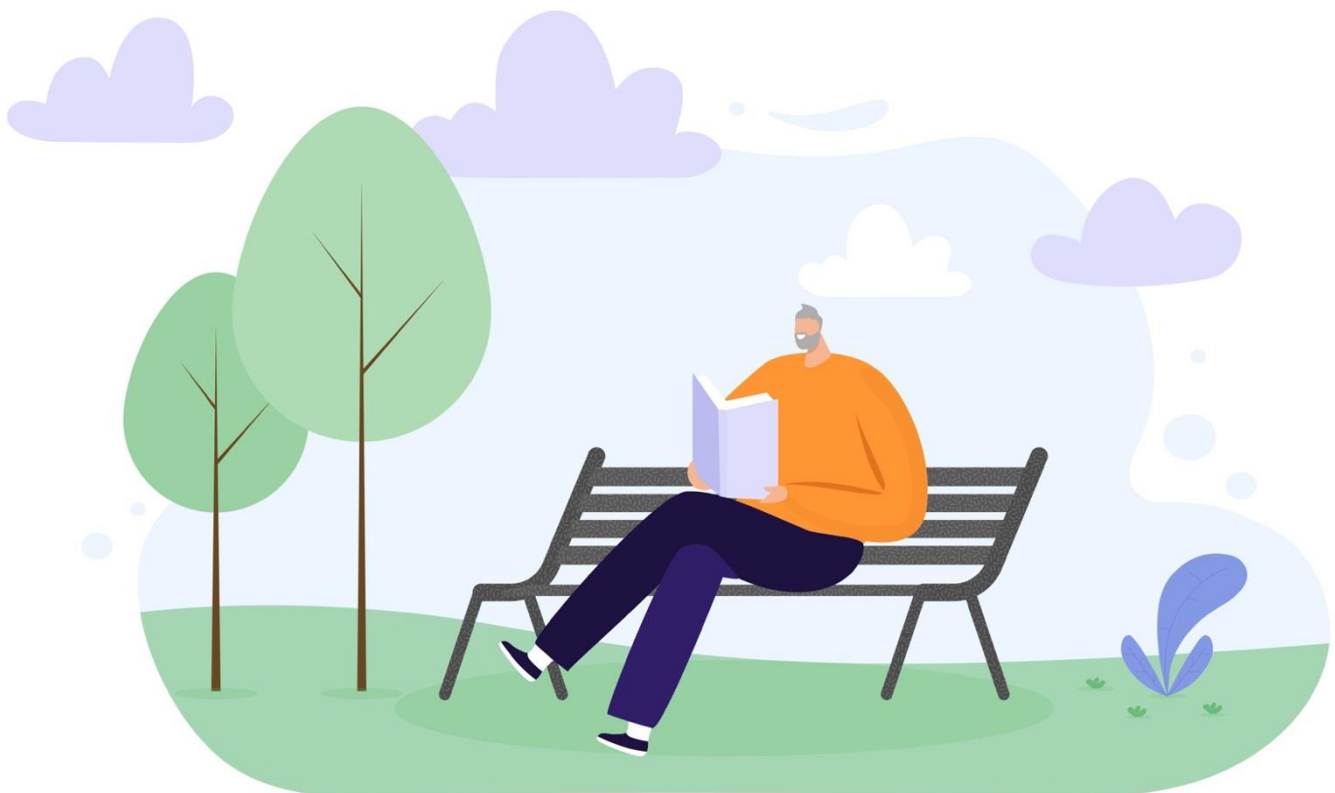




Using physical activity open data in referral settings



Supported by Mayor of London and supported by Sport England with
funding from the National Lottery

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Acknowledgements

We would like to thank the following people/organisations for their contributions to this project:

- All members of the advisory group for their participation and input.
- The referral services within London, and the link workers at these referral services, that gave up their own time to participate in the workshops.
- 100% Open for their work in phase 1 and 2 of this project.
- Imin for providing their services to the organisations developing solutions and for their time providing support to London Sport.
- InFocus for their time helping with the report structure.
- All colleagues at London Sport that have been involved in this project to any extent.



Executive summary

Background

There is a diverse workforce across the capital who could have the opportunity or ability to support Londoners to lead active lives.

This includes professionals and volunteers involved in 'community referral schemes' that have existing contact with inactive Londoners and could potentially provide them with advice, guidance and support to become more active in any way that is right for them. This function is delivered in different ways across services but for this report we broadly refer to anyone providing this role as a 'link worker'.

One of the barriers that link workers have identified is a lack of access to up-to-date information about the physical activity opportunities that were taking place in their local area.

The issue of information about local activity opportunities is something that the sport and physical activity sector has sought to address over the last few years via the use of open data. The creation and use of open data is a national policy priority, and practically means that an organisation providing physical activity opportunities can publish information about their sessions in a single [OpenActive](#) enabled online-management system which then publishes this data in a standardised open data format for any website or system to use.

This project set out to explore whether utilising physical activity open data within referral settings could make it easier for link workers identify relevant opportunities to meet the needs of their service users, and therefore increase the number and quality of referrals they can make.

We aim to identify whether, more generally, there is a business case for referral services to use open data, and, more specifically, to test potential features which could enhance the process.

Methodology

This project was delivered in three phases. In phase one research was conducted with link workers to understand the experience of supporting service users into physical activity sessions. The findings evidenced 11 unmet needs related to this. Phase two of this project looked to identify how open data could enable referral services to address these unmet needs. In phase three, five technology platforms received funding to understand whether there is a business case for open data in referral settings, plus develop and test their solutions against one, or a number of, the problem statements.

Key Findings

- Feedback from the five funded projects identified some potential benefits of using open data in referral settings. The top three were:
 - A reduction in the time that link workers spent searching for and verifying information about local activities.
 - Improved access to information about a wider range of physical activity opportunities should make it easier for them to help service users find an appropriate session.



- Referral platforms that are powered by open data powered had the potential to be quicker and cheaper to set up and scale than traditional approaches to local activity information gathering.
- The three main risks of using open data in referral setting were
 - The quality of the data about activity opportunities was not currently good enough to replace existing methods.
 - Many of the activity opportunities used imagery and descriptions that were not felt to be appealing to service users.
 - Within open data there is a lack of activity providers who were classed as suitable to refer a service user to.
- Overall, the findings suggest that whilst there is lots of potential, both referral services and platforms are not quite ready for full deployment, and until the issue of data quality is resolved, it is difficult to consider the overall service fit for purpose from either a referral service or a digital platforms perspective.

Main Conclusions

- The project was not able to fully test the original hypothesis with service users (i.e., an impact on quality and quantity of referrals) due to covid-19 complications (a compressed overall project timeline and reduced availability of link workers due to their role in the vaccine role out).
- Therefore the project instead focused on functional development and getting link worker, service provider and tech system feedback.
- The services involved in the project successfully integrated an open data feed into their products.
- Across the 5 funded projects they tested functional developments and received positive link worker feedback on six of these.
- This feedback indicates
 - Implementation of open data was feasible (with specific learning about challenges)
 - There is broadly a positive view of the potential for open data and the specific functional developments tested from link workers
 - There is an appetite from tech system providers to continue to work on the integration of open data
- But specific concerns about data quality and quality assurance of session mean that provider systems are unlikely to be prepared to currently implement as is, as customers are likely to hold the digital platform responsible for the data quality, rather than the activity provider at the source.

Key Recommendations

- Physical activity opportunity open data requires changes to ensure it is provided in a way that is usable by referral services.
- Further testing and development of open data business case and solutions for referral services is required.
- If a referral service is planning to use an open data feed in their system, they should commit to working with multiple local stakeholders to identify and support local activity providers to publish their opportunity data via open data compliant systems.



