The UEFA GROW SROI Model:
Valuing the Impact of Football Participation in Europe

Foreword and Acknowledgments

The National Association's Division within UEFA is responsible for supporting our 55 member associations across various aspects of football. Our Strategic Development Unit (GROW) has specific responsibility for ensuring our members grow the game in a strategic and systematic manner. A core element of this strategic approach is measuring amateur football's impact in society.

The UEFA Grow SROI model has been developed by leading academics across Europe to measure amateur football, country by country, and club by club. Through this measurement tool, it is clear to see that football plays a prominent role in most societies on key social, health and educational outcomes. Football also adds to new economic activity, which is not insignificant.

We are very grateful for the support from the academics and their institutions for their expertise and dedication to this work. We have also been very reassured by the positive reception this work gets from the World Health Organisation, the Commonwealth Secretariat, the European Union and the Council of Europe. We are also very proud that as a sport we are leading the way in terms of impact measurement, and we are very happy to share what has been done and achieved with the sports sector. A special word of thanks to Substance, the agency that delivers this work for UEFA.

UEFAs commitment to sustainability, social responsibility and the various challenges of our society will continue to be displayed as we extend this work to every member and every grassroots club across the European football landscape.

Zoran Laković
UEFA National Associations Director

Contents

Executive Summary

Instinctively, beyond being a form of entertainment loved by billions throughout the world, we can feel that football has many benefits on and off the pitch. Identifying, proving and demonstrating the value of those benefits has not always been so easy. The UEFA Grow SROI Model was developed in response to this challenge.

Launched in 2015, the UEFA Grow programme[1] is the central strategic development platform to help football's national associations throughout Europe grow the game in a systematic and strategic manner. To help build a coherent business case for investment in mass participation, it sponsored the development of a comprehensive, rigorous football specific social valuing model to establish the impact that non elite mass participation in football has across a spectrum of economic, health and social outcomes.

Supported by an Advisory Panel of academics from an evolving range of European Universities, alongside football industry and non-governmental organisation experts, a proof of concept was developed and tested with two national associations, Sweden and Romania. It was critical for UEFA to develop a model that could be applied across all its member associations. The initial results more than satisfied expectations, with the President of the Swedish Football Association and UEFA's First Vice President Karl-Erik Nilsson stating that: "Despite taking a very conservative approach, in the economic, social and health aspects of the model, the monetary value of mass participation in football was staggering."

Following a review by the Advisory Panel, the initial version of the model was successfully applied in a further fifteen national contexts before being significantly refreshed and extended to cover a broader range of 23 economic, social and health outcomes using a variety of econometric and social valuing methods.

Revised Outcome Mapping		
Economic	**Social**	**Health**
Facility development	Improved educational attainment	Reduced hypertension
Facility hire	Improved school attendance	Reduced heart disease
Player spending	Reduced NEET	Reduced strokes
Employment	Reduced adult crime	Reduced diabetes
	Reduced youth crime	Reduced breast cancer
	Volunteering	Reduced colon cancer

[1] https://www.uefa.com/insideuefa/football-development/grow/

		Reduced dementia
		Reduced osteoporosis
		Reduced schizophrenia
		Reduced anxiety
		Reduced depression
		Improved subjective wellbeing
		Football injuries

The model has now been applied to over 9.5 million registered players in 28 countries with a total valuation of more than €43 billion. The ensuing results have enabled football administrators to talk to Governments about the proven benefits of the sport with the confidence that the approaches employed have been recognised by the academic world, the World Health Organisation, United Nations, Commonwealth Secretariat and the Council of Europe's Enlarged Participation Agreement on Sport (EPAS). This also allows football's commercial partners to highlight the benefits they can bring to society by supporting the grassroots game.

The refreshed Version 2.0 UEFA Grow SROI Model can now be applied at the national, regional, district, club or even football programme level. In turn, this structure has enabled the development of an online calculator to facilitate wider engagement. In any country where a national calculation has been completed it is possible for any footballing entity within that jurisdiction to enter their own 'Key data' relating to players, volunteers, staff and facilities and to generate a valuation.

The online format also enables results to be more easily filtered on the basis of population group, programme or the specific economic, social and health contributions, in many cases including an estimate of the number of negative outcomes that football is helping to prevent within that territory, thus facilitating engagement with a wide range of current and potential stakeholders. Increasingly this is leading to tangible impacts in terms of awareness, dialogue, planning and investment to promote football participation.

With the support of the Advisory Panel the model continues to evolve, with a growing list of positive and negative outcomes being considered for inclusion within the model, new more refined assessment and valuation being applied and further adaptations to enable applications to the professional game.

1.0 Introduction

Instinctively, beyond being a form of entertainment loved by billions throughout the world, we can feel that football has many benefits on and off the pitch. Identifying, proving and demonstrating the value of those benefits has not always been so easy. The UEFA Grow SROI Model was developed in response to this challenge.

Launched in 2015, the UEFA Grow programme[2] is the central strategic development platform to help football's national associations throughout Europe grow the game in a systematic and strategic manner. To help build a coherent business case for investment in mass participation, it sponsored the development of a comprehensive, rigorous football specific social valuing model to establish the impact that mass participation in football has across a spectrum of economic, health and social outcomes. The intention was to establish a monetary value for people's regular participation in the game across its member associations.

Supported by an Advisory Panel of academics from an evolving range of European Universities alongside football industry and non-governmental organisation experts (See Appendix 1), a proof of concept was developed and tested with two national associations, Sweden and Romania, before the model was rolled out more widely.

The ensuing results have enabled football administrators to talk to Governments about the proven benefits of the sport with the confidence that the approaches employed have been recognised by the academic world, the World Health Organisation, United Nations, Commonwealth Secretariat and the Council of Europe's Enlarged Participation Agreement on Sport (EPAS). This also allows football's commercial partners to highlight the benefits they can bring to society by supporting the grassroots game.

With ever increasing datasets and evidence becoming available, following an extensive review, the model has now been refreshed and extended to cover a broader range of outcomes, with greater sensitivity to population variations and football delivery models. It has also been adapted to enable regional, local and club level assessments, right down to the impact and value of specific programmes of activity. The report will trace this development journey as well as presenting results from the studies completed to date.

[2] https://www.uefa.com/insideuefa/football-development/grow/

1.1 What is SROI?

Social Return on Investment ('SROI') is a form of cost benefit analysis that attempts to quantify and place a monetary value on the social change created by a programme, policy, investment or entity. It is a particularly useful form of analysis for not-for-profit organisations, which seek to generate positive social changes that are difficult to measure in traditional financial terms.

There is no right way to complete a SROI study, which is itself a branch of social value[3] assessment. Social valuing techniques have developed and been refined progressively over time and typically involve the following steps[4].

1. Establishing scope and identifying key stakeholders
2. Mapping outcomes
3. Evidencing outcomes and giving them a value
4. Establishing impact
5. Calculating the SROI
6. Reporting, using and embedding

A typical SROI study initially involves the determination of the changes sought or delivered by the programme, policy, investment or organisation, and then undertaking a structured approach to determining whether the identified benefits can be converted into financial terms for the purposes of valuation. SROI can be calculated for a single year or over the life of a project or programme, and it can be calculated summatively (i.e., at the end of a programme once outcomes have been realised) or formatively (i.e., as a programme is underway, or prior to it getting underway).

The output of a SROI exercise is usually but not necessarily presented in a ratio relative to costs. The overall "SROI ratio" demonstrates the unit benefits achieved for every Euro of investment society has made in the delivery of the programme, policy or organisation.

1.2 Report Structure

The following section of this report presents the approach that has been employed during the development of the UEFA Grow SROI Model as well as the detail of the model itself and how that has and continues to evolve and be refined.

[3] https://socialvalueint.org/social-value/what-is-social-value/
[4] Social Value UK. 2012. *A Guide to Social Return On Investment*, http://www.socialvalueuk.org

The report then goes on to present the results of the studies completed to date, before sharing details of ongoing work to further extend the analysis and the model's application in more local contexts such as regions, cities and clubs.

2.0 Proof of Concept

2.1 Context

The initial idea for the UEFA Grow SROI Model emerged from a UEFA Grow summit held in Tbilisi, Georgia, in March 2017 which attracted delegates from 14 of UEFA's member national associations with the intention to mark a new dawn for grassroots football development in Eastern Europe. Recognising the variation in participation rates across its member associations, which were relatively low in more eastern countries compared to western counterparts, UEFA was keen to build the business case for investment in grassroots football through a greater alignment with wider government policies. Through better use of data, a commitment was made to demonstrate the societal benefits of increased football participation in order to support this business case.

To take the work forward, two UK based research and consulting agencies, Substance[5] and Portas Consulting[6], were appointed to develop a proof of concept for the development and roll out of a model which could assess football's social impacts and place a monetary value on them. Alongside the core development team, an Advisory Panel was appointed which initially included representatives from ten European universities and a range of industry experts. Their role was to inform and review the emergent methodology and findings; provide expert input drawing on their access to data, literature and other resources; and to challenge or endorse the application of the model to support its future development.

2.2 Approach, Methods and Scope

During the first phase of the project, following an extensive literature and data review, a high-level model architecture was developed to consider the relationship between investment in participation and associated outcomes. Initially, this was considered in terms of three elements: Drivers of participation, the nature of football participation and the associated outcomes, as is illustrated in Figure 1 below.

