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GUIDELINES FOR IMPLEMENTING INTEGRATED CARE IN POLICY AND PRACTICE
THE JOURNEY TO DEPLOYING SCALABLE INTEGRATED HEALTHCARE SERVICES

February 2017

An evidence review with key learning from the CareWell project
1. INTRODUCTION

About this report

This report provides support and guidance to policy-makers and managers with the responsibility to implement ICT-enabled programmes of integrated healthcare services across Europe and internationally.

The principal purpose of this report has been to bring together the collective experiences in the deployment of integrated care across the six European region sites of the CareWell project. However, whilst there have been many lessons to learn from this analysis, it was recognised that the breadth of the reported issues in deployment had its limitations, and would not offer a comprehensive insight into the range of issues to be considered for successful implementation of integrated care programmes.

With this in mind, the guidance developed in this report has sought to bring together an original analysis of the ‘state of the art’ in the implementation of integrated healthcare services (non ICT specific) through an evidence review. It then seeks to examine some of the most important issues reported by the six CareWell sites to provide context-specific knowledge on implementation practices, and how they have enabled progress to be made.

• The report seeks to establish guidance on the key steps needed in the commissioning and/or implementing of ICT-enabled integrated healthcare services. Specifically, it provides guidance and support to help:
  • understand the core steps required to implement integrated care programmes;
  • recognise the importance of relational factors in enabling implementation, and the time that it takes to implement complex service innovations effectively;
  • examine approaches for the strategic alignment, deployment and measurement of the impact of ICT-enabled services effectively through redesigned care pathways that focus on delivering better personalised, co-ordinated care for care recipients and their family carers;
  • map, understand and harness the potential of existing resources (people and ICT) already available within the local health systems to make this happen; and
  • support and implement local innovations that are responsive to advances in technology, and that will enable the increasing use and maturity of integrated eCare at scale over time.

The content in this document is not intended as a fully comprehensive compendium of guidance to assist with taking forward ICT-enabled integrated healthcare services. The guidance within it is provided to help inform the core managerial issues required to support the successful development and deployment of ICT-enabled integrated healthcare in practice. The report is intended to assist regions and organisations in understanding the complexity of the components necessary to build integrated healthcare delivery systems, and so enable them to better realise the benefits of such service delivery strategies.

Structure of the document

To achieve the aims as outlined above, the document is structured as follows:

Section 2 provides a brief overview of the context for this work to describe how it fits within the overarching aims of CareWell.

Section 3 provides the ‘state-of-the-art’ evidence review for the implementation of integrated care in policy and practice. It presents a stepwise model that outlines the core steps that need to be taken across three key phases: planning; implementation and monitoring; evaluation and continuous quality improvement.

Section 4 examines the lessons and experiences from the CareWell sites in the strategic planning phase of deployment. This includes the ‘technical’ aspects of planning related to examining the needs of local populations and the client groups that should be targeted, and the ‘value case’ behind the proposed interventions that are then considered. It also includes a look at the importance of the ‘relational’ components in supporting implementation, including the need to build a guiding coalition of partners and the co-creation of a vision for future ICT-enabled integrated care provision and subsequent strategic plan.

Section 5 turns its attention to the experience of the CareWell sites in the implementation of these strategic plans. It examines how the CareWell sites have approached issues from commissioning / procurement of services to the delivery of care in practice. Again, the importance of ‘relational’ issues such as the education and training for professional staff to work collaboratively are addressed, including the importance of good communication and relationship-building activities.
Section 6 examines how the CareWell pilot sites addressed the issue of evaluating their interventions and services, and what steps they were able to put in place to ensure continuous quality improvement over time.

Finally, Section 7 brings together the key lessons from the evidence and the CareWell experience to support an understanding of the key issues and questions that managers and policy makers must address to support the effective implementation of ICT-enabled integrated healthcare.

