

Telehealth Phase Zero Summary Report 2024

Summary of Report

This is a summary report of the Phase Zero evaluation for Telehealth conducted over 18-months between 2022 and 2024. This report includes a summary of the Literature Review, the Rapid Review, the Public Opinion Study, the Care Home Discovery study, and the NHS@Home independent evaluation. The report concludes with recommendations and next steps for the Telehealth programme.

Please find the full reports and reviews on the TEC Cymru website [here](#).

The Literature Review

The literature review explores international Telehealth models, particularly Virtual Wards (VWs) and remote monitoring services. It evaluates its aims, successes, and impacts on patients, caregivers, clinicians, and wider healthcare systems.

Various models of Telehealth implementation exist. Promising examples include initiatives in Croydon, Devon, and Wandsworth. However, the efficacy, effectiveness, and acceptability of these models vary, with some studies demonstrating mixed results. Nevertheless, the review found that VW models, such as those in Croydon and Devon, which combine in-person care with remote monitoring using wearable devices, generally produce cost savings and high patient satisfaction. However, challenges include information management and data protection.

The review also discusses different models that aim to reduce hospital admissions, including predictive combined and re-hospitalisation risk models. The review also found that interprofessional collaboration in community VWs shows promise in managing patients with multiple chronic conditions. Condition-specific VWs for respiratory and COVID-19 management utilise remote monitoring and consultations, resulting in positive outcomes such as reduced hospital stays and improved patient empowerment. Virtual wards for frailty,

however, are less promising, due to the additional support required. Telehealth interventions for cardiovascular diseases and diabetes have shown improvements in patient outcomes, particularly in post-discharge management and treatment adherence. Telehealth's efficacy in managing mental health conditions, end-stage renal disease, and weight loss for example, demonstrate mixed results, necessitating further research.

Overall, the review found that patients and families tend to express satisfaction with care provided through Telehealth, with some studies even indicating that it can improve treatment and recovery. The evidence also demonstrates many benefits to patients and families by providing convenient access to healthcare services from home, reducing the need for frequent hospital visits, and improving overall quality of life, particularly for those with chronic conditions. Telehealth also offers clinicians opportunities to deliver care more efficiently, especially in remote or underserved areas. It facilitates collaborative, individualised care and enhances communication between different health and care services. Overall, clinicians are generally interested in utilising Telehealth where it can be implemented safely and effectively. Telehealth has broader societal impacts, such as cost-effectiveness, environmental benefits, and its impact on social care, highlighting potential savings and improvements. Evidence supports reducing healthcare costs by minimising unplanned hospital admissions and freeing up hospital resources like beds and staff availability.

Despite the benefits and potential of Telehealth, there are still challenges and gaps in the literature. These include the need for more research on the efficacy, effectiveness, and acceptability of Telehealth, as well as the incorporation of perspectives from healthcare professionals, patients and families with first-hand experience. Also, collaboration between healthcare and technology sectors is essential for maximising Telehealth's potential.

The Rapid Review

The rapid review sought to explore the landscape of Telehealth in the UK, with a particular focus on its implications for Wales. To begin, efforts incorporated a review of the literature (review above), shedding light on the growing evidence supporting Telehealth while also pinpointing areas of limited understanding. Recognising the need for a deeper dive into practical experiences and perspectives of Telehealth, the rapid review team reached out to

speak directly to Telehealth services (rather than relying on published data only), via the conduct of interviews and observations. This involved a range of individuals and teams directly engaged with UK-based Telehealth services. The methodology involved a targeted recruitment process, drawing participants from various sectors such as senior management, healthcare professionals, and technology providers. Through a combination of convenience and snowball sampling methods, a total of 49 interviews/observations were conducted. This approach sought to extract nuanced insights and opinions on Telehealth, covering topics ranging from participants' roles and perceived benefits to ethical considerations and available resources.

Thematic analysis was used to navigate the wealth of collected data, and identify recurring patterns, concepts, and themes across different participant groups. Ethical considerations remained paramount throughout the process, with all necessary approvals obtained, and consent secured from each participant involved. A total of 37 interviews were analysed, forming the basis for the subsequent review. From the analysis, nine key domains emerged.

