (COTA) to promote the opportunities for older people to participate in golf.
- Partnerships with organisations concerned with the mental health of Australians for example Beyond Blue.
- Collaboration with Local Governments throughout Australia that leverage their interaction with older people in the communities they service.

### 3.6 Increased Participation Targets

The program to increase the participation of older people will see a gradual growth in participation of older people over time with the aim of engaging close to 100,000 older people. It is anticipated that Year 1 will have a focus on developing and establishing programs and resources and that later years will experience an accumulative effect of communication, awareness and growth in reputation of various programs. The assumptions regarding participation growth are as follows:

Current estimate of older Australians playing golf at least once per year – 503,200

(2010 ERASS)

	Year 1	Year 2	Year 3	Year 4	
Projected growth rate	<b>2%</b>	<b>5%</b>	<b>5%</b>	<b>6.5%</b>	
Total Number of Players	513,264	538,927	565,874	602,655	<i>Total</i>
Yearly Increase	10,064	25,663	26,946	36,782	<b>99,455</b>

### 3.7 Program Governance

AGIC and its supporting members will provide program oversight and governance and will auspice the program funding. Due to Golf Australia’s experience in managing and delivering golf participation programs, Golf Australia’s Golf Development Unit will:

- Administer the establishment of the program including the development of activities and content
- Provide support to the Golf SSOs in the recruitment and selection of Field/ Development Officers
- Establish agreed performance outcomes with each of the Golf SSOs with respect to the delivery of programs and achievement of outcomes
- Monitor progress through
  - Monthly teleconferences
  - Quarterly progress reports
- Undertake an annual evaluation of the program – this will include the “Development Forums” and the identification of actions that would improve program delivery and the achievement of desired outcomes

### 3.8 Program Funding

The funding required to establish and operate a program to increase the participation of older people in golf is \$6,000,000 over four years.

The anticipated program budget is:

Activities	Year 1	Year 2	Year 3	Year 4	Totals	
					inc. in-kind support	Gov’t Funding Required)
Program Development & Establishment	\$500,000	\$200,000	\$50,000	\$50,000	<b>\$800,000</b>	<b>\$800,000</b>
Cost Subsidies	\$95,000	\$235,000	\$245,000	\$330,000	<b>\$905,000</b>	<b>\$905,000</b>
Employment of Field Officers	\$495,000	\$450,000	\$450,000	\$450,000	<b>\$1,845,000</b>	<b>\$1,845,000</b>
Training of Field Officers	\$100,000	\$50,000	\$25,000	\$25,000	<b>\$200,000</b>	<b>\$200,000</b>
Development Forums	\$50,000	\$50,000	\$50,000	\$50,000	<b>\$200,000</b>	<b>\$200,000</b>
Marketing Program	\$700,000	\$450,000	\$450,000	\$450,000	<b>\$2,050,000</b>	<b>\$2,050,000</b>

In-Kind Support	\$700,000	\$500,000	\$500,000	\$500,000	\$2,200,000	\$0
<i>Totals</i>	<b>\$1,940,000</b>	<b>\$1,435,000</b>	<b>\$1,270,000</b>	<b>\$1,355,000</b>	<b>\$8,200,000</b>	<b>\$6,000,000</b>

AGIC, through this business case, advocates that Government funding will generate:

- Positive health outcomes including a reduction in the demand on health services; and
- Positive economic outcomes including employment across a range of industry sectors.

### **3.8.1 In Kind Support**

It is anticipated that AGIC and its supporting members will be providing in-kind support to the value \$2,200,000 across four years. This includes \$500,000 per year of in-kind support such as staff time, promotional activities, IT support and general administration for the marketing program. An additional \$200,000 worth of in-kind support for program development and establishment has been allocated for the first year.

### **3.9 Research in the Benefits of Golf Participation**

AGIC also proposes to partner with Deakin University to undertake a study into the particular benefits of playing golf on health outcomes.

#### **3.9.1 The Need for a Study of Health, Fitness and Well-being of Australian Golfers**

There is consistent and compelling evidence from large scale epidemiological studies and randomized controlled trials that increased levels of physical activity are associated with a reduced risk of obesity, cardiovascular disease, hypertension, type 2 diabetes, certain types of cancers and osteoporosis as well as improved mental health and well-being and quality of life.