It was also determined that the model would be developed and tested with two UEFA member associations that, as well as being committed to and supportive of the project, differed significantly in terms of football participation; human and physical resource infrastructure; and in regional, environmental, cultural and political terms. The selected pilot national associations were Sweden and Romania.

[5] https://www.substance.net/
[6] https://portasconsulting.com/

Figure 1: Initial Model Framework

2.2.1 Drivers and Participation

In building the drivers element of the model, extensive work was performed to try and understand the impact of both football and non-football factors on levels of participation. Sixteen non-football factors were considered, with multiple regression analysis being used to identify their relationship with participation across all 55 of UEFA's member associations. Once the findings were refined to account for multicollinearity[7], seven external *socio-demographic* factors were identified as being related to levels of participation both positively and negatively, as illustrated in Figure 2 below.

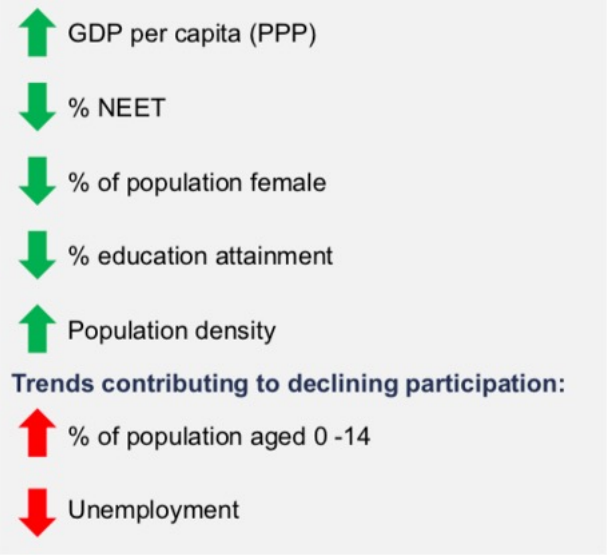
In terms of *demand activators*, a range of proxy indicators were identified to estimate the impact of different types of investment on participation. These included football programme cost, conversion and retention data; academic literature focused on physical activity and sport marketing campaigns[8]; and assessment of the impact of government expenditure on sport[9]. Whilst this analysis suggested some evidence of the effect of demand activators on participation, it did not provide a basis to confidently forecast future impact.

[7] Multicollinearity occurs when, within a multiple regression (where we explore the effect of multiple explanatory variables on another dependent variable), multiple input factors are correlated to each other as well as the output variable, e.g. education and earnings as features of social standing.

[8] Bauman, A., Smith, B. J., Maibach, E., & Reger-Nash, B. (2006) Evaluation of mass media campaigns for physical activity. *Evaluation and Program Planning*, *29*(3), 312 - 322.

[9] Downward, P., Lera-López, F., & Rasciute S. (2014) The correlates of sports participation in Europe. *European Journal of Sport Science*,14(6):592-602.

Figure 2: Socio-economic factors contributing to increased participation



Source: Data Analysis for Advisory Panel

Using data from 24 district associations in Sweden, it was possible to more confidently assess the relationship between the football *supply infrastructure* and registered football participation. Significant, positive correlations were identified between the number of clubs, facilities, referees and coaches in each district and the number of registered players. Whilst it could not be concluded from the data that investment in new facilities will increase participation, it was possible to identify the infrastructure required to support any forecast growth in participation and the associated costs.

Collectively, the 'drivers' were included in order to enable the application of a future value 'forecast' model alongside an 'evaluative' or current state assessment of value. The hope had also been that consideration of such a wide array of factors might inform future investment strategies by revealing which 'drivers' had the biggest impact on participation levels and thereby their relative cost effectiveness. Ultimately, following extensive debate within the Advisory Panel, it was felt that this was over ambitious at this stage.

Such an approach would require an 'experimental research design', with a single integrated analysis considering a comprehensive list of factors to determine causation based on 'counterfactuals'. This method aims to understand causation by looking at what would happen if *any* of the parameters are changed and then measuring, over time each metric's specific impact on football participation by comparing data across different countries in order to isolate the effect of each factor. It was recognised that such an approach was not possible in this context, given data limitations and the need for a comprehensive dataset to be built up over

an extended period. In the absence of this method, initially, a simplified approach using trend analysis and a reduced form predictive equation[10] was adopted in order to infer likely growth in participation related to an increase in investment compared to current levels.

2.2.2 Participation

Using this approach, the model was able to consider both the existing distribution of players across age and gender categories, with current state data provided by national associations, as well as the potential future distribution of players based on an increase in investment in grassroots football. In this proof of concept phase, only those players who were registered with the national association were included on the basis that they could more reliably be assumed to participate in a minimum of two episodes of weekly training/matchplay across an annual football season or academic year.

For the purposes of valuation, the reduced form predictive equation was then applied to identify the degree of investment required to achieve a 2.5% uplift in participation, with other factors remaining equal, or unchanged. At this stage it was also assumed that the profile of additional players would match the current profile of registered players in terms of age, gender and extent of participation.

2.2.3 Mapping Outcomes, Impact and Value

The final element of the model is concerned with the impact and associated outcomes that football participation drives. Following a period of stakeholder consultation, initial outcomes were defined where high quality evidence of football's impact could be evidenced in relation to four overarching domains: Economic, Social, Health and Performance. Whilst many potential social impacts were considered, following consideration by the Advisory Panel, the initial set included 14 outcomes as presented in Table 1 below.

Table 1: Initial Outcome Mapping

Economic	Social	Health	Performance
Facility development	Educational attainment	Reduced cardiovascular disease	Male adult UEFA coefficient
Facility hire	School attendance	Reduced cancer	Female adult UEFA coefficient
Player spending	Youth employment	Improved mental health	Youth coefficient
Employment	Reduced crime	Improved subjective wellbeing	

[10] See Technical Appendices

	Volunteering	Football injuries	

A variety of techniques, documented more fully in the Technical Appendices, were employed to establish both the degree of impact related to each outcome and their associated value. In the economic domain, facility valuation is based on the Gross Value Added (GVA) of the direct investment in construction of pitches, which is discounted over the estimated lifetime of the facility to generate an annual value. This is considered alongside the direct spending associated with the hire or maintenance of those facilities on an annual basis.

Player expenditure is based on the results of primary research data driven by a survey distributed amongst active adult players and the parents of junior players, which considers club membership fees and subscriptions; spending on clothing and footwear and other equipment used for football; expenditure on regular coaching sessions and tournaments; and any other spending directly associated with football participation[11]. From the results of the survey an average profile of expenditure was established for both adult (over 18 years) and junior (under 18) players. Additional value is represented through the application of sector specific multipliers drawn from the Sport Satellite Accounts[12].

Employment contributions, whilst not given a monetary value, are represented based on the direct employment of administrators, coaches and match officials. It is recognised that additional employment will be supported in supply chains and infrastructure development and support

In the social domain, using an approach pioneered by Substance in previous sport based social valuation work[13], the best and most consistent examples of 'risk and protective factors modelling[14] for as many outcome areas as policy were identified. Ultimately, whilst it was not possible to find consistent or reliable enough evidence to support all the impact areas considered, for both crime reduction and NEET status we were able to consider the risk of players in relevant population groups facing these outcomes, the associated cost to society of the status as well as the

[11] In some countries, where existing survey data was available and concerns were expressed around survey fatigue, these elements were matched against the existing data to create an equivalent profile.
[12] https://op.europa.eu/en/publication-detail/-/publication/865ef44c-5ca1-11e8-ab41-01aa75ed71a1/language-en
[13] Crabbe, T. (2013) *Sportworks: Investing in sport for development – creating the business case to help change the lives of disadvantaged young people in the UK*, London: Sported.
[14] Murray J, Farrington, D. & Eisner, M. (2009) 'Drawing conclusions about causes from systematic reviews of risk factors: The Cambridge Quality Checklists'. *Journal of Experimental Criminology* 5(1):1-23; Spencer L, Ritichie J, Lewis J & Dillon L (2003) *Quality in Qualitative Evaluation: The Framework for Assessing Research Evidence*. London: The Cabinet Office.

effect of involvement in team sports like football in reducing that risk as illustrated in Table 2 below.

Table 2: Illustration of Risk and Protective Factors Model Valuation				
Risk of outcome in population group	Cost of outcome	Per capita cost in population group	Reduced risk amongst football players[15]	Societal cost saving of playing football
50%	€1000	€500	10%	€50

The education contribution used academic assessments of the impact of involvement in team sports like football on people's educational performance, alongside OECD studies to calculate the likely effect of a lift in educational performance on a country's GDP, discounted to create a per capita, annualised value which was applied to school age players. The value of volunteering was assessed based on the number and role of football volunteers and the equivalent salary associated with the tasks and number of hours given up.

In the health domain calculations for Cardiovascular disease, Diabetes, Cancer and Mental Health are also based on an application of the 'risk and protective factors' model described above. Deadweight was again accounted for through a discount based on the proportion of the population that would be likely to be involved in similar forms of physical activity if they did not play football.

The calculation for subjective wellbeing used findings from academic research that assign a monetary value on the basis of people's 'willingness to pay' for an equivalent boost to their sense of wellbeing to that driven by playing football. The negative impacts of football related injury were also considered based on cost and prevalence studies of football injuries.

