

Measuring the Social and Economic Impact of Sport in England

Report 1: Social Return on Investment of Sport and Physical Activity in England



This report was prepared by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University for Sport England.



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List of abbreviations

| CHD | Coronary Heart Disease |
|------|--|
| СМО | Chief Medical Officer |
| DCMS | Department for Digital, Culture, Media and Sport |
| ED | Economic development |
| GP | General Practitioner |
| NPV | Net Present Value |
| SIRC | Sport Industry Research Centre |
| SROI | Social Return on Investment |

Executive summary

Introduction

Over the last three years, Sport England has focused on bringing together evidence on the contribution of community sport and physical activity to the five outcomes identified in the UK Government strategy for sport. Building on this foundation and other previous work, Sport England commissioned the Sport Industry Research Centre (SIRC) at Sheffield Hallam University to quantify the financial, economic and social impact of sport and physical activity in England.

This report presents part one of the research, which focuses on measuring the social impact of sport and physical activity. Specifically, it aims to:

- 1. Measure the social impact of sport and physical activity in England using a Social Return on Investment (SROI) framework.
- 2. Forecast the social value of sport and physical activity for England based on three participation target scenarios.

The research measures the value of participating and volunteering in sport and physical activity but excludes watching sport as this is beyond the scope of Sport England's evidence work.

Methodology

SROI is a framework for understanding and measuring the non-market economic, social and environmental value created by an activity, organisation or intervention. It is increasingly being used across a wide range of policy areas, especially by public agencies and charities, to measure social value and to justify public investment.

The Base Model utilises an SROI methodology. It measures the social value of sport and physical activity in England and the net cost (inputs) of providing opportunities for engagement in sport and physical activity. It expresses the total value of the social outcomes as a proportion of inputs. The Forecast Model measures the social value of sport and physical activity of three scenarios provided by Sport England.

The Base Model and the Forecast Model estimate the value of 16 social outcomes:

- Physical and mental health (reduced risk of coronary heart disease and stroke; breast cancer; colon cancer; Type 2 diabetes; dementia, clinical depression; improved good health); improved back pain; reduced hip fractures, increased sports injuries);
- Mental wellbeing (improved subjective wellbeing/life satisfaction);
- Individual development (improved educational attainment and enhanced human capital);
- Social and community development (reduced criminal incidences; enhanced social capital and the non-market benefits acquired by organisations utilising sports volunteers.

Key Findings

The Base Model, which measures the SROI for sport and physical activity in 2017/18, reveals that £71.61bn of social value was generated from £21.85bn of inputs, giving an SROI value of 3.28. This means that for every £1 invested in sport and physical activity in England (financial and non-financial), \pounds 3.28 worth of social impact was created for individuals and society in 2017/18. The largest amount of social value (58.32%) was generated through mental wellbeing (£41.76bn). Considerable social value was also created by social and community development outcomes, in particular enhanced social capital, which was valued at £19.97bn. Approximately £9.59bn was generated through improved physical and mental health.

The Forecast Model measures the social value of sport and physical activity against three scenarios: 500,000 additional people active; 250,000 additional women active; and 100,000 additional people from lower socioeconomic groups. Taking the first-case scenario of 500,000 more people becoming regularly active, it is estimated that it would create an additional £1.06bn of social value across the government outcome areas, giving an overall forecast value for sport and physical activity of £72.67bn (at 2018 prices).

As with previous SROI sport-related studies, the estimates in the Base Model and the Forecast Model are conservative. We have included the social outcomes for which there is sufficient evidence of impact and sport and physical activity participation, and data available to enable the valuation of these outcomes. Moreover, we have excluded other outcomes (positive and negative) on the basis of insufficient evidence. As such, the findings of this research are likely to underestimate the true social value of sport and physical activity in England.

Recommendations

This research provides evidence that sport and physical activity contributes value to society across a wide range of social outcomes, and that the value of these outcomes is greater than the costs. It also demonstrates that sport and physical activity generate impact across multiple government outcomes, potentially making it a cost-effective intervention for addressing social issues across multiple policy areas. These are powerful findings and we recommend they are shared with government and Sport England's stakeholders to demonstrate and broaden understanding of the contribution of sport and physical activity to society.

The social value of sport and physical activity is driven by engagement, so we recommend the findings are used to make the case for continued investment in strategies to enhance and promote participation and volunteering. Finally, we recommend that the SROI analysis for sport and physical activity in England is reviewed and updated periodically in the future to enable the non-market benefits of sport and physical activity to be demonstrated over a longer period of time, and to ensure that the England SROI model is based upon the latest evidence and therefore fit for purpose as a framework for measuring the wider impact of sport and physical activity on society.

SROI for Sport and Physical Activity in England

Base Model - 2017/18





1. Introduction

Over the last three years, Sport England has focused on bringing together evidence on the contribution of community sport and physical activity to the five outcomes identified in the UK Government strategy for sport, *Sporting Future - A New Strategy for an Active Nation* (2015)¹. These are physical wellbeing, mental wellbeing, individual development, social and community development and economic development.

The aim of the Sport England review work was to assess the evidence base with a view to demonstrating the contribution of sport and physical activity to the government outcomes. Building on this foundation and other previous work, Sport England has commissioned the Sport Industry Research Centre (SIRC) at Sheffield Hallam University to quantify the financial, economic and social impact of sport and physical activity in England.

There are two complementary parts to the research. Part one focuses on the **social** impact of sport and physical activity using a Social Return on Investment (SROI) framework. Part two evaluates the **economic** importance of sport and physical activity using a National Income Accounting framework. This report is focused on part one of the research.

1.1 Research overview

SROI is a framework for understanding and measuring the non-market economic, social and environmental value created by an activity, organisation or intervention. It is increasingly being used across a wide range of policy areas, especially by public agencies and charities, to measure social value and to justify public investment. SROI offers an approach to social impact valuation for sport and physical activity, which is transparent, conservative and involves stakeholders in identifying outcomes that occur as a result of activities.

¹ HM Government. (2015). *Sporting Future: A New Strategy for an Active Nation*. [online]. <u>https://www.gov.uk/government/publications/sporting-future-a-new-strategy-for-an-active-nation</u>.

In 2014, SIRC developed a national model to estimate Social Return on Investment in sport in England²³. The 2014 SROI model was funded by Sport England, DCMS and the Higher Education Investment Fund (HEIF). The research presented in this report builds on the 2014 SROI model, using updated sources from the Sport Outcomes Evidence Review⁴ and other sources. It also aligns the social value generated through sport and physical activity to the government outcomes of physical wellbeing, mental wellbeing, individual development and social and community development.

There are two research aims:

- 1. Measure the social impact of sport and physical activity in England using a Social Return on Investment (SROI) framework.
- 2. Forecast the social value of sport and physical activity for England based on three participation target scenarios.

The research includes participating and volunteering in sport and physical activity. It explicitly excludes watching sports events as this is beyond the scope of Sport England's work.

1.2 Defining 'social impact'

This research adopts a broad definition of social impact. We include 'nonmarket' or 'non-traded' benefits and costs which affect private individuals because they are part of society. This includes subjective wellbeing (life satisfaction) derived from participation and volunteering in sport and physical activity. We also include benefits and costs which affect someone other than the direct beneficiary, which typically include:

- changes in health care costs, derived from health changes of individuals - any savings in health and social care costs benefit others in society;
- changes in criminal justice system costs, derived from changes in crime and anti-social behaviour and in pro-social behaviour and

² SIRC. (2016). *Social Return on investment in Sport: A Participation wide model for England: Summary Report.* [online]. <u>http://www4.shu.ac.uk/ assets/pdf/research/sirc/Final-SIRC-SROI-England-Web-report.pdf</u>

³ Davies, L. E., et al. (2019). Social return on investment (SROI) in sport: a model for measuring the value of participation in England. *International Journal of Sport Policy and Politics*, doi:10.1080/19406940.2019.1596967

⁴ Sport England. (2017). *Review of evidence on the outcomes of sport and physical activity.* [online]. <u>https://www.sportengland.org/research/benefits-of-sport/sport-outcomes-evidence-review/</u>

citizenship - any savings in criminal justice costs benefit others in society;

- the value of changes in human capital and productivity for society, derived from education changes for individuals - the whole economy benefits from improvement in education outcomes;
- the value of changes in social capital, derived from enhanced social networks, trust and reciprocity brought about by sport participation;
- the value of changes in volunteering which add non-market value to the offers made by sports organisations that utilise them (mainly clubs).

