TEC in Aberdeen City

A framework to support technology and digital systems to be used to help people to keep well, to be independent and ensure they receive the right support at the right time when in need.

2018 - 2021

Introduction

Aberdeen City Health and Social Care Partnership (ACHSCP) has been set up in response to the Public Bodies (Joint Working) (Scotland) Act 2014 and seeks to change patterns of behaviour, planning, and delivery across health and social care, in order to deliver more joined up, community based models.

These new models will include the use of technology to help people remain healthy and well, and to assist in the delivery of care when people who need support. Digital technology is key to transforming health and social care services so that care can become more person-centred[1]. The use of technology within our health and care systems is part of our modernising approach to working with people, communities and the professionals within our organisation, as described within the ACHSCP Transformation and Change Plan[2].

The partnership's vision for Primary and Community Care[3] presents a developing blueprint which identifies a changing relationship between people and health and social care systems. This vision includes widening the first point of access; effective triage; and transforming the way that people access information: in summary, improved, accessible support where needed.

This Technology Enabled Care Framework is for both the citizens of Aberdeen (including unpaid carers), and for our workforce and partners. It provides a supporting structure for how technology will be used for delivery of our transformation plan including implementing the vision for primary and community care.

The framework recognises that technology is a fast-moving field. **The framework does not seek to restrict what may be possible, but to create the environment for technology to be identified and used**, to:

- Help people maintain their own health and wellbeing, and help support their friends and families to live in a community setting for as long as possible
- Support professionals to carry out their roles effectively and efficiently
- Provide greater levels of support than would be possible through traditional means
- Manage challenges that present as a result of changes in our workforce
- Improve links between individuals and their communities and across communities with common areas of interest

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[1] Scotland's Digital Health and Care Strategy March 2018   http://www.gov.scot/Resource/0053/00534657.pdf

[2] The Aberdeen City Health and Social Care Partnership Transformation and Change Plan was considered by IJB on 30 January 2018:
https://committees.aberdeencity.gov.uk/documents/s78853/5.1.%20Transformation_and_Change_Plan.pdf

[3] "Reimagining Primary and Community Care – a vision for Aberdeen" was considered by IJB on 30 January 2018:
https://committees.aberdeencity.gov.uk/documents/s78859/8.1%20Primary%20Care%20Paper%20Final%20Draft%201.pdf

What is Technology Enabled Care (TEC)?

Technology Enabled Care, often shortened to TEC, can be defined as: *"where outcomes for individuals in* *home or* *community settings are improved through the application of technology as an integral part of quality cost-* *effective care* *and support."[4]*

Examples of TEC include:

- The internet and on-line apps for information, communication and learning
- Sensors fitted into homes to alert for danger
- Home health monitoring to support self-managing of conditions
- Equipment and adaptations which help people with disabilities to see, hear, move around and live independently.
- Video conferencing to allow professionals and people receiving care to converse remotely.

Why do we need TEC?

- To provide local, responsive information or support
- To help prevent illness and injury
- To help services and support become more flexible, responsive and effective
- To help us monitor how well services are working
- To help us design and introduce changes
- To help to ensure that services are efficient and affordable

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[4] Ref: Joint Improvement Team: Technology Enabled Care Programme

National Context:

Overarching policy and strategy

"Realising Scotland's full potential in a digital world": A Digital Strategy for Scotland[5] describes plans for ensuring that digital is at the heart of everything we do - in the way in which we deliver inclusive economic growth; reform our public services; prepare our children for the workplace of the future; and tackle inequalities and empower our communities.