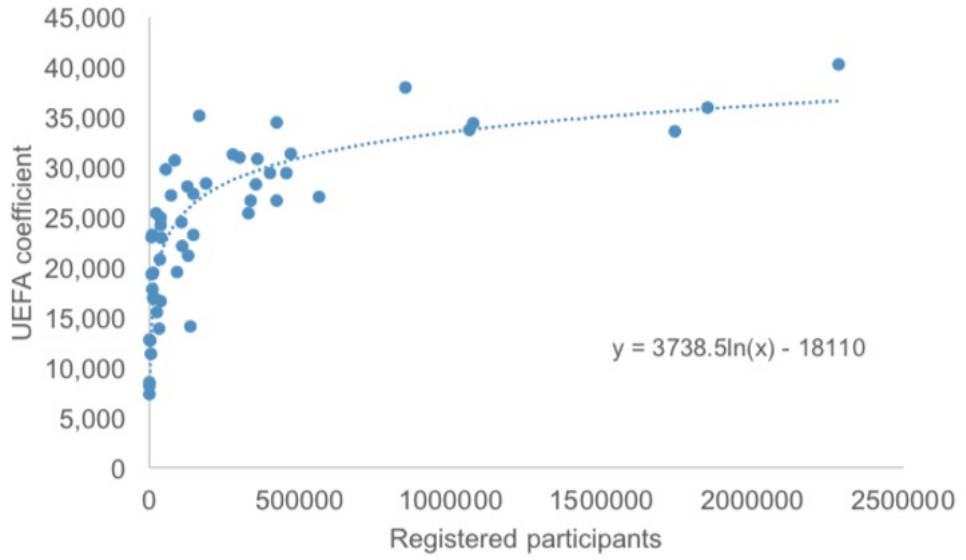
In the first phase of the project, we also considered the impact of football participation rates on elite performance levels. Using bivariate regression analysis across 49 UEFA member associations, we identified positive correlations across all elite team formats – men's, women's and youth – between the number of registered players in a territory and UEFA performance coefficients, whereby the more players there are, the higher the coefficient rating, as illustrated in Figure 3 below.

Multivariate regression analysis was also run, in order to identify other relationships with elite performance, such as volume and quality of coaching, which was found to be significant, particularly in relation to women's football, with the R^2 value

[15] Accounting for 'deadweight' (or what would have happened anyway) through a discount based on the proportion of the population that would be likely to be involved in an alternative team sport if they did not play football.

suggested 48% of variability in performance could be explained by participation rates and coaching.

Figure 3: Regression analysis - registered male players: UEFA coefficient



Source: Data Analysis for Advisory Panel

These results did however show diminishing returns and ultimately represented a relatively blunt instrument for assessing likely improvement in performance based on participation levels, given the limited variables applied and lack of consideration of population groups and coaching method.

2.3 Results and Discussion

The initial proof of concept model was successfully applied in Sweden and Romania following a data gathering exercise that involved both desk-based and local research to test assumptions, build understanding of the approach and identify data gaps. Whilst the intention was to develop a single model that could be applied in all of UEFA's member associations, it became apparent that there was a need for some sensitivity to local context, given both the relative importance of different social policy issues and the different models of football development. In the case of Romania, whilst the value of volunteering was omitted due to the lack of volunteers in the administration of football at that time, there was a particular need to consider football's impact on absence from school as a policy priority.

It also became clear that not all of the 73 data points in the provisional model could be fulfilled in all contexts. Accordingly, some cost data for Romania was modelled

on a 'best fit' basis[16] with the value of educational improvement being modelled on data for Hungary and some cost data relating to crime and mental illness being modelled from the Swedish results with an adjustment for the GDP differential between the countries. In Tables 3 and 4 below the results for Sweden and Romania are presented based on the number of registered players during the 2017/18 season as well as the additional value that might be accrued from an investment driven increase in participation of 2.5%.

Table 3: Proof of Concept Results for Sweden

Domain	Element	Current value	Additional value
Players	Registered players	497,034	12,426
Economy	Facilities	€90,535,200	N/A
	Player spending	€154,341,525	€3,858,585
	Sub total	€244,876,725	€3,858,585
Social	Educational performance	€38,889,834	€972,209
	Reduced NEET	€9,646,522	€241,166
	Reduced crime	€584,911	€14,623
	Volunteering	€623,500,000	€1,247,015
	Sub total	€672,621,266	€2,475,013
Health & Wellbeing	Reduced CVD	€21,679,535	€541,995
	Reduced Type II Diabetes	€4,921,093	€123,029
	Reduced breast cancer	€25,125	N/A
	Reduced colon cancer	€153,193	N/A
	Reduced mental illness	€10,293,858	€257,350
	Improved subjective wellbeing	€1,010,250,359	€45,889,218
	Injury	-€38,215,531	-€1,735,887
	Sub total	€1,009,107,631	€25,227,995
Performance	Changes in UEFA rankings		No change
Total		€1,926,605,622	€31,561,593
Per player value		€3876	€2540

Table 4: Proof of Concept Results for Romania

Domain	Element	Current value	Additional value
Players	Registered players	219,018	5,475
Economy	Facilities	€61,859,903	€295,274
	Player spending	€80,160,588	€2,003,850
	Sub total	€142,020,491	€2,299,124
Social	Educational performance	€13,996,457	€349,924
	Educational attendance	€1,314,250	€32,857
	Reduced NEET	€223,746	€5,593
	Reduced crime	€5,152	N/A

[16] See section 3.1 for detail on the updated approach to data normalisation

	Volunteering	N/A	N/A
	Sub total	€15,539,606	€388,503
Health & Wellbeing	Reduced CVD	€5,314,247	€132,845
	Reduced Type II Diabetes	€527,325	€13,182
	Reduced breast cancer	N/A	N/A
	Reduced colon cancer	€26,282	N/A
	Reduced mental illness	€2,454,042	€61,346
	Improved subjective wellbeing	€111,370,653	€2,784,038
	Injury	-€4,289,377	-€107,226
	Sub total	€115,403,806	€2,884,858
Performance	Changes in UEFA rankings		No change
Total		€272,963,903	€5,572,485
Per player value		€1,246	€1,018

Following a review by the Advisory Panel, the initial version 1.0 of the model was successfully applied in a further eighteen national contexts, covering a total of 5.99 million registered players with a total valuation of over €22.2 billion. Results for individual national associations have been shared both publicly and internally to help build the case for investment in grassroots football. This involved further support from UEFA to maximise the public affairs opportunities. The growing interest in the model encouraged consideration of how it might be further refined to increase its impact, validity and application.

3.0 Refinement and Development of Version 2.0

Led by Substance, with the support of a refreshed Advisory Panel (See Appendix 1), the next phase of the project was concerned to improve the model in five different ways. These included:

- Enhancements to the existing model based on profiling of different population groups
- Additions to the model based on new evidence of impact and types of participation
- Exclusions from the model to improve reliability and applicability
- Introduction of new methods to assess existing outcomes
- New applications of the model based on more local territorial definitions and online assessment

3.1 Model Refinement

3.1.1 Enhancements

In the original model valuations were, in the main, related to undifferentiated population groups whereby a single calculation was applied to the entire set of registered players. In some instances, the calculation was limited to a relevant population group such as school aged players for educational attainment benefits, or female players for breast cancer[17], but even in those cases the selected population group was considered in an undifferentiated way.

In version 2.0 the risk profiling, impact of football participation, counterfactual and associated valuations are applied on the basis of *each* population group that data is available for, before being applied to the number of registered players within each of those groups. Once aggregated, these calculations provide a more finely grained set of valuations for each of the outcomes included in the model. At the moment these refinements exist at the level of gender, age and geographic differentials. In future, and where data availability permits, they will be extended to consider a wider set of socio-economic categorisations including ethnicity and income.

A more consistent approach has also been developed for imputing missing data inputs for national territories where specific values cannot be obtained. The approach adopted began with the development of a series of archetype categories – based principally on key socio-economic and geo-political data – into which all UEFA's member associations were placed. These clusters were then submitted to

[17] It is acknowledged that men can experience breast cancer, but the sensitives of the risk profiling were not significant enough to be reflected in a material valuation.

statistical tests (relating to GDP per capita and the ratio of football players to population) to check whether there was sufficient consistency across related countries to suggest they could function as legitimate, common 'groups'). As a result of their relative distinctiveness, five of UEFA's member associations could not be allocated to any specific cluster/group through this process, although it was possible to pair three of them with other individual national associations. More broadly, the development of this approach means that where data gaps are identified for a particular national association, it is now possible to generate better quality proxy values based on analysis of data from the archetype/cluster the country is associated with (see Appendix 2).

3.1.2 Additions

The Advisory Panel that has overseen the project adopted a consistently cautious approach towards the inclusion of distinct outcomes within the model, rejecting many candidates for inclusion on the basis of the insufficiency of the evidence supporting football's contribution to defined outcomes. These included football's impact on alcohol and illicit substance abuse, which was assessed to be, at best, inconclusive, as well as a number of cancers including prostate cancer where the evidence of football's impact was not strong enough. In other areas there was strong anecdotal or programme specific evidence of impact, relating to aspects such as social cohesion and targeted treatment for various conditions but the evidence was not considered generalisable enough for a model of this type.

Through further literature review it has been possible to segment existing and add some additional health outcomes for which valuations can be made. These include specific cardiovascular diseases including Hypertension, Stroke and Ischemic Heart Disease as well as mental health conditions including Schizophrenia, Anxiety and Depression and a range of ageing conditions including Osteoporosis and Dementia. For each of these conditions the same 'risk and protective factors' approach discussed in relation to Version 1.0 of the model in section 2.2.3 was applied. This approach shares some elements of increasingly popular population profiling and forecasting models used in the healthcare sector. These rely on the demographic, diagnostic and treatment information found in insurance claims and medical records to provide representations of a variety of health risks faced by populations and individual patients based on the profile of risks and actions associated with 'similar' people, rather than the more general occurrences of individual diseases[18].