Introduction

Background

Research [conducted for London Sport into the workforce needed to support physically inactive Londoners](#) identified a diverse workforce across the capital who could have the opportunity or ability to support Londoners to lead active lives.

As well as the traditional sporting workforce of coaches and volunteers, this also included people such as front-line community leaders, health advisors, general practitioners, social workers, transport staff and other individuals engaging with the general public, either through physical activity and sport, or in another capacity.

Many of these professionals could have the opportunity to engage with less active Londoners to help increase their levels of activity by providing them with advice, guidance and support to become more active in any way that is right for them.

One particular workforce who come into contact with inactive Londoners on a daily basis are those who are involved in the delivery of 'community referral' schemes.

Community referrals is an umbrella term to describe the action of referring an individual to a local resource to meet their identified needs with follow up support. Social prescribing schemes are the most well-known examples of community referrals, and enable health professionals to refer people to a range of local, non-clinical servicesⁱ. In other words, helping individuals find ways to improve their health and wellbeing by referring them to activities, groups or services in their local area. This may be in addition to, or instead of, prescribing traditional medical treatments such as anti-depressants. Within this report we will use the broader term of 'referrals' to encompass all referral services and schemes.

Services and schemes delivering referrals, typically voluntary and community sector organisations, can provide a wide range of activities include volunteering, arts activities, group learning, gardening, befriending, cookery, healthy eating advice and a range of sports/physical activity.

"I think that physical activity is like the glue when it comes to social prescribing. It's the one thing that can bring it all together...I would urge you as to whatever you're doing within social prescribing, always think about physical activityⁱⁱ."

Dr Zoe Williams, GP and Clinical Champion for the Royal College of General Practitioners' clinical priority 'Physical activity and lifestyle, November 2018

Provision of referrals vary from area to area but often involve a person in a role such as a link worker, health advisor, health trainer, care navigator, community navigator, community connector, social prescribing coordinator or community care coordinator. Within this report we will use the term 'link worker' to encompass all of these roles. This role is generally performed by a non-clinically trained person who works in a local service and is the key point of contact for the individual who has been referred. The link worker is responsible for enabling and supporting a service user to assess their needs, co-producing solutions for them making use of appropriate local resources.ⁱⁱⁱ



The initial research identified that this workforce can be hugely influential with lifestyle advice, but that they often lack the knowledge, the skills or the confidence regarding physical activity and sport to make it a regular part of their efforts to support community wellbeing improvements.

In 2018, [London Sport](#) and the University of Kent developed a training package to support conversations about physical activity. This course proved to be very successful, with link workers reporting that their knowledge, understanding and confidence in providing effective physical activity support to service users was significantly improved through the training. However, feedback from the link workers also indicated that a lack of access to up-to-date information about the physical activity opportunities that were taking place in their local area was often a barrier to helping a user find a suitable activity opportunity.

Currently, these opportunities are collated through a combination of local knowledge, online searches and folders of posters and leaflets. The breadth and quality of these local directories varies, but in at least some instances there may be limited information about specific session information (e.g., the link worker may have details of a local provider but not what sessions are being run and when).

This is a problem that will be familiar to many working in sport and physical activity. One attempt that has been made to address this issue within the physical activity sector has been the use of open data.

Open data is data that anyone can access, use and share^{iv}, and the creation and use of open data is a national policy priority^v. There is a growing acknowledgement of the potential for addressing the availability of information about local activities via the use of open data due to efforts made by a host of agencies involved in the [OpenActive initiative](#), including Sport England, the [Open Data Institute \(ODI\)](#) and London Sport. The OpenActive initiative has developed data standards which make it easier for activity providers (both coaches and facility owners) to publish and manage their opportunities online, which in turn make it easier for people to find and book these sessions.

Practically, this means that an organisation providing physical activity opportunities can upload and manage their sessions in a single OpenActive enabled online-management system (e.g., [Open Sessions](#), [Playwaze](#) and [Bookwhen](#)), which then publishes this data in a standardised open data format. By doing so, these sessions can be broadcast on a multitude of different consumer facing sites (e.g., [Get Active](#) and [Classfinder](#)), with no additional marketing effort required by the activity provider, aside from keeping their session information up to date.

The OpenActive initiatives aim is to make it as easy to book a badminton session as it is to book a holiday, and whilst this has been gaining traction amongst the traditional sport and physical activity sector, the benefits of open data within referral services have yet to be realised.

Similar work has been going on in the wider community services sector with the [Open Referral data standard](#) being developed as a framework for sharing information about any type of local community service.

Therefore, we aim to explore whether use of open data could make it easier for referral services to refer into local activities.

Thanks to support from Mayor of London, and Sport England with funding from the National Lottery, this project set out to understand whether, more generally, there is a business case for referral services to use open data, and, more specifically, to test potential features which could enhance the process.



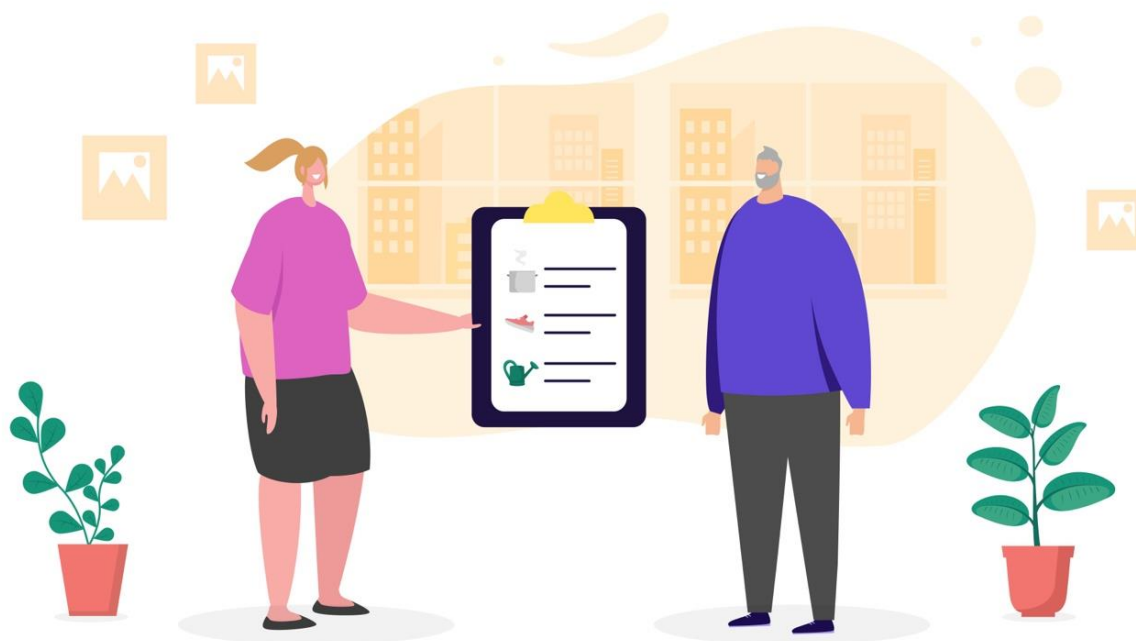
Hypothesis

The key learnings we wanted to gather from this project were:

- 1) Does an open data powered solution make it easier for link workers and/or service users to find a suitable activity session?**
- 2) Does an open data powered solution lead to more service users taking up physical activity opportunities?**

Therefore, based on these two questions, our hypothesis to test for this project is:

Utilising open data to provide a live feed of relevant physical activity opportunities, which can be easily filtered by a link worker or service user to find suitable activities, will increase the quality and quantity of physical activity referrals.



Methodology

Introduction

This project was broken down into three phases.