The inclusive definition of social impact therefore includes both **individual** and **societal** impacts.

1.3 Report structure

This report is structured as follows. Section 2 outlines the SROI methodology; section 3 presents the detailed calculations and findings of the England SROI model; section 4 presents the Forecast model and section 5 presents the conclusions and recommendations for further research.

2. Approach and method

SROI is an approach to social impact measurement which measures change in ways that are relevant to the people or organisations that experience or contribute to it. It tells the story of how change is being created by measuring outcomes and uses monetary values to represent them. This enables a ratio of benefits to costs to be calculated. For example, a ratio of 3:1 indicates that an investment of £1 delivers £3 of social value⁵.

An SROI analysis can take many forms. It can focus on the social value generated by an intervention, an organisation, a specific sport or physical activity, or an entire sector. An SROI can also serve different purposes. It can be undertaken for internal purposes as an in-house exercise for planning purposes or for an external audience in determining resource allocation.

There are two types of SROI:

- Evaluative: conducted retrospectively and based on actual outcomes that have already taken place;
- Forecast: predicts how much social value will be created if the activities meet their intended outcomes.

Both types of SROI presented in this report.

The evaluative SROI (**Base Model**) measures the impact of sport and physical activity participation and volunteering in England, which have already taken place in 2017/18. It estimates the value of various social outcomes (including health, subjective wellbeing, crime, education and social capital) and the costs (inputs) of providing the infrastructure and opportunities for sport and physical activity. The model expresses the value of the social outcomes in relation to the investment.

The forecast SROI (**Forecast Model**) predicts the social value of sport and physical activity for England based on three participation target scenarios as follows:

⁵ Nicholls, J., et al. (2012). A Guide to Social Return on Investment. [online]. <u>http://www.socialvalueuk.org/app/uploads/2016/03/The%20Guide%20to%20Social%20Return%20on%20Investment%202015.pdf</u>

- 1. Increase the numbers of people in England who are regularly active by 500,000 nationally (regularly active means at least 150 minutes).
- 2. Increase the numbers of women who are regularly active by 250,000 nationally.
- 3. Increase the numbers of people from lower socioeconomic groups in England who are regularly active by 100,000 within targeted locations*.

*Scenario three is not an exact translation of Sport England's 2016-21 target "to increase the numbers of people from lower socio-economic groups who are more active by 100,000 (within targeted locations)". Furthermore, for scenario three, it was not possible to obtain the data differentiated by socio-economic group. Therefore, scenario three represents a simplified, general forecast value of getting 100,000 more people active to the threshold of 150 minutes.

2.1 Stages of an SROI

The conduct of an SROI study requires progression through six key stages. These are summarised in Figure 2.1 and expanded upon below.

Figure 2.1: Stages of an SROI model



- 1. **Identify key stakeholders.** Decide which stakeholders to include and exclude.
- 2. **Map inputs, outputs and outcomes in logic model**. Identify relevant inputs and decide which are, in principle, *material* outputs and outcomes. Develop an impact map or theory of change to show the relationships between these.
- 3. **Measure and value outcomes**. Identify indicators, through literature, secondary data, and financial proxies. Decide which inputs, outputs and outcomes can be included because of sufficient empirical evidence, and which must be excluded on the grounds of insufficient evidence. Ensure that there is no double-counting of either inputs or outputs.
- 4. **Calculate impact**. Deduct deadweight (what would have happened anyway) and displacement (where the activity has simply replaced another). Identify attribution (the percentage of outcomes attributable to this activity, rather than other activities). Calculate the duration of the impact and the drop-off in outcomes over time.
- 5. **SROI**. Calculate the SROI ratio (divide the total social value of sport and physical activity participation by the total costs/investment). Test the sensitivity of the estimated SROI to variations in the outcome measures, financial proxies, and other key variables.
- 6. **Report and embed.** Report to stakeholders; identify gaps in evidence base; make recommendations; disseminate the results.

2.2 Assumptions of the England SROI model

Every effort has been made to construct the Base Model and Forecast Model using empirical evidence. A lack of appropriate evidence is one of the main reasons for excluding particular outcomes in a Social Value / SROI analysis. However, it is also common within SROI studies to make reasonable, conservative assumptions about key elements for which specific empirical evidence does not exist, to enable an estimate to be made rather than for the outcome to be excluded. The key assumptions necessary to conduct the England SROI are as follows: SROI:

 In the absence of evidence for England, if evidence exists for the UK, it is assumed that the effect in England is the same as the national effect e.g. prevalence rate of breast cancer / cost of treating breast cancer.

- 2. In the absence of evidence for England, if credible and transferable evidence exists outside the UK, it is assumed that the effect is also likely in England.
- 3. For adults, the threshold for measuring social outcomes is 150 minutes of moderate physical activity per week (or at least 75 minutes of vigorous intensity activity). In addition, for health outcomes, a linear dose-response relationship between physical activity and risk reduction for various health conditions is assumed for 30-149 minutes of moderate activity per week (or 15-74 minutes of vigorous intensity activity).
- 4. For children, we assume that a minimum threshold of at least 420 minutes of moderate intensity activity in the past week (an average of 60 minutes per day) for children is required for social outcomes to be realised.
- 5. We have assumed that one year's figures are a reasonable conflation of the more dynamic process of continued investment and participation in sport, resulting in longer term benefit generation.

Necessary assumptions should be based on the most appropriate evidence, together with expert judgement. Following the ethos of SROI, they are conservative and transparent, such that they are open to challenge so that they are either improved or displaced in time by more appropriate empirical evidence.

Further discussion of the assumptions listed above is included within the relevant section of the report.

2.3 Scope of the project

The year of the study is 2017/18, which reflects the year for which the latest data is available. The target population is England; children aged 10-15 and adults aged 16+. The age parameters reflect those for which empirical evidence on the social impact of sport and physical activity participation exists. In the case of children, empirical evidence is only available for aged 10+ years for the education and crime outcomes.

For the purposes of this research, we are guided by the definition of sport and physical activity adopted by Sport England. We include all physical activities considered to be active recreation, such as fitness activities, dance, recreational walking but exclude household activities not related to formal sport and exercise, such as gardening. We include active travel in the calculation of physical and mental health impacts but not in the calculation of mental wellbeing, individual development and social and community development impacts. This reflects the nature of current evidence relating to active travel, which is largely focused on physical and mental health effects.

2.4 Comparability with the 2014 England model

Comparisons between the findings of the 2014 model and the research presented in this report are inevitable. However, this should be avoided for the following methodological reasons:

- 1. The measure of participation for the 2018 model includes wider physical activity, including active travel (for health outcomes) rather than just sport participation.
- 2. In 2018, the threshold used for valuing social outcomes (excluding physical and mental health) is 'at least 150 minutes of moderate intensity or 75 minutes of vigorous activity per week'. The threshold for valuing social outcomes in 2014 was 'at least 1 x 30 minutes of sport participation per week'.
- 3. In 2018, the differentiated thresholds used for valuing health outcomes are:
 - a. 30-149 minutes of moderate activity per week (or 15-74 minutes of vigorous intensity activity)
 - b. 'at least 150 minutes of moderate intensity or 75 minutes of vigorous activity per week'.

The threshold for valuing health outcomes in 2014 was 'at least 1 x 30 minutes of sport participation per week'.

