Here 4U Scotland

Piloting a novel smartphone application to reduce the risk of drug-related death: a roadmap towards implementation

FINAL REPORT TO

Digital Lifelines Scotland

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TABLE OF CONTENTS

Acknowledgement

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1. Introduction

The Here4U Scotland project aimed to assess the adoption, implementation, and uptake of a harm reduction mobile application. Here4U Scotland, an innovative mobile app originating from Brave Technology Cooperative in Canada, underwent localisation in Aberdeen, Scotland. The app provides remote supervision and assistance to individuals who consume drugs in solitary settings. Funding for the pilot programme in Aberdeen, facilitated by Alcohol and Drugs Action (ADA), a local harm reduction service, was provided by the Scottish Government's Digital Lifelines Scotland (DLS) initiative. This final report provides a roadmap for the implementation and an updated evaluation of this innovative digital product that has been piloted in the UK for the first time in this field. The full evaluation report was published in September 2023 and reported to DLS.

1.1. Background

Over the last twenty years, Scotland has witnessed a concerning increase in drug-related deaths (DRDs), sparking discussions on urgent measures such as supervised consumption sites. However, the adoption of sanctioned sites in Scotland has been hindered by political and legislative complexities. In light of this, innovative app-based solutions like Here4U Scotland show promise by enhancing accessibility through virtual connections and support. This application provides remote, non-judgmental guidance from a trained 'supporter' to individuals engaged in solitary drug use. Its objectives include:

- Enhancing users' connections to services and community resources.
- Mitigating unsafe consumption through harm-reduction advice.
- Establishing a link to a reliable local support service.

The study aimed to introduce and adapt the Here4U Scotland app, focusing on assessing uptake, implementation, and acceptability. Specific objectives included evaluating the impact of virtual access to remote supervision, exploring opportunities for digital solutions to reduce drug-related deaths, enhancing co-design engagement, and transitioning digital supervision to encourage positive service user interaction and ownership.

1.2. Methods

To evaluate the project, interviews were conducted with app users, supporters, and broader stakeholders in harm reduction and local services in two stages: the first stage after implementation and the second stage near the end of the project. Interviews considered the usability and acceptability of technology, the personal aspect of using technology to interact with supporters, and the impact on organisations and the broader macro-environment following the TPOM evaluation framework. In exploring the views and experiences of these groups, key themes emerged. The first stage of evaluation is reported (https://digitallifelines.scot/media/1305/evaluation-of-here4u-v6-final.pdf). In the second stage, the evaluation also considered the newly enhanced harm reduction service provided as part of a digital app. We delved deeper into various aspects of the app and service providers. To achieve this, we conducted [n=9] interviews with app service managers, supporters, and service users, including callers who received the apps but did not utilise them. Additionally, two workshops were held with stakeholders.

1.3. Project Implementation Roadmap

The project, initiated in May 2022 into two phases, involved a consortium of partners. Phase I was completed at the end of Aug 2023 and Phase II was completed at the end of Dec 2023.
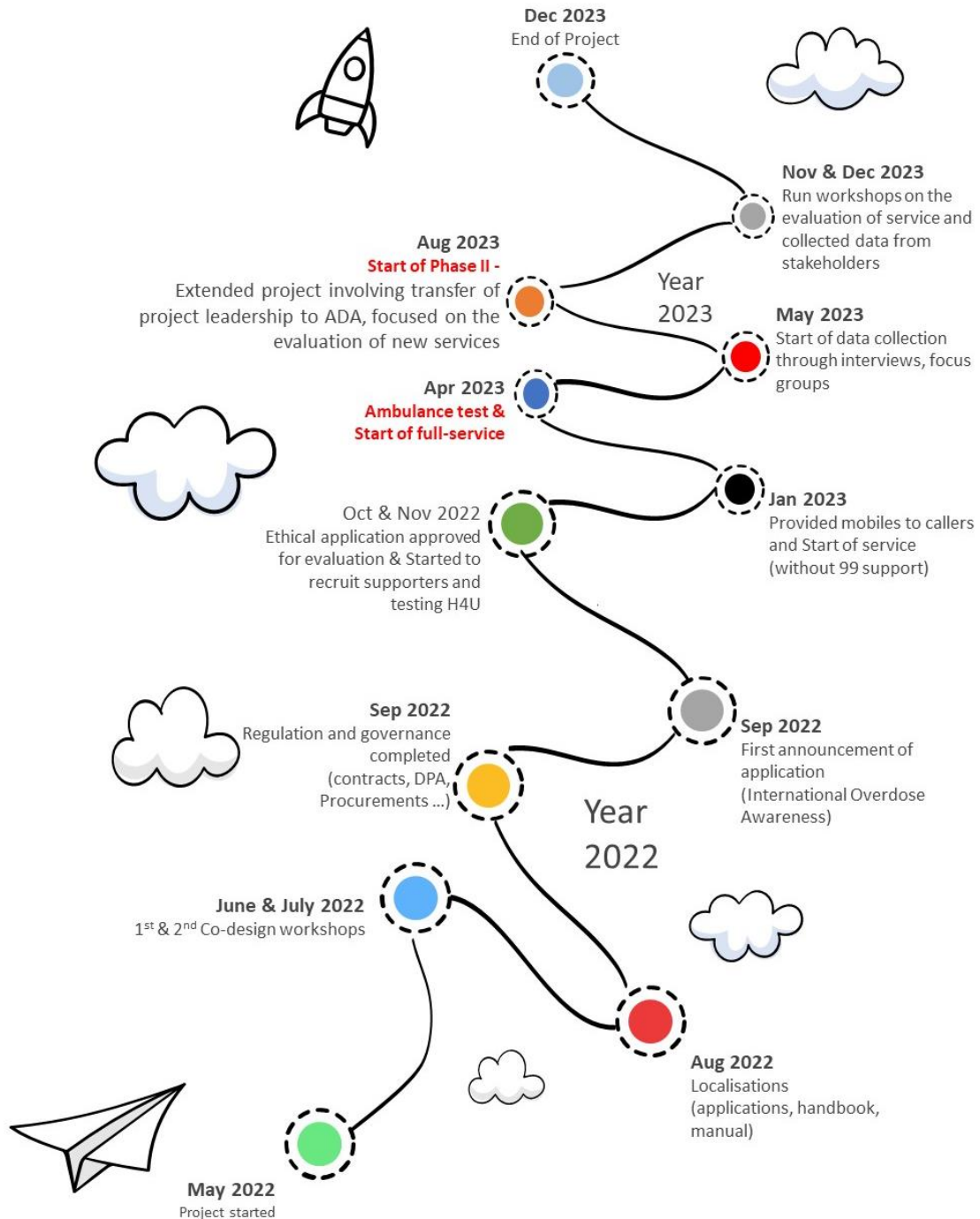