In phase one, research was conducted in the form of workshops with link workers to understand the experience of supporting service users into activity sessions. The findings from these workshops highlighted a number of key insights that evidenced 11 unmet needs.

- [11 unmet needs](#)
- [Aggregated referral service blueprint](#)

Phase two of this project looked to identify how open data could enable referral services to address the unmet needs discovered in phase one. This process enabled us to whittle down the 11 unmet needs into seven specific problem statements which ask how an open data led approach could address the specific unmet need.

The seven problem statements were:

- ★ 1. *How could open data help link workers improve the process of collating and verifying local activity session information?*
- ★ 2. *How could open data help bring the experience of particular physical activity sessions alive for link workers and/or service users?*
- ★ 3. *How could an open data feed help link workers match the needs of a service user to key characteristics of local activities?*
- ★ 4. *How could open data help link workers to assess and communicate access requirements and logistical information about specified local physical activities?*
- ★ 5. *How could open data help link workers create a compelling and welcoming referral communication for service users?*
- ★ 6. *How could shared data help link workers share information about the initial mindset and needs of service users with class instructors?*
- ★ 7. *How could open data better manage the appropriate support a service user needs as they prepare to attend a session?*

To see full details of the activities that took place in phase one and two, please see the [interim report](#).

Phase three

In phase three we delivered an open funding round for organisations involved in the delivery of referral services in London.

As a result, five projects received funding to explore whether there is business case for open data in referral settings, plus develop and test their solutions against one, or a number of, the problem statements. Each project was led by a technology company working with one or more referral services in London to help achieve this.

The delivery of projects in phase 3 were impacted by the covid-19 response. Each of the five projects found that the availability of the link workers to support product testing was limited by their involvement in the national vaccination process.



This meant that they were unable to test the solutions with the service users and assess the impact on quality and quantity of referrals. Instead, they focused on getting link worker feedback on the systems and its potential to support them as link workers.

Findings

We have summarised the findings below by project and problem statement addressed as well as an overall summary regarding the business case for open data in referral settings.

(Note: problem statement 6 wasn't developed/tested against).

- Digital Coproduction + Waltham Forest PCNs
- Elemental + Enable Leisure & Culture
- Health Place + Westminster PCNs
- Healum + Bromley by Bow Centre
- Playwaze + Barking and Dagenham Healthy lifestyles Team
- Summary: Is there a business case for using open data in referral settings?



Digital Coproduction + Waltham Forest PCNs



Digital Coproduction tested the integration of OpenActive data feeds, along with testing how data such as the contact details of the physical activity provider can be used to create a compelling and welcoming referral. Digital Coproduction were also going to test the integration of the Open Referral data standard, however this element is now planned to be delivered in the future. Digital Coproduction worked with two Primary Care Networks in Waltham Forest – Central Walthamstow and South Leytonstone.

- ★ 1. *How could open data help link workers improve the process of collating and verifying local activity session information?*

Digital Coproduction integrated an aggregated OpenActive data feed into their Service Finder tool. Initial feedback from the link workers suggested that using an open data powered platform could save them a significant amount of time per service user. Currently, one link worker will spend up to 30 minutes research for each patient in finding appropriate activities, where it is estimated that this integration could save 15 minutes per patient.

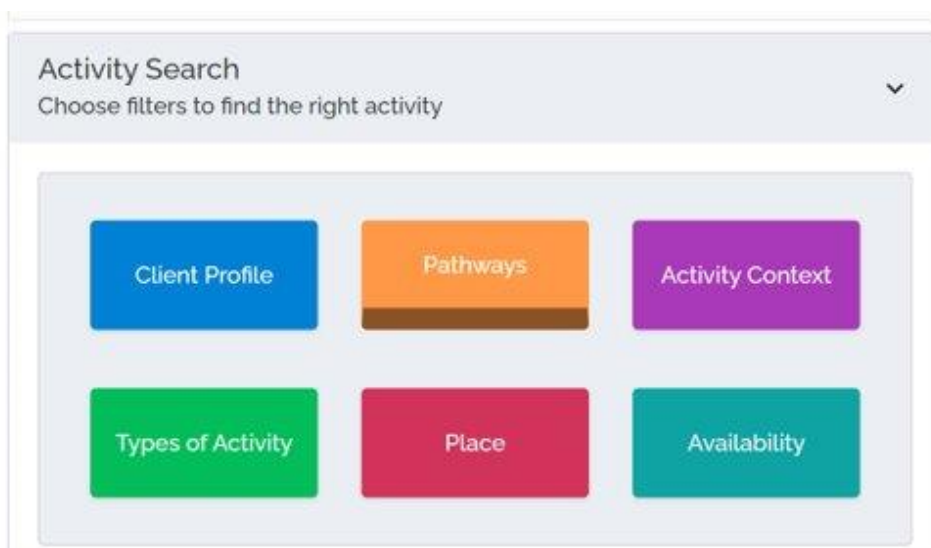
The link workers also felt the open data powered platform could increase the chance of take up as they will be able to suggest more appropriate services, and they have more confidence using the tool as they may have missed activities in their research.

However, link workers also noted that they did not want to recommend activities that they weren't sure were of sufficient quality. It takes time to 'check out' activities themselves before recommending them to patients, and currently the OpenActive data feeds don't contain a property specifically for quality assurance, therefore the link workers would still need to do this by hand as it stands (see *issue 1 in appendix 1*).

- ★ 3. *How could an open data feed help link workers match the needs of a service user to key characteristics of local activities?*

Digital Coproduction explored how to make it easier for link workers to identify suitable activities by enabling them to filter the list of activities. Their solution was based on that fact that some patients may not have any current interests in sport or physical activity and therefore might struggle to know what to look for. To help with this, two different filtering features were created; pathways and activity context.





(Image – Digital Coproduction service finder tool)

The idea behind pathways was to present an appropriate pathway that would suit the service users needs e.g., an active older person with diabetes, providing a quick search with preset criteria. The link worker would simply click this pathway and search to view appropriate activities.

The idea behind activity context is that even if a patient doesn't know which activity they prefer, they might know the type of activity they would be interested in. They could therefore choose which intensity level they prefer, whether they want to be indoor or outdoor, individual or team activity and whether they would like a facilitator led activity or not. This search will then display activities close to where they live based on the inputted criteria.

Both of these filtering features were very well received, with every service user that tested it stating they liked this method of filtering to find a suitable activity.

- ★ 5. How could open data help link workers create a compelling and welcoming referral communication for service users?

Digital Coproduction enabled the link worker to create a personalised print for those service users who do not have access to a phone. In Digital Coproduction's Service Finder tool, a service user could receive an email with a link to the relevant activities, along with the ability to print off the activity information.

Dear Patient,

List of saved searches from Activity Finder (on 03/05/2021)

Primary tap:

<https://londonport.theservicefinder.com/activity/b3BlibnNlc3Npb25zMjAyMC1FdmVudFNlcmlscy01MTkw>

Walthamstow Squash Club:

<https://londonport.theservicefinder.com/activity/b3BlibnNlc3Npb25zMjAyMC1FdmVudFNlcmlscy03MzAy>

Yoga Me Happy:

<https://londonport.theservicefinder.com/activity/b3BlibnNlc3Npb25zMjAyMC1FdmVudFNlcmlscy03MjY4>

(Image – example email a service user could receive)



Digital Coproduction reported that the service users they surveyed seemed to prefer electronic information rather than print-out, however it is important to note that some service users don't own a smartphone, and therefore in these cases the print-out is necessary.

Digital Coproduction – Summary of key insights:

- Digital Coproduction successfully integrated an aggregated OpenActive data feed.
- Link worker feedback suggests that this integration could save up to 50% of the time currently spent searching for activities.
- Filtering by 'pathways' and 'activity context' were very well received by link workers and service users.
- Ability to provide a printed hard copy of the activity information was successfully implemented, although in most cases service users prefer information electronically.



