



CASE STUDIES

OpenActive: using open data to help people get active



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Summary

OpenActive is a community-led initiative in the sports and physical activity sector using open data to get people more active. It was initiated to help address one of Britain's biggest public health challenges: the lack of physical activity and specifically, the difficulties in finding opportunities to take part in activities.

Sport England's Active Lives Adult survey in May 2018 states that only [six in 10 adults gained the health benefits](#) from achieving 150+ minutes of activity a week¹ suggested by the Chief Medical Officer (CMO) guidelines. The Active Lives Children and Young People survey shows that only 17.5% (1.2m) of [children and young people](#) are meeting the CMO guidelines of taking part in sport and physical activity for at least 60 minutes every day². The lack of physical activity causes an estimated 37,000 premature deaths annually and [costs the UK economy around £20bn per year](#)³.

Empowering people to make better and easier decisions around physical activity benefits the nation: general health and wellbeing is increased, there are benefits to individual, social and community development, strain on the health service is reduced, and the value of the sport and physical activity sector grows, boosting productivity.

The idea for OpenActive is straightforward: work with physical activity providers to provide 'open opportunity data' (data about where and when physical activity opportunities happen) in a standardised, user-friendly format and publish that data openly online – allowing innovators to use the data for apps and services, and making it quick and easy for people to find the right activities for them.

In 2016, we at the Open Data Institute (ODI) partnered with Sport England to work with organisations to help realise this idea – to open up data about physical activity opportunities for anyone to access, use, and share.

In the ODI 2018 strategy, we identified support to sector programmes as a key method to support sustainable behaviour change within companies and governments that hold and use data. Within this strand of work, the ODI coordinates organisations to tackle a social or economic problem with data, using an open approach. This creates impact both through addressing the problem and embedding good data practices and business models.

OpenActive works directly with data providers and innovators. Sport and physical activity organisations that join the initiative benefit from its overarching aims to: publish 'opportunity data' under an open licence; innovate with data to engage and grow the sector's audience; learn about data and its value through ODI training; create data standards for data sharing and fuelling innovation; and build momentum and sustainability within the sector.

¹ SportEngland (2018) 'Active Lives Adult Survey', May 17/18 report

² SportEngland (2018) '[Active Lives Children and Young People Survey Academic year 2017/18](#)'

³ UKActive (2018), 'UK adults spend 12 hours a week watching on-demand TV but only 90 minutes exercising', [ukactive.com/news/uk-adults-spend-12-hours-a-week-watching-on-demand-tv-but-only-90-minutes-exercising](#)

Phase 1 of OpenActive (November 2016 to July 2017) centred primarily around awareness-raising, provision of data-literacy training (face-to-face and eLearning), developing standards and encouraging physical activity providers to share data. The number of organisations joining up grew steadily during Phase 1: organisations' logos and the growing volume of available data was showcased on the website to demonstrate the momentum and uptake (see fig 1).