Dec 2023
End of Project

Nov & Dec 2023
Run workshops on the evaluation of service and collected data from stakeholders

Aug 2023
Start of Phase II -
Extended project involving transfer of project leadership to ADA, focused on the evaluation of new services

May 2023
Start of data collection through interviews, focus groups

Apr 2023
Ambulance test &
Start of full-service

Year 2023

Oct & Nov 2022
Ethical application approved for evaluation & Started to recruit supporters and testing H4U

Jan 2023
Provided mobiles to callers and Start of service (without 99 support)

Sep 2022
Regulation and governance completed (contracts, DPA, Procurements …)

Year 2022

Sep 2022
First announcement of application (International Overdose Awareness)

June & July 2022
1st & 2nd Co-design workshops

Aug 2022
Localisations (applications, handbook, manual)

May 2022
Project started

Figure 1- Timeline Infographics of the project

Phase I –This project involved a partnership between four organisations: the University of Stirling (UoS), Alcohol & Drugs Action (ADA), the Digital Health and Care Innovation Centre (DHI), and Brave Technology, with support from the Aberdeen Alcohol and Drugs Partnership (ADP).

The app which was originally called Brave in North America, named "Here4U Scotland," derived its name through a co-design process involving user consultation. Figure 1 shows an overview of all project stages and timelines.

Given the collaborative nature of this partnership, all organisations committed to weekly stand-up meetings for all participants throughout this period. This continued until the conclusion of June 2023, transitioning to a bi-weekly schedule until the completion of Phase I. During this initial phase, collaborative efforts and effective communication were crucial in establishing the foundation for the project's success. The commitment to regular meetings ensured alignment among all partners with project goals, timelines, and milestones, fostering a cohesive and productive working environment.

In adopting any such technology, we had to navigate the regulatory and governance systems. The mandatory Governance agreements and contracts which were needed to adopt the technology are listed below:

1. **Approval from MHRA:** The first stage involved obtaining approval from The Medicines and Healthcare Products Regulatory Agency (MHRA), which is responsible for ensuring the safety, quality, and effectiveness of medicines and medical devices in the UK. As this application does not involve any intervention in medical decision-making for patients, the MHRA confirmed that approval from their organization was not required for this application.

2. **GDPR and data protection regulation:** The General Data Protection Regulation (GDPR) and other data protection regulations play a fundamental role in shaping and guiding digital projects. Enforced to safeguard individuals' privacy and empower them with control over their personal data, GDPR establishes a comprehensive framework for the responsible handling, processing, and storage of information.

In the context of a digital project, adherence to GDPR and similar regulations is not only a legal obligation but also a critical ethical consideration. Compliance ensures that individuals' rights are respected, fostering trust and transparency. Digital projects must integrate GDPR principles into their design and implementation phases, incorporating features like data minimisation, purpose limitation, and user consent mechanisms.

By prioritising data protection, projects not only avoid legal consequences but also demonstrate a commitment to ethical practices, enhancing their credibility in an era where privacy concerns are paramount. Applications of this nature are required to adhere to GDPR. Given that the original app was developed in North America, where GDPR rules did not exist, it is imperative to ensure alignment with these regulations. The Data Protection Impact Assessment (DPIA) and Data Protection Agreement (DPA) processes were approved as part of ensuring compliance with these regulations.

DPIA: A Data Protection Impact Assessment (DPIA) plays a crucial role in the successful and ethical implementation of digital projects. This systematic process is designed to identify and mitigate risks associated with the processing of personal data, ensuring compliance with data protection regulations. Conducting a DPIA is not merely a legal requirement but also an essential step in fostering user trust and safeguarding individual privacy.

