Ready, Steady, Go:
A telehealth implementation toolkit

Executive Summary

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Tim has 11 years experience of working in the health sector having originally trained as an engineer and worked in new product introduction and product design early in his career. For seven years he worked for a leading management consultancy where his assignments included working in the health, utility, transport and banking sectors. He then took the role of Telehealth Policy Lead at the Department of Health where he established and led the Whole System Demonstrator Programme. This is the largest randomised control trial of telehealth and telecare services in the world, involving over 6,000 people using leading edge technologies to help them remain independent and living at home. Thereafter he managed the Telehealth and Care Technology programme of research for CLAHRC South Yorkshire. This included a £1.8M research programme entitled Overcoming the Barriers to Mainstreaming Assisted Living Technologies. Tim has recently returned to industry and continues his involvement in delivering scalable telehealth as Director of Market Development and Services for Cogent Healthcare Systems.
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Executive Summary

Introduction

Telehealth, the use of Information and Communication Technologies to deliver healthcare remotely, has grown in prominence over recent years. However, despite investment, telehealth is still in a state of infancy. Most deployments are led by telehealth enthusiasts and few mainstream services exist. We believe one of the reasons for this is that delivering telehealth is a complex programme of change yet few initiatives follow a structured approach to deliver the business objectives. Based on our experience, and validated with national and international colleagues, this toolkit provides a framework which can be followed and which should provide a supportive environment for telehealth to flourish.

The toolkit is structured around the analogy of a race. Preparation is involved, training is required, a clear focus is needed and endurance is crucial to make the finishing line. Just like a race, preparation is key; elite athletes may train for years to run a 100m race lasting less than 10 seconds. Similarly, in the toolkit effort is front-loaded, with more work and activity taking place in the earlier phases; much of this is unseen until the race is being run. To date, most deployments seem to be the other way round with little attention given to planning and preparation, with the focus instead on getting installations in as quickly as possible. When things go wrong, as they inevitably do, planning and mainstreaming activities have to be undertaken at the same time as ‘crisis management’ - this is a recipe for mistakes, poor performance and poor patient/staff experience.

Structure

Five phases are defined within this toolkit which fit within the following structure:

![Figure 1: Structure of Ready Steady Go toolkit](image)
Phase 1: Are you fit enough?

Attention is given first to understanding the scope of the vision, reviewing whether there is sufficient ability to deliver such a vision, obtaining senior management and relevant organisational support, developing a business case, establishing a team to deliver the programme, and communicating plans. This step is often missed or rushed as a group of enthusiasts seek to operationalise their own vision without embedding plans into the main operations of the business/service. In our running analogy, this would be like entering a marathon without doing any training - unadvisable in nearly all circumstances!

Phase 2: Ready

This is another phase which is often completed hurriedly and therefore can result in difficulties later on. Having set a vision and having had the outline business case approved, attention is now given to translating this into a tangible service specification and preparing for implementation. Consultation with service users and providers is pivotal in developing an appropriate service specification which meets both the business objectives and the wishes of users. This will require iteration, but fine tuning the service at the planning phase is a lot less time consuming and expensive than further into the process. The final activities in this phase involve procuring equipment and services, defining and delivering a training programme, and establishing how the telehealth programme will be evaluated.

Phase 3: Steady

A clear vision has been translated into a service specification and the plans are now ready to be implemented. There can be a noticeable temptation, or pressure put on, to commence the service as quickly as possible. However, just like a runner in the blocks, the steady position is what gives them the power to explode and attain maximum speed as quickly as possible. Rather than rushing into a situation where there is potential for a large number of unknown events to occur, a controlled environment is advocated, for a limited time, to establish whether there are any unforeseen difficulties or consequences. Resolving such issues with a limited number of users and staff is much easier than doing so during a full scale implementation. Once there is confidence the service is stable and appropriate then mainstream implementation can commence in the next phase.
Phase 4: Go

A runner may have had numerous training injuries and difficulties, but at the time of the race these have been treated or resolved as far as possible. It is the performance delivered on the track that matters. This phase is similar to the athlete running in the race - the service is tangible, sizeable and performing, and any issues previously encountered are soon forgotten. Even though the service should be stable, there may still be opportunities to refine it to enhance effectiveness or efficiency. Where appropriate such changes should be introduced with an understanding of the consequences for the evaluation of the service. A stable service should enable rapid expansion with minimal or no complications.