These include:

Domain 1 unearthed the benefits of Telehealth for NHS Trusts/Health Boards, revealing positive impacts such as resource optimisation, hospital admission avoidance, early supported discharge, and potential staff retention.

Domain 2 tackled Telehealth challenges, including terminology confusion, literature gaps, and funding discrepancies.

Domain 3 focused on the benefits of Telehealth for healthcare professionals, highlighting improvements in working patterns, patient access, and personalised care delivery.

Domain 4 examined challenges faced by healthcare professionals in adopting Telehealth, emphasising clinician resistance, patient selection and eligibility issues, and staffing concerns.

Domain 5 explored the benefits of Telehealth for patients, emphasising enhanced experience and safety, while also addressing challenges like digital literacy and misconceptions about older adults' technology use.

Domain 6 investigated safety considerations in Telehealth, highlighting its safety as an alternative to traditional hospital care, with a focus on well-defined procedures and high standards.

Domain 7 and 8 further explored safety considerations, acknowledging minimal safety concerns while also addressing issues like staffing, patient contact, and legalities.

Domain 9 explored additional considerations, emphasising the importance of technology interoperability and cultural change for successful Telehealth implementation.

In conclusion, the rapid review highlights the potential of Telehealth in healthcare delivery, while also emphasising the need for a nuanced understanding and support from all stakeholders, including that of patients. By addressing challenges and leveraging benefits, Telehealth holds the promise of transforming healthcare delivery, particularly in countries like Wales, where its national integration could lead to improved patient outcomes and healthcare resource optimisation.

The Care Home Discovery Report

To explore the feasibility and implications of implementing Telehealth in care homes across Wales, TEC Cymru researchers conducted an on-site qualitative study with staff and family members from various care homes in Wales.

Most participants expressed support for Telehealth implementation, citing benefits such as enhanced accuracy of test results, faster access to care, and improved independence for residents. However, concerns were also raised regarding the potential reduction in face-to-face interactions with healthcare providers and the risk of technology misuse by residents.

Interestingly, differences emerged between residential and nursing care homes in their perceptions of Telehealth. Nursing homes, which typically have qualified medical staff on-site, were less inclined to see the benefits of Telehealth compared to residential homes. Nonetheless, both types of care homes expressed a need for technology to monitor vital signs, particularly blood glucose levels among diabetic residents.

Overall, participants believed that Telehealth could significantly enhance care delivery in care homes by providing faster access to care, improving communication with healthcare providers, and enabling early intervention to prevent health deterioration. However, it was recognised that careful consideration is needed to address concerns and ensure that Telehealth meets the diverse needs of residents and staff alike. As technology continues to advance, Telehealth has potential to play a transformative role in healthcare delivery, particularly in the context of aging populations and the increasing demand for remote care solutions.

The NHS@Home Service Evaluation

The report presents an in-depth evaluation of the NHS@Home Hub, a Telehealth service operated within Sirona Health and Care, serving the Bristol, North Somerset, and South Gloucester (BNSSG) region. Conducted independently by Technology Enabled Care (TEC) Cymru, the evaluation sought to comprehensively understand the operational dynamics and use of the NHS@Home Hub, while also serving to support the broader implementation of Telehealth initiatives in Wales.

The methodology encompasses a thorough participant observation approach, with two full-time researchers from TEC Cymru spending two weeks on-site at the NHS@Home Hub during February 2024. This approach allowed for the capture and documentation of relevant information and processes integral to the Telehealth service. The study was further strengthened by the active involvement of senior members from TEC Cymru and the NHS@Home Hub.

The NHS@Home Hub functions as a Telehealth service, offering a Virtual Ward model to patients with acute conditions. Central to its operation is the provisioning of Telehealth monitoring equipment and a clinical dashboard to patients meeting specific clinical criteria. Through this setup, the NHS@Home Hub team can remotely monitor patients' health statuses from the comfort of their own homes. Patients are categorised into one of five clinical pathways/virtual wards based on their condition, such as frailty, respiratory, general medicine, etc., with the total patient capacity distributed across these pathways.