- 4. In 2018, the threshold for volunteering in the model is based on at least once in the last month (Active Lives) instead of at least once in the last year (Active People Survey).
- 5. The 2018 model measures additional outcomes, notably mental health (reduced clinical depression and psychotherapy usage), musculoskeletal conditions (reduced hip fractures and back pain; increased sports injuries) and enhanced social capital.
- 6. In the 2018 model, the health benefits of sport and physical activity (risk reductions for various diseases) are identified using the 2019 UK

Chief Medical Officers' (CMO) Physical Activity Guidelines⁶, rather than average values identified from a review of evidence in 2014.

3. The Base Model

3.1 Identifying the stakeholders

After establishing the scope of the project, the first stage of an SROI analysis is to identify the stakeholders to be included. Stakeholders are defined as people or organisations that experience change or affect the activity (positive or negative). There are four main stakeholder groups in England. Table 3.1 identifies the main organisations.

| Public / Government sector | Private / Commercial sector | Charities / Third sector | Consumer sector |
|---|--|--|--|
| Sport England Local Authorities Secondary schools Higher Education Institutions Government Departments Public Health England | Commercial fitness and exercise providers Employers with sport, exercise and physical activity facilities | Voluntary sport and exercise clubs Sport and leisure trusts National Governing Bodies Charities delivering sport and physical activities Other sport for development organisations | Sport/ exercise / physical activity participants Sports volunteers |

Table 3.1: Key stakeholders in England

⁶ Department of Health and Social Care. (2019). *UK Chief Medical Officers' Physical Activity Guidelines*. [online]. <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf</u>

3.2 Mapping inputs, outputs and outcomes

3.2.1 The Impact Map

The Impact Map is central to an SROI analysis. It is the story of how an intervention or policy (in this case sport and physical activity participation and volunteering) makes a difference. It details how inputs, used to resource and deliver activities (measured as outputs), result in outcomes for stakeholders. The Impact Map is also known as a 'theory of change' or logic model and is the framework used to build the SROI model. Figure 3.1 gives an overview of the Impact Map for England. The stages outlined in the Impact Map correspond to Stages 1–3 of an SROI framework, illustrated in Figure 3.1.

Figure 3.1: Overview of the impact map for England



3.2.2 Identifying and valuing inputs

Inputs are those things that stakeholders contribute to in order to make activities possible.

The inputs to sport and physical activity in England are primarily money (financial) and time (non-financial). Table 3.2 summarises the inputs for England. While the inputs were relatively straightforward to identify, care was taken to ensure that there was no double counting between organisations, for example DCMS and Sport England.

A number of stakeholders identified in Table 3.1 are not included in Table 3.2 because their inputs are captured elsewhere. For example, voluntary clubs are not included because they do not provide any inputs other than those accounted for elsewhere (e.g. consumer spending; volunteer time). Likewise, the commercial sector is not included as all the inputs provided by this sector are counted in consumer spending on sport and physical activity.

Table 3.2: Summary of inputs

| Stakeholder | Inputs | Value (£m) |
|------------------------|---|---------------|
| Public/Government | | 2,442.95 |
| Sector | | 007 50 |
| Sport England | Exchequer and lottery spend | 267.50 |
| Local authorities | Sport-related revenue and capital spend | 1,187.59 |
| Secondary schools & | Expenditure on sports provision | 588.99 |
| HE institutions | | |
| Department for | Expenditure on cycling and walking | 388.73 |
| Transport | | |
| Public Health | Expenditure on physical activity | 3.80 |
| England | programmes | |
| Youth Sport Trust | Expenditure on charitable activities | 6.34 |
| | | |
| Consumer Sector | | 13,692.97 |
| Sport / physical | Activity charges/fees | 4,189.42 |
| activity participants | Equipment costs | 3,670.95 |
| | Sport clothing & footwear | 2,604.55 |
| | Travel and other costs | 3,228.04 |
| | | |
| Non-financial inputs | | 5,713.31 |
| Sport volunteers | Time | 5,713.31 |
| | | |
| Total | | 21,849.24 |

The financial inputs linked to funding agencies and delivery organisations were estimated from consultations with relevant stakeholders and the management accounts of the main funders and delivery organisations. Consumer spending on participation was derived as part of the economic model for England, using official statistics such as the Family Expenditure Survey. For clothing and footwear, 67% of all spending in this category was related to sport and physical activity participation; for travel and other costs, 96% were participation related.

Some inputs may have been omitted, for example non-sport charities donating to local sports clubs. However, these are likely to be small relative

to the size of other inputs, and no data sources were available to capture these.

The non-financial input of volunteer time was estimated using data from the Active Lives Adult Survey 2017/18, and the Taking Part Survey 2017/18. The value of volunteering was estimated by multiplying average volunteer hours worked per annum by average hourly earnings. The total value of inputs was £21.85bn.

3.2.3 Clarifying outputs

Outputs are a quantitative summary of an activity. They are essentially the metric or measure which drives the calculation of value in an SROI for sport and physical activity. There are two types of outputs for England: sport and physical activity participation and sport volunteering.

The source of participation and volunteering data for adults was the Active Lives Adults Survey 2017/18. The following threshold categories were measured:

- Participation 150+ minutes per week of moderate intensity activity (or 75 minutes of vigorous activity);
- Participation 30-149 minutes per week of moderate intensity activity (or 15-74 minutes of vigorous intensity activity);
- Volunteering At least once in the last month.

The source of participation data for children was the Active Lives Children and Young People Survey and the threshold was at least 420 minutes of moderate intensity activity in the past week (an average of 60 minutes per day).

3.3 Measuring and valuing outcomes

SROI is an outcomes-based measurement tool, as measuring outcomes is the only way to be sure that changes for stakeholders are taking place. This research requires the identification, measurement and valuation of outcomes that have resulted from investing in sport and physical activity participation and volunteering.

3.3.1 Evidencing outcomes

The social outcomes included in this study were identified using evidence from various sources including the UK CMO Physical Activity Guidelines; the

Physical Activity Guidelines for Americans⁷; a systematic review of literature on the social impact of culture and sport for the DCMS⁸, the Sport Outcomes Evidence Review and update⁹ and other SROI studies carried out by SIRC.

Following discussion with Sport England and based on the nature of the outcomes, clinical mental health outcomes have been grouped with physical health. Mental wellbeing in the context of this research refers to subjective (hedonic) wellbeing. We identified 16 social outcomes with appropriate and sufficient supporting evidence to include in the SROI analysis as follows:

Physical and mental health:

- Reduced risk of CHD / stroke (participants 16+)
- Reduced risk of breast cancer (female participants 16+)
- Reduced risk of colon cancer (participants 16+)
- Reduced risk of Type 2 diabetes (participants 16+)
- Reduced risk of dementia (participants 16+)¹⁰
- Reduced risk of depression (participants 16+)
- Reduced risk of hip fracture (participants 65+)
- Reduced risk of back pain (participants 16+)
- Improved good health (participants 16+)
- Increased risk of injury (participants 16+)

Mental wellbeing

• Improved life satisfaction (participants & volunteers 16+)

Individual development

- Improved educational attainment (participants aged 11-18)
- Enhanced human capital (average additional salary for graduates)

Social and community development

• Reduced criminal incidences about young males (aged 10-24)

⁸ DCMS. (2015). A review of the social impacts of culture and sport. [online].

⁷ U.S. Department of Health and Human Services. (2018).*Physical Activity Guidelines for Americans, 2nd Edition.* [online]. <u>https://health.gov/paguidelines/second-edition/pdf/Physical Activity Guidelines 2nd edition.pdf</u>

https://www.gov.uk/government/publications/a-review-of-the-social-impacts-of-culture-and-sport ⁹ Sport England. (2017). *Review of evidence on the outcomes of sport and physical activity*. [online]. https://www.sportengland.org/research/benefits-of-sport/sport-outcomes-evidence-review/

¹⁰ Includes Alzheimer's disease, Parkinson's disease, and general neurodegenerative disease.