However, despite the reported health benefits of leisure-time physical activity, little is known about the potential benefits derived from participating in common recreational sports or specific modes of physical activity.

As reported in Section 2.1 more than 1.1 million people participated in golf in 2010 with more than 500,000 people being aged more than 55 years of age.

Given the popularity of golf, particularly among middle aged and older adults, further studies are needed to quantify the health and social benefits of playing golf regularly. Therefore, we propose to conduct the first observational cohort study to evaluate the health, fitness and well-being of Australian golfers.

#### **3.9.2 Study Aim**

The main objective of this study is to gain a greater understanding of the physical health and fitness and mental and social health and well-being and their determinants of male and female golfers aged 45 years and older. The key emphasis is on defining and exploring the concept of healthy and successful ageing among golfers. The specific objectives of this study are to:

- Determine the prevalence of common chronic diseases among golfers, particularly obesity, type 2 diabetes, cardiovascular disease and chronic kidney disease, and compare these to national data from the Australian Diabetes, Obesity and Lifestyle (AusDiab) population based study.
- Evaluate risk factors for common chronic diseases among golfers.
- Evaluate the physical fitness, functional capacity, physical activity and dietary habits of golfers.
- Evaluate the mental and social health and well-being of golfers.

Identifying a range of factors which impact on the health and well-being of golfer is a necessary first step in building the evidence base to inform the development of suitable

interventions and preventative strategies to optimise the physical and mental health and well-being of golfers. Therefore, once established this study would provide the foundation for the promotion and implementation of specific health promotion interventions (e.g. to improve physical fitness or functional capacity, reduce cardio-metabolic risk factors, improve diet or eating habits) among golfers. This health promotion program would be conducted in collaboration with AGIC with the long-term goal to reduce the prevalence of common metabolic and musculoskeletal diseases (e.g. obesity, type 2 diabetes, CVD, osteoporosis and fractures) and improve the quality of life among golfers.

### 3.9.3 Study Design

It is proposed to conduct a cohort study to establish the physical health and fitness and mental health and well-being of a sample of golfers aged 45 years and over, based in Victoria.

The study proposes to conduct these check-ups among a sample of 640 golfers drawn from clubs in both high and lower socio-economic areas. The sample will be composed of 160 golfers aged 45-55 years, 160 aged 55-65 years, 160 aged 65-75 years and 160 aged over 75 years. Because of the predominance of men in golf the study expects the sample will include 160 women and 480 men.

Findings from the study will be compared with a general population sample included in the Australian Diabetes, Obesity and Lifestyle Study (AusDiab) study. AusDiab is the largest prospective, population-based study designed to examine the prevalence of incidence of common chronic diseases (e.g. diabetes, pre-diabetes, heart disease and kidney disease) and its determinants in the general Australian population of adults aged 25 years and over.

The study is anticipated to be completed within 15-18 months.

The final report will enable AGIC to decide on future health promotion programs and also whether to extend the study into a larger longitudinal study to track the health and well-being of golfers as they age. Prospective studies that track the life-course trajectories of individuals provide an ideal tool to obtain high quality evidence on the determinants of health and well-being as people age. Specifically, they allow relationships between events, characteristics and subsequent outcomes to be identified to help determine how multiple factors influence key outcomes such as disease.

The key measures to be assessed in all golfers for this initial cohort study would include:

- Demographic data (age, education, ethnicity, type of housing, employment status, income etc.)
- Current and past health and medical history, including medication use.
- Clinical and biomedical cardio-metabolic risk factors, including lipids and lipoprotein levels, fasting glucose, blood pressure, kidney function and vitamin D status.
- Body composition [BMI, waist circumference, per cent body fat, muscle and fat mass (bioelectrical impedance) or DXA (depending on location of golf clubs)].
- Physical activity and sedentary behaviour (TV and sitting time), cardiorespiratory fitness and functional capacity (muscle strength, mobility, gait, balance).
- Dietary habits and nutrition status, smoking status and alcohol intake.
- Psychological factors – self efficacy, optimism, depression and cognitive function and impairment.
- Social networking – time use and sources of social support.
- Environmental determinants of health – health promotion aspects of family, golf club, locality and an assessment of the healthiness of golf club food facilities based on the Australian Healthy Eating Index.