Phase 5: Chequered flag

The race has been run, the prize attained, but that is not the end; the runner will need to cool down, review the race, and focus again on the future. Similarly, this final phase commences by ensuring any legal and contractual issues connected to the mainstream service are in place and appropriate, while ensuring appropriate financial stability for the service during the post-race analysis. Review and reflection with stakeholders and service users is required to understand what went well, what lessons can be learnt and how improvements can be made. The telehealth programme did not take place in isolation of other service pressures and priorities so these should be revisited to ensure alignment with local priorities. Of course, this is all building up to the final conclusion where, based on this information and the evaluation results, a decision is required to either (a) stop and close down the service, (b) hold the service as is, waiting for new information or changes to the operating environment, or (c) expand the service.
Are you a runner?

The work involved in delivering a complex intervention such as telehealth should not be underestimated. Like a running partner this toolkit can provide support, but ultimately it is the runner’s responsibility to run the race. If you are not prepared to do the training then consideration must be given to whether it is appropriate to even start down this path. There are too many examples of half completed telehealth initiatives or ones deemed successful, only for them to dwindle and disappear over time. Running the telehealth race is a significant commitment, but just like the runner who wins the race, the rewards can outweigh even the most challenging training programmes.

The relevance of this toolkit to stakeholders

We believe this toolkit will have relevance to a wide range of stakeholders. Whilst some people will have multiple roles and there may be slight variations in the naming of functions in each organisation seven key stakeholders are defined within a telehealth project:

- **Sponsor**: The project sponsor will be a senior executive (often at or just below board level) who is responsible to the organisation for the success of the project
- **Project Manager**: The person with the responsibility for planning, execution and closing of the project
- **Practitioner**: Health or care providers qualified in the delivery of support through clinical practice and/or social care who are working with, or planning to work with, telehealth
- **Finance and Procurement**: Those responsible for ensuring the appropriate governance for funding and guiding the procurement of goods and services
- **Legal and Information Governance**: Those responsible for ensuring the appropriate governance of the project in terms of data security and privacy and legal requirements for the organisation
- **Technical Services**: Those responsible for the set-up, calibration, installation, integration with other IT systems, maintenance, decontamination and decommissioning of hardware and software associated with the telehealth service
- **Audit and Evaluation**: Those responsible for assessing the impact of the new service.

Each phase within the toolkit has a RACI (Responsible, Accountable, Consulted, Informed) analysis to provide insight into the work being undertaken and the responsibilities of key stakeholders. The analysis examines each task set and defines who is:

- **R** (Responsible): person conducting the work
- **A** (Accountable): person ultimately held answerable
- **C** (Consulted): person providing feedback or contribution to work
- **I** (Informed): person needing to know of an activity or decision.

As in most management programmes, the project manager has much responsibility, so appointing someone to this position is one of the most important early decisions to make.
The format: This toolkit uses a running analogy throughout, hence the Ready Steady Go title. It is broken into five phases and each phase can be read in isolation. It would be helpful to read the whole toolkit to provide oversight and context before embarking on a telehealth deployment to provide a detailed overview of the whole approach. However, due to the level of detail provided it is intended that each section is worked through at the time it is required.

Why the running analogy? The analogy can make the toolkit easier to understand and remember, and may even encourage readers to pass on the lessons learnt; few people train in isolation.

What is telehealth? A broad definition is taken to encompass the use of Information and Communication Technologies to support healthcare at a distance between a medical or care professional and a patient.

Why the interest in telehealth? Throughout much of the world the burden on health services is growing due to the mid-century baby boom and the tendency for older people to develop long-term conditions. This increase in demand is happening at a time when there is a need to contain healthcare costs and cope with a smaller healthcare workforce. In response, healthcare policies increasingly emphasise supporting people to self-care, managing people with more complex needs more closely and shifting care into the community and out of expensive fixed assets such as hospitals. Telehealth has been proposed as one solution that can contribute to all these ambitions and increase users’ quality of life. It offers the potential to enable higher quality clinical decision making, more productive working, reduction in hospital admissions, and earlier hospital discharge.