- Improved social capital to communities (social networks, trust and reciprocity)
- Non-market value for sports organisations utilising volunteers

The inclusion of MSK conditions including hip fractures, back pain and sports injuries are an important addition to the England SROI model, which were missing from previous sport and physical activity SROI models due to insufficient evidence. This is a significant step forward in evidencing health outcomes in the SROI model, as MSK conditions account for a large proportion of direct health care costs. They accounted for the third largest area of the NHS programme spending at £4.7bn in 2013-14¹¹. The evidence for sports injuries is limited to cases presenting at Accident and Emergency departments, which is very likely to underestimate the cost of all sports injuries.

Table 3.3 summarises the social outcomes included in the England SROI, together with the **assumptions** underpinning the relationship between each outcome and sport and physical activity participation.

For health outcomes at the 150+ participation threshold, the risk reduction assumptions were largely guided by the 2019 UK CMO Guidelines for Physical Activity and the underpinning evidence. The assumption for risk reductions 30–149 minutes was derived from a targeted search and review of evidence, and consultation with experts working in physical activity and health. The inclusion of this assumption reflects the consensus of experts working in academia and policy, and the CMO guidelines that lower volumes (less than 150 minutes per week), lower intensities and lower frequencies of physical activity may also confer health benefits.

We found that risk reductions associated with lower volumes of activity are rarely quantified in the literature and where they are, the evidence is wide ranging covering different outcomes, populations, ages, intensities and so on, with the precise effect difficult to establish. For 30-149 minutes of activity, we therefore decided to build our valuation based on a *linear dose-response relationship*.

¹¹ Versus Arthritis. (2019). *The state of musculoskeletal health 2019.* [online]. https://www.versusarthritis.org/media/14594/state-of-musculoskeletal-health-2019.pdf

This assumption is likely to underestimate rather than overestimate the effect size, meaning the values derived will be conservative and defensible (which is a key principle of SROI).

We decided to apply this assumption to the 'fairly active' category of participants only (30-149 minutes), as a large proportion of participants in the inactive category (0-29 minutes) do no activity. The valuation of the fairly active category only means that the health valuation may still underestimate the contribution of sport and physical activity. Nevertheless, the valuation of this category still represents a positive addition to the 2018 SROI model and reflects the consensus in the health sector that activity below 150-minute threshold confers benefits to individuals.

Table 3.3: Social outcomes included in the SROI

| Area | Outcome | Relationship/assumption |
|----------------------------------|--|---|
| Physical and mental health | Coronary heart disease (CHD) and stroke | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of CHD and stroke in adults by 35% ¹² |
| | Type 2 diabetes | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of Type 2 diabetes by 40% ¹³ |
| | Breast cancer | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of breast cancer in active women by 20% ¹⁴ |
| | Colon cancer | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of developing colon cancer by 20% ¹⁵ |
| | Dementia | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of reduces risk of developing dementia by 30% ¹⁶ |
| | Clinical depression | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of clinical depression by 30% ¹⁷ |
| | Back pain | Participation in sport and physical activity at moderate intensity in adults for 150 mins + reduces risk of back pain by 25% ¹⁸ |

¹² Department of Health and Social Care. (2019). UK Chief Medical Officers' Physical Activity Guidelines. [online]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf ¹³ Ibid

- 16 Ibid
- 17 Ibid
- 18 Ibid

¹⁴ Ibid

¹⁵ Ibid

| | Hip fractures | Participation in sport and physical activity at moderate intensity in adults (65+) for 150 mins + reduces risk of hip fracture by 52% ¹⁹ |
|-------------|------------------------|---|
| | All outcomes | There is a linear dose-response relationship between fairly active participation (30-149 minutes) in sport and physical activity, and a reduced risk of developing the outcomes identified above. |
| | Good health | Sport participants are 14.1% more likely to (self) report good health than non-participant which results in a) reduced GP visits and b) reduced psychotherapy service usage ²⁰ |
| | Sports Injury | Participation in sport increases the risk of getting a sports-related injury. |
| Area | Outcome | Relationship/assumption |
| Mental | Subjective wellbeing | Sport participation is found to be associated with improved subjective wellbeing ²¹ |
| Wellbeing | | Volunteering in sport is found to be associated with improved subjective wellbeing and greater life satisfaction ^{22,23} |
| Individual | | |
| Development | Educational attainment | Sport participation leads to a 1% increase in educational attainments (aged 11-18) |
| | | Graduates who participate in sport at university earn an average of 5% more per year than their non- |
| | Enhanced human capital | sporting counterparts ²⁴ |
| Social and | Criminal incidences | Sport participation leads to a 1% reduction in criminal incidents for males aged 10-24 years |
| Community | | |
| Development | | |

¹⁹ Department of Health. (2011). *Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officers.* [online]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf

²⁰ Fujiwara, D. et al. (2015). *Further analysis to value the health and educational benefits of sport and culture*. DCMS.

²¹ Fujiwara, D. et al. (2014a). *Quantifying and valuing the wellbeing impacts of culture and sport*. DCMS.

²² Join in. (2014). *Hidden diamonds: Uncovering the true value of sport volunteers.* [online]. https://www.joininuk.org/hidden-diamonds-true-value-of-sport-volunteers/

²³ Fujiwara, D. et al. (2014b). *Measuring the social impact of community investment: A guide to using the wellbeing valuation approach*, HACT: ideas, and innovation in housing.

²⁴ Johnes, G. (2018). A sporting change: on the impact of sports participation on subsequent earnings. *Economics Bulletin.* **38**, 1 (146-151).

| Social capital | Sport participation is associated with enhanced social capital through 10% higher social networks, trust and reciprocity ²⁵ |
|----------------------|---|
| Non-market value for | Volunteers create non-market benefits to the organisations they give their time to. |
| sports organisations | Volunteer time is worth at least the equivalent value of average hourly earnings. |
| utilising volunteers | |

²⁵ Gratton, C. et al. (2018 unpublished). *Economic value of community club-based sport in Australia*. Australian Sports Commission and Griffith University, Queensland

For some (non-health) social outcomes the assumptions were derived from single sources of high-quality evidence (e.g. subjective wellbeing). For others, such as crime and education, generalised assumptions were derived from a body of evidence. An updated review of literature for crime and educational outcomes was undertaken for this research. However, the subjects and contexts for this evidence were so varied that it was still not possible to arrive at a revised assumption based on a high-quality study or an 'average effect'.

There was some new evidence on the impact of crime on reoffending in prisons, which suggests that a targeted rehabilitation programmes in prison settings can have a beneficial effect²⁶. However, further evidence such as the average effect sizes, and the extent of such programmes is required before this crime outcome can be scaled up and incorporated into the model.

As with the 2014 model, we have taken a cautious but generalised and conservative assumption that there is a 1% improvement in crime reduction and education attainment resulting from sport and physical activity participation. This is intended to reflect our judgement on the body of evidence, which suggests that sport and physical activity have a positive effect on crime reduction and educational attainment but that the precise size of the effect is unknown. It is very likely to underestimate the contribution of sport and physical activity to individual development and social and community development.

Where assumptions have been made, every effort has been made to keep these estimates conservative. This is entirely consistent with previous SROI studies. We have assigned a colour rating scheme to indicate the quality of evidence used to derive each assumption. This is summarised in Table 3.4

²⁶_Meek, R. (2018) *A sporting chance: An independent review of sport in youth and adult prisons,* Ministry of Justice.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file /733184/a-sporting-chance-an-independent-review-sport-in-justice.pdf

Table 3.4: Evidence quality

| Gold | High quality robust evidence. The scale and scope of the evidence is likely to be of a high standard. Well documented evidence at the population level underpinning the assumptions. |
|---------|--|
| Silver | Moderate quality evidence that falls short of the highest quality. The evidence is likely to be mixed in scale, and scope. Assumptions may be based on single higher quality source of population-level evidence. |
| Bronze: | Whilst persuasive, the scale and scope of evidence may be limited. Assumptions may be derived from evidence relating to a wide variety of contexts (sub population) or with specific a sub groups. |

3.3.2 Excluded outcomes

As with previous sport and physical activity SROI studies, several social outcomes have been excluded from the England SROI study, primarily due to a lack of robust empirical evidence linking social outcomes with sport and physical activity participation. For example, in the case of health, although there are risk reduction figures for a wider range of conditions than those included in this study²⁷, the evidence was not yet considered strong enough to merit their inclusion.