Elemental + Enable Leisure & Culture



Elemental tested how easy it is to integrate an open data feed into their system and display trusted opportunities to link workers, along with understanding which filters are most effective in matching the needs of a service user with the opportunities available. Elemental worked with Enable Leisure & Culture in Wandsworth to test their solutions.

- ★ 1. How could open data help link workers improve the process of collating and verifying local activity session information?

Elemental were able to successfully integrate OpenActive data into their platform, despite their being fundamental differences between the Elemental platform and the OpenActive standards (see issue 2 in appendix 1). To display this data, Elemental adjusted their current directory of services to include a new tab which would only include interventions pulled from the [imin](#) API (an aggregated API of the open data feeds provided by imin).

Name	Category	Organizer	Location
Total Training	Body Conditioning	Everyone Active	51.490362, -0.891547
HIT	HIT	Everyone Active	51.490362, -0.891547
Zumba	Zumba	Everyone Active	51.490362, -0.891547
night-time Gardening at Rocky Park in Hollybush Gardens	Running	GoodGym	51.528126, -0.890238
BOOPUP!	Body Pump™	Everyone Active	51.474265, -0.872924
Body Conditioning	Body Conditioning	Everyone Active	51.474265, -0.872924
Gravel Cycling	Indoor Cycling	Everyone Active	51.474265, -0.872924
BOOPUP!	Body Pump™	Everyone Active	51.474265, -0.872924
Yoga	Yoga	Everyone Active	51.474265, -0.872924
Legs Burns & Tums	Legs Burns And Tums	Everyone Active	51.474265, -0.872924
Yoga	Yoga	Everyone Active	51.474265, -0.872924
Pure Abs	Ab/Core	Everyone Active	51.474265, -0.872924
Platan	Platan	Everyone Active	51.474265, -0.872924
BOOPUP!	Body Pump™	Everyone Active	51.474265, -0.872924
Yoga	Yoga	Everyone Active	51.474265, -0.872924
Aqua Aerobics	Aqua Aerobics	Everyone Active	51.474265, -0.872924
Tuning Compot and Trimming Bushes	Running	GoodGym	51.465875, -0.898787
Men's Only Fitness	Body Conditioning	The SNAPP End	51.542135, -0.871476
Bounce Back in Clapham	Bounce	E 80/PNCE 3rd	51.457384, -0.1482
Football Clear-up	Running	GoodGym	51.529605, -0.28134
Litterpicking in Clapham Common	Running	GoodGym	51.457384, -0.148285

(Image – Elemental platform with the new imin tab)



Feedback from the link workers was positive, with one link worker stating *“This would have been handy at the start of our journey with Elemental”*. There was a consensus that if the imin API was part of their system setup they would use it. The link workers did mention that they would want to pre-filter some of the activities for their service users (i.e., *“I’d remove boxing from our list”*) but in general having updated and accurate interventions was very appealing.

All the link workers agreed that the integration with OpenActive data would reduce the amount of internet research they would need to do to find interventions not currently listed in their directory of services. They also agreed that due to this new integration functioning the same as their current directory of services, they could begin using this service immediately without the need for training.

Elemental were unable to display ‘trusted’ opportunities to the link workers as there is currently no field for ‘last date session information was modified’ included in the OpenActive standards (see *issue 3 in appendix 1*). However, the link workers were very keen on this idea as they felt it would really enhance the system. Currently Enable deem an organiser/activity to be trusted through their own quality assurance process, so felt that if they could apply their own process to display ‘trusted’, it would be a huge advantage.

★ 3. How could an open data feed help link workers match the needs of a service user to key characteristics of local activities?

The link workers stated that they would like to be able to filter by the cost, gender specificity, age appropriateness, venue amenities (e.g., toilets, changing rooms etc.), outdoor/indoor event and virtual/in person event. Elemental demonstrated this functionality to imin and were able to currently filter by cost, gender and virtual/in person. It was discussed that amenities and outdoor/indoor would need specific development on the booking systems to capture this information, something that the booking system Open Sessions has implemented. Age is currently a filter in imin, but the data gathered is inconsistent, therefore Elemental couldn’t use it as a stable filter at present (see *issue 4 in appendix 1*).

Elemental’s current implementation has a hardcoded radius of 25km, however the link workers stated that they wouldn’t consider any events outside of a 2–3 mile radius. They also stated having an adjustable radius feature would be very useful to them (see *issue 7 in appendix 1*).

Elemental – Summary of key insights:

- Elemental successfully integrated the imin API.
- All link workers were very positive about the impact the OpenActive integration would have on their ability to find relevant activities and save time searching.
- They were unable to display trusted sessions as there is currently no field for ‘last date session information was modified’ included in the OpenActive standards, however keen to explore how they could use Enable’s quality assurance process to solve this.
- Specific filtering is a key piece of functionality required by the link workers in order to fully utilise the OpenActive integration.



Health Place + Westminster PCNs



Health Place aimed to develop a quiz which can help link workers match the needs of their service users to the key characteristics of the local opportunities available, along with an AI-enabled conversation module that can answer questions and escalate to a link worker if required. Health Place worked with several stakeholders in Westminster, including four PCNs, along with rolling out the solution across North West London.

- ★ 3. How could an open data feed help link workers match the needs of a service user to key characteristics of local activities?

Health Place developed a quiz system, with API support from imin, that would allow link workers and service users to find activities that are right for them. The guided quiz included a number of filters including radius from post code, age range, activity intensity, time and day of activity plus the concept of goals. There is also the option to share name and contact information.

1 of 6

What is your main reason for wanting to be more physically active?

Please choose up to three reasons

 Lose weight	 Improve my muscle strength
 Improve my appearance	 Improve mental wellbeing
 Improve overall fitness	 Relieve muscle and bone p...
 Improve self esteem	 Improve my heart's health

(Image – Health Place quiz)

Health Place came across several issues with filtering when designing the quiz due to the quality of the open data being consumed (see issues 4-6 in appendix 1). Health Place were not able to use selected



goals to filter search results and found this is not possible until they can integrate the OpenActive data feeds with the core NHS Connect database and tag it against an existing set of clinical meta data.

Another issue that Health Place came across was a lack of local data (*see issue 7 in appendix 1*). The goal with this quiz is for the link workers to be confident that the opportunities are up-to-date and as comprehensive as is feasible, and therefore want it to include as many local options as possible and to be intuitive in its results so that people are given multiple hits for each search that meet some requirements. As one link worker stated, *"We just need more local opportunities listed"*.

However, despite the issues, the reaction to the prototype system was very positive, with feedback from a link worker stating *"It's looking really great. Love the icons and images. Would definitely use it"*. Feedback also stated that intention to adopt was high – subject to the caveat around data quality.

There was a particularly positive reaction regarding being able to embed the quiz within existing digital systems and therefore link worker / service user touch points. Examples of where the quiz has been embedded, or could be embedded, include:

- a) Generic widgets within GP websites (which typically have c 4,000 hits per month).
- b) Customised widgets within a resources section of a diabetes support website.
- c) TPP SystmOne integration (which GPs use to hold data on patients) to enable a GP to make a direct exercise prescription.
- d) Ability to copy and paste links into GP messaging system such as AccurX, IPlato or MJog.
- e) Copy and share tools for social media.

- ★ *7. How could open data better manage the appropriate support a service user needs as they prepare to attend a session?*

Health Place had planned to design a conversational support system using Intercom, which aimed to:

- To track progress;
- To recommend additional support opportunities, not limited to physical activity;
- To provide wider motivational support, with possible queues to escalate support as required.