[18] American Medical Association (2009) An introduction to risk assessment and risk adjustment models, Practice Management Centre, American Medical Association [online] http://www.amaassn.org/resources/doc/psa/risk-assessment.pdf

With the increasing focus on more granular levels of analysis and application in more geographically defined locations as discussed in section 3.5, it was also possible to consider the impact and value of the type of targeted programmes that were previously rejected due to the inability to generalise results.

In a number of cases, football clubs or other entities are delivering 'targeted' football programmes designed to work with specific groups in order to address particular health or social conditions. There is a growing evidence base[19] focused on the impact that participation in multiple football participation formats can have on such conditions. Where such programmes are being delivered by national associations or at local levels in line with defined programme designs, the model can now consider the impact and value based on existing assessments or local evaluation. Two types of approach are used, one based on the Risk and Protective Factors model described in section 2.2.3 and the other based on existing assessment of per participant value whether informed by independent evaluation, such as for EuroFIT[20], or cost of delivery. Typical examples include programmes designed to address fitness and weight reduction, employability, educational attainment, anti-social behaviour, re-offending rates, homelessness, volunteer recruitment, support for veterans, dementia and cancer recovery as well as personal development and training programmes.

The model has also been further developed to enable assessment of the impact and value of wider participation programmes targeted at specific population groups such as girls or women, school children, young people and disabled people. For these programmes, where sufficient levels[21] of physical activity are involved, relevant aspects of the core model related to health and social benefits can now be applied to the population groups involved.

[19] Krustrup P, Williams CA, Mohr M, Hansen PR, Helge EW, Elbe AM, de Sousa M, Dvorak J, Junge A, Hammami A, Holtermann A, Larsen MN, Kirkendall D, Schmidt JF, Andersen TR, Buono P, Rørth M, Parnell D, Ottesen L, Bennike S, Nielsen JJ, Mendham AE, Zar A, Uth J, Hornstrup T, Brasso K, Nybo L, Krustrup BR, Meyer T, Aagaard P, Andersen JL, Hubball H, Reddy PA, Ryom K, Lobelo F, Barene S, Helge JW, Fatouros IG, Nassis GP, Xu JC, Pettersen SA, Calbet JA, Seabra A, Rebelo AN, Figueiredo P, Póvoas S, Castagna C, Milanovic Z, Bangsbo J, Randers MB, Brito J. (2018) The "Football is Medicine" platform-scientific evidence, large-scale implementation of evidence-based concepts and future perspectives. *Scandinavian Journal of Medicine & Science in Sports*. 2018 Aug; 28 Supplement 1:3-7.

[20] http://eurofitfp7.eu/

[21] A minimum of 30 hours of moderate to vigorous physical activity within a football season or academic year whilst accounting for the proportion that would have achieved these levels from other activities in the absence of the programme.

3.1.3 Exclusions

As well as including new elements, Version 2.0 has involved the suspension of some elements of the model that were less helpful or reliable.

The first of these is the reduced form equation used in the forecast model to predict likely adjustments to participation rates based on new investment. As this did not provide insight into the sensitivity to specific *types* of investment and as, in any case, individual member associations operate within different spending parameters, it was decided to remove this feature. Rather, in version 2.0, it is possible to model different participation scenarios based on flexible age, gender and programme design criteria, in order to predict the values of different investment outcomes, i.e., different profiles of potential future participation.

Also, whilst our proof-of-concept analysis was able to demonstrate some evidence of correlations between rates of participation, levels of coaching and elite performance which are consistent with some elements of the wider academic literature[22], the analysis was not sensitive to national or local contexts or player profile. Therefore, whilst it was indicative of the value of investing in participation to achieve performance gains, the lack of direct long-term measurement of impact on UEFA co-efficient points, as well as the absence of a monetary representation of associated value, led to the conclusion that the performance element should be removed from the model at this stage.

Further research is to be conducted based on a more granular assessment of performance pathways and coaching styles to address this gap.

The revised set of 23 outcomes included in Version 2.0 of the model is presented in Table 5 below:

Table 5: Revised Outcome Mapping

Economic	Social	Health
Facility development	Improved educational attainment	Reduced hypertension
Facility hire	Improved school attendance	Reduced heart disease
Player spending	Reduced NEET	Reduced strokes
Employment	Reduced adult crime	Reduced diabetes
	Reduced youth crime	Reduced breast cancer
	Volunteering	Reduced colon cancer

[22] De Bosscher, V., Sotiriadou, P. & van Bottenburg, M. (2013) Scrutinizing the sport pyramid metaphor: an examination of the relationship between elite success and mass participation in Flanders, *International Journal of Sport Policy and Politics*, 5:3, 319-339.

		Reduced dementia
		Reduced osteoporosis
		Reduced schizophrenia
		Reduced anxiety
		Reduced depression
		Improved subjective wellbeing
		Football injuries

3.1.4 New Research and Revised Methods

Version 1.0 of the UEFA Grow SROI Model delivered evidence of the high monetary value of football participation across a number of UEFA's member associations. The largest single element contributing to these values in all applications of the model was for subjective wellbeing. This is largely consistent with the pattern in other sport related social valuing exercises[23] and is therefore unsurprising given the average value of wellbeing benefits of playing football are applied to *all* players and that enjoyment has been identified as a key factor in motivating participation in sport and physical activity[24].

Nevertheless, as the existing modelling was based on research conducted in a single European territory[25], with a focus on the wellbeing benefits of multiple sports, it was decided that fresh research with a wider focus on the well-being benefits of football participation as experienced in multiple territories was required. The new research[26], conducted via a large-scale panel survey in eight European countries aligned to the archetypes presented in Appendix 2, will derive population level estimates of football's well-being benefits and associated monetary values. The research involves the regression of single item measures of well-being, social capital and health upon a variety of measures of football participation, income and other confounding influences to derive an implied monetary equivalent of participation in football. This approach will enable more geographically and culturally specific valuations to be generated which also capture the social capital enhancing benefits of football to be applied as appropriate from 2021.

[23] Davies, L., Christy, E., Ramchandani, G. & Taylor, P. (2020) Measuring the Social and Economic Impact of Sport in England, London: Sport England
[24] Sport England (2019) Active Lives Children and Young People Survey: Attitudes Towards Sport and Physical Activity (Academic Year 2017/18), London: Sport England
[25] Downward, P. & Rasciute, S. (2011) Does sport make you happy? An analysis of the well-being derived from sports participation. *International Review of Applied Economics*, 25 (3), 331-348.
[26] Downward, P. & Wicker, P. (forthcoming) *Valuation of the subjective wellbeing benefits of football participation in Europe* (working title)

In many of UEFA's more western and northern member associations, and particularly Nordic countries, there is a well-established culture of volunteering which underpins many functions in wider society as well as grassroots football delivery and participation[27]. In those countries, the contribution of volunteering to the overall value of football was often found by the model to be the second biggest single element. This has attracted increased interest in:

- The existing methods used to value volunteering.
- The additional value associated with community benefit that might have been missed.
- Good practice guidance to inform wider volunteering development across member associations.

This interest led to the development of a successful proposal to the UEFA Research Grant Programme[28] which now forms part of a wider programme of work that is:

- Developing a multi territory football volunteer value model to assess the 'dual benefits' of volunteering in terms of the value to the 'host' institution or club as well as to individual volunteers.
- Building on the existing 'cost replacement' model of value to clubs to consider wider value driven by better engagement with communities, deeper commitment and sustainability, alongside community benefits.
- Producing guidance to support the development of volunteer programmes that maximize value.

The educational attainment element, which typically drives the third highest monetary value across the social and health domains of the SROI model, has also been revised. Rather than being due to any limitations with the method, which brought together evidence of the educational uplift associated with team sport participation with evidence of the links between educational performance and GDP, this was driven by absence of data. Evidence of the relationship with a country's GDP was taken from an OECD study[29] that only presents data for 26 of the 55 UEFA member countries.

[27] Andersson, T. & Carlsson, B. (2009) Football in Scandinavia: a fusion of welfare policy and the market, *Soccer & Society*, 10: 3-4, 299-304.
[28] Wicker, P. & Davies, L. (2020) *The value of volunteering in grassroots football*, Bielefeld University.
[29] PISA (2010) *The High Cost of Low Educational Performance: The long-run economic impact of improving PISA outcomes*, OECD

The revised approach uses OECD data to consider the direct relationship between educational performance and average earnings[30]. By considering the spread of average earnings from the lowest to the highest attainment level it is possible to develop an index from which an earnings adjustment can be derived, based on the proportionate increase in educational attainment associated with playing football.

3.1.5 Applications

Whilst Version 1.0 of the model enabled application at the level of the country or national association, Version 2.0 can be applied at the national, regional, district, club or even football programme level. The more granular definition of population groups and participation types means that core data be adjusted to reflect the preferred territory whilst the increased risk of data gaps[31] is mitigated by a hierarchical 'waterfall' structure that backfills from the next level for which data is available, up to the national master list, or indeed national archetype basket.