By comprehensively analysing the data processing activities within a digital project, a DPIA aids in uncovering potential privacy issues and proposing measures to address them proactively. This proactive approach not only aligns the project with regulatory frameworks but also minimises the likelihood of data breaches, enhances overall project resilience, and demonstrates a commitment to

responsible data-handling practices. Integrating DPIAs into the early stages of digital project planning fosters a privacy-by-design mindset, promoting ethical data management and reinforcing the project's integrity in an increasingly data-centric landscape. This process received approval from ADA with the support of both UoS and DHI.

DPA: A Data Protection Agreement (DPA) plays a pivotal role in the execution of digital projects, serving as a contractual safeguard for the responsible handling of personal data. This agreement establishes the terms and conditions governing the processing, storage, and sharing of sensitive information, located storage of data, aligning the project's operations with legal and regulatory frameworks. By delineating the responsibilities of each party involved, the DPA ensures transparency and accountability in data management.

Accordingly, ADA was acknowledged as the "Data Controller," while Brave assumed the role of the "Data Processor." The hosting and storage of the application's data, in compliance with GDPR regulations, are located within the UK. The signing of the DPA reflects this arrangement.

Phase II – During this phase, the project was extended until the end of December 2023, involving the transfer of the project leader to ADA with a change in emphasis from academic evaluation to development of local delivery through an enhanced digital harm reduction service. DHI did not play a role in this phase. ADA directly engaged with Brave, while UoS continued to evaluate the project and feedback information to ADA to allow continuous review and development.

Financial challenges arose during this period, impacting certain aspects of the project. The new contract and funds for this short duration were signed very late, towards the project's end, due to a bureaucratic slowdown from the project's funder. Another challenge faced by ADA was managing relationships with certain phone and service providers, resulting in reduced access to phones provided for service users.

2. Key Findings

From January to August 23, a total of 74 calls were logged. Notable, there was a cessation of call logging from September to December 2023; however, during this period, six smartphones were distributed to callers. Figure 2 and Figure 3 depicts the chronological progression of logs and app downloads until the conclusion of Phase I, while Figure 4 illustrates the correlation between the number of calls and app downloads.
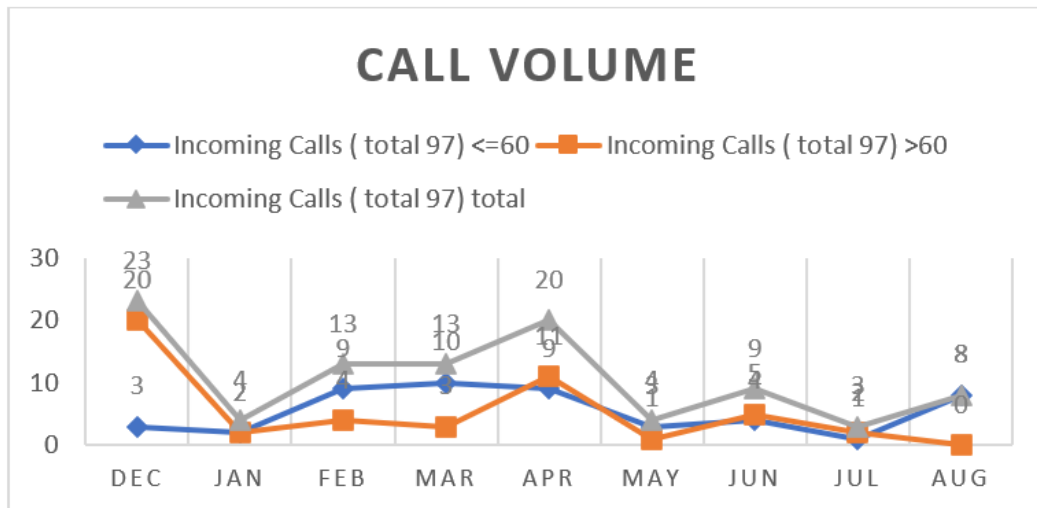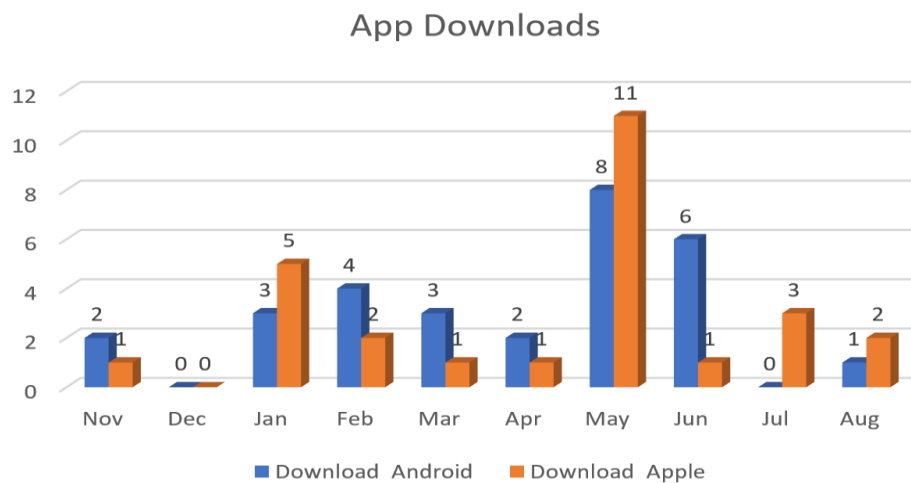
Figure 2- Call logs until Aug 2023

Figure 3- Download for the first time the app until Aug 2023

Analysis across interview groups (in total n=29 participants) revealed the following findings:

- The app provided convenient access to support. Satisfaction and relationships were strengthened between limited users and supporters;
- Easy setup with the app was widely reported, although connectivity to Wi-Fi or data and location issues occurred;
- Stakeholders were enthusiastic about digital expansion more generally but noted resource constraints and the lack of 24/7 availability of the app currently;
- The nature of ADA's customers is very chaotic drug users have special characteristics such as they are very poor, and limited access to principal technology such as email addresses and smartphones. ADA tried to provide this service to people who were not familiar with or interested in this technology. ADA was not interested in promoting the app to the public or the wider population of their customer;
- The time of operation of the service was limited from 1200 to 1700 Monday to Friday due to a lack of supporters and financial limitations;
- Some callers reported that, despite acquiring the app, they felt inadequately supported during the period leading up to the second interview. Their sentiment conveyed a sense of insufficiency in follow-up, support, and assistance, hindering their confidence in effectively

utilising the application going forward. Addressing these concerns is imperative to enhance user experience and ensure the successful integration of the application into their workflow; and

- Delays in payment and financial issues have impacted Phase II of the project.
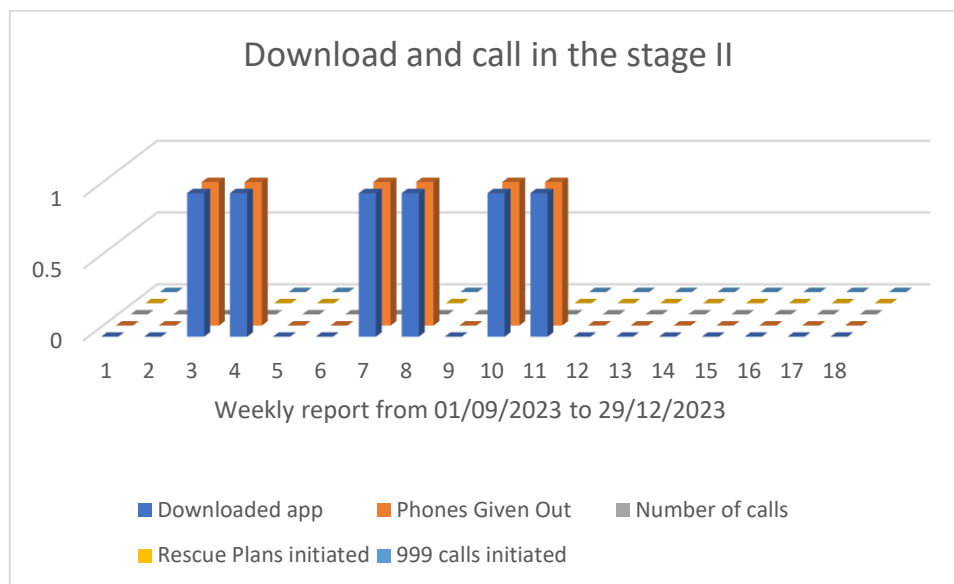
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Figure 4- Download and call in the Phase II

Users:
- Valued privacy, relationships, safety, convenience, and mental health support;
- Expressed concerns about data sharing, digital literacy, and 24/7 access were raised.

Supporters:
- Gained flexibility although some lacked visual assessment capability;
- Suggested specialist training and recruitment were needed for expansion.

Potential improvements suggested:
- Enhanced features like video calling, and drug alerts;
- Ongoing funding, dedicated staff needed;
- Strategies for expanding trust-building;
- Service providers provide access to wider targeted callers;
- Advertisement and promote the application for public and wider users;
- Agency coordination on emergencies.

3. SWOT Analysis

A workshop involving most of the programme staff was conducted on 21st September 2023 to inform continued development of the project and app delivery during phase II. Various aspects of the new service project were discussed with all partners, with a particular focus on the implementation success of the service, strategies to attract more callers to the app, and identification of barriers hindering its adoption. A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was undertaken, the outcomes of which are presented in the diagram below and explained in the following text:

Here4U Scotland

Figure 5- SWOT analysis of the project

Strengths: The Here4U Scotland app exhibits several strengths that collectively could contribute to its effectiveness. The project's successful implementation of a live app with active callers represents a significant achievement, demonstrating its ability to actively engage and assist service users. As this project is hosted by ADA, the app's recognition as a trusted digital service further bolsters its credibility, fostering a positive reputation among callers. ADA's profound understanding of the target demographics is evidenced by its familiarity with the local community. Moreover, ADA's established partnerships within the harm reduction and emergency response community enhance its overall resilience and capacity to provide comprehensive support through the application. ADA's advantage in building trust with service users stems from its adherence to harm reduction values and the app's commitment to not collecting personal data, thereby creating a safe and confidential environment.