The related: "Scotland's Digital Health and Care Strategy[6]" is due to be published in Spring 2018. Other relevant national documents include "A Connected Scotland: Tackling social isolation and loneliness and building stronger social connections[7]", and "TEC Supporting Citizens Connections Report 2016-17[8]"

Programmes

Work around TEC is underpinned through the National TEC Programme[9] – the overall aim of the TEC Programme is about significantly up-scaling tried and tested approaches across the following interlinked workstreams:

- Extending the use of home health monitoring
- Expanding use of video conferencing across all health and social care sectors, as well as growing its use for clinical/practitioner consultations
- Building on the emerging national digital platforms to enable direct access to advice and assistance
- Expanding the take up of Telecare with focus on prevention, points of transitions in care and dementia
- Exploring the scope and benefits of switching from analogue to digital

The Scottish Centre for Telehealth and Telecare[10] supports the development and expansion of technology enabled health and care services in Scotland. This involves working with industry, academia, local authorities, NHS Boards, health and social care partnerships, and third and independent sectors to develop recognised models for redesigning health and care services.

Joint National Delivery Plan[11]: A joint National Delivery Plan from the Scottish Government, CoSLA and NHS Scotland, this sets out the vision and direction for a Scotland in which the use of technology, playing an increasing role in our everyday lives, will be integrated into service development and delivery, transforming access to and availability of services in our homes and communities and more acute settings.

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[5] http://www.gov.scot/Publications/2017/03/7843

[6] https://www.ideas.gov.scot/the-future-of-health-and-social-care-in-scotland/?sort_order=rated

[7] http://www.gov.scot/Publications/2018/01/2761

[8] http://www.ehealth.nhs.scot/wp-content/uploads/sites/7/2017/11/2017-11-22-TEC-Annual-Report.pdf

[9] http://www.jitscotland.org.uk/action-areas/telehealth-and-telecare/technology-enabled-care-programme/

[10] https://sctt.org.uk/

[11] http://www.gov.scot/Publications/2012/12/7791

Local Context:

The Aberdeen City Health and Social Care Partnership Strategic Plan[12] sets out our vision as:

"We are a caring partnership, working together with our communities to enable people to achieve fulfilling, healthier lives and wellbeing"
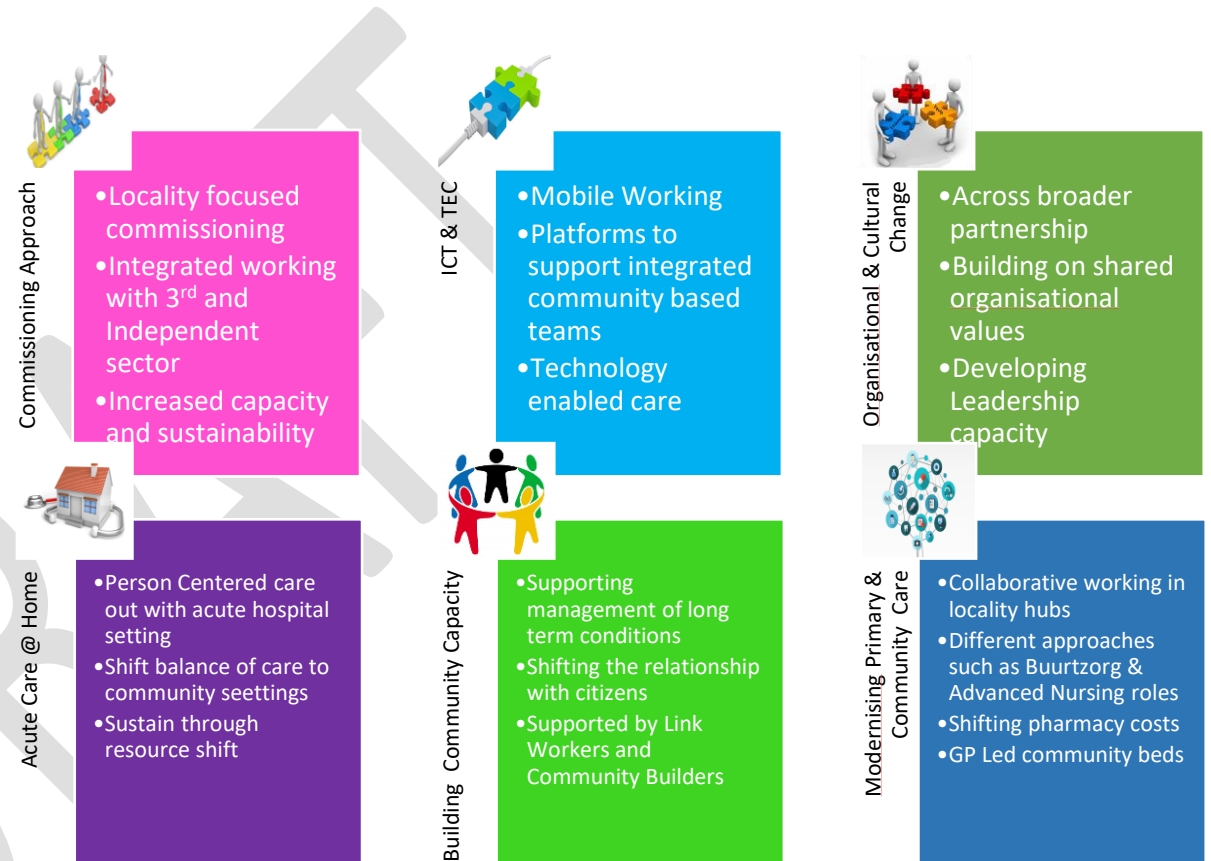
To deliver this vision, we are developing locality planning and management structures to support a person-centred approach, recognising that our citizens are part of social systems and interconnected communities.