### 3.9.4 Proposed Study Budget

It is anticipated that the cost associated with conducting this cohort study in 640 golfers would be approximately \$180,000 to \$200,000.

## 4. The Benefits Associated with Increasing Older Australians Participation in Golf

Increasing the number of older Australians playing golf will have economic and wellbeing benefits.

In order to better understand these benefits AGIC has:

- Commissioned Deakin Health Economics to model the likely health and health economic benefits associated with an increase in the number of older Australians playing golf; and
- Undertaken an analysis of the likely economic outcomes associated with an increase in the number of older Australians playing golf.

### 4.1 Health Related Benefits

The following is a summary of the outcomes of a study into the health outcomes and related economic benefits associated with an increase in the number of older Australians playing golf.

#### 4.1.1 Key Elements of a Study to Identify Health Benefits

A physical inactivity economic model was used in the current study to calculate the potential health benefits and health sector cost savings related to an increase in the number of Australian men and women 55 years of age or over who would become physically active as a result of taking up golf (herein referred to as 'new regular golfers') under the four-year intervention proposed by the Australian Golf Industry Council.

The study has sought to answer three key questions in the context of the proposed intervention:

1. *How would regular participation in golf impact upon the health of the older age population?*
2. *What are the related impacts that participation in golf would have on "reduced need" for health services?*
3. *What are the likely savings that may be generated through reduced expenditure on health services?*

The Study has interpreted "reduced need" for health services (question 2) to be equal to the impact upon health of the older Australian population (question 1), measured as the reduction in incidence cases of physical inactivity-related disease, deaths and DALYs.

The associated potential opportunity cost savings which benefit the health sector were estimated. These included the costs associated with: hospital care (admitted and non-admitted); aged care homes; out-of-hospital medical services; pharmaceuticals (prescription and over-the-counter drugs); other professional services (e.g. optometry); dental services; and research. It includes total health expenditure of government, health insurance companies as funders and individuals as out of pocket costs.

#### 4.1.2 Literature Review

A review of the literature linking playing golf to the benefits of physical activity was undertaken to inform development of the physical inactivity economic model. The review identified a small number of papers, of varying quality, exploring the health benefits associated with golf. Notably, the relationship between physical activity and mental health conditions is only beginning to be understood in the public health/health promotion/disease prevention literature.

Whilst there is growing evidence identifying a potential association between physical activity and mental health conditions like depression, there is scope for future research in this area (13). The potential positive mental health benefits arising from playing golf have therefore not been captured in the current study.

Drawing on the literature reviewed, it was reasonable to assume that one 18-hole round of golf will meet Australian guidelines in terms of the recommended duration of moderate intensity physical activity. The current study assumes that new regular golfers will play golf on a regular basis (minimum 2.5 hours weekly) and that this will satisfy current Australian guidelines with respect to recommended levels of physical activity.

The literature reviewed indicated that using a golf cart instead of walking reduces the amount of time spent engaged in moderately intense physical activity associated with participation in golf (14). A sensitivity analysis was undertaken to consider the impact that golf cart use would have on the reported estimates.

#### **4.1.3 A Physical Inactivity Economic Model**

A brief summary of how the model calculates health sector costs and savings is provided. A more detailed description of the model can be read in previous publications.

The model first estimates changes in health status of the 2010 Australian population (measured as the number of deaths, incident (new) cases of physical inactivity-related conditions and DALYs averted), expected to arise from a reduction in the current surveyed prevalence of physical inactivity (due to a specified increase in the playing of golf). The current number of incident cases of physical inactivity-related conditions by age and sex were estimated by weighting known age and sex specific DALYs and deaths equally to determine the breakdown of total incident cases. This estimation technique resulted in a non-significant 3 per cent increase in the total incident cases of disease attributed to physical inactivity.