In turn, this structure has enabled the development of an online calculator to facilitate wider engagement. In any location where a national calculation has been completed it is possible for any footballing entity within that jurisdiction to enter their own 'Key data' relating to players, volunteers, staff and facilities and to generate a valuation. Results can be further refined to reflect local circumstances in terms of the risk or cost of relevant social or health conditions wherever that data is available. The online format also enables results to be more easily filtered on the basis of population group, programme or the economic, social and health contributions, in many cases including an estimate of the number of negative outcomes that football helps to prevent.

3.2 Application and Results

A proof of concept for the Version 2.0 model was initially scoped and co-designed with the Scottish FA and two clubs, Ayr United and Spartans FC[32], before being presented to clubs and associations from seven countries in Frankfurt in December 2019 and further considered and shaped by a refreshed Advisory Panel in January 2020. The full Version 2.0 model has since been applied in a growing number of countries, in different regions of Europe with different football cultures and traditions including the examples of Germany, Estonia and Albania shared below[33].

[30] https://stats.oecd.org/Index.aspx?datasetcode=EAG_EARNINGS
[31] Version 2 includes a minimum of 181 and the potential for more than 600 data points dependent upon the number of programmes modelled
[32] https://www.scottishfa.co.uk/media/6088/community-club-social-return-on-investment-model.pdf
[33] These results do not yet include the new methods described in section 2.1.4

3.2.1 Germany

In Germany the model has been applied at the national, regional, city and club levels with the results accessible through access to the Online Calculator as illustrated in Figure 4 – 7.