Unfortunately, due to issues regarding clinical and data governance, this functionality couldn't be tested. However, Health Place will continue to work on this functionality externally from this project as the idea has generated positive feedback from the GP's and link workers.

Health Place - Summary of key insights:

- Health Place successfully integrated with OpenActive data feeds
- Issues discovered with OpenActive data quality which led to difficulties in using filters
- Quiz functionality positively received with intention from external organisations to adopt
- Health Place unable to test their conversational support functionality, but will continue to build externally from project



Healum + Bromley by Bow Centre



Healum tested how location data can be integrated with other services such as google maps to provide service users with directions to the physical activity, along with testing how data such as the contact details of the physical activity provider can be used to create a compelling and welcoming referral. Healum worked with the Bromley by Bow Centre to test their solutions.

- ★ 1. *How could open data help link workers improve the process of collating and verifying local activity session information?*

Healum successfully integrated with OpenActive data feeds and built a traffic light system within their app to allow link workers and service users to check when activities were last updated. This was achieved by using the 'modified' timestamp that is present with the [OpenActive realtime paged data exchange \(RPDE\) feeds](#) and translating this code to the 'last updated' time (*see issue 3 in appendix 1*).

The traffic light was visually displayed as a coloured circle next to each resource and was coded as a green light for those resources updated within the last 30 days and red light for anytime after that. The data is updated automatically daily.

Healum did find some issues with data quality upon their integration with OpenActive data feeds (*see issues 8 & 9 in appendix 1*) and some link workers suggested that a lot of activities might be of weekly recurrence so it would not be expected for them to be updated every 30 days, therefore rendering this feature low in value. However, overall, the link workers expressed that it would be 'useful and valuable' to quickly see that the activities are up to date and hence can be shared with the users immediately. It was also highlighted that this functionality could be improved if a filter to only display those activities that have been updated in the last 30 days was implemented.





(Image – green light representing an up-to-date activity)

- ★ 4. How could open data help link workers to assess and communicate access requirements and logistical information about specified local physical activities?

Healum integrated google maps into their app to provide users with directions to a certain activity. A link worker or service user selects the physical activity opportunity they would like to see more information about, which will include a button that reads 'Get google map directions'. As long as the users location is enabled, the user can tap on the button and google maps is opened with the associated directions from the user's current location to target destination displayed.

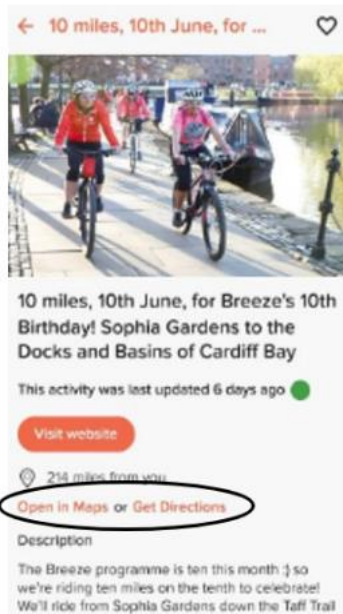
8 of the 10 link workers that tested this feature felt it would definitely make it easier for service users to find the directions to a specific activity/session, with reasons behind this being *"It would be easier because they [service user] can easily check location, distance, transport links and how to get there"* and *"Having it directly linked to the resource would be helpful for them, save time and energy/confusion hence increase likelihood of uptake"*.

"I [currently] have to do this using google maps and print it out for them so this would save time and paper"

Link worker, Bromley-by-Bow centre

Currently, each activity has to be checked individually. However, feedback from the link workers suggested that the next stage of development would be to display a map view of all the activities available within a certain radius. The link workers stated that if all activities were displayed simultaneously on a map then it could increase the uptake, as *"I think people would be more likely to engage in something in their local community. Social Prescribing is also about connecting people locally so I think it would help get people active if they could see a radius of what's available"*.





(Image – Google maps integration on the Healum platform)

★ 5. How could open data help link workers create a compelling and welcoming referral communication for service users?

Healum worked on allowing link workers to easily create a personalised print for those service users who do not have access to a phone. In Healums app, a link worker could download the PDF on their computer which includes all the relevant activity information which could then be sent to print for the service user.

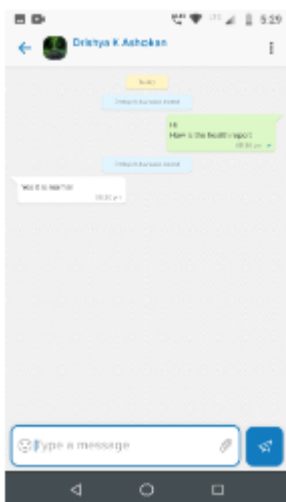
Feedback from the link workers Healum surveyed found that all link workers described having the ability to provide a personalised print as fairly to extremely useful, particularly for older service users. 60% of the link workers also felt that printout would increase the chances of patients taking up physical activity since *“they [service users] will have information to hand to refer back to”*.

“Some clients will find this useful as they like to have a hard copy, especially clients who have English as their second language”

Link worker, Bromley-by-Bow Centre

Healum also implemented a chat module, which enabled link workers to share resources, suggestions, tips, surveys and images with the patients in a quick and easy manner. In addition, group chats were also implemented so that service users could potentially be put in contact (or buddied up) with other service users by their link worker. The idea behind this was that it could potentially result in higher uptake of new activities. The link worker has a module in the web application from where they can select the service user(s) they want to chat/share resources with. Once the chat is created, the service user would receive a notification and has the freedom to accept or decline the invite.





The link workers surveyed could see the benefit of using this chat functionality to quickly ask users for feedback or to share relevant information, however most of the link workers stated that they would not use this module often to maintain boundaries with the service user, patient confidentiality and because they already use other methods of contact.

(Image – Chat module on the Healum platform)

Healum - Summary of key insights:

- Healum successfully integrated with OpenActive data feeds
- Translated 'modified' timestamp code in the open data RPDE feeds to 'last updated' time, allowing Healum to represent any opportunity updated in the last 30 days with a green light. This specific functionality was considered a valuable addition by link workers
- Google maps integration to provide user with directions to activity was successful and positively received
- Link workers would also like the ability to see all activities within a radius displayed on a map simultaneously
- Ability to provide a printed hard copy of physical activity information well received by both link workers and service users
- Chat module received neutral feedback – link workers wouldn't use this module currently due to confidentiality reasons



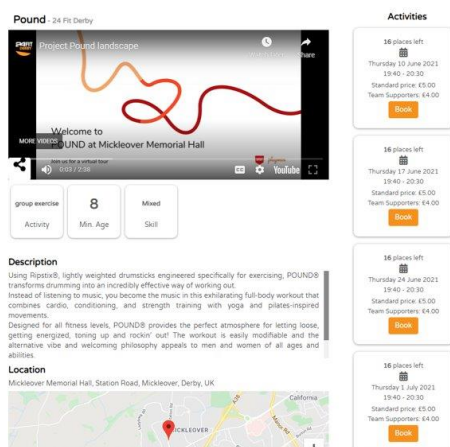
Playwaze + Barking and Dagenham Healthy lifestyles Team



Playwaze looked at how taster videos created by the physical activity providers can be uploaded into an open data feed and then help bring the experience of the session alive for link workers and service users. Playwaze worked with the Healthy Lifestyles team in Barking and Dagenham to test their solution.

- ★ 2. How could open data help bring the experience of particular physical activity sessions alive for link workers and/or service users?

Playwaze implemented the OpenActive beta:video property into their booking system, allowing an activity provider to upload a video during the activity creation flow, which is then displayed as a virtual taster video on the referral services digital platform for a link worker or service user to view. The idea behind this was that the viewing of a video will help bring the experience of physical activity sessions to life for link workers and/or service users whilst searching for activities to engage in.