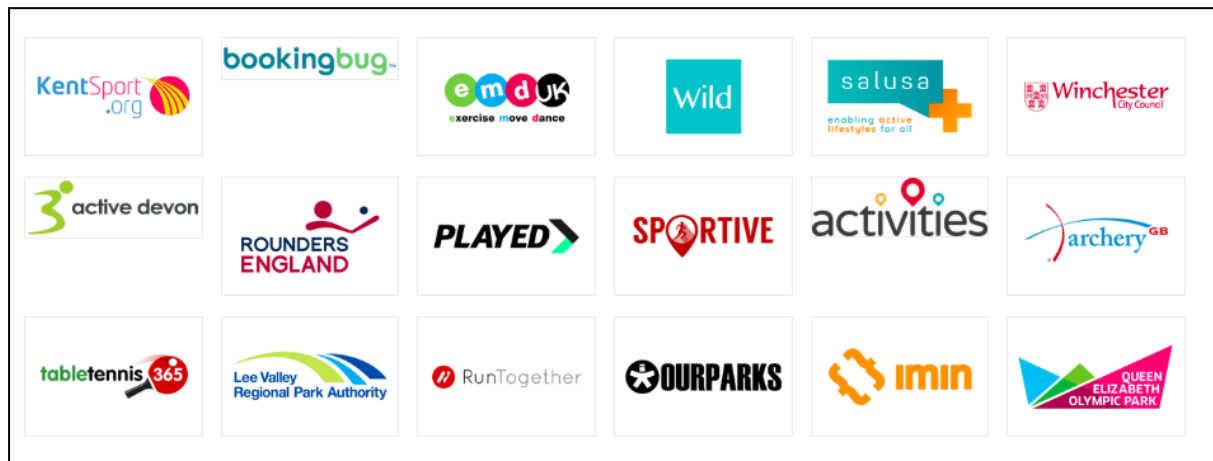


Fig 1: some of the physical activity organisations partnering with OpenActive

This case study focuses on Phase 2 of OpenActive (August 2017 to January 2019) which built on the momentum of Phase 1 to:

- encourage greater sharing of data by activity providers
- stimulate the use of activity data through a startup accelerator and with national campaigns
- strengthen the community of stakeholders
- increase the volume of regular activities listed as open opportunity data through a focus on the UK's largest booking organisations (such as Legend and Gladstone, two examples of leisure management software platforms)
- provide a wider variety of exercise options through engaging a range of non-gym based organisations (such as England Athletics - Run Together Campaign)
- build knowledge within the sector
- stimulate the development of innovative products which use the data through an [accelerator programme](#)
- develop the OpenActive Champions programme, a peer network supporting 10 advocates in the sport and physical activity sector responsible for driving physical activity locally
- develop the OpenActive data standards

OpenActive is coordinated by the ODI, funded and supported by Sport England, and formed by organisations and engaged individuals working within the sport and physical activity sector.

Facts and figures

Data is from the [OpenActive community dashboard](#), the [OpenActive activity list](#), and the [OpenActive phase 2 project dashboard](#). [Correct as of 12 December 2018]

OpenActive: key facts and figures

Since launch of OpenActive (November 2016)

- **96** community members associated with the initiative and listed on the [OpenActive](#) website
- **10** startups directly supported by the OpenActive Accelerator
- **10** OpenActive Champions
- **29** open data sets (conforming to the OpenActive data standards)
- **562** activity types listed, from Abseiling to Zumba
- **254** people trained on open data (face-to-face and eLearning)
- **167** software developers or analysts finding information about data feeds on the status dashboard
- **140,949** open opportunity data sessions in November 2018 (compared with 80,599 in February 2018)
- **1,867** social media interactions
- **207.7k** passive reach communications (size of the addressable audience that content could reach)

[Snapshot taken on 12 December 2018]

Why is OpenActive important?

ODI levers and the 'theory of change'

OpenActive is an example of a sector using open data. Sector programmes are one of the [three 'levers' outlined in the ODI strategy](#): we believe that encouraging sustainable behaviour change within entire sectors is a key way to demonstrate the broad value of data.

The OpenActive programme is directly aligned with the [ODI's theory of change](#). This states that value can be created from data by encouraging and advocating ethical data use that leads to good social and economic outcomes for everyone. It shows that by addressing fears about the use of data, and encouraging ethical data sharing, we can achieve positive impact.

OpenActive helps the ODI test this theory of change and our understanding of it: does it make sense?; do the expected benefits materialise?; how does the practice match up to the theory?; and which elements are important within this context?

Improving access to physical activity

Providing physical activity data openly is important because it is currently not as easy as it should be for people to find opportunities that are right for them. Living Sport's 2016 [disability consultation](#)⁴ found the 'ease of finding exercise opportunities to be unacceptable'. And a [physical activity needs assessment](#)⁵ for children and young people in Camden and Islington found that it is 'hard for young people to know what activities were available to them. They mentioned information on websites not being well presented and it being difficult to find out what was on in the community and how to access it.'

We strongly believe part of the solution to removing barriers lies with collecting, publishing, and using open data that anyone can access, use and share.

In our [response to the Mayor of London's Sport Unites strategy consultation](#)⁶, we outlined issues ranging from 'information inequality' to socio-cultural conceptions of sport within specific groups as issues that might affect how sport can affect social integration in general.

We believe that the inability for people to find physical activity opportunities can be harmful. As noted above, a lack of physical activity is one of Britain's biggest public health challenges, causing an estimated 37,000 premature deaths annually and costing the UK economy around £20bn per year.