**Glossary**

ACG  Adjusted Clinical Groups  
CCM  Chronic Care Model  
CHF  Congestive Heart Failure  
COPD  Chronic Obstructive Pulmonary Disease  
CVD  Cardiovascular Disease  
DMIC  Development Model for Integrated Care  
ICO  Integrated Care Organisation  
ICT  Information, Communication & Technology  
JSNA  Joint Strategic Needs Assessment  
MAST  Multi-dimensional Assessment for Telemedicine  
MHOL  My Health Online  
NFC  Near Field Contact  
OJEU  Official Journal of the European Union  
PDSA  Plan Do Study Act  
RAIL  Risks Actions Issues Learning  
WHO  World Health Organisation
2. INTEGRATED CARE AND THE CAREWELL CONTEXT

What is integrated care?
Integrated care is a concept that is widely used and accepted in different health and care systems across the world. In Europe, fostering integrated care has become an ongoing policy concern for the World Health Organisation, European Union, and most national and regional governments. This movement towards integrated care comes as a response to the significant shift in demographics that has seen age-related and long-term chronic conditions replace communicable disease as the most significant challenge facing all health and care systems.

Integrated care is a concept that has been defined in many different ways, and can best be regarded as an overarching term for a broad and multi-component set of ideas and principles that seek to overcome fragmentation in the organisation of care, and to better co-ordinate care around people’s needs. It is therefore a particularly important strategy to improve care and outcomes for people with complex health and social care needs.

The objective of CareWell has been to address fragmentation in healthcare delivery services, and enable better co-ordinated and more continuous care for older people and those living with chronic conditions through the use of ICT-enabled healthcare provision. Hence, the core aim of CareWell fits directly with the European agenda on care integration.

CareWell objectives
CareWell has focused on the delivery of ICT-enabled integrated healthcare services to frail, multi-morbid elderly people through the development and implementation of two care pathways which used a range of ICT tools to facilitate care co-ordination, patient empowerment, and home support. The project included a comprehensive evaluation using the MAST framework which examined the outcomes, results and findings across seven domains.

Guiding principles
Each site has underpinned their CareWell services with a project-level set of guiding principles associated with delivering care as follows:

- Shared values and objectives to ensure all participants are committed to delivering high quality, sustainable care services to care recipients.
- Care recipient centred and population health focus that includes care recipients and family carers in healthcare decision making.
- Co-ordinating care and sharing relevant information with all care practitioners and support workers.
- Deploying evidence-based good practices to improve care quality and care delivery variation.
- Accessible and shared electronic health records with information following the care recipient through their care pathway journey.
- Establishing new ways of working and helping to create a workforce which is professional, flexible and operating in an integrated way.
- Continuous innovation and applying the learning to make improvements.
3. IMPLEMENTING INTEGRATED CARE: A REVIEW OF THE EVIDENCE

3.1 Introduction

“The experience of organisations that have made the transition from fragmentation to integration demonstrates that the work is long and arduous. [Managers responsible for achieving change] need to plan over an appropriate timescale (at least five years and often longer) and to base their actions on a coherent strategy” [1, p.7].

Enabling health systems to become more coordinated and integrated in how they function in the delivery of care to patients, particularly where this involves significant investment and use of ICT innovation, can be a long-term and complex task. In particular, evidence points to the need for “simultaneous innovation” in both the development of the technical components of service delivery (i.e. of information and communication technologies) with the ability to transform the way health and care services work [2, 3].

The issues involved in supporting service transformations like those undertaken across the six deployment sites of the CareWell project are complex. In addition to effective ICT development and deployment, a number of other key strategic issues must be considered, such as:

- the ability to engage and empower people to encourage self-care strategies or support shared decision making between patients and providers;
- the creation of well-functioning inter-disciplinary teams of care practitioners supporting care delivery that are effectively co-ordinated;
- the management of effective networks between partners in care;
- the alignment of financial flows and organisational governance; and
- the promotion of action at a political and practical level to support such innovations that attempt to embed ICT-enabled integrated care as an accepted and legitimate approach to care delivery.