Estimates of the current population prevalence of physical inactivity were taken from the 2007-08 National Health Survey which reported 70.60 per cent of males and 77.77 per cent of females 55 years and over self-report being physically inactive (11). The 2003 Burden of Disease Report (12) identified the most important diseases and conditions associated with physical inactivity in men and women as: ischaemic heart disease, type 2 diabetes, stroke, colorectal cancer and breast cancer. Of the total health expenditure in Australia (17) on these diseases and conditions, the model estimates the proportion attributable to a physically inactive lifestyle by using *population impact fractions* (PIF) which are a composite measure of the relative risk of a risk factor and the prevalence of the risk factor in a population.

The reference year for the current study was 2010. The model was updated using the 2010 Australian population cohort (18) and the estimated 2010 health sector costs attributed to physical inactivity. Total health sector costs taken from the 2001 Disease Costs and Impact Study (17) were inflated to 2010 prices using the relevant Health Price Index (19). The rate of deaths, incident cases and DALYs attributable to physical inactivity (used in the 2003 Burden of Disease report (12)) were assumed constant between 2003 and 2010 and applied to the 2010 population. Thus, the total number of attributed deaths, incident cases and DALYs was estimated, taking into account only the increase in population between 2003 and 2010.

For the 2010 Australian adult cohort, the economic model first estimates the total potential opportunity cost savings to the health sector if the prevalence of physical inactivity was potentially completely eliminated. These opportunity cost savings represent the total lifetime costs that could be saved when the 2010 incident (new) cases of disease related to physical inactivity are all potentially avoided in males and females 55 years of age and over. The same model then estimates the proportion of those total opportunity cost savings to the health sector that could be saved if only a proportion of the population aged 55 years or over shifted from being inactive to being physically active (in this case, due to becoming a new regular golfer as a result of the intervention).

#### 4.1.4 Health Status Modelling Assumptions

The following assumptions were necessary to estimate the health benefits and consequent health sector savings attributable to the proposed but unspecified golf intervention and underpin the primary results:

- New golfers were considered physically *inactive* prior to taking up playing golf as a result of the proposed intervention. In other words, they were assumed to be not achieving the recommended daily physical activity guidelines, either as a result of playing golf or partaking of any other form of physical exercise.
- This intervention is modelled in isolation. No other intervention to increase physical activity is operating concurrently. New golfers, recruited by the intervention, were considered physically active as a result of playing golf regularly.
- All of the people who participate in the intervention will finish it (i.e. 100 per cent compliance).
- Being physically active for extended periods (e.g. the equivalent of one full round of golf) provides the same health benefit as being active most days (per current guidelines (9, 10)).
- The proportion of male and female new golfers would reflect current regular playing member participation levels as per the 2011 National Golf Census (20).
- Persons taking up regular playing of golf would not incur injuries that preclude them from playing golf.
- Persons taking up regular playing of golf would walk the green to complete a round of golf rather than use a golf cart; and
- Discounting of future costs/benefits and population increase over the four-year period have not been incorporated. Estimated benefits are equal each year for four years.

#### 4.1.5 Scenario Modelling of Increased Participation

According to the 2011 National Golf Census, there were 216,400 regular playing (golf club) members aged 55 years or over in Australia (2, 20). In this 2011 cohort: 76.4 per cent were male and 23.5 per cent were female; 101,825 were aged 55-64 years and 114,575 were 65 years or over. On average, these regular playing members completed 37.1 rounds of golf per annum (2), which equates to less than one round per week or roughly 3 rounds of golf per month. A further 105,000 regular playing non-members aged 55 years or over participated in golf and played on average 3.1 hours of golf per week (3).

Four levels of an increase in new regular golfers amongst older Australians were modelled - that a 5, 10, 15 and 20 per cent increase of current participants (21). Each level was applied to the 2011 National Golf Census figures of regular playing members and non-members aged 55 years or over to determine the assumed incremental number of persons in this age group who will effectively change their behaviour and participate in the program in total over the course of the four-year intervention.

It was assumed that the distribution of new regular golfers would reflect current gender participation rates of regular playing members (76.45 per cent male, 23.55 per cent female). It was further assumed that the intervention would result in the recruitment of an equal number of new regular golfers each year, over the four-year intervention.