In 2014 an [all-party commission on physical activity report](#)⁷ highlighted the issue, stating: 'The UK faces an epidemic of physical inactivity. [...] In all human history, we have never been so inactive. But the human body was designed to move, and this slow down in activity has seen significant consequences to our health and economy'.

As mentioned above, at any one time, only 17.5% (1.2m) of children and young people are meeting the current Chief Medical Officer guidelines of taking part in at least 60 minutes of sport and physical activity every day and approximately 40% of adults do not gain the health benefits from achieving the recommended 150+ minutes of activity a week⁸. There are many emotional and practical barriers to getting active, including a lack of easily accessible information about opportunities for activity. OpenActive aims to address this and encourages the development of new physical activity products and services, including apps, by unlocking the 'fuel' that powers them: high-quality, comprehensive 'when and where' data.

⁴ Living Sport (2016), 'Disability Consultation 2016', <https://www.livingsport.co.uk/disability-sport/disability-consultation/>

⁵ Camden.gov.uk, A sport and physical activity needs assessment for children and young people, <https://opendata.camden.gov.uk/download/au3z-is8g/application/pdf>

⁶ The ODI (2018), 'The ODI responds to the Mayor of London's consultation on the London Sport Strategy', theodi.org/article/the-odi-responds-to-the-mayor-of-londons-consultation-on-the-london-sport-strategy/

⁷ All-Party Parliamentary Commission on Physical Activity (2014), 'Tackling physical inactivity – a coordinated approach', parliamentarycommissiononphysicalactivity.files.wordpress.com/2014/04/apcopa-final.pdf

⁸ Sport England (2018) 'Active lives children and young people survey, academic year 2017/18, Published December 2018

Keeping pace with digital expectations

OpenActive is also important as, by opening up data, the initiative actively supports the [Sport England strategy](#)⁹ which has a specific aim for the sector to ‘keep pace with the digital expectations of customers’.

The challenge

Use data effectively

The challenge is to use data effectively to get people active by removing the practical barriers to finding appropriate opportunities. As noted above, the current level of physical inactivity is a huge public health issue, causing premature death, illness and cost to the UK economy.

Making it easier to discover – and take part in – physical activity opportunities requires improving access to both online and offline information. Information about physical activities is already publicly available, but it’s not easily shared: a gym might publish sessions on its website, a yoga studio might use printed flyers, and a bootcamp could share its timetable on social media. In order to find something locally, you have to have a very clear idea of what kind of activity you’re looking for, and where you might find it. People can find it hard to browse local opportunities, and services can struggle to promote activities effectively.

Change the sector

Previous attempts to signpost people to physical activity opportunities relied on a centralised database of activities, which activity providers fed into directly. A single customer-facing activity finder was created over this data. This centralised approach brought many different challenges with it. For example, placing the data in a centralised platform and not making it open meant that only one front-end could be developed which could not support the diverse range of users who needed encouragement to get more active. The reliance on a single platform also brought with it a degree of risk and was not sustainable from both a cost and resource perspective for the sector.

Insight into consumer behaviour also makes it clear that different consumers have different needs and motivations to getting active, which means that the development of single solutions are not feasible. An open, distributed approach should be more robust and support the creation of a range of services by different organisations, each of which can be tailored to particular user needs, thus helping a wider range of user get active. For example, a digital product or service that works for someone who is already active is unlikely to provide the right experience for someone who is taking their first steps into activity.

⁹ Sport England (2018), ‘Sport England Strategy 2016–21: towards an active nation’
<https://www.sportengland.org/active-nation/our-strategy/>

The challenges of this approach for ODI and Sport England is that it requires the engagement of hundreds of organisations across England to publish data in a consistent and interoperable way; getting this data used within tools and services; and having those tools and services adopted by people, particularly those targeted in Sport England's strategy.