(Image – video displaying on the referral services digital platform)

To make the process as simple as possible, Playwaze included a field for the activity provider to enter the URL link of the video along with the option for activity providers to upload a video file directly as well. This gives the activity provider the option to choose what works best for them when they are creating their activity, without worrying about another step of accessing a URL if they are not sure how to. The solution was then built with the logic that when a provider uploads either a video URL or file upload, the video will be displayed in place of the existing image field, with the video always prioritised over an image.



Playwaze also created a video template; a standard template comprised of graphic scene title introductions that introduce each section of the video and its content, where recorded video footage by the activity provider can very simply be added (see *appendix 2*). The video template is hosted on Canva, where even someone with no experience could record something on their phone, upload it, and drag and drop to replace the right footage section to repurpose the video template to be a video for their activity. Each section of the video template is optional and purely there to guide the activity providers with their video creation, with the activity providers having the ability to remove sections if they are not applicable to their sessions.

"The feature will be very beneficial going forward, especially as several activities takes place in shared venues so will assist participants to locate the appropriate room and put a face to the name of the instructors."

Healthy Lifestyles Team, Barking & Dagenham

Feedback from link workers suggests that a link worker/service user will be able to make a more informed decision on what activity they would want to refer to/engage in after viewing a video for their selected activity, by bringing the experience of attending the activity to life. Feedback also suggested that being able to view a video may even encourage service users to try a new type of physical activity, as it can help to take away the nervousness of not knowing what to expect.

The main limitation discovered was the video creation for the activity provider (see *issue 10 in appendix 1*). However, a best practice approach for activity providers when creating videos will be continually developed as more videos are created.

Playwaze - Summary of key insights:

- OpenActive beta:video property implemented into Playwaze booking system
- Video displayed on Playwaze activity finder
- Standardised video template created
- Template and displaying of video received positive feedback
- Feedback to be shared with OpenActive regarding use of the beta:video property
- Best practice approach for activity providers when creating videos to be continually developed



Q) Is there a business case for using open data in referral settings?

Feedback from the project advisory group identified the need for a justifiable business case for referral services to be willing to make the change to using open data powered platforms - open data powered platforms come at a cost and will require time to integrate and then upskill link workers on the platform. Within this project we aimed to understand the benefits and risks of using an open data powered platform within a referral service.

Benefits

i. Link workers time saved

Digital Coproduction's report found that an open data powered platform could save link workers approximately 15 minutes per service user when recommending activities. If a link worker works with 250 service users each year, this equates to saving two weeks worth of time. For a referral service that has numerous link workers, this could result in huge time savings, allowing link workers to use this time to be productive in other areas of their role. Findings from Healums report are consistent with this, with all the link workers surveyed stating that having an open data powered digital solution for social prescribing was a 'time saver', 'could increase their efficiency greatly' and 'would increase the engagement of the service users'.

ii. Ability to make better recommendations

Digital Coproduction reported that having an open data powered directory of services promotes collaboration between the link workers and service users, with functionality such as creating a 'favourites list' being available. This co-production is more likely to result in service users taking up the activity as they have been empowered throughout the process. On top of this, in the cases where a service user doesn't know what activity they would like to do, an open data powered platform could be used to help make suggestions. Again, findings from Healum were similar, with the link workers having favourable views on the OpenActive integration, as they felt the ability to quickly browse through the list of activities was extremely useful and could enable them to recommend the appropriate activity to the service user.

iii. Speed and growth of open data powered platforms

Once a platform has implemented the ability to consume open data, the solution should be able to be delivered rapidly and for a relatively lower cost compared to building a bespoke solution. This was the case for Playwaze, who reported this project harnessed a mostly out-of-the-box solution that operates under a high volume, low-cost software-as-a-service commercial model. Existing solutions are available to be delivered expediently and on scale, connecting referral services, their link workers and service users to activity providers and their opportunities. Alongside this, as open data standards evolve, and the number of digital services providing platforms that harness open data grows, the opportunity for referral services to integrate these platforms into their current process increases, allowing link workers to access up to date information on local activities.



Risks

i. Data quality

Poor data quality was raised as an issue by all five platforms involved in this project. Healum reported that there were many inconsistencies in the OpenActive content available to them, which rendered the data either highly un-useful or totally un-usable in some cases. With open data being published by community providers, whilst this can lead to a much greater scale of data available, there is still a risk that the data is inaccurate or out of date, as reported by Playwaze. Health place reported that the data quality was much lower than they expected, with one user reporting that the same support opportunity appeared 18 times over several pages of results. A second issue Health Place reported was the common lack of further information on the activity itself and how to get in touch and book or find out more. This is a major problem as link workers and service users are likely to hold the platforms responsible for the data quality, and as Elemental reported it's imperative that the data quality is at a good enough standard for them to display. Until the issue of data quality is fixed, it is difficult to consider the overall service fit for purpose.

ii. Appealing to the service user

One specific issue raised by Healum was that the images currently found in the open data feeds are often not very relevant or visually appealing, therefore decreasing the chance a service user will be interested in taking part in the activity. There were also many activities within the open data feed without an image entirely, putting additional burden on the platform to supply engaging images. This issue was also raised by Health Place, where early user testing with a morbidly obese patient in his late 40 showed how sensitive people are to the image and framing of the support opportunities in question. This patient looked at the range of largely virtual content and sighed and said, *“well Doctor there’s nothing there for someone like me”*. The dominance of “sporty” content, words and images, such as “Body Pump!” are considered to be actively disempowering and de-motivating for many service users.

iii. Referral ready activity providers

The OpenActive data standard wasn't originally designed with referral services in mind, and therefore, as Health Place reported, there is a severe lack of activity that has been designed primarily with health benefit in mind I.e., walking groups and restorative yoga. Service users want activities that are local to them, often preferring activities within a 5–10 minute walk, however hyper local referral ready activities are found few and far between. As Playwaze reported, the quality and suitability of providers and their opportunities, specifically in their ability to cater for the needs of the service user, are present, however scalability is difficult as it often requires a relationship between referral service and activity provider.



Business justification

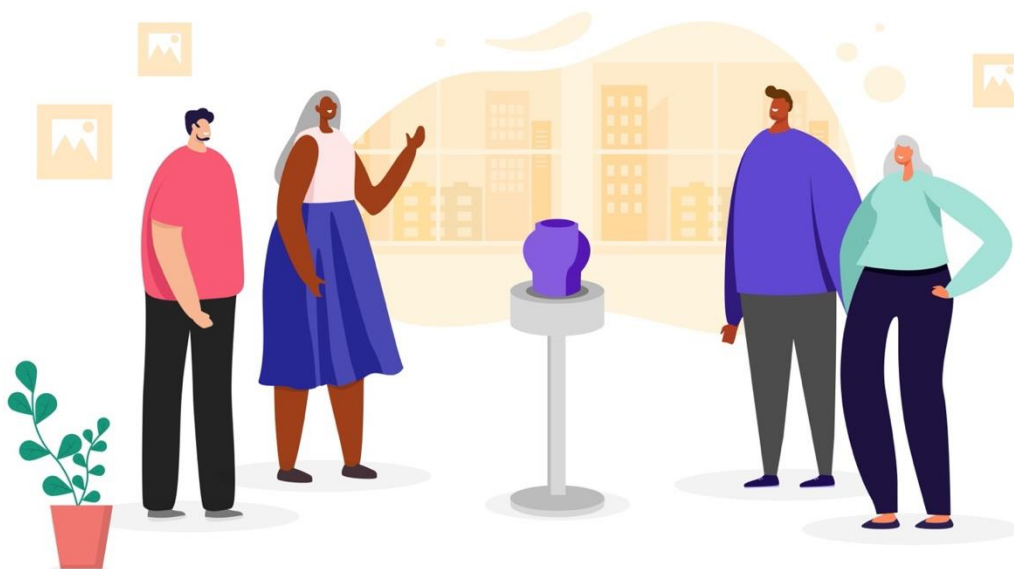
As Playwaze stated in their report, this project has not looked to identify the gaps between the existing digital solution's capabilities and the full business requirements of the referral service, rather it has focused on the development of specific functionality. Therefore, it is difficult to fully understand what the true timescales and costs, and subsequent return on investment, that using open data in a referral setting might require.