Specific social outcomes excluded from this study include:

- Secondary prevention of various illnesses (therapeutic benefits)
- Anti-social behaviour that does not register in data on criminal incidents
- Primary school educational attainment
- Educational 'individual' or 'intermediate' outcomes, e.g. behaviour, attendance
- Health outcomes for children
- Sports injuries (children)

²⁷Department of Health. (2011). *Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officers.* [online].

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/ dh_128210.pdf

There is particularly a lack of robust evidence on social outcomes relating to children. Although there is some evidence relating to mental health, sports injuries and academic achievement, it was not considered strong enough to warrant the inclusion of these outcomes. Even for mental health, the strongest of the three areas examined, despite evidence of a positive effect, the consensus of experts is that the evidence remains weak and inconclusive.

NOTE: The exclusion of various social outcomes as noted above is highly likely to result in an underestimation of the social value of sport and physical activity participation in England. Nevertheless, until more evidence is available, it is not appropriate to include these in any SROI estimates.

3.3.3 Valuing outcomes

This section of the report provides notes to explain the valuation of the social outcomes and the key findings. All values reported in the Base Model are reported in 2018 prices.

Physical and mental health

Table 3.5 summarises the value of the ten physical and mental health outcomes. The first eight health outcomes were valued by estimating the number of potential cases averted by sport and physical activity participation (quantity)²⁸, multiplied by the average annual cost²⁹ per person diagnosed with the condition (value).

Self-reported good health, measured in terms of reduced health service usage (GP visits and psychotherapy usage), was calculated by multiplying the number of people participating in sport and physical activity in England (quantity) by the estimated cost savings per person resulting from reduced GP visits and psychotherapy service usage associated with self-reported good health³⁰ (value). As a conservative measure, we

²⁸ Calculated using prevalence rate of health condition; physical activity participation rate and the impact of participation on reducing risk.

²⁹ Average annual cost varies between each outcome but in most cases includes health care costs, social care or informal care costs, and in some cases, loss of productivity.

³⁰ Fujiwara, D. et al. (2015). *Further analysis to value the health and educational benefits of sport and culture.* DCMS.

adjusted the calculation of costs saved through reduced GP visits so that it explicitly excludes the number of individuals that have been accounted for in the valuation of the other eight specific health conditions in Table 3.5. Similarly, we adjusted the calculation of costs saved through reduced use of psychotherapy services by the number of people accounted for in the valuation of clinical depression.

Increased injuries resulting from participation in sport were calculated by the number of A&E admissions recorded as sports injuries (quantity) multiplied by the average cost of an injury (value).

| Physical and mental outcomes | | | Impact (£m) |
|---------------------------------------|------------|---------|-----------------------|
| Description | Quantity | Value | |
| Reduced risk of CHD /stroke | 150,942 | £7,059 | 1,065.54 |
| Reduced risk of developing | 013 / 97 | £4 013 | 3 666 00 |
| Type 2 diabetes | 913,407 | 14,013 | 3,000.00 |
| Reduced risk of breast cancer | 5711 | £531/1 | 305 23 |
| in active women | 5,744 | 200,141 | 505.25 |
| Reduced risk of colon cancer | 3,019 | £53,141 | 160.42 |
| Reduced risk of dementia | 92,980 | £37,401 | 3,477.50 |
| Reduced risk of depression | 375,355 | £305 | 114,50 |
| Reduced risk of hip fracture | 21,161 | £37,962 | 803.31 |
| Reduced risk of back pain | 1,551,290 | £268 | 415.43 |
| Increased self-reported good | | | |
| health leading to | | | |
| reduced GP visits | 30,554,189 | £15 | 457.47 |
| reduced use of | 33,292,811 | £20 | 671.91 |
| psychotherapy services | | | |
| Increased risk of getting a | 202026 | SE 440 | -154446 |
| sports-related injury ^[1] | 203,020 | £0,442 | ⁻ 1,044.40 |
| Sub total (net) | | | 9,592.84 |

Table 3.5: Physical and mental health valuation - summary

Overall, the net social value of physical and mental health outcomes through participation in sport and physical activity (taking account of the negative impact / fiscal cost of sports injuries) in England was **£9.59bn**.

^[1] The value of sports injuries is presented as a negative impact as they are a cost to society.

As shown in Table 3.5, the largest value was created by the reduced prevalence of Type 2 diabetes (£3.67bn), closely followed by dementia (£3.47bn). The cost of sport injuries was £1.54bn.

Table 3.6 summarises the social value of health by gender. As shown, the social value of health is greater for women (\pm 5.74bn) than for men (\pm 5.39bn). This is largely explained by the inclusion of breast cancer for women and the higher figure for female dementia.

| Physical and mental health outcomes | Men (£m) | Women (£m) | Total (£m) |
|---|----------|---------------|---------------|
| Coronary heart disease and stroke | 662.88 | 413.24 | 1,065.54 |
| Type 2 diabetes | 2,098.25 | 1,567.74 | 3,666.00 |
| Breast cancer | - | 305.23 | 305.23 |
| Colon cancer | 85.66 | 74.76 | 160.42 |
| Dementia | 1,313.44 | 2,164.07 | 3,477.50 |
| Depression | 50.96 | 63.53 | 114,50 |
| Hip fractures | 410.53 | 392.78 | 803.31 |
| Back pain | 209.77 | 205.66 | 415.43 |
| Good health | 562.42 | 566.96 | 1,129.38 |
| GP visits | 227.09 | 230.38 | 457.47 |
| Psychotherapy usage | 335.32 | 336.59 | 671.91 |
| Sub total (exc. sports injuries ³¹) | 5,393.90 | 5,743.39 | 11,137.30 |

Table 3.6: Physical and mental health valuation by gender

³¹ Sports injury data is not disaggregated by gender

Table 3.7 presents the distribution of costs associated with the physical and mental health outcomes. This table is presented for transparency purposes to identify the different types of value attributed to health. As shown, the greatest proportion of recorded costs is direct health care costs, which are £5.24bn, or 54.6% of the overall value for health.

In total, fiscal savings (direct health care costs and social care costs) are ± 6.96 bn (72.5%). However, care should be taken in using the detail from this table for policy decisions as cost data is not consistently collected across all health outcomes. For example, dementia, hip fractures and back pain (in part) are the only health outcome for which social care (another fiscal saving) is available.