The ODI approach

Overarching aims

The overarching aims of the OpenActive programme are:

- **Improving access to 'open opportunity data'.** This means making data about where and when sport and physical activities happen open for anyone to access, use and share. By doing this, more places, products and services can better inform people of opportunities to get active.
- **Stimulating innovation with data to help meet people's digital expectations.** We ran a six-month-long 'startup accelerator' to directly support early-stage startups to use the opportunity data. Some of these startups, and other organisations, are creating products and services that can improve the way people discover and participate in relevant activities.
- **Developing open standards.** Our W3C¹⁰ group works collaboratively to decide how data about sport and physical activity opportunities can be described, categorised and structured in a consistent way. The standards aim to maximise use and compatibility for new tools, products, and services designed to get people active.
- **Building data literacy within the sector.** We champion data leadership, inspire transformation and change across organisations, and strengthen the practical capability of sport and physical activity organisations to work with open data.
- **Ensuring the sustainability of OpenActive.** We are working with partners and stakeholders to examine how OpenActive could become self-sustaining, including primary qualitative research, investigating how to maintain robust data standards/governance processes, and gathering evidence from other sectors and initiatives.

What did we do?

Phase 1 of the programme (November 2016 to July 2017), focused on raising awareness, developing standards and encouraging physical activity providers to share data. During this phase, the ODI team:

- undertook user-experience research
- developed the OpenActive website
- improved awareness of OpenActive within the sector and built partnerships with data innovators and data providers

¹⁰ W3C [World Wide Web Consortium](https://www.w3.org/)

- achieved buy-in from across the sector in the core workstreams of standards, tools and data literacy
- developed standards and tools
- helped publish opportunity data from each of the main activity provider categories
- established an effective governance structure including weekly project meetings, steering groups and a sector-wide advisory board.

This basis provided a solid foundation for moving on to Phase 2 of the programme, which brings together sport and activity organisations, standards groups, and innovators – to drive the publishing and use of opportunity data, as illustrated in the OpenActive theory of change diagram. (See figure 2)

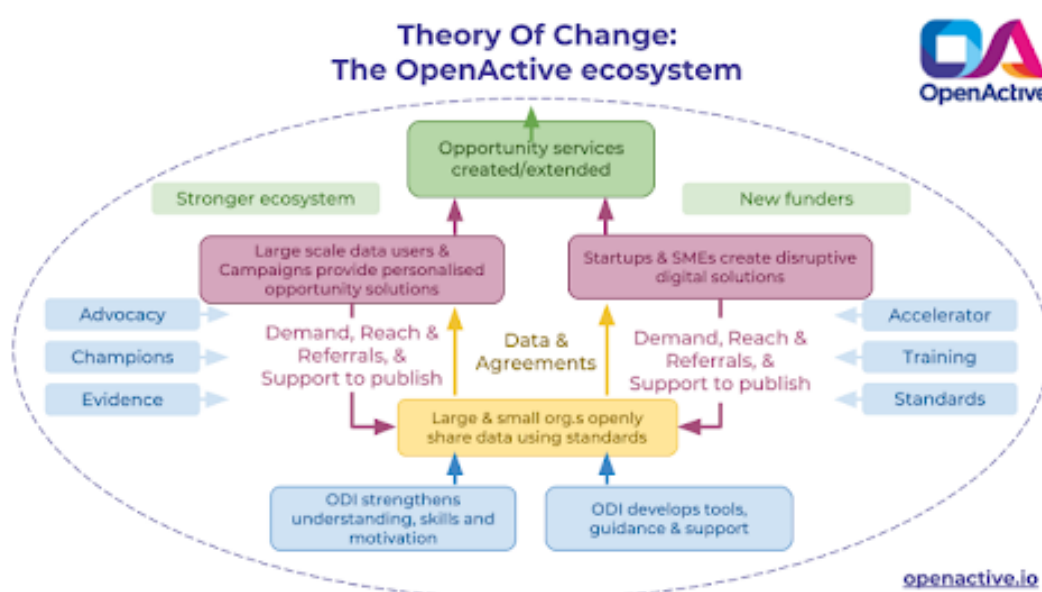


Fig 2: Theory of change: the OpenActive ecosystem

Phase 2 of OpenActive (August 2017 - January 2019) focused on:

- **Establishing/defining the data infrastructure**
 - ◆ Developing a [standard activity list](#)
 - ◆ Developing new standards to include booking standards
 - ◆ Making the data standards easier to use and implement
- **Engagement to make publishing data a norm**
 - ◆ Including new types of data and finding ways to improve the discoverability of data published as part of OpenActive
- **Improving the reach of training**
 - ◆ Including scaling through OpenActive Champions to increase knowledge and understanding of open data
- **Building and supporting a community of innovators**

- ◆ The accelerator programme supported startups that build solutions based on the needs of the mass market (sports and activities that have mass appeal and can get large numbers of people active).
- ◆ Laying foundations for sustainability, including external funding and self governance.