All of this is being done in the context of challenges around workforce and resources which are finite.

We have developed a transformation programme that sets key priorities and building blocks which will start to deliver our transformation plan.

IT, Infrastructure, Data Sharing, including TEC is one of the six "big tickets" within our transformation programme, as well as TEC being integral to delivering on many of our specific priority transformation projects, such as "Acute Care at Home".

Our capital programme (working with ACC and NHSG) provides further opportunities to deliver the TEC Framework across a number of buildings projects including linking into wider workstreams including the Elective Care Programme which will provide treatment and diagnostics in community hub settings.
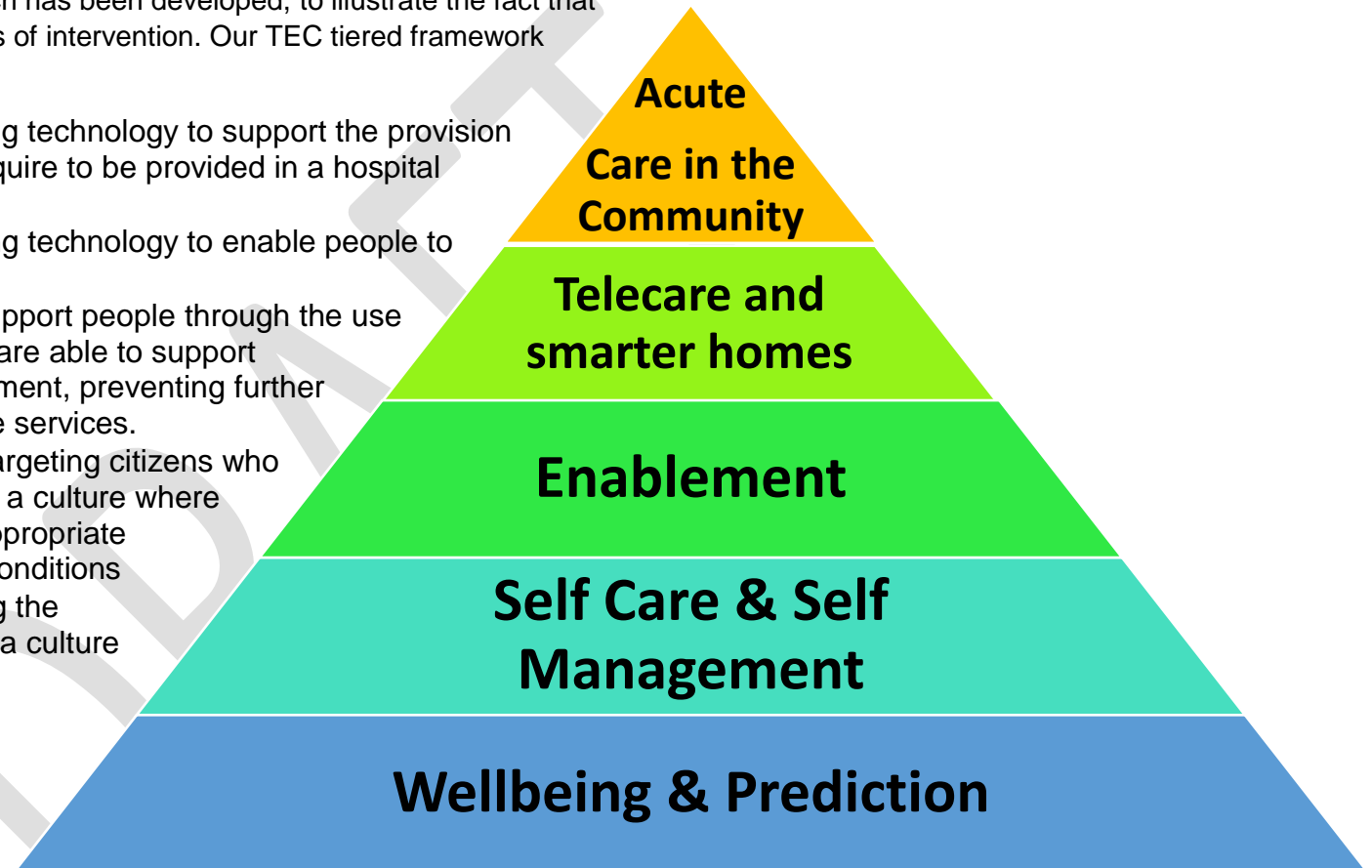
Commissioning Approach
- Locality focused commissioning
- Integrated working with 3rd and Independent sector
- Increased capacity and sustainability