Figure 4: German National Results

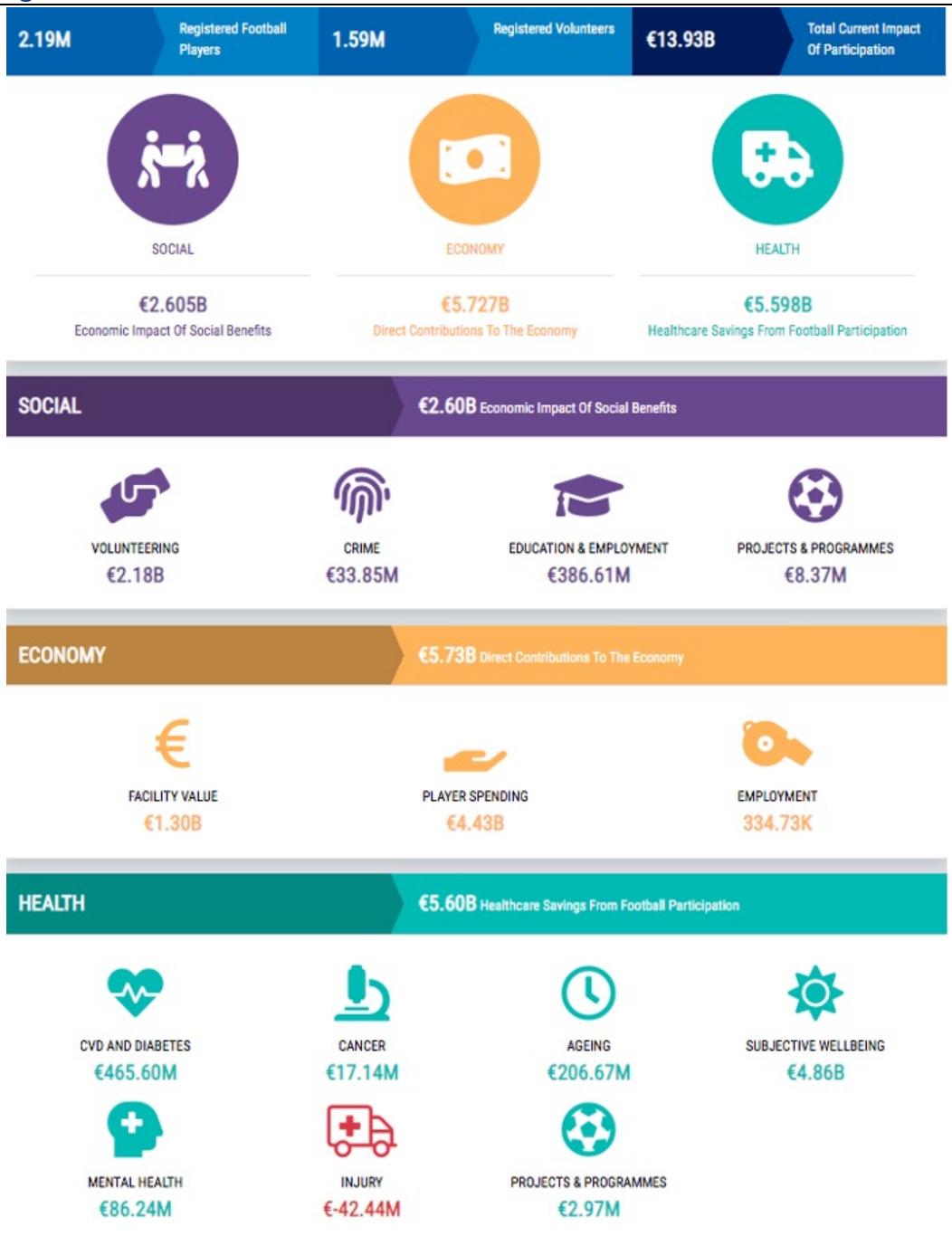


Figure 5: Bavaria Region Results

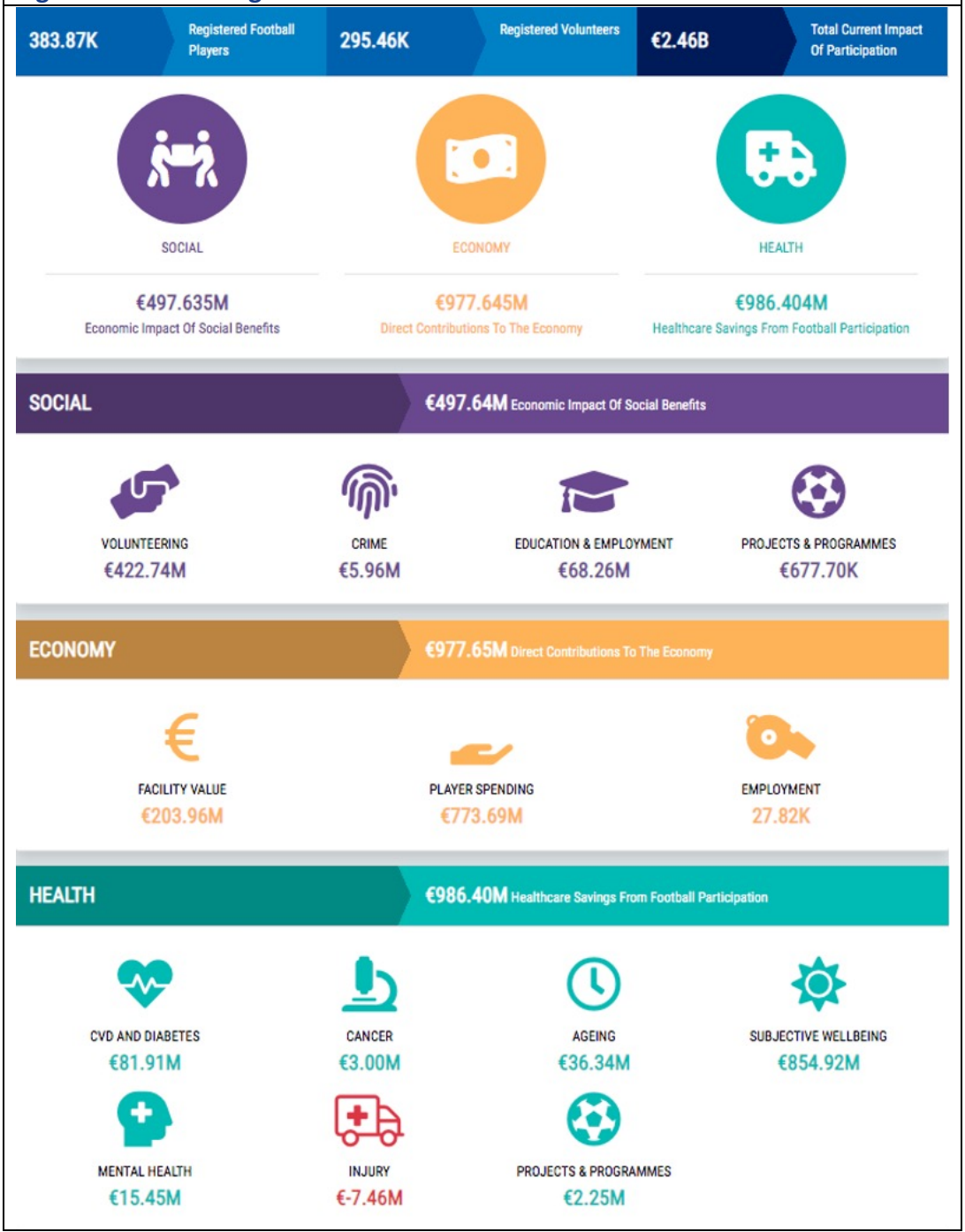


Figure 6: Berlin City Results

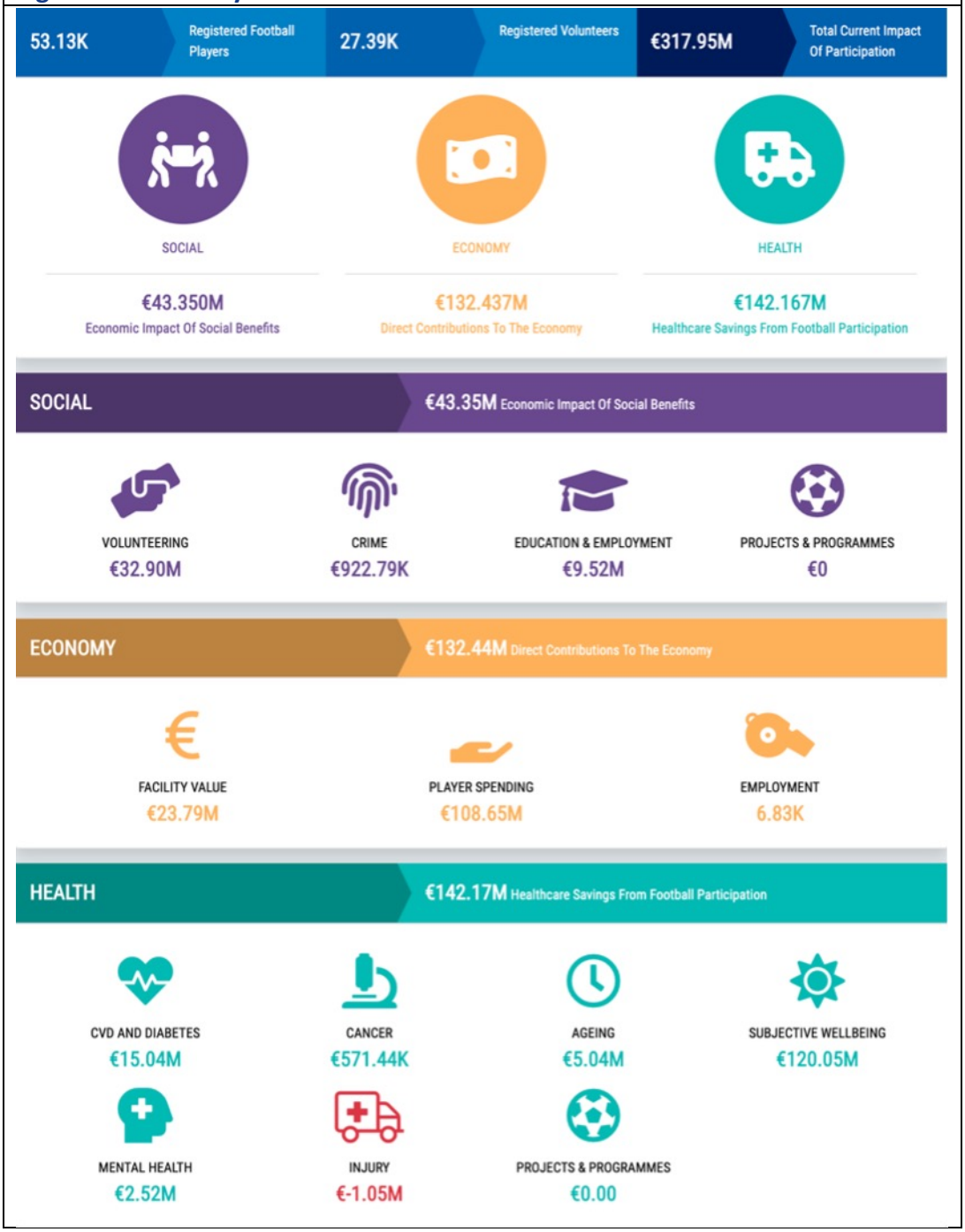
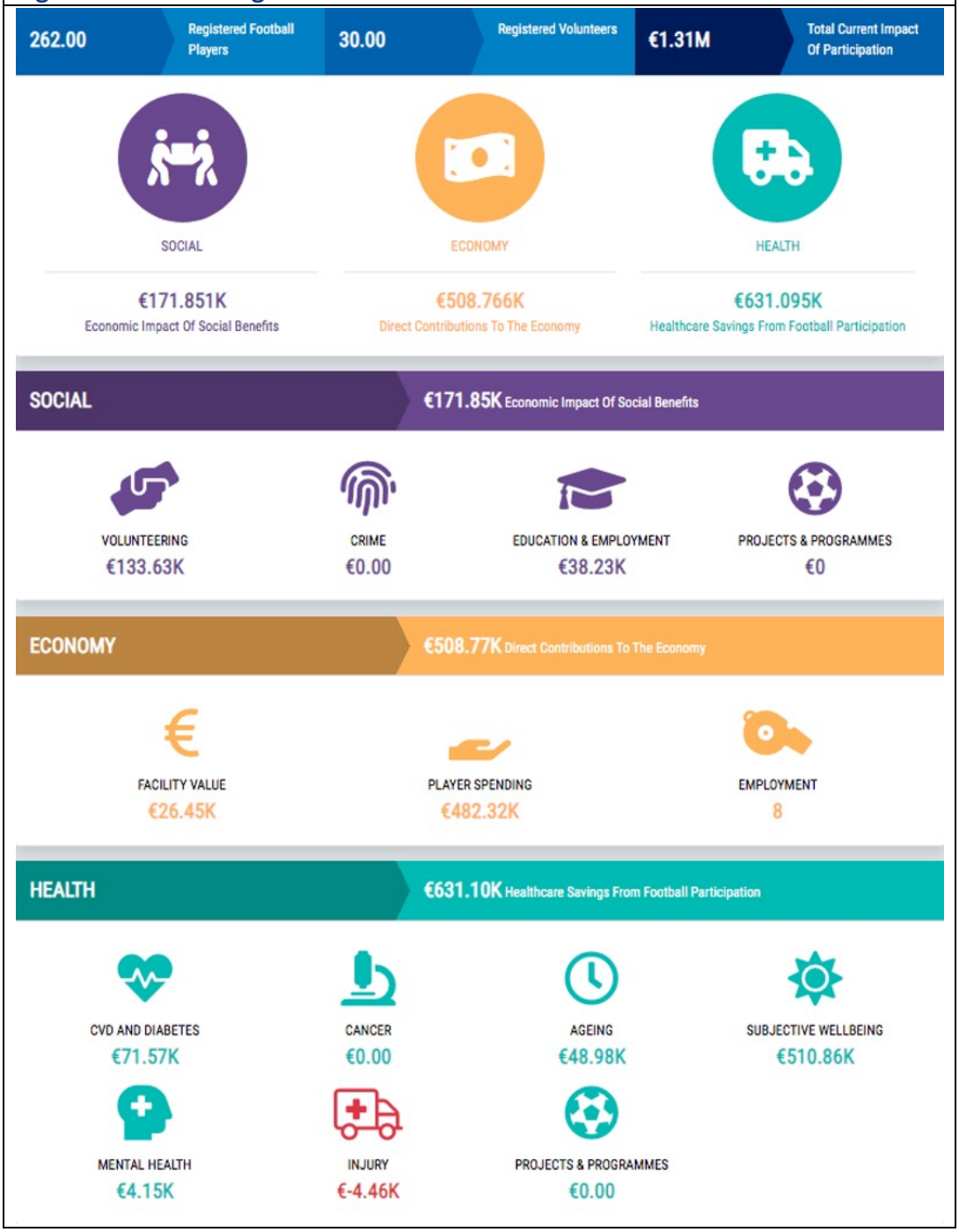