→ Investigating future sustainability of the initiative

- ◆ Conducted [stakeholder interviews](#) to research how OpenActive could become self-sustaining
- ◆ Gathered evidence from the Change4Life activity finder, as well as the OpenActive accelerator
- ◆ Researched effective methods for maintenance of robust data standards and governance processes

The importance of data infrastructure

Robust data infrastructure – data assets, the organisations that operate and maintain them, and standards, register, guidance and policies describing how to use and manage the data – provide the foundation for effective data-enabled tools and services. These can support evidence-informed decisions which in turn generates impact from data.

OpenActive requires a robust data infrastructure, to ensure that opportunity data can be shared, analysed and used to create value. The [OpenActive status page](#) is a register of all the datasets and application programming interfaces (APIs) published as part of the OpenActive initiative.

The need for robust standards was baked in to the OpenActive initiative from the outset. The [Sport England Strategy 2016–21](#) highlights the importance of setting open data standards across the sector, to enable easy data aggregation and sharing. We worked with partners to develop standards for: organisation type; event; type of activity; facility use; cost; location; and other key resources and attributes. We also looked at standards around discoverability; booking; and also focused on improving maintaining the existing specifications.

We provide documentation on validation against modelling and specifications, guides, tools and a [data model to support the publication of data](#) – all of which help to support a strong data infrastructure. We also provide a [community toolkit](#) of brand assets and useful resources to help partners share information about OpenActive within their own organisations and communities.

Make publishing data a norm

In Phase 2 of the programme, we engaged with partners to help make publishing data a norm. This included supporting two of the UK's largest leisure management software platforms, [Legend](#) and [Gladstone](#), to build in support for publishing data openly.

We also developed a draft 'booking standard' and updated the modelling specification to make it more useful and relevant for data users. This included standardising age ranges in line with commercial expectations and provider age ranges.

We carried out four '[Open Data in a Day](#)' training days, launched [six eLearning lessons](#), and trained 10 Open Active champions who could act as advocates for open data and OpenActive.

We published [case studies](#) to show the value of the initiative for different partners.

Working with design and digital partners, the OpenActive team developed a new website and developer documents to support a wider community of people publishing to the website.

Our team also worked on one-to-one engagement – encouraging the community to take on ownership of areas of the data publishing, and to be fully involved with the ethos of publishing opportunity data openly.

There was a marked improvement in engagement following a [letter from Tracey Crouch MP](#), then Minister for Sport and Civil Society, in June 2018, which urged activity providers to prioritise opening up opportunity data, showing the importance of senior-level sponsorship.

Build and support a community of innovators

To foster innovation, we ran a [six-month accelerator programme](#) for 10 startups, some of whom used open opportunity data to produce market-ready digital solutions that can help people discover activities and stay active. Some published data about their opportunities openly, and others are taking part in pilot projects to help publish more data openly.

We worked with other innovators like [imin](#), [Played](#) and [My Local Pitch](#) to sketch out a draft data ecosystem. The initial draft of the data ecosystem is visualised below, and shows the group's initial thoughts on how the data assets and relationships interact and work together to best effect.