Why this toolkit? There are many examples where small scale telehealth pilot projects have reported success, but these often disappear over time and have struggled to become mainstream. An investigation of robust evaluation studies shows a mixed evidence base, with some trials reporting successful deployments but others failing to realise this. It could be hypothesised that one of the reasons for this mixed evidence base is that introducing telehealth is a complex programme of change. It is not a case of changing ‘drug A’ for ‘drug B’ and comparing the difference, rather there are many variables such as the way the service is introduced, the timing and handling of patient recruitment, duration of the intervention, views and attitudes of staff,
readiness of an organisation to embrace change, and effectiveness of working across multiple organisations, which can all impact on the ability to deliver a successful outcome.

This toolkit seeks to support implementation by providing a robust framework in which telehealth operates and which can help control many confounding variables that can impact on a successful implementation. It also highlights many of the known pitfalls so that these can be avoided. Other toolkits are available and may be helpful, however, this toolkit is intended to provide guidance in creating the local procedures required to deliver an effective telehealth solution. Local context can make so great a difference that a successful implementation in one area may not be replicable in another. This toolkit suggests key questions that can be asked which can help organisations steer towards a successful implementation and which are appropriate for all circumstances. This toolkit can therefore assist in the local development and delivery of a telehealth programme. Unfortunately it is not possible to provide the answers to all questions, but generic principles for success which are evident in ‘successful’ telehealth programmes are raised for your local consideration.

All toolkits have limitations and it should be remembered that following the toolkit will not guarantee a successful deployment. The toolkit does seek to provide a mechanism to avoid common pitfalls and point towards areas that require further consideration and local consultation. Such pointers can be highly beneficial, but they enhance rather than replace the insight, skills and commitment of those delivering a telehealth programme.

Who is this toolkit for? Anyone involved in the delivery of a telehealth programme could find valuable guidance in this toolkit. For those new to telehealth it provides a detailed account of steps that should be covered, and provides insight into common mistakes and ways in which progress can be monitored. For those with more experience, benefit could still be derived as it may provide new insights on certain aspects along with a clear overriding framework which can assist in ensuring all aspects of the programme are managed effectively.

Validation and Endorsement

The toolkit has been developed based on a systematic review of the literature and the experience of the authors, further details of the approach undertaken are provided in Appendix A. To ensure completeness and robustness, the toolkit has been constructively scrutinised by a number of prominent individuals/organisations and we thank them for their support (see Appendix B).

Toolkit use and future editions

This toolkit should be viewed as a ‘living document’. It provides many insights and can support deployment, however improvements can always be made and greater clarity may perhaps be required in some areas. To that end we are working with test sites in at least two European countries to refine the toolkit further. Therefore if you are using the toolkit and/or have suggestions as to how it could be improved, please contact us at THToolkit@sheffield.ac.uk.
How to use this toolkit

The toolkit uses the principles of Business Process Reengineering and is structured around five key phases with the intention that each phase is worked through at the time required. However, an overview of the whole process would be valuable to understand the context. The phases are:

- **Are you fit enough?**: To ensure sufficient organisational support and a clear mandate is given
- **Ready**: To undertake detailed planning, consultation and procurement prior to commencing implementation
- **Steady**: A controlled small scale implementation and review
- **Go**: Full scale implementation against the project brief
- **Chequered flag**: An opportunity to take stock, feedback results to senior management and plan for the future.

Each phase consists of a number of activities which should be undertaken, with activities being broken down further into specific tasks to be completed.

Where appropriate tasks are presented with the following levels of supporting information:

- **Key questions**: Primarily focused on input from senior management or the project board, these questions steer overall direction
- **Secondary points**: These can be resolved by project managers or sub groups as they are more detailed in nature and do not impact upon overall programme direction
- **Possible KPIs**: Areas for which Key Performance Indicators can be defined to monitor progress
- **Hints and tips**: Useful advice which would support decision making and help avoid known pitfalls.