Table 3.7: Physical and mental health valuation by type of cost

| Physical and mental | Health care | Productivity loss | Productivity los | s Informal care | Social care | Unpaid care | Other costs | Overall (£m) |
|---------------------|-----------------|--------------------------|------------------|-----------------|-----------------|----------------|-------------|-----------------|
| health outcomes | costs | due to mortality | due to morbidity | y costs | | | | |
| CHD / stroke | | | | | | | | |
| Value (£m) | £366,544,412 | £293,022,422 | £126,798,794 | £279,170,453 | | | | £1,065,536,080 |
| % | 34.40% | 27.50% | 11.90% | 26.20% | | | | 100% |
| Type 2 diabetes | | | | | | | | |
| Value (£m) | £3,665,998,971 | | | | | | | £3,665,998,971 |
| % | 100% | - | | | | | | 100% |
| Breast cancer | | | | | | | | |
| Value (£m) | £110,798,718 | £130,638,709 | £14,345,840 | £49,447,362 | | | | £305,230,628 |
| % | 36.30% | 42.80% | 4.70% | 16.20% | | | | 100% |
| Colon cancer | | | | | | | | |
| Value (£m) | £58,231,941 | £68,659,148 | £7,539,673 | £25,987,809 | | | | £160,418,571 |
| % | 36.30% | 42.80% | 4.70% | 16.20% | | | | 100% |
| Dementia | | | | | | | | |
| Value (£m) | £570,310,667 | | | | £1,356,226,586 | £1,537,056,797 | £13,910,016 | £3,477,504,066 |
| % | 16.40% | | | | 39.00% | 44.20% | 0.40% | 100% |
| Depression | | | | | | | | |
| Value (£m) | £25,989,476 | | £88,501,609 | | | | | £114,491,085 |
| % | 22.70% | | 77.30% | | | | | 100% |
| Hip Fractures | | | | | | | | |
| Value (£m) | £465,920,064.48 | | | | £337,390,391.52 | | | £803,310,456 |
| % | 58% | | | | 42% | | | 100% |
| Back Pain | | | | | | | | |
| Value (£m) | £390,501,657.30 | | | | £24,925,637.70 | | | £415,427,295 |
| % | 94% | | | | 6% | | | 100% |
| Good health | | | | | | | | |
| Value (£m) | £1,129,381,449 | | | | | | | £1,129,381,449 |
| % | 100% | | | | | | | 100% |
| Sports injuries | | | | | | | | |
| Value (£m) | -£1,544,456,209 | | | | | | | -£1,544,456,209 |
| % | 100% | | | | | | | 100% |
| Total (net) (£m) | £5,239,221,147 | £492,320,279 | £237,185,915 | £354,605,623 | £1,718,542,615 | £1,537,056,797 | £13,910,016 | £9,592,842,392 |
| % | 54.6% | 5.1% | 2.5% | 3.7% | 17.9% | 16.% | 0.2% | 100% |

Mental wellbeing

Mental wellbeing in the context of this research includes subjective (hedonic) wellbeing. Evidence suggests that there are wellbeing benefits from sport and physical activity for both participants and volunteers. We used values derived from the Wellbeing Valuation Approach³² (also known as the income compensation approach) to estimate the value of subjective wellbeing for both participants and volunteers in England³³. The findings are presented in Table 3.8.

For sport and physical activity participants in England, the value per participant (£1,274)³⁴ was multiplied by the number of adults (16+ years) taking part in sport and physical activity, excluding active travel (quantity).

For volunteers, the value per participant (£2,663)^{35,36} was multiplied by the number of volunteers in England (quantity). The value participants' gain from higher subjective wellbeing was £31.22bn and the value volunteers gained was £10.54bn.

The contribution of sport and physical activity to subjective wellbeing in England was **£41.76bn**. Of this approximately 75% was generated from participants and 25% from volunteers.

³² The Wellbeing Valuation Approach is a relatively new method of non-market valuation. It uses people's self reports of their levels of wellbeing using large national datasets. It then estimates the equivalent money needed to increase someone wellbeing by the same amount. See Fujiwara, D. et al. (2014a).
³³ Inflation adjusted values.

 ³⁴ Fujiwara, D. et al. (2014a). Quantifying and valuing the wellbeing impacts of culture and sport. DCMS
 ³⁵ Join in. (2014). Hidden diamonds. Uncovering the true value of sport volunteers. [online].
 <u>https://www.joininuk.org/hidden-diamonds-true-value-of-sport-volunteers/</u>

³⁶ Fujiwara, D. et al. (2014b). *Measuring the social impact of community investment: A guide to using the wellbeing valuation approach*. HACT: ideas and innovation in housing.

| Stakeholder | Mental wellbeing outcomes | | | Impact (£m) |
|--------------|--|------------|--------|----------------|
| | Description | Quantity | Value | |
| Participants | Sport participation (in the last year) is found to be associated with higher subjective wellbeing | 24,513,391 | £1,274 | 31,218.05 |
| Volunteers | Sport volunteering is found to be associated with higher subjective wellbeing | 3,958,368 | £2,663 | 10,542.76 |
| Sub total | | | | 41,760.81 |

Table 3.8: Mental wellbeing valuation - summary

Individual development

We valued two individual development outcomes. The literature suggests that participation in sport and physical activity has a net positive impact on educational attainment (aged 11-18) and on enhanced human capital.

Improved educational attainment was valued by estimating the number of additional active participants aged 16 and 18 with formal qualifications (GCSEs and A-levels) (quantity), by average annual lifetime productivity returns (value). This method of valuing qualifications is used by the Department for Education³⁷. As shown in Table 3.9, the value of increased educational attainment was approximately £4.53m.

Enhanced human capital was valued by estimating the number of final year students in Higher Education institutions participating in sport and physical activity, multiplied by the average additional salary for graduates who are active participants. Table 3.9 shows the value of enhanced human capital was £277.53m.

The overall contribution of sport and physical activity to individual development in England was **£282.07m**. As noted previously, this value is

likely to underestimate the contribution of sport and physical activity to individual development due to a lack of evidence relating to this outcome.

| Stakeholder | Individual development outcomes | | | Impact (£m) |
|--------------|---------------------------------|----------|--------|----------------|
| | Description | Quantity | Value | |
| Participants | Participation leads to a 1% | 3,272 | £1,385 | 4.53 |
| | increase in educational | | | |
| | attainments (aged 11-18) | | | |
| Participants | Graduates who participate in | 228,442 | £1,215 | 277.53 |
| | sport have a 5% higher salary | | | |
| | than their non-sporting | | | |
| | counterparts (enhanced value | | | |
| | of human capital) | | | |
| Sub total | | | | 282.07 |

Table 3.9: Individual development valuation - summary

Social and community development

We valued three outcomes relating to social and community development. The literature suggests that participation in sport reduces criminal incidences for males aged 10-24 years and enhances social capital in society. It also suggests that sport volunteering creates non-market benefit for organisations utilising sport volunteers. The valuation summary is presented in Table 3.10.

Crime was valued by estimating the number of criminal incidents prevented among males in the 10-24 cohort taking part in sport (quantity), multiplied by the average cost per incident of crime (value). The total impact for crime reduction in England was £38.62m. This is a fiscal saving.

Social capital was estimated using the findings of an Australian empirical study (Gratton *et al.* 2018). This utilises the same methods as Fujiwara *et al.* (2014a) to estimate the hypothetical income required to compensate for not benefiting from social capital enhancement (and subjective wellbeing) through participation in sport and physical activity. The social capital value for England is £580³⁸ per head, which across all sport and physical activity participants in England sums to £14.22bn.

Sports volunteering has a non-market value for organisations utilising volunteers, which is not captured in economic importance studies. It is distinct from the individual subjective wellbeing of volunteers and the social capital benefits that are gained by society. We express this by using the equivalent labour market value of volunteers' time, which is calculated using average volunteer hours multiplied by average hourly earnings in England. The value of this was £5.71bn. This we see as a minimum representation of the non-market value for organisations utilising volunteers.

In total, the value of social and community development outcomes in England was **£19.97bn.**

| Stakeholder | Social and community development outcomes | | | Impact (£m) |
|----------------------------|---|------------|--------|----------------|
| | Description | Quantity | Value | |
| Society | Sport participation leads to a 1% reduction in criminal incidents for males aged 10-24 years | 10,122 | £38.16 | 38.62 |
| Society | Sport participation is associated with 10% enhanced social capital | 24,513,391 | £580 | 14,222.74 |
| Voluntary organisations | Sport volunteers create a non-market benefit for organisations through the value of (in-kind) time contribution | 3,958,368 | £1,443 | 5,713.31 |
| Sub total | | | | 19,974.67 |

| Table 3.10: Social and | community development valuation - |
|------------------------|-----------------------------------|
| summarv | |

³⁸ The value for England was adjusted to take account of the higher levels of subjective wellbeing recorded in the Australia study.

3.4 Establishing impact

Stage 4 of an SROI analysis establishes impact. Ordinarily, the valuation of the social outcomes discussed in section 3.3.3 would be adjusted for duration, deadweight, displacement, attribution, discounting and drop-off. However, in this study these adjustments are not necessary.

We have assumed that taking a snapshot of social value in a given year is a reasonable conflation of the more dynamic process of continued investment and participation in sport and physical activity, resulting in longer term benefit generation i.e. benefits today result from investment in previous years, and investment today results in time lagged benefits in future years. We have therefore not adjusted for duration, drop-off and discounting. Nevertheless, we note the limitations of this approach and acknowledge that this may need refining in further iterations of the model.