## 4.2 Results

Currently in Australia, just under 40,000 new cases of physical inactivity-related disease, 15,600 deaths and just under 162,000 DALYs occurring annually, can be attributed to physical inactivity in persons 55 years of age and over. Physical inactivity in older Australians is currently associated with just under \$599 million of health sector costs that are potentially preventable at some point in the remaining life time of the 2010 cohort of males and females aged 55 years or over.

An increase in playing golf amongst older Australians will result in a reasonable increase in health benefits and health sector opportunity cost savings.

If a **5 per cent increase** in new regular golfers was achieved, the new cases of physical inactivity-related disease are estimated to potentially fall by 170; deaths would reduce by 60; and DALYs would reduce by 670. The associated opportunity cost savings to the health sector would be approximately \$2.6 million.

If a **20 per cent increase** in new regular golfers was achieved, the new cases of physical inactivity-related disease are estimated to potentially fall by 670; deaths would reduce by 250; and DALYs would reduce by 2,700. The associated opportunity cost savings to the health sector would be approximately \$10.4 million.

These health sector opportunity cost savings are not immediately realisable cash savings since they are realisable over the remaining lifetime of the new golf participants.

## 4.3 Conclusion – Impacts on Health Costs

Whilst the proposed intervention will produce health sector opportunity cost savings, they are modest due to the small change in the prevalence of all the physically inactive persons aged 55 years or over at the population level. This reinforces the need for the program to engage an increased number of older Australians to be well designed and inexpensive to break even or make net savings in the health care sector.

## 4.4 Economic Benefits

The economic benefits associated with an increased participation in golf by older Australians have been estimated based upon:

- Available golf participation data;
- Outcomes of the Golf Economy Study undertaken by the Australian Golf Industry Council (AGIC) in 2010;
- Feedback from golf industry representatives; and
- Relevant ABS data.

## 4.5 Key Assumptions re: Economic Contribution of Older People

Given that the overall participation golf generates an economic contribution nearing \$3 billion it can be understood that increasing participation in golf will grow the size of this contribution.

For the purposes of this business case we have assumed that older people who commence participation in golf will contribute, in particular, to an increase in: -

- *Golf facilities revenue* – we assume that the majority of people who commence participation in golf will play at a golf course, and therefore pay “green fees” and/or practice at a golf driving range, and therefore pay associated hire charges  
The spending on golf facilities varies according to the fees charges by different facilities and the frequency with which people play
- *Spending on golf equipment and related supplies* - We have also assumed that the majority of people who begin participation in golf will purchase golf equipment or at least will hire equipment.

We have assumed that new participants to golf are unlikely to be investing in golf related real estate and are more likely to play golf nearby their place of residence and are therefore not making a contribution to golf related tourism.

#### **4.6 Estimated Revenues Generated by an Increased Number of Older People Playing Golf**

The “Golf Economy” study notes that 54 per cent - or \$1,601.8M - of golf revenue is generated through golf facilities revenue and 10 per cent - or \$284.6M - is generated through golf equipment and related supplies.

In order to estimate the revenue generated through an increase in the number of older people playing golf this paper has developed a number of participation scenarios based on the participation of older people in golf as identified in the 2010 ERAS Survey and the 2011 Golf Census.

#### **4.7 Likely Participation Scenarios**

The scenarios identify the likely participation behaviours of a “sample” of 100 older people. The scenarios include 100 older people (i.e. aged 55 years plus) – they do not assume the precise makeup of particular age and/or gender cohorts.

##### **4.7.1 Assumed Participation Levels**

50 play < 3 times per year – average 1.5 rounds per year

50 play > 3 times per year

- 18 play as green fee players – average 28.1 rounds per year
- 32 play as golf club members – average 33.6 rounds per year

Collectively the 100 players generate 1,655 (18 hole) golf rounds per year.

#### **4.8 Revenue Generated**

The 100 people generate \$273,950 of revenue per year relating to use of golf facilities and the purchase of golf equipment.