ICT & TEC
- Mobile Working
- Platforms to support integrated community based teams
- Technology enabled care

Organisational & Cultural Change
- Across broader partnership
- Building on shared organisational values
- Developing Leadership capacity

Acute Care @ Home
- Person Centered care out with acute hospital setting
- Shift balance of care to community seettings
- Sustain through resource shift

Building Community Capacity
- Supporting management of long term conditions
- Shifting the relationship with citizens
- Supported by Link Workers and Community Builders

Modernising Primary & Community Care
- Collaborative working in locality hubs
- Different approaches such as Buurtzorg & Advanced Nursing roles
- Shifting pharmacy costs
- GP Led community beds

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12 https://www.aberdeencityhscp.scot/about-us/our-strategic-plan/

A Tiered Framework Approach

To support our TEC framework, a tiered approach has been developed, to illustrate the fact that different types of need will require different levels of intervention. Our TEC tiered framework consists of five levels:

- **Acute Care in the Community -** using technology to support the provision of acute care that otherwise would require to be provided in a hospital setting
- **Telecare and Smarter Homes** – using technology to enable people to remain at home independently
- **Enablement** – using technology to support people through the use of assistive technology[13] so that they are able to support themselves within their home environment, preventing further dependency on health and social care services.
- **Self Care and Self Management** – targeting citizens who have long term conditions, supporting a culture where people have a key role in choosing appropriate treatments and managing long term conditions
- **Wellbeing and prediction** – targeting the generally well community, supporting a culture where people recognise their own accountability and responsibility in protecting and maintaining their own health, and the health of their family members and friends.

Pyramid tiers from top to bottom: Acute Care in the Community; Telecare and smarter homes; Enablement; Self Care & Self Management; Wellbeing & Prediction

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[13] Assistive technology is technology used by individuals with disabilities in order to perform functions that might otherwise be difficult or impossible. It includes mobility devices such as walkers and wheelchairs, as well as hardware, software, and peripherals that assist with accessing computers and other information technologies.