Deadweight is already implicit in the non-participant default case and in the case of attribution, because many of the empirical studies on which the estimates of outcomes are based are of a multivariate nature, they have already incorporated consideration of other likely contributing factors to these outcomes. No adjustments to the valuation presented in section 3.3.3 were undertaken.

Regarding displacement (how much of the outcome has displaced other outcomes), because the estimation presented in this report covers the whole of sport and physical activity, arguably how one activity may displace another is not relevant. While time spent on sport and physical activity may displace time away from other beneficial activities, there is little evidence of this³⁹. Some evidence suggests that the opposite is true and that sport and other leisure activities are typically complements rather than substitutes⁴⁰.

³⁹ Davies, L. E. et al. (2019). Social return on investment (SROI) in sport: a model for measuring the value of participation in England. *International Journal of Sport Policy and Politics*. doi: <u>10.1080/19406940.2019.1596967</u>

⁴⁰ Shibli, S. et al. (2014). *Child Taking Part Survey: Multivariate analysis of the determinants of child participation in arts, sports, heritage, museums and libraries.* Unpublished report to the DCMS.

3.5 SROI calculation

3.5.1 SROI ratio

The final stage of an SROI analysis is to calculate the SROI value or ratio. Table 3.11 summarises the main constituent parts of the Social Return on Investment calculation. Total inputs are around £21.85bn. The total value of all social outcomes is £71.61bn. This gives a Net Present Value (the difference between the value of the outcomes and inputs) of £49.76bn and an SROI ratio of 3.28 – i.e. **for every £1 invested in sport and physical activity in England, £3.28 worth of social benefit is generated⁴¹.**

In our calculations, the largest contribution to social value is associated with mental wellbeing, totalling £41.76bn. This is 58.3% of all social value generated by sport and physical activity in England. The second largest contribution is from social and community development which contributes 27.9% (£19.97bn), followed by physical and mental health at 13.4% (£9.59bn). Relative to the other government outcomes, the contribution of sport and physical activity to individual development appears low, at less than 1% (£282.07m). However, this most likely reflects the lack of evidence relating to this area. Total fiscal savings are £7bn⁴², which is around 10% of all social value.

⁴¹ Note this ratio includes investment of participants individual expenditure and volunteer time

⁴² Includes direct health care, social care and criminal justice cost saving

Table 3.11: Summary of the SROI calculation

| | | Value (£m) |
|----------------------------|-----------------------------|------------|
| Inputs | Participants | 13,692.97 |
| | Volunteers | 5,713.31 |
| | Public sector | 2,442.95 |
| Input total | | 21,849.24 |
| | | |
| Outcomes (Social value) | Physical and mental health | 9,592.84 |
| | CHD and stroke | 1,065.54 |
| | Type 2 diabetes | 3,666.00 |
| | Breast cancer | 305.23 |
| | Colon cancer | 160.42 |
| | Dementia | 3,477.50 |
| | Depression | 114.49 |
| | Hip fractures | 803.31 |
| | Back pain | 415.43 |
| | Good health | 1,129.38 |
| | Sport-related injury | -1,544.46 |
| | | |
| | Mental wellbeing | 41,760.81 |
| | Participants | 31,218.05 |
| | Volunteers | 10,542.76 |
| | | |
| | Individual development | 282.07 |
| | Improved attainment | 4.53 |
| | Enhanced human capital | 277.53 |
| | | |
| | Social and community | 19,974.67 |
| | development | |
| | Crime | 38.62 |
| | Social capital | 14,222.74 |
| | Non market value for | 5,713.31 |
| | organisations | |
| | utilising sports volunteers | |
| Outcomes total (net) | | 71,610.39 |
| | | |
| Net Present Value | | 49,761.15 |
| SROI | | 3.28 |

3.5.2 Sensitivity analysis

One of the key components of an SROI analysis is to test the sensitivity of the SROI to variations in data used e.g. outcome measures, financial proxies etc. However, given the general lack of empirical work on the social value of sport and physical activity, the sensitivity analysis for the base model is limited. It was possible to change the key assumptions for the education and crime outcomes Table 3.12 illustrates how this affects the overall values attached to them.

If the assumptions for the crime and educational attainment outcomes were fluctuated from 1% to 0.5%, 2%, 5% and 10%, the overall SROI ratio changed from 3.28 to 3.30. This is because the social value of the education and crime outcomes are small relative to the other social outcomes in the model, in part due to the lower numbers of (young) participants these values are attributed to. This indicates that the SROI is not sensitive to variations in the key assumptions for the crime and education outcomes under consideration.

In contrast, subjective wellbeing was found to be highly sensitive to changes in value per person. The values used in the Base Model were already very conservative. Alternative values derived from other of sources (e.g. Downward and Rasciute, 2011; Fujiwara et al. 2013) were much higher and considered too ambitious to use, even in sensitivity analysis.

| Social outcome | Base Model assumption | Base Model value (£m) | Alternative assumption | Alternative value (£m) |
|-------------------|---|--------------------------|---------------------------|---------------------------|
| Educational | 1% increase in educational | 4.53 | 0.5% (low) | £2.27 |
| attainment | attainments (aged 11-18) | | 2% (high) | £9.00 |
| | | | 5% (high) | £22.08 |
| | | | 10% (high) | £42.79 |
| | | | | |
| Crime | 1% reduction in criminal incidents for | 38.62 | 0.5% (low) | £19.25 |
| | males aged 10-24 years | | 2% (high) | £77.69 |
| | | | 5% (high) | £197.69 |
| | | | 10% (high) | £407.47 |

Table 3.12: Sensitivity analysis

4. The Forecast Model

4.1 Parameters and assumptions

The Forecast Model was built to reflect Sport England strategy targets around adult participation, including getting more people engaged in sport and physical activity and increasing engagement of underrepresented demographic groups⁴³.

The Forecast Model predicts the social value of sport and physical activity in England based on the following three participation target scenarios:

- Scenario 1: Increase the number of adults in England who are regularly active by 500,000 nationally (regularly active means at least 150 minutes);
- Scenario 2: Increase the number of adult women who are regularly active by 250,000 nationally;
- Scenario 3: Increase the number of adults in England from lower socioeconomic groups who are regularly active by 100,000 nationally.

The third scenario is not an exact translation of Sport England's 2016–21 target to "Increase the number of people from lower socio-economic groups within targeted locations who are more active by 100,000". This was not possible due to the exact nature of the target and also the lack of available data for different socio-economic groups and thresholds of activity. Scenario 3 was therefore a compromise scenario that essentially represents a general forecast value of getting 100,000 more people active to the threshold of 150 minutes.

These scenarios concern only social value - the forecasts do not extend to a full SROI because they do not include any adjustments to inputs such as consumer spending on sport and physical activity, which are more difficult to predict in the future.

⁴³ Sport England. (2016). *Towards an Active Nation. Strategy 2016-2021*. [online]. https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf

As with the Base Model, the threshold for inclusion was 150 minutes of at least moderate intensity physical activity. The forecasts are built on five key assumptions:

- 1. The increase of more people physically active includes active travel.
- 2. Participants are assumed to be aged 16+
- 3. The participants are distributed in the same proportions across age and gender as used in the Base Model.
- 4. There is no corresponding increase in the number of sports volunteers.
- A third of the target participants will come from the fairly active category (30-149 minutes) and two thirds will come from the inactive category (0-29 minutes). This proportion reflects the relative size of the inactive and fairly active groups.

Apart from the five key assumptions outlined above, the methodology used to derive the Forecast Model was the same as the Base Model, so it will not be repeated in this chapter.