There is a recognition that the complexity of integrated care requires pro-active management support and action, yet there has been little guidance produced that might help to understand the various processes that are necessary to support implementation [4]. This section, therefore, seeks to articulate the core components of an implementation strategy for taking forward integrated care policies in practice at a local and regional level. Some of the more specific lessons from the CareWell sites are articulated in sections 4-6 of this document.

3.2 The evidence base on implementation

There is a lack of evidence in written literature that has researched and articulated the process of designing, piloting, implementing, assessing and scaling-up innovations that support integrated care [5]. Most existing frameworks describe the process as highly ‘complex’ given the range of stakeholders that must necessarily be involved in working together in devising new approaches to integrated care [6-8]. Hence, pro-active implementation strategies are implied, but there is a lack of appreciation and understanding of the complexity of this process, and of the tools that can help support implementation in practice [9-11].

Evidence from experience and research has contributed much to our understanding of the building blocks for the effective deployment of integrated care. However, there is evidence to suggest that there is a lack of appreciation of the necessary implementation skills and processes needed [12]. In part, this lack of understanding is because achieving success through integrated care appears highly complex, since it involves change at the nano- (e.g. with patients) micro- (e.g. with multi-disciplinary teams) meso- (e.g. through organisations of physician networks) and macro-scale (e.g. by alignment of government policies) [13-14].

Hence, efforts to reform complex systems through ICT-enabled integrated healthcare need to look at ‘whole system’ change with a priority to influence the high level behaviour of key decision makers, the performance of individual sub-systems and, crucially, the interdependencies between different stakeholders and how these impact on outcomes.

In the field of integrated care, the most coherent approach to date that seeks to explain how the management of integrated care may be taken forward is the Development Model for Integrated Care (DMIC) [8]. The DMIC is a complex evidence-based model; it includes 89 unique elements for action, grouped into nine clusters. These clusters provide a basis for a model for the ‘comprehensive quality management’ of integrated care.
The DMIC is an important resource when considering the deployment of ICT-enabled integrated care at scale, since it describes strategies to be undertaken at different phases of implementation. The DMIC approach has been applied with some success in practical settings, for example in the context of stroke care in Canada [15], yet there remain some caveats as to how the model might be adapted to the needs of populations with physical and mental health co-morbidities and complex health and social care needs.

Most recently, the World Health Organisation has published a series of papers examining the transformational processes necessary to achieve people-centred and integrated health services delivery. WHO Europe, for example, has published its European Framework for Action on Integrated Health Services Delivery [16]. The Framework provides an ‘implementation package’ designed for people and institutions in political and technical roles responsible for integrated care policy and practice [17].

In parallel with this, and based on its own examination of the evidence internationally, the WHO at global level has since published its Framework on Integrated People-Centred Services [18]. Having been ratified by WHO’s General Assembly in May 2016, it implies that all WHO member states (including across the EU) have signed up to the formal commitment to implement integrated care. In terms of implementation, the Framework sets out five interwoven strategies, which are not dissimilar to the guiding principles underpinning CareWell, that need to be implemented in order for health service delivery to become more integrated and people-centred:

- Empowering and engaging people and communities;
- Strengthening governance and accountability;
- Reorienting the model of care;
- Coordinating services within and across sectors;
- Creating an enabling environment.

In conclusion, the development of the evidence-base to support the uptake of integrated care remains in an early stage of development. Yet, much can be learned from the experiences of key leaders and managers who have been at the forefront of implementing integrated care strategies at a national and regional scale. Though captured through relatively few documents and presentations, a summary of the evidence would suggest that there are a number of key managerial lessons to be learned (see Box 1).

### 3.3 Core components of an implementation strategy for the management of integrated care programmes

Based on the evidence for implementation of integrated care summarised in section 3.2, this section sets out nine core components for the successful management of integrated care programmes; these were incorporated into activities within the various CareWell work packages. The nine steps represent a sequence of implementation actions required from the planning stages to issues related to strategic planning, implementation and evaluation (see Box 2).