Digital Coproduction did however estimate that an open data powered platform is likely to cost a PCN around £5,000 per year. This cost needs to be taken into consideration against the amount of link workers a referral service has, and the total time that could be saved by utilising an open data powered platform.

As Healum reported via feedback from link workers at the Bromley-by-Bow Centre, an open data powered platform does make finding a suitable session easier and more efficient. And as a wider benefit, there is the potential that increasing the take up of physical activity could support a return on investment through reducing future medicine spend.

Regarding whether we can conclude from this project that there is currently a justifiable business case, the findings suggest that whilst there is lots of potential, both referral services and platforms are not quite ready for full deployment, particularly due to the lack of good quality data which could have a negative effect on a digital platform's reputation and therefore actually disincentivise referral services from using the platform.

However, it is clear that the simplicity of collated information via open data about activities is easier to maintain by the referral service as it is live, more readily updated, and easily accessible, rather than having to collate and maintain continuously using in-house resources. As Elemental stated in their report, there is a great appetite from referral services for a directory of services with many contributors, which open data can resolve, and this project has been a very positive step in the right direction.



Discussion

The key learnings we wanted to gather from this project were:

1) Does an open data powered solution make it easier for link workers and/or service users to find a suitable activity session?

Unfortunately, project delivery was affected by the restrictions and knock-on effects of Covid-19. The project start date had to be delayed by six months which restricted the amount of time available to develop and test the technological developments.

However, six functional developments were implemented and received positive link worker feedback:

- Green light for last date information updated
- Video taster
- Pathways
- Send to Print / SMS / Email
- Open in Maps
- Quiz

Two functional developments that were not user tested or received neutral feedback:

- Chatbot
- Link worker -> service user chat

Across the board, the link workers had favourable views on the use of open data powered solutions and felt that the longer list of activities which they can quickly browse through was extremely useful and could enable them to recommend the appropriate activity to the right person. Feedback from Health Place stated that all the link workers thought having a digital solution for referrals was a 'time saver', 'could increase their efficiency greatly' and 'would increase the engagement of the service users'.

The general conclusion on whether an open data powered solution makes it easier for link workers and/or service users to find a suitable activity session was positive.

2) Does an open data powered solution lead to more service users taking up physical activity opportunities?

Again, due to restrictions and knock-on effect of Covid-19, the referral services, who were key to both the research in phase 1 and the testing of solutions in phase 3, were heavily involved in supporting the vaccination programmes in their local areas.

As a consequence, it was not possible to test whether an open data powered solution does lead to more service users taking up physical activity opportunities. However, whilst challenges were identified, we equally did not find any evidence to counter this question.

Implementation and integration of open data

Due to the reasons mentioned above, we weren't able to fully test these questions as much as we would have liked, therefore our main focus became on functional development and link worker, service provider and tech system feedback.



Positively, all digital platforms reported that implementing open data was possible, with Healum reporting that most integrations were relatively straightforward and without issues. There is of course development time associated with this, with Elemental reporting the integration taking one developer two months to complete, however they also reported a great appetite for this integration making it well worthwhile.

All organisations involved in this project, both digital platforms and referral services, have displayed a willingness to continue exploring both the integration and usability of an open data powered platform, with Health Place reporting that in Westminster there is high intention to adopt this software.

Data quality

A specific concern repeatedly appeared regarding data quality, and as Health Place reported 'improved data quality will be the make or break of success, so that people can find the right support for me'. Lack of data and inconsistent data quality made it difficult to present enough high-quality activities to the link workers within this project.

Digital Coproduction found there was a lack of rich local data in Waltham Forest, which is required for a link worker to be able to suggest appropriate activities, and even when there are a number of activities, the lack of a quality assurance mark meant that link workers wouldn't necessarily trust the data.

Elemental estimate that they needed to discard around 60% of the supplied open data, and with customers likely to hold the digital platform responsible for the data quality, rather than the activity provider at the source, it's imperative that the data quality is at a good enough standard.



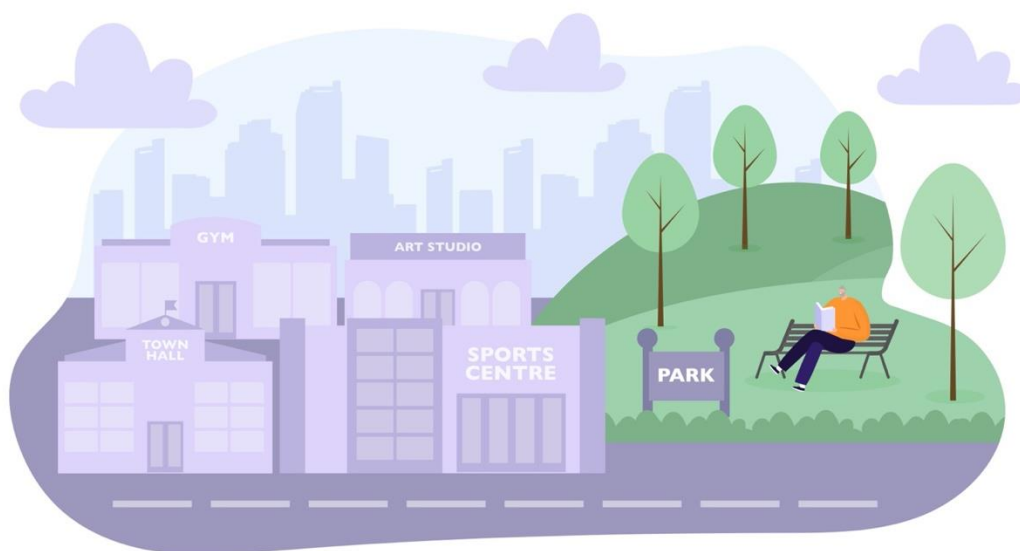
Conclusion

In summary, the feedback indicates that:

- Implementation of open data was feasible for all organisations (with learning about challenges).
- There is broadly a positive view of the potential for open data and the specific functional developments tested from link workers.
- There is appetite from tech system providers to continue to work on the integration of open data and referral services to use open data platforms.
- But specific concerns about data quality and quality assurance of sessions mean that tech systems are unlikely to be prepared to implement as is.

This project mainly focused on the searcher perspective in a new context for open data powered platforms I.e., a link worker at a referral service searching for physical activities for a service user, rather than a participant searching for a physical activity to take part in themselves. As our findings have shown, we have learnt a lot about the searcher needs in a referral setting, however there are clear challenges from the activity provider side in terms of data quality. This shines a light on the need to stimulate the provider side, which in turn will benefit the digital platform providers and the referral services.

Our hypothesis for this project was ‘utilising open data to provide a live feed of relevant physical activity opportunities, which can be easily filtered by a link worker or service user to find suitable activities, will increase the quality and quantity of physical activity referrals.’ In conclusion, whilst we are unable to verify this hypothesis, we were able to learn more about the context and requirements for applying open data, identifying a range of solutions that offer potential to support increases in the quality and quantity of physical activity referrals. These solutions require further testing using greater volumes and a better quality of open data.