4.2 Forecast scenarios

Table 4.1 presents the *additional* social value that would be generated if the three scenarios relating to getting more people regularly active are achieved. The estimates are presented in 2018 prices and they are annual values, in addition to the Base Model estimates presented in the previous chapter. Table 4.1 illustrates that an increase of 500,000 more people regularly active would generate an additional £1,063.33m; an increase of 250,000 more women regularly active would generate an additional £534.10m; and an increase of 100,000 more people regularly active would generate an additional £212.67m.

| Table 4.1: Forecast Model for social value of sport and physical activity | <i>i</i> n |
|---|------------|
| England | |

| | 500,000 | 250,000 | 100,000 people |
|----------------------------------|-------------|-------------|----------------|
| Outcome | people more | women more | more regularly |
| | regularly | regularly | active |
| | active (£m) | active (£m) | (£m) |
| Physical and mental health | 130.46 | 68.16 | 26.09 |
| CHD and stroke | 14.65 | 5.50 | 2.93 |
| Type 2 diabetes | 50.74 | 21.64 | 10.15 |
| Breast cancer | 4.35 | 4.05 | 0.87 |
| Colon cancer | 2.13 | 0.99 | 0.43 |
| Dementia | 46.60 | 29.29 | 9.32 |
| Depression | 1.54 | 0.86 | 0.31 |
| Hip fractures | 21.43 | 11.33 | 4.29 |
| Back pain | 5.56 | 2.76 | 1.11 |
| Good health | 10.99 | 5.50 | 2.20 |
| Sport injuries | -27.53 | -13.76 | -5.51 |
| | | | |
| Mental wellbeing | 636.76 | 318.38 | 127.35 |
| Life satisfaction (participants) | 636.76 | 318.38 | 127.35 |
| Sport volunteering (volunteers) | - | - | - |
| | | | |
| Individual development | 5.03 | 2.51 | 1.01 |
| Improved attainment | 0.08 | 0.04 | 0.02 |
| Enhanced human capital | 4.95 | 2.47 | 0.99 |
| | | | |
| Social and community | 291.09 | 145.05 | 58.22 |
| development | | | |
| Crime reduction | 0.99 | 0.00 | 0.20 |
| Non market value for | - | - | - |
| organisations utilising sports | | | |
| volunteers | | | |
| Social capital | 290.10 | 145.05 | 58.02 |
| | | | |
| Total value of all outcomes | 1,063.33 | 534.10 | 212.67 |

Some of the assumptions which underpin the forecast scenarios are deliberately conservative, for example relating to volunteering. This combined with a lack of differentiated data for certain groups (e.g. lower socioeconomic status), means that the actual value of achieving the forecast scenarios may actually be greater than predicted.

5. Summary and recommendations

5.1 Summary

The research presented in this report has measured the social impact of community sport and physical activity in England. The findings are presented in relation to physical and mental health, mental wellbeing, individual development and social and community development.

The Base Model, which measured the SROI for sport and physical activity in 2017/18, found that the overall SROI for England was positive. The SROI ratio was **3.28**, meaning that for every £1 invested in sport and physical activity (including both financial and non-financial inputs), £3.28 worth of social impact was created for individuals and society. The Base Model revealed that **£71.61bn** of social value was created, with the largest amount generated through mental wellbeing of sport participants and volunteers. The Base Model also revealed that fiscal savings to the state only accounted for a small element (10%) of overall social value. While fiscal savings are often used as a convenient measure of social value, they are not a holistic way of estimating direct and indirect value to beneficiaries.

The Forecast Model measured the social value of sport and physical activity against three scenarios. This was done to demonstrate the potential value of sport and physical activity if Sport England targets are achieved. Taking the first-case scenario of 500,000 people more regularly active, it was found that this would create an additional **£1.06bn** of social value across four of the government outcome areas, giving an overall forecast social value for sport and physical activity of £72.67bn (at 2018 prices). This is a significant and powerful message to share with stakeholders, in order to leverage continued support for and investment in grassroots sport in England.

The Base Model and Forecast Model were derived using a top-down approach. The models capture social value created from all participants and volunteers, which can be measured at the population level. As with previous SROI studies, we have included those social outcomes for which there is the sufficient evidence between sports and physical activity participation and social impact, and data available to value the impact. We have excluded several health, crime, education and other community development indicators such as community cohesion and social inclusion from this study through either a lack of sufficient empirical evidence on the effect of sport and/or the value of such effects. Furthermore, we have not taken account of the social value created by targeted interventions such as therapeutic/rehabilitative health-related physical activity programmes or youth development programmes implemented by the Sport for Development sector. As such, the England SROI is likely to underestimate the true social value of sport and physical activity.

The social value of sport and physical activity presented in the Base Model and Forecast Model do not take account of the economic value presented in Report 2. It is important for Sport England and other stakeholders to recognise both elements of value when making the case for continued investment from government and other funding agencies.

5.2 Recommendations

Based on the findings of this report, we suggest three high-level recommendations.

- The research demonstrates that sport and physical activity generates significant social value across multiple outcomes in society. Furthermore, that the value of these outcomes is greater than the costs of providing these opportunities potentially making it a cost effective investment for addressing social issues across multiple public policy agendas. We recommend that Sport England uses these findings to make the wider case for investment in sport and physical activity across government and the sports sector more generally.
- A fundamental driver of social value in the SROI model is the overall number of participants and volunteers. Put simply, more engagement will generate more social value. To increase the social impact of sport and physical activity in England we recommend continued investment and strategies to encourage both participation and volunteering.
- 3. We recommend that the SROI model is reviewed and updated on a periodic basis to take account of new and improved evidence on the social impact of sport and physical activity as it emerges.

In common with other SROI studies in sport, there are elements of social value that are not measured in the England SROI model, and there are outcomes included which are based on very cautious and generalised assumptions. The following list identifies priority research areas, which would improve the measurement of the government outcomes in the national model:

Physical and mental health

- Further research is required to evidence and subsequently value the dose-response relationship between sport and physical activity and physical and mental health below the threshold of 150 minutes.
- Evidence relating to sports injuries is partial, and further investigation relating to the measurement and valuation of this outcome would be beneficial.

Mental wellbeing

 We recommend that research on the value of engagement in sport and physical activity and subjective wellbeing is updated using the wellbeing valuation approach. This is a priority area given the large proportion of overall value accounted for by this outcome. It would also be beneficial to examine the value of wellbeing across different threshold levels of participation, and different socio-economic / demographic groups.

Social and community development

- Measurement of social capital remains an area of the model that is under-researched and although it was included in the 2018 model, the underpinning evidence is based on research from Australia. We recommend that a UK / England study of the relationship between participation and social capital is carried out. Ideally this should incorporate valuation as part of this work.
- Further research is required to improve the measurement and valuation of outcomes relating to crime. Regression analysis of population level survey data is required to establish more robust evidence on the nature of the relationship between participation and crime. In addition, evidence on the impact of targeted (preventative) programmes in the community (vis-à-vis general participation), and rehabilitative programmes in the community and within prisons would be beneficial. This would enable a more

comprehensive valuation of crime to be incorporated into the model.

Individual development

• Similarly, further research is needed to establish the relationship between educational attainment and engagement in sport and physical activity at the population level, using large datasets, which would allow the findings to be controlled for confounding factors.

For both individual development and social community development, there may be other more appropriate outcomes for estimating the contribution of sport and physical activity to these areas. The current outcomes included reflect those for which some evidence exists. There is a need for a wider conceptual model to identify other outcomes that we should seek to value and include in a future version of the model.

Finally, we recommend that Sport England consider commissioning research to identify how the national SROI model could be used to produce sub-population estimates for the social value of specific sports or activities, geographical areas and specific interventions and projects. Currently, National Governing Bodies, County Sport Partnerships and other sports organisations are using a variety of methods to evidence social value, which are not necessarily comparable to the national model, or methodologically robust.

The derivation of a methodology which enables the national model to be disaggregated for specific sports, geographical areas and interventions would ensure greater integrity in the measurement process, and ensure that if the social value of all sports and physical activities using standardised models are added together, the sum of the parts would not be greater than the whole of the sector. It would also provide a test of reasonableness for bespoke social impact evaluations carried out in the future.

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