#### Needs assessment

Integrated care represents a strategy that recognises the fundamental seriousness of the challenges faced by health and care systems to meet current and future demands. A first step in the process is to develop an objective understanding of population health needs to support the underlying rationale for integration, and to promote priority setting. This might be achieved, for example, through the development of a Joint Strategic Needs Assessment (JSNA) that looks at the wider determinants of health and needs of a local community.

Though the process varies in different countries across Europe, health needs assessments usually involve local health authorities with a responsibility for population health to work alongside public health departments, municipal authorities (social care), housing and other sectors to examine the current and future health needs of a local population. Such JSNAs might typically focus on a specific patient cohort (e.g. people with chronic illness, or older people with frailty) and enable priority setting by mapping the flow of financial resources spent on key priorities and/or examining gaps in care provision [26].
Implementing integrated healthcare faces a series of problems. These relate to issues such as: the legacy of existing service provision; changing environmental pressures; changing technologies; varying degrees of complexity of organisational systems; the many competing views of stakeholders; and the potentially adverse impact of unforeseen events or unintended consequences of different strategies. Managers therefore face the challenge in adopting the right tools and strategies for the circumstances they face.

The literature on implementation commonly shows how achieving change rests on actions at a number of levels, for example:

- the political system where formal and informal configurations of power influence decision making;
- the technical system of existing human, technical and financial resources available to produce more integrated service delivery; and
- the cultural system that encompasses organisational values and behaviours of those influenced by changes [27].

In other words, managers implementing integrated care need to recognise that change towards building the technical competencies of integrated care will be significantly influenced by economic, political and cultural forces that may be beyond their control.

A key diagnostic approach behind successful implementation is the use of diagnostic tools to assess the current situation in relation to what is trying to be achieved. These situational analyses attempt to yield insights on the ‘strategic fit’ of new approaches such as integrated care amongst key stakeholders, and are often used to justify change management programmes and/or to prioritise the focus of change.
One of the most pressing concerns in the process of developing integrated care strategies is how to convince key stakeholders, and particularly funding organisations, of the ‘value case’ for investment. A ‘value case’ looks at more than just the potential financial returns from the development of integrated care, but looks at the benefits to patients and whole communities of the approach, e.g. from the perspective of living healthier lives through to the development of stronger local economies.

The focus on value cases is important, since it helps to develop a shared vision and a set of common goals across different providers or teams. Hence, value cases do not just articulate the aims and objectives of integrated care based on the needs of local populations, but they also represent a proactive process through which to engage partners in care and build social capital.

Hence, in the design phase of an integrated care initiative, there needs to be inclusion of all relevant stakeholders in preparing the case for change, and, in so doing, establishing a shared understanding, a shared vision for change, a degree of mutual respect on each other’s roles in the integrated care enterprise, and the development or election of respected professional and managerial leaders whom people trust to take initiatives forward.

A common method for developing the value case behind investments is through the use of ‘logic modelling’. The approach is designed to build an in-depth understanding of how a programme is intended to deliver results. It seeks to assess the strength of the interventions assumptions, and identify cause-effect relationships. Moreover, it helps build relevant performance indicators and look into consistency of interventions. The approach can also be used to raise awareness and build a common understanding of the programme through engagement with stakeholders such as services users, patients and carers (e.g. see [28] and in the following Figure 2).

The essence of the approach to logic modelling requires those planning integrated care interventions to ask a range of important questions, such as:

- What is the problem or issue, and for whom?
- How do we know?
- Why is this a problem, and who cares?
- What factors can help us to resolve the problem?
- What resources are we using, and what do we need? (Staff, volunteers, equipment, technology, money, buildings etc)?
- What outcomes and/or outputs are we seeking to target through integrated care?
- What changes in outcomes can we predict from new ways of working?
- How might these benefit care recipients? How might they benefit care systems?
- What outcomes might be achieved in the short-, medium- or long-term?