Recommendations

Based on the learning that this project has generated London Sport made the following recommendations for taking this promising area of work forward to the project advisory group on 14th June 2021.

It was agreed that London Sport would convene further workshops with key stakeholders from the physical activity, community and health sectors to consider these recommendations and identify appropriate next steps.

1. Physical activity opportunity data needs to be provided in a way that is usable by referral services

- i. Address the issues highlighted around data quality in Open Active feeds. E.g.,
 - a. duplicate titles/no titles, post code format differences, missing keys, different key names, missing location data.
 - b. Missing or low quality/disengaging activity images - images need to be right for the service user audience, and attractively and engagingly presented.
- ii. Develop an approach that enables referral services to be confident in the quality and safety of a session (or its provider organisation).
- iii. More focus on working with activity providers to improve the data quality.
 - a. Identify the barriers they are coming up against, both to not inputting data and when inputting data.
 - b. Incentivise regular updates of their data and increase understanding of what motivates them to maintain their data.
- iv. Review potential for making changes to the Open Active standards based on feedback. E.g.,
 - a. Last updated date property.
 - b. Intensity level property.
 - c. Will someone be available to support client property.
 - d. Suitability of current data feed for populating 'Provider' centric directories (compared to 'Event' centric activity finders).
- v. Identify an approach to enable Open Active to integrate with Open Referral.

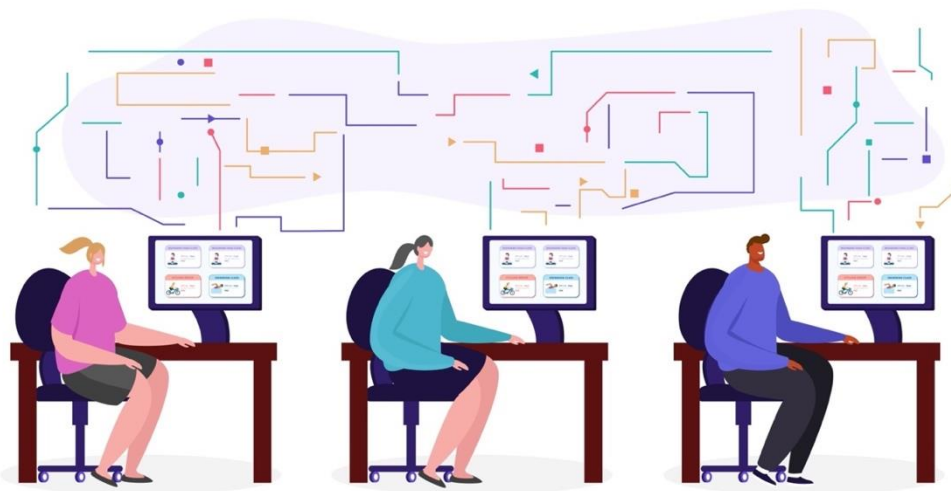


2. Further testing and development of business case and solutions

- i. The use of open data powered service directories should be tested with end users and assessed on their impact on quality and quantity of referrals.
 - a. Quantifying the time and cost saving of using open data compared to business as usual approaches.
- ii. The promising functional developments should be tested with end users and assessed on their impact on quality and quantity of referrals.
 - a. Quantifying the impact these have on service users attending a session, such as:
 - i. Video taster.
 - ii. Send to print / SMS.
 - iii. Google Maps integration.
- iii. Further research into how to align physical activity opportunity types with service user needs (such as health and wellbeing goals or condition specific suitable activities).
 - a. Pathways.
 - b. Health Quiz.
- iv. Develop best practice approach and increase usage of the new video template for activity providers to promote their sessions.

3. Place based open data activation approaches needed

- i. If a referral service is planning to use an open data feed in their system, they should commit to working with multiple local stakeholders to identify and support activity providers to publish their opportunity data via open data compliant systems.
- ii. Local activity providers are given support to welcome service users to their sessions.
- iii. Pilot an open data approach in a specific locality, working activity providers, referral services and service users to further understand the support required.



Appendices

Appendix 1 – Issue log

Issue ID	Organisation	Issue	Recommendation
1	Digital Coproduction	Currently difficult to provide service quality assurance - link workers want to be able to ensure a provider and/or activity is 'safe'. There isn't an OpenActive property dedicated to quality assurance.	1.II
2	Elemental	The OpenActive standards are event centric, where the standards focus on event and the provider is contained within the metadata. However, the open referral standards are provider centric and the event is held within the metadata. Developers had to perform a full translation of the OpenActive standards to convert multiple events and their providers into a single provider who ran multiple events. This process is time-consuming, and due to the inconsistent data at present cannot be relied upon to provide a failsafe method for translation.	1.IV
3	Elemental & Healum	Currently no last-modified tag within the dataset, which makes validating data based on time difficult. A last modified tag would be a specific property providing consumers of open data (e.g., the digital platforms) with a simple way of knowing when a session was last updated. Developers would like to see a last modified tag added to the data set. Healum were able to use the 'modified' timestamp in the RPDE feed, however this requires manual translation to last modified time, rather than simply a property in the data itself which would require no translation.	1.III
4	Elemental & Health Place	Users wanted to know if an activity was age group appropriate, but other than minimum/maximum age of activity, the OpenActive data set doesn't have this level of detail.	1.I & 1.III
5	Health Place	OpenActive data feeds don't contain intensity level. The addition of drop-down menus for type of activity helped to address this issue, however this still relies on the link worker/service user to use their judgement on the intensity level of that activity.	1.I, 1.III



6	Health Place	Data quality was much lower than expected – particularly common lack of further information on the activity itself and in particular how to get in touch and book or find out more.	1.I
7	Elemental & Health Place	Users mostly want opportunities that are near them, Elemental stating 2-3 miles and Health Place stating as being within a 5-10 minute walk. Due in particular to the impact of lockdown, these hyper local opportunities were very rare.	3.I
8	Healum	Issues with the open data feeds include different key names, missing key names, difference in implementation, key fields absent, not a lot of valuable information in the data feed, data coming through the feed was very inconsistent from the same provider, inconsistencies at the source of creation of the feed where data created / updated by the provider, inconsistencies in adoption of the standard.	1.I
9	Healum	Images within the current open data feed are not very relevant nor visually appealing, hence decreasing the chances the user will be interested in that resource. There are many activities without an image.	1.I
10	Playwaze	Making a good quality video can be really challenging for those delivering sport and physical activities. There are a lot of factors to consider such as devices for filming, length of video, sound and pixel quality, inclusiveness for viewers. Video editing and filming is also a very particular skillset.	2.II



Appendix 2 – Playwaze video template

Playwaze created a video template; a standard template comprised of graphic scene title introductions that introduce each section of the video and its content, where recorded video footage by the activity provider can very simply be added. The video template is hosted on Canva, where even someone with no experience could record something on their phone, upload it, and drag and drop to replace the right footage section to repurpose the video template to be a video for their activity. Each section of the video template is optional and purely there to guide the activity providers with their video creation, with the activity providers having the ability to remove sections if they are not applicable to their sessions.

The templated sections are broken down into:

1. 'Virtual Tour' of the Activity

- a. What the process of arriving looks like for a service user
- b. Where the service user goes on arrival
- c. What accessibility services are available to the service user

2. Introduction of the service from the provider

- a. Introduction from the coach/leader (interview style) introducing themselves and summarising the service

3. Bringing the service to life

- a. This is achieved through social proof, rather than being said. Showing people participating and having fun. It will tell the story of:
 - i. What happens at the activity
 - ii. Who is the activity suitable for
 - iii. Who else attends the activity

4. Testimonials

- a. Hearing from those who already attend.
 - i. What they love about it
 - ii. The value it provides them



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