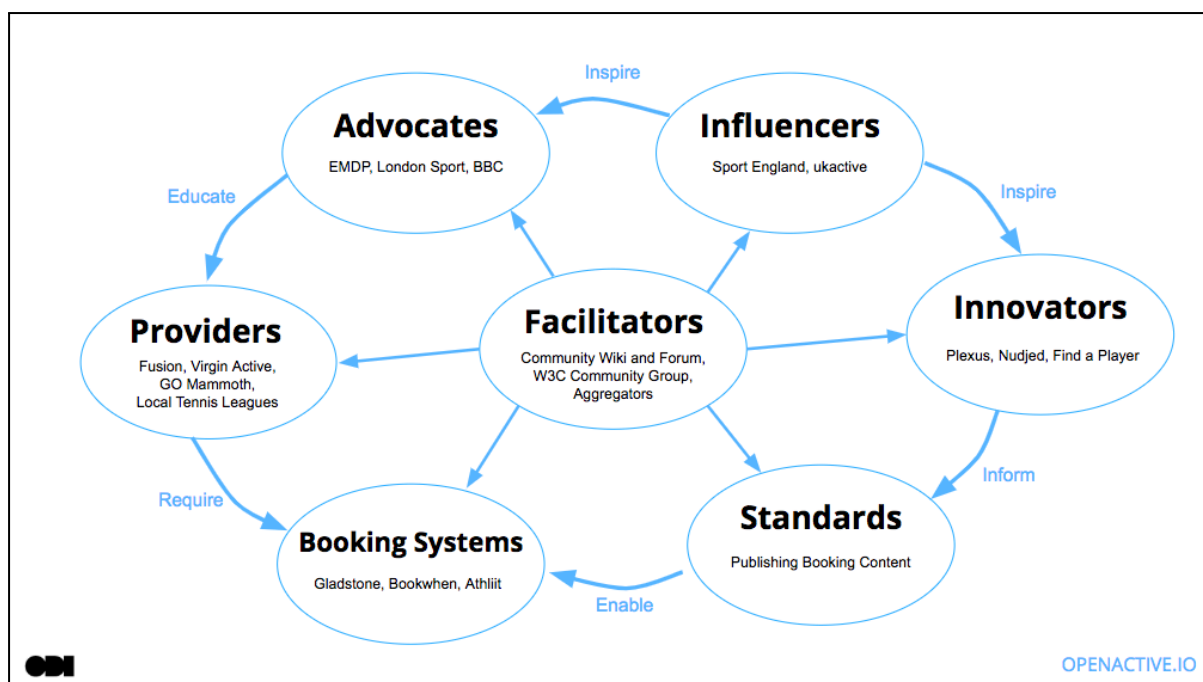


Fig 3: Draft OpenActive data ecosystem

We also worked on driving adoption through large data users, via a Public Health England campaign – the [Change4Life Activity Finder](#).

Laying foundations for sustainability

In phase 1, we established an OpenActive advisory board to help shape our strategy and decision making, and help ensure the initiative is sustainably funded and governed. In December 2017, to ensure it continued to provide the support required, we reviewed and refreshed the group, introducing several new members, and revising the terms of reference to better reflect current requirements and responsibilities.

More broadly, OpenActive supports the digital transformation of the sports sector – and [encourages chief executives in the sport sector to embrace data](#). OpenActive has a key role to play in providing the critical data infrastructure in Phase 3 that will underpin this digital transformation process.

Impact

The initiative also actively supports [Sport England strategy](#) which has a specific aim for the sector to keep pace with the digital expectations of customers.

Here we look at the impact of Phase 2 of the OpenActive initiative, and outline the achievements

- There are 96 community members, supporting or engaged with OpenActive
- We have redeveloped the [OpenActive website](#) and resources to better meet user needs
- There were over 140,000 open opportunity data sessions as at November 2018, across 20 data sets (as compared with 80,599 in February 2018)
- We have trained 254 individuals in open data principles and methodologies
- We have supported 10 [OpenActive Champions](#) who have gone on to promote and engage with open data in their specific areas of the sector
- The accelerator programme has supported 10 startups, which produced in-kind contributions made by community members, worth an estimated £691,000

(Source: [community dashboard](#), and [project dashboard](#))

Momentum in the sector

The initiative has developed momentum for the publication and use of open data in the sector, across major leisure providers, sports governing bodies, startups and industry organisations.

At the LegendWare conference in October, Legend's Chief Operating Officer, Paul Simpson, ran a [session about open data](#), where he made a compelling case for open data, and discussed many ODI techniques and tools, including the Open Data Spectrum. This was a major milestone for the initiative. Legend - one of the largest suppliers of leisure management software in the UK - had previously been skeptical about open data; they were cautious about the impact that it may have on their business model, and they had previously opted not to make it a strategic priority. This event marked a shift in their thinking as they encouraged their customers to embrace open data and the innovation that it could support.