##### **4.8.1 Golf Facility Related Revenue**

###### **Green Fee Revenue**

The 50 play < 3 times per year generate \$3,000 in green fees per year

The 18 play > 3 times per year generate \$20,200 in green fees per year

Collectively the 100 generate \$23,200 in green fees per year.

###### **Golf Club Membership Fees Revenue**

The 32 who play as golf club members generate \$30,400 in membership fee revenue.

###### **Golf Range Revenue**

The 50 who play > 3 times per year generate \$13,800 in revenue per year.

###### **Additional Sales Revenue**

The 100 purchase equipment, food services and golf carts – collectively this generates \$70,675 in revenue.

In all the 100 players generate \$138,075 in golf facility related revenue per year – this represents 49.5 per cent of the total revenue generated by the 100 players per year.

#### 4.8.2 Equipment Sales Revenue

This assumes that golf equipment is purchased “off-course” (on-course sales are included golf facility “additional sales” revenue).

##### Initial Equipment

This assumes that the 100 are new to golf and will purchase equipment in order to play – these purchases will vary between \$50 and \$2,500.

Collectively the 100 people will generate \$114,000 in sales revenue relating to the initial equipment they use to commence playing golf.

##### Additional Equipment Sales

This assumes that the:

- 50 play < 3 times per year will purchase additional equipment in the course of the year with an average value of \$38
- 50 who play > 3 times per year will purchase additional equipment in the course of the year with an average value of \$400

Collectively the 100 people will generate \$21,875 in sales revenue relating to the purchase of additional equipment they use to continue to play golf.

The 100 people generate \$135,875 in equipment sales related revenue per year – this represents 50.5 per cent of the total revenue generated by the 100 players per year.

#### 4.9 Accumulative Impact

The program to increase the participation of older Australians assumes a percentage of growth in participation in each of the next four years.

For the purposes of estimating the economic impacts of this growth it is important to understand that the growth in participation each year will not happen on “day one” of each year but will occur over the course of the year.

This means that the “golf industry” will not experience 100 per cent of the revenues and the full economic impact of a growth in participation in a given year. The growth in revenues will accumulate over time.

To this end the estimation of the economic impact of a growth in participation of older Australians has assumed:

- That the growth in total numbers of participation targeted for each year will occur “evenly” over the course of the year – i.e. 25 per cent of the growth will occur in each quarter –
- this rate of growth averages out to 63 per cent for the year – therefore revenue streams for the first year assume that 63 per cent of revenues will be experienced in that year; this does not apply to:
  - “Membership fees” which are payable each and every year and grows each year in line with the projected increase in participation; or
  - The initial purchase of equipment which is undertaken by each new participant in the year they commence.

The estimation of the economic impact of a growth in participation also assumes that all of the people commencing in a particular year continue participating in the same manner in following years. This means that there is a growth in revenue from year to year.

**4.9.1 Rates of Accumulative Impact**

The following provides details of the rates of accumulative impact that have been used to estimate the economic impact of the increased participation of older Australians in golf.

**Green Fee Revenues**

Year 1 will experience half of the full impact; Year 2 will accumulate the full value of participation growth in Year 1 plus half of the impact of participation growth for Year 2 and so on as noted in the following table.

Year 1	Year 2	Year 3	Year 4
63% impact of growth	100% impact of Y1 growth + 63% of Y2 growth	100% impact of Y1/Y2 growth + 63% of Y3 growth	100% impact of Y1/Y2/Y3 growth + 63% of Y4 growth

*Golf Range Revenues, Additional Sales Revenues and Additional Equipment Sales Revenues* will experience the same pattern of accumulation.

**Membership Revenue**

We assume that as people become members they pay their membership in a given year so that by the end of Year 2 there will be an accumulation of the memberships revenues in Years 1 and 2 and so on.

Year 1	Year 2	Year 3	Year 4
100% impact of growth	100% impact of Y1 & Y2 growth	100% impact of Y1, Y2 & Y3 growth	100% impact of Y1, Y2, Y3 & Y4 growth

**Initial Equipment Sales Revenue**

There will be no accumulation of initial equipment sales, as people commencing participation in golf will invest in golf equipment in the year they begin playing.