Full support of the app through a test call with the Scottish Ambulance Service (SAS) connectivity provided real-time functionality, client accessibility, and responsiveness for the app. The compact size of Aberdeen facilitates interconnected services, further supported by robust backing from the council and NHS, creating a favourable environment for the project to thrive. In essence, the app's

strengths lie in its enthusiasm, profound local knowledge, and the established trust that forms the foundation for its impactful initiatives. Strengths were as follows:

- In-depth understanding of target demographics;
- Extensive local network spanning various services;
- Insightful comprehension of the local community dynamics;
- Recognised and trusted service;
- Convenient client and project accessibility;
- Real-time functionality (LIVE);
- In-house ADA support services;
- SAS connectivity;
- Notable strengths encompass enthusiasm, profound local knowledge, and ADA's established trustworthiness;
- Aberdeen's compact size facilitates interconnected services, supported by strong backing from the council and NHS;
- ADA possesses a unique advantage in building trust with People Who Use Drugs (PWUD) due to 1) adherence to harm reduction values and programming, and 2) non-collection of personal data;
- Profound understanding of the client group;
- Numerous well-established partnerships within the harm reduction and emergency response community;
- Successful implementation of a live app with active callers.

Weaknesses: The identified weaknesses encompass various aspects that collectively pose challenges to the overall effectiveness and sustainability of app implementation. Sustainability concerns related to service hours highlight potential limitations in maintaining continuous support, indicating the need for strategic planning to ensure ongoing service provision without compromising quality. Dependence on a limited pool of resources, especially during the setup phase, poses a vulnerability, requiring careful resource management and diversification strategies to mitigate risks associated with scarcity.

Challenges in achieving a higher adoption rate among People Who Use Drugs (PWUD) underline the importance of targeted outreach, user education, and addressing barriers specific to this demographic. Issues such as callers facing barriers due to a lack of technical skills and lacking suitable smartphones for app usage necessitate user-friendly solutions, technical support, and perhaps alternative communication channels to enhance accessibility. Frustration stemming from a lack of incoming calls signals potential engagement and awareness issues, highlighting the need for strategies to promote the service and encourage user participation.

The shortage of volunteers and the significant need for additional human resources underscore the importance of robust recruitment and retention strategies, with particular attention to training and resource allocation. Unanticipated resource shortages and inadequate support despite considerable efforts indicate the need for improved estimation processes and diversified support networks. Utilising various council support channels and broadening recruitment to the entire Aberdeen population showcase proactive marketing strategies while leveraging connections in health and social care highlighting the importance of collaborative outreach efforts for project success.

Each weakness underscores the need for targeted interventions and strategic planning to address specific challenges and fortify the project's foundation. The highlighted weaknesses were as follows:

- Sustainability concerns related to service hours;
- Dependence on a limited pool of resources (especially for setup);
- Challenges in achieving a higher adoption rate with target group;
- Callers facing barriers due to a lack of technical skills;
- Callers lacking suitable phones for app usage;
- Frustration stemming from a lack of incoming calls;
- Shortage of volunteers;
- Significant need for additional human resources to expand the service;
- Struggling to recruit and adequately train volunteers due to a lack of resource;
- Unanticipated resource shortage, as the manpower required for the project's initiation was underestimated;
- Inadequate number of supporters despite considerable efforts;
- Utilising various council support channels for advertising;
- Broadening recruitment to the entire Aberdeen population;
- Leveraging strong connections in health and social care for outreach and engagement.

Opportunities: The identified opportunities present promising avenues for enhancing the app's reach, usability, and overall impact. Introducing chat functionality could significantly enhance accessibility by providing an alternative communication channel for callers who may face barriers with traditional phone calls. Furthermore, expanding service accessibility through video calls caters to a broader range of preferences and needs, especially in situations where visual communication adds value. The implementation of chatrooms for coordinated communication between callers and supporters fosters a sense of community and support, encouraging shared experiences and insights.

The proposal for a call-back service for users with regular phones represents an inclusive approach, ensuring accessibility for a diverse user base. Utilising various council support channels for advertising and broadening recruitment to the entire Aberdeen population presents valuable opportunities for increased visibility and community engagement. Additionally, leveraging connections in health and social care for outreach and engagement signifies a strategic partnership that could enhance the app's credibility and effectiveness within the target community. Each opportunity, when strategically implemented, contributes to the app's growth, outreach, and overall success.

Lastly, implementing a queue system to inform callers about their estimated wait time addresses user frustration, enhancing transparency and managing expectations. The introduction of an open API facilitates seamless integration with other apps and resources, potentially expanding the project's reach and collaborations. The list of opportunities are as follows:

- Enhancing accessibility through chat functionality;
- Expanding service accessibility through video calls;
- Implementing chatrooms for coordinated communication between callers and supporters;
- Implementing a queue system to inform callers about their estimated wait time;
- Open API (Application Programming Interface) for seamless integration with other apps and resources (interoperability between different related software systems, allowing

them to work together harmoniously and offering users a more integrated and seamless experience);
- Introducing a call-back service for users with regular phones;
- Utilising various council support channels for advertising;
- Broadening recruitment to include the entire Aberdeen population;
- Leveraging strong connections in health and social care for outreach and engagement.

Threats: Limited resources pose a significant threat to the overall sustainability and effectiveness of this new service. Whether financial, human, or technological, constraints in any of these areas can impede growth, limit innovation, and hinder the app's ability to adapt to changing circumstances. A scarcity of resources may result in compromised service quality, reduced outreach, and an inability to meet the diverse needs of the target population. Those wanting to adopt technology at a strategic level must explore avenues for resource diversification, seek additional funding streams, and implement efficient resource management strategies to mitigate this threat and ensure the project's long-term viability.