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Examples of types of technology related to each TEC Framework tier:

Acute Care in the Community
- Dialysis
- Robotics assisting clinicians
- Digital diagnostics
- Devices and systems to support remote clinical connectivity

Telecare & Smarter Homes
- Telecare home monitoring – movement sensors, gas monitors etc
- Community Alarm
- Falls, moisture & breathing mats

Enablement
- Medication Dispenser
- GPS Tracking (Buddy System)
- Simplified Devices / assistive technology

Self Care & Self Management
- Videos and information
- Florence (a simple medication reminder service where an SMS text is sent to the patient according to schedule)
- Digital Postcards

Wellbeing and Prediction
- Apps (Couch 2 5k etc.)
- Internet
- Wearable TEC (such as wrist based fitness monitor, BP monitor etc.)

Moving from Current to Future State

It is important to recognise that there are many examples of good work already in place in Aberdeen. Some of these are listed in the table below along with a description of how things may look in the future and three priority activities for each of the framework tiers.

	What are we currently doing	What will we do	Top 3 Priority Activities (for each framework tier)	Resource Requirements	Timescale
Wellbeing & Prediction	**Processes** Healthy Working Lives	**Processes** Processes for engaging with community wellbeing groups Work with schools, universities etc to pass on information and training	WP1: Improving access to free WIFI in areas of deprivation across the city	ACC digital city project	tbc
	Organisation	**Organisation** Support communities to support themselves through joined up cross partner working	WP2: Adoption and promotion of the new National Service Directory including Mapping exercise of opportunities in localities to improve signposting. NHS Grampian is one of 4 pilot sites	Project managed by NHS 24 £10k year 1 for initial input of data	Autumn 2018
	Technology Lifestyle monitoring	**Technology** Develop community links and other targeted apps to promote and encourage wellbeing and prediction. Consider providing a wellbeing technology rental service.			
	Information	**Information** Promote existing wellbeing opportunities such as park runs, boot camps, local jog scotland groups etc. Promote wellbeing apps and online information Signpost to digital wellbeing equipment	WP3: Develop plan for promotion of activities that can keep you well through social media and on-line	Digital Marketing & Development Officer	Year 1

	What are we currently doing	What will we do	Top 3 Priority Activities (for each framework tier)	Resource Requirements	Timescale
		Training/ education for citizens and workforce on TEC for wellbeing and prediction			
Self Care & Self Management	**Processes** Telecare assessment Signposting Educating and enabling	**Processes** Education and enablement mainstreamed	SCSM1:Patient/ staff information videos to be increased and made more accessible/ visable	Video support est: £40,000. PM with operational input for BC (ex. Resources)	Year 2
	Organisation Highly trained service delivery staff	**Organisation** Streamlined sharing of information All staff trained to be aware of opportunities as they arise and empowered to make appropriate decisions	SCSM2:Florence projects, increase uptake form GP's	Est. £5000 per year	Year 1
	Technology Mainstream devices Self help websites and apps Wearable technology eHealth equipment My diabetes my way	**Technology** Integrated systems Analogue to digital Digital consultations Citizens able to manage their symptoms electronically	SCSM3:TEC section on ACHSCP website/ social media	Digital Marketing &Development Officer/ BA	Year 2
	Information Information leaflets Information on-line Digital postcards Accurate information on referrals	**Information** Citizens able to access their record digitally Citizens able to access information digitally Information sources are verified.			
Enablement	**Processes** Enablement training programme	**Processes** Enablement approach becomes something that is business as usual	E1: Increase available information about telecare and telehealth. Improve on existing provision and promotion	Digital Marketing & Development Officer £40k per year (spend to save)	Year 1
	Organisation Response services Staff training	**Organisation** Cross sector training in using technology for enablement.			