As part of the introduction to each phase a RACI (Responsible, Accountable, Consulted, Informed) analysis has been conducted. This summarises the goals of each phase and the level of input required from different stakeholders. Goals relate to specific tasks within the phases.
Most telehealth toolkits start at the Ready phase, but this misses out one of the most important aspects, that of securing organisational buy-in and ensuring the organisation is in a position to undertake the programme. The Are you fit enough? phase focuses on this. In some cases it may be that a telehealth programme goes no further as the necessary support, skills or resource are not available. If proceeding would have resulted in failure, it is better to know this prior to mobilising a service. There are many cases where telehealth has been undertaken, even though chances of success were minuscule.

The Ready, Steady and Go phases require working through as part of the programme of change management. They cover the project planning, pilot implementation and roll-out of the service.

The final phase, Chequered flag, is another phase which tends to be overlooked. Having delivered the telehealth programme, a decision is required upon whether to expand the service, abandon it or continue ‘as is’ until new evidence, finance or resource becomes available.

If overlooked this phase tends to result in programmes which report success but are never mainstreamed and tend to disappear over time.

Planning for sustainability can never start early enough, but this final phase gives particular emphasis and insight into how the work undertaken could become a mainstream service.

One other thing to remember is that you may find this toolkit hard work and you may struggle to meet all of the suggestions. However, working through the toolkit will give you a much better chance of success. Do not give up on it or your telehealth programme. As Thomas Edison said “Many failures... did not realize how close they were to success.” Run the race, keep the finishing line in view and bask in the glory of your ultimate success!
The authors have been involved in the deployment of telehealth and change management for a combined period approaching 30 years. Based on this experience, programme management of telehealth initiatives, and of conducting workshops and training events to support telehealth implementation, we were increasingly becoming aware of the need for reliable, unbiased information. Additionally we conducted a formal systematic literature review of the barriers and facilitators for telehealth and discovered that many of the obstacles being reported were ones we were familiar with and had put strategies in place to overcome. It is our hope that by sharing our experiences and formalising this into a framework for deployment that barriers commonly observed can be overcome and we can move towards effective deployments which support individuals in their healthcare choices.

An overview of the methodology is provided in Fig A1. In essence three processes were undertaken:

1. Identification and prioritisation of the key barriers based on a systematic literature review and the authors experience.
2. Barriers and solutions considered in light of the authors’ experience.
3. Refinement was undertaken by the authors and subsequently by a varied team of independent experts (see acknowledgements for details). Individuals who assisted in the validation process were known contacts of the authors who have been involved in the delivery of telehealth nationally and internationally.
The authors are grateful to the following for their comments, insight, recommendations, support and encouragement. Without their support the quality of this toolkit would have been compromised.

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Ulla-Maija Pesola  
Research Assistant, Department of Informatics,  
Umea University, Sweden
"Telehealth is a great opportunity, and this toolkit provides an important guide for the European health authorities that want to make their telehealth services successful and sustainable."

**Andrea Leto**, Tuscany Region, Health and Social Regional System, Head of Unit and Coordinator of the RICHARD Project, Italy

“Telehealth services are increasingly being delivered through integrated health and social care pathways supporting people to move from being passive recipients to active participants in their care. Telehealth promotes independence and self care, however few services are able to deliver effective mainstream telehealth services. This comprehensive and well ordered toolkit should be a major addition to the field and help us all to deliver effective and efficient telehealth solutions.”

**Paul Higginbottom**, Business Manager, Barnsley Council Independent Living at Home Service, UK

This toolkit seeks to support the mainstreaming of telehealth by providing a robust framework in which telehealth can operate. It is structured around the following phases of a race:

- **Are you fit enough?**: To ensure sufficient organisational support and a clear mandate is given
- **Ready**: To undertake detailed planning, consultation and procurement prior to commencing implementation
- **Steady**: A controlled small scale implementation and review
- **Go**: Full scale implementation against the project brief
- **Chequered flag**: An opportunity to take stock, feedback results to senior management and plan for the future.

We believe the analogy is appropriate to demonstrate the practicality of the steps required to deliver a successful telehealth programme. We also hope it will help you pass on the lessons you learn to others.