An insufficient caller base and a restricted number of supporters compound challenges, impacting both reach and sustainability. An inadequate client base signifies a potential gap in addressing the needs of the intended beneficiaries, risking the underutilisation of services. Meanwhile, a limited supporter network can hinder advocacy efforts, community engagement, and financial backing. Establishing and nurturing a broad client base and diverse support network is essential for sustaining the app's impact. Strategic marketing, community outreach, and engagement initiatives are vital to overcoming these challenges and building a robust foundation for the app's success. Additionally, efforts should be directed toward fostering meaningful connections with supporters to enhance long-term commitment and advocacy. The list of threats was as follows:

- Limited resources;
- Insufficient client base;
- Restricted number of supporters;
- Risk of burnout or team members moving on;
- Challenges engaging chaotic users;
- Upfront financial investment required, with a longer period for return on investment;
- Concerns about the scalability of a pure supporter model;
- Balancing service opening times with capacity constraints;
- Limited operational hours for the local service lead, with the potential for extension with increased funding;
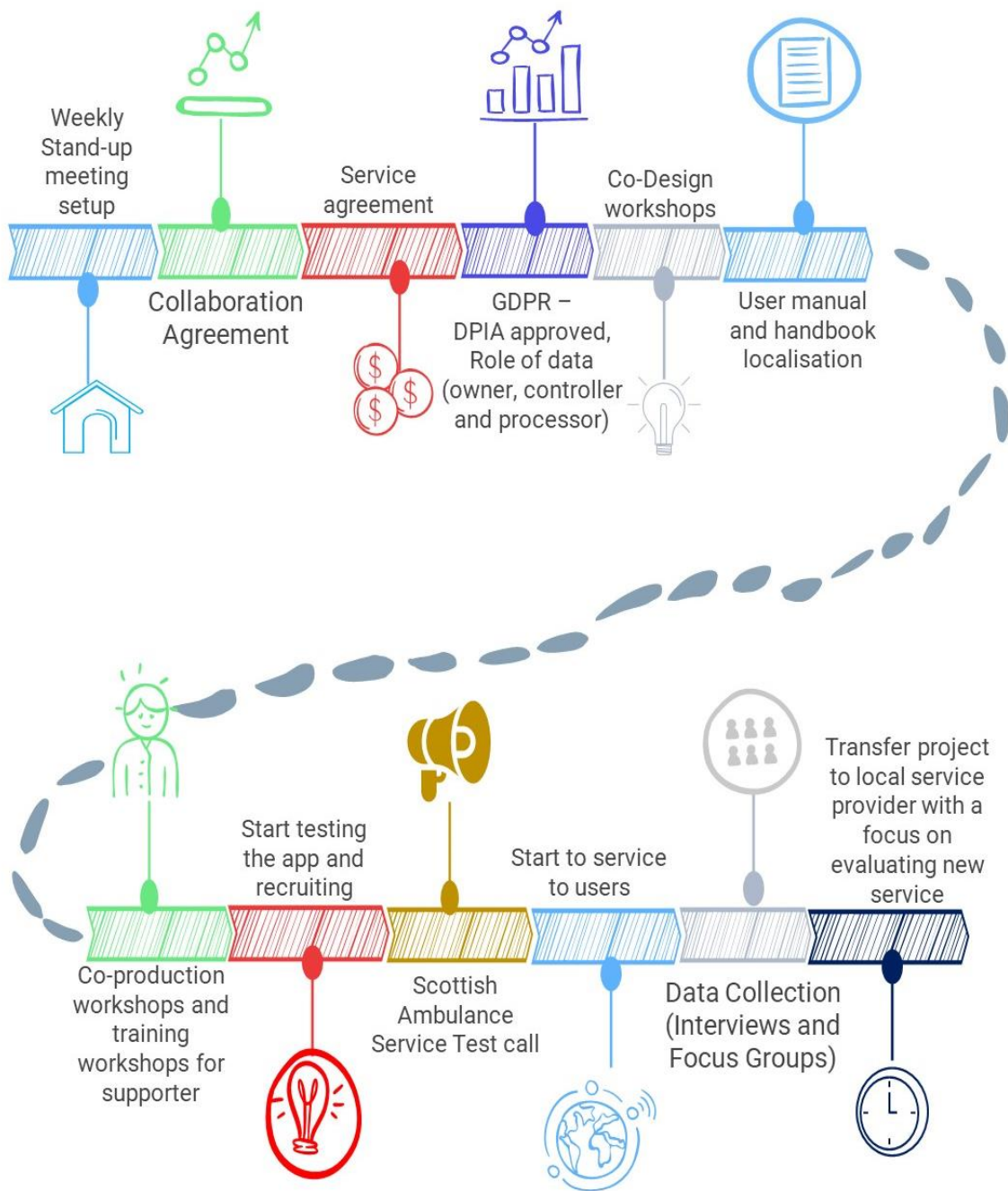- Challenges with focus due to the small team size.

Figure 6- Action of project diagram

4. Discussion

In this section, we discuss the evaluation findings of the Here4U Scotland App specifically and reflect on the implications for broader adoption of digital technology in harm reduction settings.

4.1. Assessing the Impact on App Users and Supporters

The impact of virtual access to remote supervision on those using drugs and those providing support is examined through interviews, workshops and secondary call data.