It is the case that integrated care interventions rarely use sophisticated analysis by which to judge the logic, or value, of the integrated care programmes they seek to implement [29]. As a result, it can too often be the case that there is
no real logic behind integrated care activities, meaning that expectations are built on false assumptions (or none at all). This explains why efforts to promote integrated care are sometimes seen as ‘self-serving’ to meet a policy or management imperative rather than being seen as a ‘means to an end’ for improving care and outcomes for people.

In the CareWell project, as well as linked with projects such as SmartCare, the sites were assisted in their thinking through access to the ASSIST tool (and associated Service Implementation Simulator) as a means to systematically anticipate the positive and negative impacts of ICT-enabled integrated care to the benefit of all stakeholders [30, 31].

Vision and mission statement
Change management theory argues that it is important to articulate a vision of the future with a compelling case for change in order for implementation to be successful. Evidence from experience suggests that this is especially true for progress on the journey towards integrated care [1, 2]. This includes developing a clear understanding of what integrated care means for all those involved, including those delivering services, but also for those living in the community.

Important in this process is to create a sense of urgency (that business as usual will not work), but also to centre the narrative based on improvements in care and outcomes to people, and for quality improvement, in bold but reachable terms. The vision and mission also needs to be co-produced with key stakeholders, including patients, and perhaps even led by service users. A common strategy has been to develop a shared narrative of the future to explain why integrated care matters to both care providers and patients.

Strategic plan
A strategic plan is the document that is used to communicate within and between the organisations involved in the planning and delivery of integrated care the core actions and critical partnership elements necessary to achieve shared goals and outcomes. The development of a strategic plan has the advantage of committing a range of organisations involved in funding and delivering care to a collective set of objectives and actions to guide what needs to be done, by when and why.

An effective strategic plan helps to tie together networks of care professionals and otherwise separate organisations into a collective agreement, sets the terms of engagement between the different parties, their key roles and responsibilities, and the range of outcomes and performance indicators that may be used to judge whether integrated care strategies have been successful.

Ensuring mutual gain
One of the most important issues at stake in the development of effective partnership working within programmes that support integrated care is not related just to the development of a ‘shared vision’. What appears to be just as important is the ability to ensure that all partners in care fully understand and accept their roles and responsibilities, to the extent that a high degree of trust and respect exists between partners in care. The building of trust, therefore, requires all partners to recognise and value the level of commitment and reciprocity of actions of others. In other words, each partner recognises the ‘mutual gain’ that can be made through collaborative actions.

However, one of the core problems with integrated care is that it is usually not the case that the benefits of involvement are equally shared compared to the effort or workforce that is needed to make it happen [32, 33]. As a result, it can be difficult to bring partners to the table to discuss integrated care when it is perceived that some partners might gain, yet others lose. Moreover, the issue is not simply related to budgetary or financial concerns, but also involves issues related to perceptions of authority, to social and professional status, to workload and effort, to intellectual property, and often to the competitive advantage different care providers might gain in terms of gaining clients (patients) at the expense of others.

“Collaborative partnerships and networks are necessary to achieve integrated care, yet the evidence demonstrates that these can be time-consuming, resource-intensive and unstable leading to the observation that there is a high failure rate in such innovations” [34–36].

The recognition of the need to articulate ‘mutual gains’ and build ‘tie-ins’ is important, since it establishes the ‘baseline’ that underpins the nature and expectations of the collaboration that recognises their underlying interests. The following framework can help implementers to evaluate the strength of the collaborative process across five key themes:

- The degree of shared ambition: the shared commitment of the involved partners.
- Mutual gains: understanding the various interests of the involved partners.
- Relationship dynamics: the relationships and degree of trust displayed between each partner.
- Organisational dynamics: governance arrangements across the partners.
- Process management: the skill with which managers help negotiate relationships between partners over time [37].