	What are we currently doing	What will we do	Top 3 Priority Activities (for each framework tier)	Resource Requirements	Timescale
	Client training	TEC champions identified who have knowledge of TEC opportunities and how these may enhance service delivery Workforce (cross sector) has access to and uses digital technology in an integral manner to their business as usual operations	E2: Rolling education / training programme for staff (TEC champions). Link Workers as champions? So that staff work with patients own technology to support ongoing interventions.	BAC/ OD Facilitators, Digital M&D Officer	Year 1
	Technology Medication dispensers Falls detectors Buddi system – GPS monitoring Just Checking – lifestyle monitoring Digital postcards SMS Texting	**Technology** In home video monitoring Wearable and implanted devices Digital rental store Care home patient/ family interface monitoring	E3: Utilise existing GP data to identify patients with conditions that would benefit from technology. E4: Implement in City practices and other appropriate settings improved digital infrastructure, and systems for promoting virtual consultation	Business Analyst (within existing resources) Delivered in practices through Primary Care Digital Fund – being delivered cross Grampian.	Year 2 Year 1
	Information Signposting to… Self help digital information	**Information** Online videos for occupational and physical therapy – for generic and personalised advice cascade/ equipment usage			
Telecare & Smarter Homes	**Processes** Clear processes for referrals Links with Regional Communication Centre established Battery testing regime and fault management in house	**Processes** Fully integrated processes including housing providers	TCSH1: "Think TEC" campaign TCSH2: Investigation and scoping of widely available technology such as Alexa and other domestic smart technologies. (Including	Digital Marketing & Development Officer, TEC Champions Business Analyst (existing resource)	Year 2 Year 2
	Organisation	**Organisation**			

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	What are we currently doing	What will we do	Top 3 Priority Activities (for each framework tier)	Resource Requirements	Timescale
	Appropriate information is shared Good partnership working links are in place	All staff are engaged and feel ownership. Staff are aware of opportunities that exist. Staff think TEC and use TEC as a first option when considering how to support and care for clients.	scoping systems that technologies could fit into.) TCSH3: Develop plan to ensure our systems match the national road map and timeline for analogue to digital, and in line with available and developing infrastructure (influencing where required)	Business Analyst / Programme Manager (existing resource)/ Telecare Team	Year 2
	Technology Ongoing research and updating of new technology Analogue to digital testing is underway Support in specialist housing (lifestyle monitoring etc.)	**Technology** Move from analogue to digital Wifi is affordable and widely available Smart technology in all care homes Telecare sensors Maximise opportunities presented by domestic smart technologies in the home such as smart televisions, alexa type devices etc.			
	Information Leaflets Website (which website?) Demo area at Hillylands Presentations to partners on opportunities Posters	**Information** Communication via social media on opportunities Digital postcards Improved information sharing			
Acute Care in the Community	**Processes**	**Processes** Community/ home diagnostics testing prior to hospital appointments (i.e. bloods) Community investigations hub to support local testing and diagnostics	ACH1: NEWS Scoring roll out (Community nursing teams – Kit already bought) (Sepsis testing) Including scoping how this links into systems.	OD support for training. Additional kit for post-test roll out (kit for test of change has already been purchased.)	Year 1 – test Year 2 – roll out
	Organisation	**Organisation** Clinician as technology enablers Trained staff across all professions			

What are we currently doing	What will we do	Top 3 Priority Activities (for each framework tier)	Resource Requirements	Timescale
	Staff trained to undertake more investigations and diagnostics at home. Incorporate TEC education into undergraduate medical and NMHAP curricula.	ACH2: Expedited discharge (or avoiding admission) – using technology as part of discharge bundle. (Remote monitoring, video chat, technology as an adjunct to care provision, etc.)	Potential kit purchase, including devices and video connection technology	Year 2
Technology Telemedicine – Attend Anywhere	**Technology** Diagnostics at home 24/7 Portable diagnostic and monitoring devices/ equipment Ability to transmit live (or near live) diagnostic results and vital signs monitoring. Mobile devices (phones, laptops, tablets)	ACH3: Digitising referral processes (e.g. GP referrals to Social Services)	Business Analyst (existing resource), Care Management/ OD training support.	Year 3
Information	**Information** Information sharing systems in place Access to TrakCare hospital EPR and vital signs software. Information for service users and their families about what to expect Collection of data			

Note: In relation to existing resources required, it would be intended to source resources for delivery of these activities through relevant TEC funding streams available for bidding against nationally, where possible.