Key themes on the impact on service users were:

- **Increased Support Access:** Virtual remote supervision provides users with crucial support during critical moments.
- **Privacy and Trust Concerns:** Users express privacy and trust concerns, emphasising the need for confidentiality and building trust in the app.
- **Safety and Well-being:** The app enhances user safety, offering harm reduction information and alerts about dangerous drug batches, though the delivery method is subject to varying perspectives.
- **Security and Confidentiality:** The virtual platform ensures security and confidentiality, enabling users to seek help without judgment or legal consequences.
- **Convenience:** Users find the app convenient and straightforward, especially beneficial when seeking quick assistance alone.
- **Relationship Building:** Virtual access fosters trustful relationships between users and supporters, vital for tailored harm reduction care.
- **Mental Health Support:** The app provides instant access to mental health support alongside harm reduction services, contributing to users' well-being.
- **Digital Knowledge Gap:** Some users may face adoption issues due to a digital knowledge gap, particularly those less familiar with technology.
- **Lack of 24-Hour Availability:** Users desire 24-hour availability, especially during night-time, to address feelings of loneliness and overthinking.
- **Onboarding Challenges:** Callers find it challenging to fully embrace the app due to its new approach, requiring significant changes to behaviours and routines within the project's short timescale.

The key themes describing the impact on those providing support were:

- **Enhanced Communication:** Virtual access improves communication between supporters and callers, facilitating effective monitoring and support. Additional features like video calls and chat functions could further enhance connectivity.
- **Flexibility and Adaptability:** The app's flexibility allows supporters to provide information beyond core features, aligning with its mission to support individuals in recovery and adapt to evolving needs.
- **Relationship Building:** Supporters build strong relationships with service users, fostering trust and open communication, even in a digital environment.
- **Efficiency:** The app's quick setup and straightforward operation reduce call times, enhancing support provision efficiency.
- **Challenges of Remote Support:** Supporters face challenges with audio-only calls, leading to nervousness and anxiety. Introducing video calls could address this challenge.
- **Recruitment and Training:** Flexible training options are preferred, but specialist training may be necessary due to the responsibilities involved. Expanding the project may require paid professional staff for adequate supervision and support.

- **Resource and Funding Aspirations:** Participants aspire to enhance the app's impact through increased support, necessitating dedicated personnel and additional resources. High costs, including technology and human resources, pose potential funding challenges, especially if relying on government contributions in the UK.
- **Innovation in Outreach:** Innovative outreach strategies, such as "pester messages," aim to engage individuals in drug-related activities, showcasing a proactive approach to connecting potential users with support agencies.
- **Balancing Trust and Promotion:** Maintaining trust while promoting the app is crucial. Collaboration among various agencies, including law enforcement and harm reduction services, is essential for building trust. However, this approach might slow down the app's adoption and focus on a limited user base, potentially excluding other potential callers.

4.2. Expanding Digital Harm Reduction Service

Regarding the possibilities for evolving and adapting the app and service to further expand digital solutions to reduce DRDs through remote supervision, the evaluation offers valuable insights from the Here4U Scotland programme's journey, various aspects related to its implementation and the emerging new service. The possibilities for evolving and adapting the app and service to further expand digital solutions to reduce DRDs through remote supervision, are listed below from emerging themes:

- **Continuous Monitoring and Adaptation:** Monitor user behaviour for evolving preferences, ensuring the app stays relevant in reducing Drug-Related Deaths (DRDs).
- **Safety Planning and Public Protection:** Explore the app's potential to activate safety plans for emergencies and prevent DRDs.
- **Local Adaptation:** Continue localising the app through workshops to meet the evolving needs of the Scottish community.
- **Enhanced Technical Features:** Develop video calls and chat functions to overcome technology mistrust, enhancing remote supervision.
- **Data-Driven Insights:** Utilise app usage data for insights into drug-related incidents, refining features like drug alerts.
- **Expanded Outreach and Public Engagement:** Explore strategies to connect at-risk individuals with the app through public awareness campaigns.
- **Enhanced Training and Staffing:** Ensure quality services with specialist training and potential professional staff to meet increasing demand.
- **Broadening Scope:** Position the app as a "public protection alert system" to address wider public safety concerns.
- **24-Hour Availability:** Adapt the service for round-the-clock support to address user desires and reduce DRDs.
- **Balancing Trust and Promotion:** Collaborate with agencies to maintain trust while promoting the app's benefits for public safety.

4.3. Enhancing Co-Design and Digital Interaction

Enhancing co-design and digital interaction plays a pivotal role in shaping new harm reduction services. By actively involving service users in the design and development process, it is intended to ensure that the app meets their needs and preferences effectively. Through regular feedback sessions and interactive workshops, the app creates a user-centric platform that fosters engagement

and ownership among its callers. Moreover, by embracing digital interaction tools such as online forums and chat functionalities, the app could facilitate seamless communication and collaboration between service users and providers, ultimately enhancing the app's usability and impact. To investigate avenues to ensure greater co-design engagement and increase the appetite for service users to interact digitally with services and each other, several strategies and considerations can be explored based on our findings:

- **Enhance Co-design Workshops:** Conduct regular workshops with service users to shape the app and its features actively, ensuring user-centricity.
- **Education and Training:** Offer online sessions covering harm reduction, recovery, and digital literacy within the app to attract users seeking knowledge and support.
- **User Feedback Mechanisms:** Implement easy-to-use feedback mechanisms like in-app surveys, suggestion boxes, or direct channels, and act on user input for continuous improvement.
- **Gamification and Incentives:** Introduce gamification elements or incentives within the app to encourage regular interaction and increase user involvement.
- **User-generated Content:** Encourage users to contribute content, fostering a sense of community and promoting active participation.
- **Peer Support Networks:** Facilitate the creation of peer support networks within the app to connect users sharing similar experiences.
- **Digital Literacy Initiatives:** Implement initiatives to improve digital literacy, including tutorials and guides for users with varying levels of tech proficiency.
- **Accessibility and Inclusivity:** Ensure the app is accessible to diverse users by incorporating features like text-to-speech, translation services, and compatibility with assistive technologies.
- **Collaborative Content Creation:** Involve users in creating app content, empowering them to take ownership of the platform.
- **Regular Updates and Innovation:** Demonstrate commitment to improvement by regularly updating the app with new features and enhancements, soliciting user input.
- **Community Building:** Foster a sense of community with discussion forums, chat rooms, and virtual events for peer support and social engagement.
- **User-centric Design:** Ensure the app remains user-friendly through regular testing and feedback gathering.
- **Data Transparency:** Share anonymised and aggregated data on app usage and outcomes with users for increased transparency.
- **Partnerships and Collaborations:** Collaborate with local organisations to promote the app and encourage engagement among their clients.
- **Feedback Loop Closure:** Communicate how user feedback leads to specific improvements, demonstrating the value placed on user input.

5. Recommendations

Finally, we present our recommendations here. To transition digital support and supervision to a model that would maximise adoption, we need to consider the following steps and strategies:

1. **Enhance Co-design and User-centric Approach:** Continue involving service users in the co-design process, holding regular feedback sessions to understand evolving needs. Localise app content and involve users in naming, branding, and content creation for a user-centric focus.

2. **Accessibility and Availability:** Work towards 24-hour availability and consider expanding app functionality beyond core features to address user needs during critical moments.
3. **Sustainability Model and Resource Allocation:** Seek increased support and funding, allocating resources for dedicated personnel. Consider volunteer supporters to reduce costs.
4. **User Training and Support:** Provide comprehensive face-to-face and online training. Showcase success stories and statistics to encourage app usage.
5. **Improvement and Innovation for User Onboarding:** Expand efforts to promote the app through innovative marketing strategies, including social media and campaigns. Consider nationwide coverage to increase user adoption.
6. **Continuous Improvement and Innovation:** Foster a culture of continuous improvement by actively seeking and implementing user feedback. Explore advanced messaging capabilities related to harm reduction.
7. **Safety Alerts and Notifications:** Develop a balanced approach for drug alerts, ensuring informative and helpful content without causing unnecessary alarm.
8. **Cultivate Trust and Relationships:** Promote the app as a tool enhancing user-provider relationships, emphasizing trust and open communication.
9. **Community Engagement:** Use the app to foster community among users, organizing virtual events or discussion forums for mutual support.
10. **Safety Planning and Public Protection:** Leverage the app for safety planning and public protection, highlighting its role in community safety.
11. **Evaluate and Adapt:** Continuously monitor app usage, adapting strategies based on data and user feedback. Emphasise data-driven decision-making for effectiveness.
12. **Effective Communication and Collaboration:** Maintain open communication among consortium members and stakeholders, establishing a clear plan for project updates and milestones. Increasing the time of support
13. **Open to a Wider Audience:** Service providers should expand their outreach to include a broader range of callers, particularly targeting younger individuals and diverse drug user groups. Consider tailoring the app's features to address the specific needs and preferences of these user demographics.
14. **Support the Callers:** service providers should offer additional technology support to callers, particularly focusing on those who have received a phone through the program. Ensure that users are equipped with the skills to make the most of the app and its features.
15. **Utilise Informal Supporters:** Service providers should consider engaging a wider array of supporters, including individuals with lived experience of drug use. This approach could improve the availability of the app. Further studies are recommended to explore various aspects of this strategy.
16. **Increased Funding for Digital Transformation:** Launching a new digital service in a field under pressure requires a cultural shift among service providers and users at all levels. Acceptance and adoption of the digital service by both providers and users take time and necessitate financial support.

6. Conclusion

Whilst there were challenges in further expanding the app to more users, there is evidence to demonstrate the app's potential value in providing remotely supervised consumption and harm reduction. Further development could refine features and processes to optimise the impact of such

technologies in reducing drug-related harm. However, sustained effort on the ground, along with resources to build emergency coordination frameworks and trust-based communities, is critical.

These results are promising, but changes in user behaviour are necessary for effective technology use when needed. Behaviour change needs to be facilitated which requires further study. The long-term success of the adoption of technology depends on continued input and adaptation to user and supporter needs through an inclusive co-design approach to enhance motivation.

In conclusion, transitioning digital supervision towards a model that encourages service user adoption demands a comprehensive approach which may initially be resource-intensive. Emphasising co-design and a user-centric approach ensures ongoing user involvement, fostering a dynamic and responsive app. Enhancing accessibility, sustainability, and user support contributes to the app's long-term success. Continuous improvement and adaptation, innovation, and effective communication maintain the app's relevance and user engagement. Additionally, openness to a wider audience through advertising, and the inclusion of informal supporters offer avenues for expansion and increased availability. This can happen alongside tailored support to known individuals in the existing harm reduction service who would benefit from the enhanced service. Recognising the cultural shift in both the organisation and at a user level is required for digital transformation, alongside financial support.