OpenActive Champions in London, Surrey, Sussex and Yorkshire have also run workshops, advocating for more high-quality open data in the sports sector.

Relationship building

The relationships we have built with the software suppliers Legend and Gladstone, their customers, and other organisations including non-governmental bodies have been invaluable in getting fostering enthusiasm and getting people on board. We found that the networking benefits provided by partner organisations are crucial to building enthusiasm and buy-in. For example the team recently tried to engage Gladstone customers and found that – alongside the facts about the benefits of open data alone – an 'already warm' trusted contact was vital to make the connection and fully sell-in the benefits of publishing data openly.

Standards

The pre-defined industry standards are a key benefit for large data providers and help enable faster and more streamlined integration with their systems. In developing the standards the aim is for data innovators to be able to 'pick up and run' with the data, with the confidence in the quality and format. There has been success in growing a stable community of people to create the data standards, and the next critical step is to solidify a robust set of shareable

standards, allowing the innovator community to confidently and actively use the data and the standards in their products and services.

We are now starting to see organisations repurpose the OpenActive standards for other uses beyond the initial vision for the initiative. For example, Upshot (a provider of monitoring and evaluation software) are exploring how the standards could be used to improve their product. Data standards are recognised as a vital tool for helping data projects and organisations work more efficiently.

As OpenActive is still a relatively new initiative, the concrete value from the open data publishing will not be realised for some time, however we have received anecdotal feedback about the positive impact of the platform and opening data.

Contribution to wide impact

While the long term wider impact of the initiative is as yet unknown, there are other areas where OpenActive could have a positive impact and influence. For example, we have talked to the Department for Digital, Culture, Media and Sport about the possibility of the use of OpenActive standards in interventions aimed to combat loneliness.

There has also been interest internationally in OpenActive, notably from the Australian government, which is potentially interested in developing a similar model.

There is of course the potential impact on the key driver: to combat the physical inactivity in the UK, but this is as yet unmeasurable, although we have baseline statistics to compare against in the future.

Lessons and challenges

We have learnt many lessons along the way through Phase 1 and Phase 2 of OpenActive. These range from broad lessons around testing the ODI's theory of change, to granular lessons on the day-to-day running of such a campaign.

Theory of change

The ODI's [theory of change](#) proposes that value is created from data when trust and openness are increased. It discusses how the behaviour of those who steward data and create information from this data can lead to the best social and economic outcomes for everyone. This thinking is mirrored in how OpenActive strives to create value from sports and activity opportunity data.

An [interim impact review](#) in July 2018 broadly confirmed the ODI's theory of change ideas, highlighting that the below points are key to maximising the value created:

- Interaction and feedback loops between those publishing data and those using data
- Working in alignment and supporting the key interests and objectives of organisations whose behaviour we seek to influence
- Supporting technical capacity

Practical lessons learned

We learnt many practical lessons through this phase of work.

A key lesson is to not underestimate the time and effort needed to work with, and onboard, an entire sector, and to also appreciate the varied approaches and methodologies within a sector.

For example, large software platform providers have the technical know-how but need more lead up time for the benefits; startups may lack the technical knowledge but can implement quickly; non-governmental bodies have different needs to leisure operators.

We also feel it is important to not underestimate the power of large data users, and the importance of feedback loops, to get people to publish data. We have also learned that it is crucial to identify different groups of end consumers, and the open data that will meet their individual needs and create positive impact for them – building in testing and feedback to drive ‘bottom-up’ initiatives iteratively, rather than starting with at-scale ‘top-down’ national campaigns.

Data quality is a key issue. It is important to better understand the quality of data published and how the data is being used, to help encourage future publication, and updates to the latest specifications.

There was a real challenge of integrating the innovation strand within the rest of the programme and ensuring the feedback loops of data users drove the publishing or improved quality of data. We felt this could be better scoped and integrated.

The challenge of getting the community involved was harder than expected. We found this has worked where there is mutual self interest, in general not as a ‘fun project’: there need to be concrete benefits for all parties.

We have built knowledge in the sector and have run an [accelerator programme](#) to build innovative products with the data. A key learning has been the need for publishers to see immediate use and reach of the data they publish, to encourage continued publishing.