Cross Cutting Enabling Plan

There are a number of activities that have been identified that will be important for enabling the delivery of our priorities attached to each of our Framework tiers. These are set out in the table below:

Activity	Resource Requirements	Timescale Short: commence within 12 months Medium: commence within 3 years Long: commence within 5 years	Framework Tier Links
Communications and Engagement			
1. Develop range of instructional videos and active signposting for services such as occupational and physio therapy/ virtual falls classes etc. and make available through partnership website and social media.	New: use of studio and video editing capacity. Existing: existing website development capacity.	Short	Wellbeing and Prediction Enablement
2. Develop and implement annual programme of media broadcasts via local community radio and television, and social media, covering all aspects of TEC framework.	Staff time to develop plan, participate in media broadcasts, and deliver social media communications	Short	Telecare and Smarter homes
3. Develop and implement targeted annual engagement plan to promote and listen to ideas for TEC opportunities.	Staff time: to plan and undertake targeted engagements.		
4. Develop instructional videos and other media to promote devices and apps that are designed to help people keep themselves well and prevent poor health.	Staff time to research, and design and produce media.	Medium	
5. Extend and maximise opportunities for communication using existing technology such as Microsoft Teams and Attend	Staff time to implement and training. There should be efficiency savings due to more efficient use of time.	Medium	

Activity	Resource Requirements	Timescale Short: commence within 12 months Medium: commence within 3 years Long: commence within 5 years	Framework Tier Links
Anywhere to increase opportunities for effective and efficient communications		Medium	
Workforce			
6. Identify TEC Champions across all sectors of the organisation.	Staff time: to identify champions and backfill for these champions to spread new ways of working across their peers.	Short	Self Care and Self Management Enablement
7. Integrated training to support wider partnership workforce to think TEC and use TEC as a first option when considering how to support and care for clients, and in guiding citizens and their communities to maintain their own wellbeing.	Staff time: to develop integrated training opportunities, and to participate in training/ induction programmes.	Medium	Telecare and Smarter Homes Acute Care @ Home
Personalisation			Self Care and Self Management
8. Service practitioners to utilise video to provide personalised instruction reminder videos for clients (such as physio/ OT)	Devices for practitioners (link to IT transformation workstream)	Medium	
9. Citizens able to access and input into own medical records.	National once for Scotland project	Medium	Enablement
Technology			Wellbeing and Prediction
10. Develop targeted apps/ online information tools to help people remain well: • Link App/ National Service Directory • Choose Life App	Staff time to develop brief for resource/ input local requirements into wider projects. Resource to commission bespoke solutions.	Short Medium	Self Care and Self Management