A good example of this is recent research that looked at the comparative effectiveness of 69 Dutch Care Groups enrolled in a Ministry of Health initiative to create integrated care primary care programmes to support the management of chronic diseases such as diabetes or COPD [38]. The research found that differences in the success of the different programmes relied heavily on the explicit voicing of interests of the partners in determining the ‘mutual gain’
to be made, primarily by setting out the preconditions for what a successful partnership would look like, and ensuring that managers and decision makers 'steered' the process of integration to ensure that these partnership preconditions were maintained.

Relationship dynamics between partners in care, therefore, are a key to the successful functioning of professional and organisational partnerships that in turn are reliant on the continued brokering of the 'contract' between them and the 'gains' that each expect.

Communications strategy

Often missed, but important in the literature, is the need to create an effective communications strategy and plan that delivers clear and consistent messages to all key stakeholders, but specifically to organisations and professionals tasked with delivering change at the clinical and service level (e.g. doctors, nurses and patients). Lessons from managerial experience suggest that effective communication of the vision requires multiple channels (e.g. the internet and social media) as a means to develop relationships, and therefore needs to be achieved using consistent and simple language.

As many of the proposed changes for care integration are likely to be complex and have a direct impact on vested interests as well as patients, it has been suggested that an experienced communications manager or team is likely to be essential to engage and align teams and organisations. The nature of communication management might include: ensuring that all senior managers are aware of, and own, the narrative for integrated care; developing a communications and engagement strategy; establishing and managing a wide range of communication channels at a local, regional and national level (where required); developing media releases to provide updates and briefings on progress, good news stories, and case examples of best practice; and dealing with enquiries to build relationships [39, p.11].

Implementing and institutionalising the change at scale

The next key element in the management of integrated care involves the implementation of innovations in practice, both in terms of 'system' (e.g. joint financing, governance and accountability) and 'services' (e.g. joint delivery through the development of teams). Often, the change process requires the initial piloting of options with the intention of 'institutionalising' or rolling-out the lessons learned for wider adoption afterwards. Moving from small-scale programmes is important in order to deliver benefits on the scale needed to make a significant and transformational impact on the way care is delivered [40].

There are, however, few examples of tool-kits which have sought to address the issue of scaling-up of pilots, though one is the DMIC model cited earlier in which 'phase 4' of the model supports strategies for consolidating change ([8], and see Table 1 below).

Monitoring and evaluation: developing systems for continuous quality improvement

A common weakness in approaches to integrated care is that not enough time and effort has been placed to agree the specific objectives for integrated care, and how to measure and evaluate outcomes objectively. In particular, it is common that the lack of evidence for cost and impact can lead to significant problems (and programme failures) when seeking to embed programmes within wider health system funding streams [38].

In practice, therefore, managing the implementation of integrated care requires the ability to measure and monitor outcomes in a number of areas including: user experience, service utilisation, staff experience, and the costs of delivering care. Progress towards these goals must be measured frequently to support learning and inform implementation.

<table>
<thead>
<tr>
<th>Examples Dimension</th>
<th>Objective</th>
<th>Maturity Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness for change</td>
<td>Compelling vision, sense of urgency, stakeholder support.</td>
<td>Public consultations, clear strategic goals and milestones, stakeholder engagement.</td>
</tr>
<tr>
<td>Structure and governance</td>
<td>Sustains and delivers new systems of integrated care, presence of effective change management.</td>
<td>Funded programmes, effective communication, governance and accountability in place.</td>
</tr>
<tr>
<td>Capacity building</td>
<td>Investment in training, skills and technologies of the workforce, including systems for continuous quality improvement</td>
<td>Developing of funding and availability of courses to support bottom-up innovation and workforce development.</td>
</tr>
</tbody>
</table>

Table 1: Examples of indicators of maturity to integrated care change management (adapted from [8])
An important aspect of developing a monitoring and evaluation framework is that it can be used to bring relevant stakeholders together to define the outcomes through which integrated care strategies should be judged, and, as a result, promote joint ownership and collective responsibility to achieving key goals. Including key stakeholders in how care systems will be held to account supports the inclusive process of developing a vision and driving change forwards.