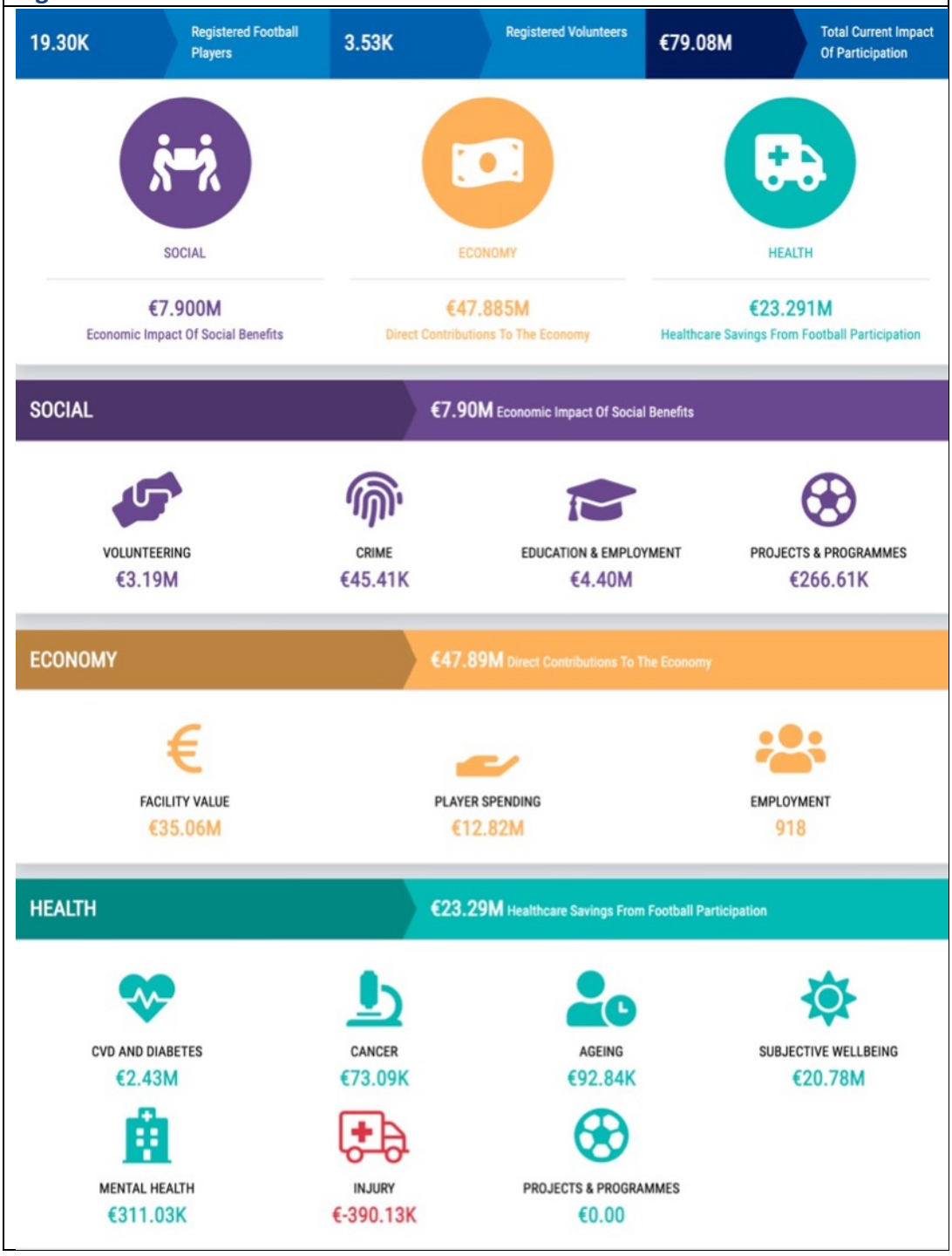
Figure 7: SC Brukberg Club Results



3.2.2 Estonia

In Estonia the model has been applied at the national level only as illustrated in Figure 8, although there is now the potential to make the Online Calculator available to regions and clubs.

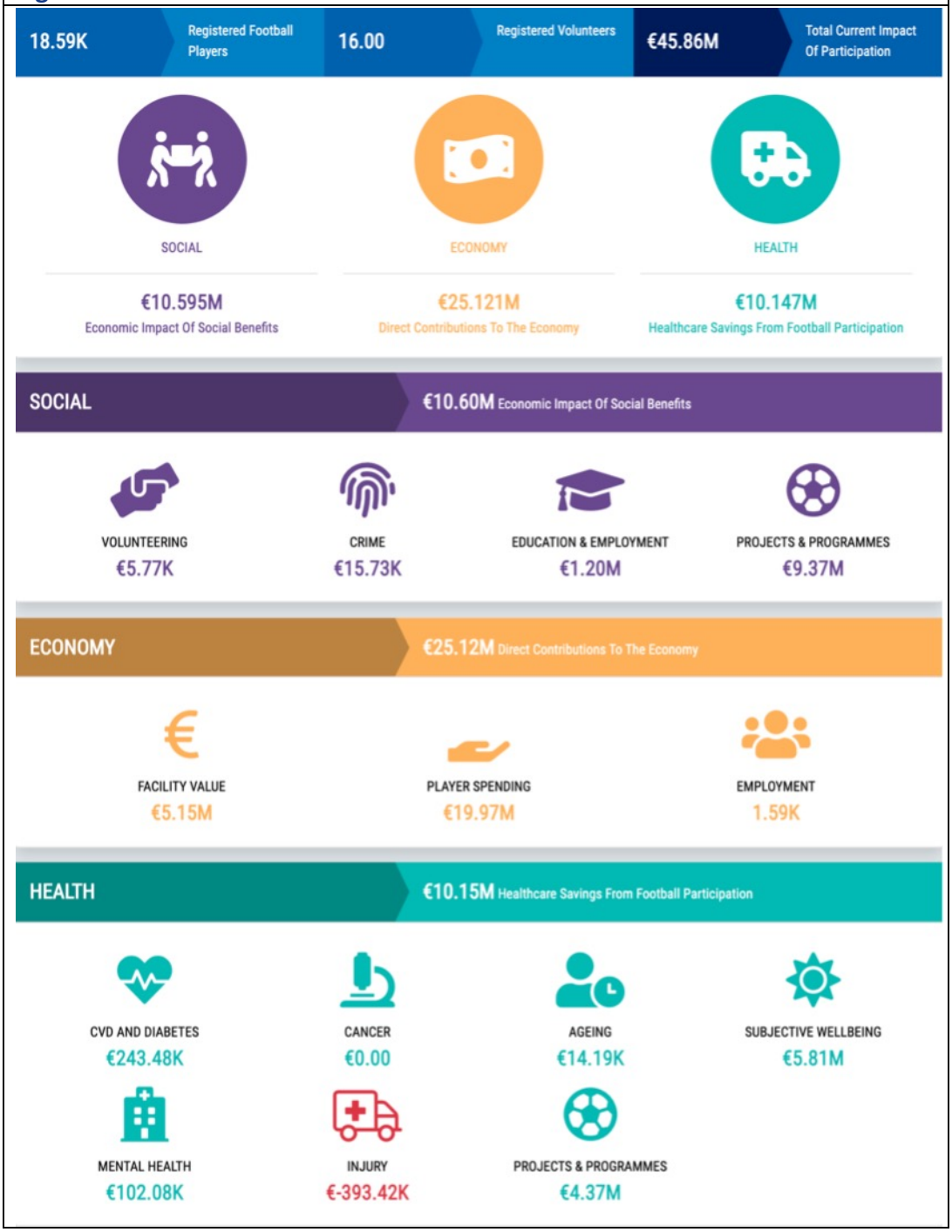
Figure 8: Estonia National Results



3.2.3 Albania

In Albania the model has been applied at the national level only as illustrated in Figure 9, although there is now the potential to make the Online Calculator available to regions and clubs.

Figure 9: Albania National Results



3.2.4 Aggregated Results

In total, Versions 1.0 and 2.0 of the UEFA GROW SROI model have now been applied across 28 national associations.

The analysis relates to over 9.5 million registered football players, driving an overall valuation of more than €43 billion across the economic, social and health domains as illustrated in Table 6 and Figure 10 below.

Table 6: Aggregated Results from Version 1.0 & 2.0

Registered Players (in millions)	**TOTAL** Value (in € millions)	ECONOMIC Value (in € millions)	SOCIAL Value (in € millions)	HEALTH Value (in € millions)	PER PLAYER Value
9.5	43,647	12,778	12,719	18,150	€4,570

Figure 10: Results Infographic

Appendix 1: Advisory Panel Members

Original Proof of Concept Panel Members					
Independent		**National Association**		**UEFA**	**Consultant**
Paul Downward	University of Loughborough	Gerry Readon	FAI	Noel Mooney	Richard Ayers
Ilia Solntsev	Plekhanov Russian University of Economics	Jurrie Groenendijk	KNVB	Liam McGroarty	John Peacock
Louise Mansfield	Brunel University of London	Kris Vanderhaegen	RBFA	Antoine Fournier	Robin Russell
Michael Lechner	University of St Gallen	Lottie Strong	EFA	Igor Masnjak	
Peter Krustrup	University of Southern Denmark	Niccolo Donna	FIGC	Sefton Perry	
Thomas Peterson	Malmo University	Willi Hink	DFB	Thomas Junod	
Joan Duda	University of Birmingham	Rupert Webster	EFA	Roman Dieng	
Chris Gratton	Sheffield Hallam University	Danny Bisland	SFA		
Laura Finnegan	Waterford Institute of Technology				
Hubert Rovers	European Football Development Network				

Current Panel Members				
Academic				**UEFA**
Paul Downward	University of Loughborough	Christian Pfeifer	IZA Institute of Labor Economics	Noel Mooney
Ilia Solntsev	Plekhanov Russian University of Economics	Pamela Wicker	Universitat Bielefeld	Liam McGroarty
Louise Mansfield	Brunel University of London	Rosie Meek	Royal Holloway	Rupert Webster
Peter Krustrup	University of Southern Denmark			Manuel Reuss

Appendix 2: National Association Archetypes								
Archetype	**National Associations**	**Archetype**	**National Associations**	**Archetype**	**National Associations**	**Archetype**	**National Associations**	**National Pair**
Balkans	Turkey	CiS	Azerbaijan	Southern	Italy	Other	Lichtenstein	Switzerland
Balkans	Albania	CiS	Ukraine	Southern	Cyprus	Other	Gibraltar	Malta
Balkans	Kosovo	CiS	Belarus	Southern	Andorra	Other	Faroe Islands	Iceland
Balkans	Bulgaria	CiS	Georgia	Southern	Spain			
Balkans	Romania	CiS	Kazakhstan	Southern	Slovenia			
Balkans	Serbia	Eastern EU	Latvia	Southern	Malta			
Balkans	Bosnia & Herzegovina	Eastern EU	Poland	Southern	Croatia			
Balkans	Moldova	Eastern EU	Estonia	Southern	Greece			
Balkans	North Macedonia	Eastern EU	Lithuania	Southern	San Marino			
Balkans	Montenegro	Eastern EU	Slovakia	Western	Germany			
British Isles	N Ireland	Eastern EU	Hungary	Western	France			
British Isles	England	Eastern EU	Czech Republic	Western	Switzerland			
British Isles	Scotland	Nordic	Finland	Western	Austria			
British Isles	Wales	Nordic	Sweden	Western	Belgium			
British Isles	Rep of Ireland	Nordic	Denmark	Western	Netherlands			
CiS	Armenia	Nordic	Norway	Other	Israel			
CiS	Russia	Nordic	Iceland	Other	Luxembourg			
CiS	Azerbaijan	Southern	Portugal					