Staffed by a multidisciplinary team comprising consultants, advanced clinical practitioners, nurses, healthcare assistants, and administrative personnel, the NHS@Home Hub operates across multiple sites within the BNSSG region. The evaluation sheds light on the intricacies of staff roles and responsibilities through detailed case studies, providing valuable insights into the daily operations of the service.

While the NHS@Home Hub presents significant benefits, such as enabling patients to receive medical care in their homes and adopting a patient-centric approach, several challenges have been identified. These include patient reluctance to engage with telehealth equipment, infrastructure limitations, and duplication of tasks stemming from the use of multiple systems. Recommendations for improvement encompass augmenting staff capacity, enhancing system integration, leveraging video consultation capabilities, and promoting greater patient utilisation of telehealth equipment.

In conclusion, the NHS@Home Hub plays a pivotal role in facilitating patient recovery within the BNSSG region. However, to optimise its efficacy and address existing challenges, further efforts are required to implement recommended changes and provide an environment conducive to innovation and adaptation. By heeding these insights, the NHS@Home Hub and similar Telehealth services can better serve the needs of both patients and healthcare services, ultimately enhancing the quality and accessibility of healthcare delivery.

Public Opinion Study

The Public Opinion Study (POS) was conducted by TEC Cymru from March to December 2023, interviewing and surveying 8,752 participants to gauge public opinion on using technology in NHS and social care settings. The study specifically focused on Video Consultations (VC) and remote monitoring (Telehealth). The study aimed to understand the Welsh public's knowledge, benefits, and challenges related to these technologies.

The data was collected through in-person visits, online methods, and email outreach across various health boards and local authorities in Wales. Major towns and cities were visited, and venues included libraries, hospitals, pharmacies, care homes, universities, conferences, and more.

Video Consultations (VC)

VCS allow clinicians to interact with patients through two-way audio and visual communication, enabling patients to attend appointments from convenient locations. Of the 8,707 respondents, 28.06% had previously used VC, and 70.12% of those liked their experience. Among those who hadn't used VC, 69.02% expressed interest in using it if offered.

Telehealth

Telehealth involves remote monitoring using medical devices like blood pressure cuffs, pulse oximeters, thermometers, ECGs, blood glucose detectors, and weighing scales. This technology enables clinicians to evaluate and monitor patients from a distance, which can reduce travel costs and improve the efficiency of medical consultations.

Benefits:

- **Time and Cost Savings:** 87.25% of participants identified saving time and travel costs as the primary benefit of using VC and Telehealth.
- **Improved Access and Waiting Times:** 73.38% mentioned improved access to care and shorter waiting times.
- **Convenience:** 72.89% appreciated not having to take time off work or education.

Challenges:

- **Preference for Face-to-Face Interactions:** 46.81% preferred seeing clinicians in-person.
- **Technical Issues:** 46.21% cited insufficient internet connectivity as a barrier, and 42.98% mentioned a lack of access to technology.
- **Digital Literacy:** Concerns about digital literacy, particularly among older adults and those with mental health issues, were significant. Training and straightforward user interfaces were suggested to mitigate these issues.

Demographics

Participants' demographics, including age, gender, ethnicity, income, and disability status, were analysed to understand how different groups perceive and interact with VC and

Telehealth. Notably, 77.71% did not have a disability, while 16.53% did. Income levels varied, with the highest responses from individuals earning £66,000 or more.

Additional Analysis

- **Age Analysis:** Different age groups showed varying levels of engagement and satisfaction with VC and Telehealth, highlighting the need for age-appropriate approaches and support.
- **Income Analysis:** Higher income groups were more likely to have used and liked VC, suggesting a correlation between income level and access or familiarity with technology.
- **Disability Analysis:** Participants with disabilities had unique challenges and benefits when using VC and Telehealth, highlighting the importance of accessibility features in these technologies.

Conclusion

The study emphasises the importance of involving the public in research to ensure technological advancements in healthcare meet their needs and preferences. While VC and Telehealth offer significant benefits, addressing the challenges related to accessibility, digital literacy, and personal preferences is crucial for widespread adoption and effectiveness.