A final key element is the ability to utilise data and information from the monitoring and evaluation process to build in a process for continuous quality improvement. For example, to identify ‘high impact’ changes that would most benefit patients, or reduce variation in standards between provider teams. In essence, an ‘improvement process’ is needed to help clarify or re-frame objectives, redesign processes, address capabilities, integrate risks, develop performance measures, learning from performance measures, and, crucially, create a feedback loop for improvement over time. Two key aspects are: first, the need for managers to properly engage service providers, communities and service users; and, second, the need to build in ‘rapid cycles’ of building and re-building strategies for change following their implementation and assessment of progress.

3.4 Building an enabling environment to support implementation in policy and practice

Implementing integrated care can take considerable time and effort to achieve, but enabling the environment within which the management of change is to be taken forward is a necessary process and catalyst for change. Literature suggests that this requires three core tasks:

- Build a guiding coalition of leaders and key stakeholders to drive change forward from the top-down.
- Build support for change from the ‘bottom-up’ within and between key professional groups and the communities of practice where integrated care is to be deployed is a core requirement for success, including the development of a shared set of norms, beliefs, values and assumptions that help to enable change to happen.
- Develop collaborative capacity at a local level that enables and supports professional groups to work together effectively in multi-disciplinary or multi-agency teams that new approaches to coordinated and integrated health service delivery will require.

Developing a guiding coalition

There is a significant amount of literature that describes the importance of developing a ‘guiding coalition’ of partners at a political and senior level in order to agree on the collective aims and mission of integrated care, and so provide the mandate to people working within different parts of the healthcare sector to co-operate with each other and co-ordinate activities.

For example, reflections on the process of development of strategies to support chronic care management in the Basque Country (see section 4) emphasised the importance of taking the integrated care agenda to a ‘policy level’. As a result, bottom-up approaches to innovation were supported by a regional research institute which monitored progress, whilst at a national level there were regular meetings convened by the Ministry of Health which included public administration, professional associations and patient representatives to discuss the burning issues and how they could be addressed at national and regional levels.

Pulling together a ‘guiding team’ of key people and organisations is also highly relevant at a local and regional level to champion integrated care and to lead change amongst key professional and patient groups. The effectiveness of such an approach is often cited as a key step in implementation strategies [41]. To make such an approach effective, key issues include: choosing key managers with the position, power, credibility and ability to drive the change process; and developing an inclusive and multi-disciplinary guiding team with the management skills to control the process [41].

Building support for change

Evidence suggests that building support for change across networks of health and social care providers and other local stakeholders, such as patient representative groups, is problematic, since politicians, managers, clinicians and patients are all likely to have different priorities and different levels of understanding. Building support for change towards integrated care, then, requires being ‘inclusive’ at the design stage with those who would benefit or be influenced by the networks created as a result of care integration.

A number of key managerial tensions will remain when building support for change towards integrated care, including:

- Achieve a centralised position through which to wield managerial authority; yet to ensure the right balance between trust and control, so as to encourage rather than alienate partners in care.
- Avoid mandating change from the ‘top-down’, but maintain it through peer-led approaches; yet there is a tendency for professional and organisational capture of activities by dominant ‘elites’ that needs to be avoided.
- Promote mutual interdependencies, for example through joint targets on care outcomes or quality improvement targets; yet networks need to continue to provide ‘net worth’ to participants to ensure their engagement.
- Drive change through senior managers, yet recognition of the relationship between physician-leaders and managerial-leaders remains underdeveloped [33].

At a more local level, even with the establishment of a
guiding coalition, evidence demonstrates that there can be considerable resistance to change towards integrated care amongst professional groups and providers. Building support for change at a local level is thus essential, and requires participants and stakeholders to be included in the design and development of solutions to ensure a collective vision and common understanding for change, so that new ways of working have a greater chance of success.