Appendix 3: Version 2 Results for Germany, Estonia and Albania

Version 2.0 Germany Results				
Domain	**Element**	**Sub element**	**Count/Cases Prevented**	**Value**
Nation: Germany				
Participants	Registered players	Male	1,996,491	
		Female	189,009	
Social	Volunteering	Administrators	157,370	€642,729,568
		Coaches	183,800	€689,250,000
		Operational	1,252,500	€843,811,659
	Crime	Adult	414	€14,410,512
		Youth	398	€19,441,504
	Education and employment	Attainment	N/A	€360,598,490
		Absence	44,380	€7,322,205
		NEET	762	€18,690,626
	Projects and programmes	Fussball-Ferien-Freizeiten	N/A	€800,000
		Fur ein Willkommen	N/A	€460,000
		Inclusion initiative	N/A	€300,000
		Kick off for a new life	N/A	€5,033,298
		Disability football	N/A	€1,776,181
	Sub total			€2,604,624,043
Economy	Facilities	Artificial	4,872	€703,070,200
		Grass	23,637	€591,949,270
	Expenditure	Kit	N/A	€315,238,740

		Trips	N/A	€127,999,293
		Admin	N/A	€32,500,000
		Equipment	N/A	€352,739,667
		Fees	N/A	€153,781,207
		Food, drink and other	N/A	€3,449,947,180
	Employment	Administrators	29,300	
		Coaches	68,210	
		Match officials	57,451	
	Sub total			€5,727,225,557
Health & Wellbeing	CVD and Diabetes	Hypertension	63,970	€106,326,333
		Stroke	1,600	€32,961,772
		IHD	9,510	€49,012,578
		Diabetes	53,890	€277,302,502
	Cancer	Breast	3	€280,050
		Colon	118	€16,857,307
	Ageing	Osteoporosis	314	€168,932
		Dementia	8,430	€206,499,007
	Mental health	Schizophrenia	432	€37,583,136
		Depression	17,340	€24,853,952
		Anxiety	17,540	€23,807,208
	Improved subjective wellbeing		N/A	€4,861,640,367
	Injury		N/A	€-42,440,569
	Projects and programmes	Community	N/A	€2,971,005

	Sub total			€5,597,823,580
Total				€13,929,673,180
Region: Bavaria				
Participants	Registered players	Male	352,597	
		Female	31,272	
Social	Volunteering	Administrators	31,360	€125,856,971
		Coaches	38,670	€145,012,500
		Operational	225,425	€151,869,256
	Crime	Adult	73	€2,540,984
		Youth	70	€3,419,360
	Education and employment	Attainment	N/A	€63,411,314
		Absence	7,822	€1,290,630
		NEET	145	€3,556,615
	Projects and programmes	Community	N/A	€547,417
		Targeted	N/A	€130,280
	Sub total			€497,635,327
Economy	Facilities	Artificial	317	€41,751,542
		Grass	6,255	€162,204,660
	Expenditure	Kit	N/A	€55,434,792
		Trips	N/A	€22,508,697
		Equipment	N/A	€62,029,339
		Fees	N/A	€27,042,454
		Food, drink and other	N/A	€606,673,871
	Employment	Match officials	9,838	

	Sub total			€977,645,355
Health & Wellbeing	CVD and Diabetes	Hypertension	11,207	€18,628,050
		Stroke	285	€5,867,647
		IHD	1,678	€8,650,793
		Diabetes	9,476	€48,763,496
	Cancer	Colon	21	€3,000,031
	Ageing	Osteoporosis	31	€16,678
		Dementia	1,483	€36,318,552
	Mental health	Schizophrenia	78	€6,785,844
		Depression	3,051	€4,372,083
		Anxiety	3,161	€4,289,477
	Improved subjective wellbeing		N/A	€854,920,389
	Injury		N/A	€-7,463,183
	Projects and programmes	Community	N/A	€2,254,166
	Sub total			€984,404,023
Total				€2,461,684,705
City: Berlin				
Participants	Registered players	Male	48,783	
		Female	4,344	
Social	Volunteering	Administrators	1,680	€7,000,000
		Coaches	2,790	€10,462,500
		Operational	22,920	€15,441,248
	Crime	Adult	10	€348,080

		Youth	11	€574,706
	Education and employment	Attainment	N/A	€8,904,545
		Absence	1,075	€177,375
		NEET	18	€441,511
	Sub total			€43,349,965
Economy	Facilities	Artificial	122	€17,605,617
		Grass	247	€6,185,703
	Expenditure	Kit	N/A	€7,784,438
		Trips	N/A	€3,160,788
		Equipment	N/A	€8,710,481
		Fees	N/A	€3,797,440
		Food, drink and other	N/A	€85,192,276
	Employment	Match officials	1,045	
	Sub total			€132,436,743
Health & Wellbeing	CVD and Diabetes	Hypertension	1,630	€2,709,354
		Stroke	38	€782,352
		IHD	235	€1,211,523
		Diabetes	2,008	€10,333,168
		Colon	4	€571,435
	Ageing	Osteoporosis	29	€15,602
		Dementia	205	€5,020,436
	Mental health	Schizophrenia	15	€1,304,970
		Depression	426	€610,458

		Anxiety	445	€603,865
	Improved subjective wellbeing		N/A	€120,052,333
	Injury		N/A	-€1,048,019
	Sub total			€142,167,477
Total				€317,954,185
Club: SC Brukberg				
Participants	Registered players	Male	189	
		Female	73	
Social	Volunteering	Administrators	13	€84,135
		Coaches	12	€45,000
		Operational	5	€4,491
	Education and employment	Attainment	N/A	€37,895
		Absence	N/A	€330
	Sub total			€171,851
Economy	Facilities	Grass	2	€26,450
	Expenditure	Kit	N/A	€33,121
		Trips	N/A	€13,452
		Admin	N/A	€20,000
		Equipment	N/A	€37,067
		Fees	N/A	€16,158
		Food, drink and other	N/A	€362,518
	Employment	Administrators	1	
		Coaches	1	
	Sub total			€508,766

Health & Wellbeing	CVD and Diabetes	Hypertension	9	€14,958
		IHD	1	€5,155
		Diabetes	10	€51,460
		Dementia	2	€48,980
	Mental health	Depression	1	€1,433
		Anxiety	2	€2,714
	Improved subjective wellbeing		N/A	€510,858
	Injury		N/A	-€4,463
	Sub total			€631,095
Total				€1,311,712

Version 2.0 Estonia Results				
Domain	**Element**	**Sub element**	**Count/Cases Prevented**	**Value**
Nation: Estonia				
Participants	Registered players	Male	17,695	
		Female	1,603	
Social	Volunteering	Administrators	1,979	€2,186,323
		Coaches	50	€70,313
		Operational	1,501	€935,238
	Crime	Adult	1	€22,707
		Youth	1	€22,707
	Education and employment	Attainment	N/A	€2,358,102
		Absence	596	€1,991,421

		NEET	36	€46,547
	Projects and programmes	Kicks	539	€266,607
	Sub total			€7,899,965
Economy	Facilities	Artificial	79	€12,839,334
		Grass	127	€22,230,000
	Expenditure	Kit	N/A	€2,122,512
		Trips	N/A	€2,654,470
		Admin	N/A	€3,005,349
		Equipment	N/A	€440,302
		Fees	N/A	€2,106,004
		Food, drink and other	N/A	€2,492,413
	Employment	Administrators	170	
		Coaches	565	
		Match officials	183	
	Sub total			€47,890,384
Health & Wellbeing	CVD and Diabetes	Hypertension	1,032	€851,400
		Stroke	29	€146,856
		IHD	173	€762,035
		Diabetes	614	€668,032
		Colon	1	€58,406
		Dementia	67	€92,842
	Mental health	Schizophrenia	5	€50,560
		Depression	151	€215,024

		Anxiety	81	€45,441
	Improved subjective wellbeing		N/A	€20,776,167
	Injury		N/A	-€390,126
	Sub total			€23,276,637
Total				€79,066,986

Version 2.0 Albania Results				
Domain	**Element**	**Sub element**	**Count/Cases Prevented**	**Value**
Nation: Albania				
Participants	Registered players	Male	16,403	
		Female	2,184	
Social	Volunteering	Coaches	16	€5,769
	Crime	Adult	1	€15,733
	Education and employment	Attainment	N/A	€574,315
		Absence	776	€587,681
		NEET	38	€38,123
	Projects and programmes	Children & Young People	26,400	€9,375,450
	Sub total			€10,597,071
Economy	Facilities	Artificial	29	€5,152,241
	Expenditure	Kit	N/A	€3,021,912
		Trips	N/A	€1,965,678
		Admin	N/A	€6,900,000
		Equipment	N/A	€513,079
		Fees	N/A	€2,462,284

		Food, drink and other	N/A	€5,106,020
	Employment	Administrators	403	
		Coaches	746	
		Match officials	437	
	Sub total			€25,121,214
Health & Wellbeing	CVD and Diabetes	Hypertension	222	€130,876
		Stroke	28	€2,230
		IHD	142	€36,632
		Diabetes	341	€73,737
	Ageing	Dementia	39	€14,185
	Mental health	Schizophrenia	4	€2,732
		Depression	90	€95,682
		Anxiety	47	€3,667
	Improved subjective wellbeing		N/A	€5,814,929
	Injury		N/A	-€393,423
	Projects and programmes	Children & Young People	26,400	€4,370,000
	Sub total			€10,151,247
Total				€45,869,532