Short Summary of the Telehealth Evidence & Phase Zero Learning:

The provided summary outlines the Phase Zero evaluation report for Telehealth, encompassing several key components: a general summary, literature review, rapid review, care home discovery report, public opinion study and the NHS@Home service evaluation.

Here's a breakdown of the main points:

Literature Review:

- The review covers various Telehealth applications, benefits, challenges, and future potential.

- Telehealth has shown promise in reducing hospital admissions, improving patient outcomes, and empowering self-management across different health conditions.
- However, there are mixed results in some studies, indicating the need for tailored approaches and further research.

Rapid Review:

- This review aimed to explore practical experiences and perspectives on Telehealth in the UK, particularly in Wales.
- Interviews with diverse participants revealed benefits for NHS Trusts/Health Boards, healthcare professionals, and patients, along with challenges like funding discrepancies and clinician resistance.
- Safety considerations and technology interoperability are highlighted as crucial for successful Telehealth implementation.

Care Home Discovery Report:

- Interviews with care home staff and family members showed support for Telehealth implementation, but concerns were raised about reduced face-to-face interactions and technology misuse.
- Telehealth may allow for remote monitoring of vital signs, benefiting both patients and healthcare providers.
- Telehealth is seen as a tool to enhance care delivery in care homes, but careful consideration is needed to address concerns and meet residents' diverse needs.

NHS@Home Service Evaluation:

- The evaluation provides insights into the operational dynamics and use of the NHS@Home Hub in the BNSSG region.
- Recommendations include increasing staff capacity, improving system integration, and promoting greater patient utilisation of Telehealth equipment.
- Despite challenges like patient reluctance and infrastructure limitations, the NHS@Home Hub plays a crucial role in facilitating patient recovery.

Next Steps & Recommendations

Based on the findings outlined in the Phase Zero evaluation report for Telehealth, here are some recommendations and next steps:

1. Further Research and Evaluation:

- Conduct additional research to address gaps in understanding Telehealth effectiveness, acceptability, and scalability, particularly focusing on the perspectives of healthcare professionals, patients, families and caregivers.
- Evaluate the long-term impacts of Telehealth implementation on other health and social care teams, healthcare outcomes, cost-effectiveness, and patient satisfaction.

2. Tailored Implementation Strategies:

- Develop tailored Telehealth implementation strategies that consider the unique needs and challenges of different healthcare settings, such as rural areas, urban centres, and care homes.
- Collaborate with stakeholders, including patients and families, healthcare services, technology companies, and policymakers, to design and implement Telehealth programs that align with local needs and resources.

3. Training and Support:

- Provide comprehensive training and support for healthcare professionals and patients/families to ensure effective utilisation of Telehealth technologies and services.
- Offer ongoing education and resources to address digital literacy barriers among patients, particularly older adults and those with limited access to technology.

4. Integration with Existing Services:

- Integrate Telehealth services seamlessly with existing healthcare systems and services to enhance continuity of care and improve patient outcomes.

- Collaboration between Telehealth providers and primary care providers, hospitals, and community services to streamline care coordination and referrals.

5. Addressing Concerns and Barriers:

- Address concerns related to patient reluctance, privacy, and technology misuse through targeted communication campaigns, education, and transparent policies.
- Invest in infrastructure improvements to ensure reliable internet connectivity and access to Telehealth services in underserved communities.

6. Scaling Telehealth Programs:

- Explore opportunities to scale successful Telehealth programs and models to broader populations and regions, potentially at a national level.
- Advocate for policy changes and funding support to facilitate the widespread adoption and sustainability of Telehealth initiatives across healthcare systems.

7. Continuous Quality Improvement:

- Establish mechanisms for continuous quality improvement and monitoring of Telehealth services, including feedback loops from patients, caregivers, and healthcare professionals.
- Regularly review and update Telehealth protocols, guidelines, and technologies to incorporate best practices and emerging evidence.
- Establishing Community of practices to share the learning among key stakeholders

8. TEC Working as an MDT

- TEC Cymru to continue operating as an MDT (internally and externally), with a range of expertise across clinical, research, programme/project and training.
- To fully utilise these skills to get the best out of the programme.
- Establish clear roles and responsibilities to ensure full potential of MDT working and boost team morale.