Year 1	Year 2	Year 3	Year 4
100% impact of growth	100% impact of Y2 growth	100% impact of Y3 growth	100% impact of Y4 growth

#### 4.10 Overall Revenues

The overall revenue is dependent on the total number of additional older people playing golf in a period of time.

The assumptions re additional participation are as those identified in Section 3 with respect to the aspirations for the funding to generate almost 100,000 additional older people playing golf over a four year period.

According the revenue associated with increased participation is aligned with the assumptions re the increase in participation. The projected increase in participation has been divided by 100 and multiplied by the value of the various categories of revenue as noted in the previous section.

The estimated total additional revenue to be generated over four years of the program funding is \$389.37m – this is a gross total devoid of related taxes, fees and/or charges.

<b>Participation</b>	Year 1	Year 2	Year 3	Year 4	<b>Totals</b>
Increase participation by	2%	5%	5%	6.5%	
Number of Older Players	513,264	538,927	565,874	602,655	
Difference from previous year	10,064	25,663	26,946	36,782	<b>99,455</b>
<b>Revenue (\$M)</b>					
<b>Golf Facilities</b>					
Green Fees	\$1.28	\$5.30	\$10.65	\$17.34	\$34.57
Membership	\$3.06	\$10.86	\$19.05	\$30.23	\$63.21
Additional Sales	\$4.35	\$17.99	\$36.14	\$58.87	\$117.35
Driving Ranges	\$0.69	\$3.62	\$7.27	\$11.85	\$23.43
<i>Facility Total</i>	<b>\$9.38</b>	<b>\$37.77</b>	<b>\$73.11</b>	<b>\$118.29</b>	\$238.56
<b>Golf Equipment</b>					
Initial Equipment	\$11.47	\$29.26	\$30.72	\$41.93	\$113.38
Additional Equipment	\$1.39	\$5.74	\$11.53	\$18.78	\$37.43
<i>Equipment Total</i>	<b>\$12.86</b>	<b>\$34.99</b>	<b>\$42.25</b>	<b>\$60.71</b>	\$150.81
<b>Total Revenue</b>	<b>\$22.24</b>	<b>\$72.76</b>	<b>\$115.36</b>	<b>\$179.00</b>	\$389.37

**4.11 Employment Outcomes**

The revenue generated by additional older people playing golf will generate employment in golf facilities and golf equipment retailers. The estimated total additional direct employment to be generated over four years of the program funding is 1,170 jobs with wages and salaries estimated to be \$63m.

	Year 1	Year 2	Year 3	Year 4
<b>Facility Employment</b>	77	309	598	968
<i>Wages &amp; Salaries (\$M)</i>	\$4.2	\$17.0	\$32.9	\$53.2
<b>Retail Employment</b>	37	101	122	175
<i>Wages &amp; Salaries (\$M)</i>	\$1.7	\$4.5	\$5.5	\$7.9
<b>Wholesale Employment</b>	6	15	18	26
<i>Wages &amp; Salaries (\$M)</i>	\$0.3	\$0.8	\$1.0	\$1.4
<b>Total Employment</b>	<b>119</b>	<b>425</b>	<b>739</b>	<b>1,170</b>
<b>Total Wages &amp; Salaries (\$M)</b>	<b>\$6</b>	<b>\$22</b>	<b>\$39</b>	<b>\$63</b>

The multiplier effect for the facility employment is estimated at 1.8 meaning that, by the end of Year 4, an additional 774 jobs may be created across a range of industry sectors.

The multiplier effect for the retail jobs is estimated at 1.55 meaning that, the end of Year 4 may create an additional 96 jobs created across a range of industry sectors.

Estimated Direct Employment Growth	Estimated Direct Wages & Salaries	Estimated Indirect Employment Growth	Total Employment
1,170	\$63M	870	2,040

**4.12 Return on Funding Invested in Increasing the Participation of Older Australians**

The analysis of the economic impact of increasing indicates that, over the four year period of the \$6m funding program, it is estimated that

- \$389m of revenue will generated in the Australian economy – more than \$320m will be spent on goods, services and taxes; and
- 2,040 jobs will be created – with more than 1,100 directly in the “golf industry” and more than 850 jobs in a range of other industry sectors.