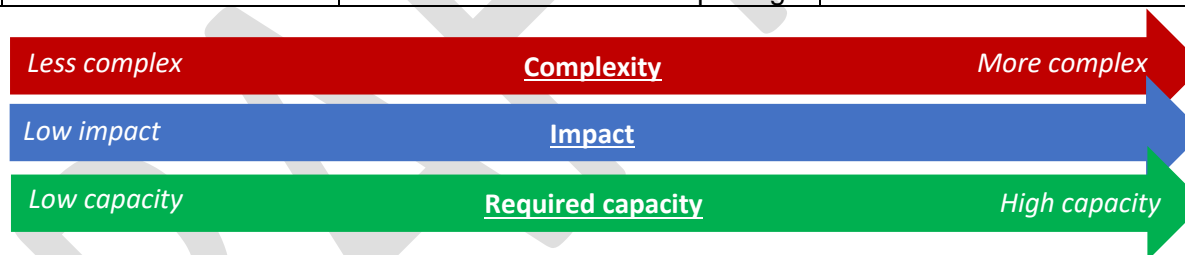| Activity	Resource Requirements	Timescale Short: commence within 12 months Medium: commence within 3 years Long: commence within 5 years	Framework Tier Links
• Adult Support and Protection App	Staff time to scope and evaluate options.		Enablement
11. Scope potential for wellbeing technology rental provision		Medium	Telecare and Smarter Homes
	Resources requirements relate to purchase of devices, staff and client training.		
12. Continuous improvement and embedding of existing technology: move existing technology provision from analogue to digital; publicly available wifi etc	Staff training, resource for equipment.	Medium	Acute Care @ Home
13. Implement in an agile way new technology that supports people to remain at home or in a community setting. Including: video consultations	Resource for equipment, planning time and communication and engagement	Medium	
14. Technology available in local communities to support citizens to monitor their own wellbeing and receive advice.	Resource for equipment.	Medium	
15. Mobile diagnostic technology available for use by healthcare professionals to prevent requirement for citizens to attend acute sector premises.	Resource for equipment	Medium	
16. Mobile devices for staff.	Resource for equipment	Medium	
Planning/ Processes			Wellbeing and Prediction
17. Integrated cross partner planning in the development of new homes, communities, amenities etc.	Staff time to communicate and plan with range of relevant partners.	Medium	

Activity	Resource Requirements	Timescale Short: commence within 12 months Medium: commence within 3 years Long: commence within 5 years	Framework Tier Links
18. Effective information sharing systems in place	Links to national once for Scotland programmes. Resource required to digitise existing non-digital information.	Medium	Self Care and Self Management Enablement Telecare and Smarter Homes Acute Care @ Home
Digital Inclusion 19. Work with range of partners to support digital inclusion (1 in 5 people lack basic digital skills, 1 in 12 have never been online) including: • Building the capacity of all citizens to be able to access information digitally • Social prescribing to digital skills training • Improving access to devices and digital skills training# • Free public wifi	Greater use of digital will reduce costs involved in providing services and information. It can also help ensure better adherence to medicines and treatments which may reduce longer term resource requirements. Resources required – range of partners including libraries, CLD, independent, third sector, commercial organisations, specialist digital inclusion partners		Wellbeing and Prediction Self Care and Self Management Enablement Telecare and Smarter Homes

How will we know if this TEC framework is effective?

Evaluation of the TEC framework will take a multi-phased approach. First, individual activities from the implementation plan will be mapped against the corresponding tier within the framework to structure the reporting of progress. Second, implementation activities will be iteratively refined to ensure that quantifiable metrics can be derived to demonstrate the extent of delivery. Third, activities will be assigned a code to determine the complexity of analysis necessary to determine impact. The below table highlights the multiple levels of complexity that could potentially be utilised:

Implementation activity	Base-level evaluation (binary)	Step-up evaluation (descriptive)	Complex evaluation (impact)
"Citizens able to access and input into own medical records"	-Yes -No	-No. of citizens accessing records -Information citizens are accessing -Information citizens are inputting	-Improved knowledge of health -Perceived health self-management

Less complex	**Complexity**	More complex
Low impact	**Impact**	
Low capacity	**Required capacity**	High capacity

Due to the complexity of the workstreams within this framework, the evaluation is likely to utilise a combination of the above to demonstrate impact. Within each tier of the framework, detailed case studies will be identified from which to illustrate the impact of specific projects, whilst a blend of descriptive-level and binary-level evaluation activities will compliment these to provide an overall understanding of implementation across tiers. The degree of evaluation conducted across each implementation activity will be determined by whether the activity predominantly provides proximal or distal impacts in relation to supporting and maintaining wellbeing and independence of individuals. Once established by the project team, the appropriate monitoring mechanisms will be developed to ensure accountability and the appropriate collating and reporting of activities to determine progress.

To reference:

Digital Health and Care in Scotland –Report of the Expert Panel

http://www.gov.scot/Resource/0053/00534667.pdf

Digital Participation Charter

https://digitalparticipation.scot/sign-up