**Developing collaborative capacity**

The changing needs of patients with more long-term and complex problems highlight the need for care delivery to become reliant on a greater number of care professionals and organisations. Such changes clearly carry a greater risk to patients, given the problems that might result from fragmentation in care. Developing effective and reliable multi- and inter-disciplinary teams and care networks is therefore important, yet the process is not always achieved with great success, due to problems in team-based skills with the right skill mix [42].

Evidence suggests that consistent efforts need to be taken in the long-term to help build the collaborative culture necessary to take integrated care forward at a local level. Creating effective teams is a change management process in its own right, and the development of evidence-based approaches to supporting effective teams and team-building has become widespread across Europe [43].

Such support has been shown to be successful in breaking down silos and promoting inter-professional education and learning [44]. This task can be supported by a number of component strategies including education and training in multi-disciplinary working to support effective networks and teams.

The facilitating role of managers and decision-makers in supporting the process of change

The evidence for the successful adoption of integrated care provides considerable emphasis on the role of individual managers and decision makers in driving change forward. Lessons from evidence and experience strongly indicate that there needs to be a person, or team, with the necessary skills and responsibilities to facilitate partnerships and broker effective networks of organisations and the development of well-functioning professional teams.

Establishing collaborative practice requires hard work and effort to develop the necessary inter-dependencies between partners in care. Often, this requires challenging often well-established cultural ways of working to build in collective values and thinking. Hence, the successful adoption of coordinated / integrated health services delivery in practice requires long-term and continuous effort to support and nurture change. As a managerial task, achieving care integration is as much about changing culture as it is about the management of resources or the application of technical processes.

Many studies have sought to examine the attributes and tasks that are needed of senior managers in this area; these can be summarised as follows:

- Start with a coalition of the willing.
- Inspire vision between partners in care – action is inspired through emotion.
- Involve patients, service users and community groups from the beginning.
- Build an evidence base to justify thinking.
- Provide managerial decision making ‘across’ the system, so that it spans organisational and professional boundaries and promotes co-operation.
- Develop a consensus style of management that includes and encourages all key stakeholders to participate as equal partners.
- Engage clinicians, and enable them to lead efforts for change with the freedom to innovate.
- Foster ‘collaborative capacity’.
- Encourage long-term commitments from managers and decision makers to drive through change.
- Invest time and support in training people in these roles, as they require specific skills in managing across diverse organisational contexts and boundaries.

### 3.5 An implementation model for ICT-enabled integrated care

The successful adoption and roll-out of strategies for the delivery of integrated care is to a large extent reliant on there being a receptive environment for change at national (political), regional and local levels. Integrated care can be a highly challenging proposition to many individuals and organisations that may not value the change being advocated, or feel threatened by its consequences. In many cases, partnership working between different providers and professionals will represent an entirely new way of working, so requiring new skills to be developed and a change in outlook.

Figure 3 provides a visual representation of how the components outlined in sections 3.4 and 3.5 fit together. On the left hand side of the figure are represented the step-wise progression of change management tasks, whilst on the right are set out, over the timescale of implementation, the necessary ‘relationship building’ tasks that seek to create the enabling environment for change.

In the implementation model, it is important to recognise four key points:

- The necessary phased progression of activities that must move from the process of strategic planning to the subsequent implementation of these plans (including service delivery), and the monitoring and evaluation of outcomes to feed into a continuous
The evidence from experience in integrated care suggests that much has been achieved in different countries to establish a degree of consensus at a political level that may help to create an enabling environment through changes to financial and accountability rules. Yet, the evidence also shows that it is the professional barriers to change at a clinical and service level that remain the most persistent and most difficult to overcome.

The implementation model described above is designed to act as a ‘guide’ on the key steps and issues that should be undertaken in the development of ICT-enabled integrated care programmes. The model may also be used to self-reflect on the effectiveness of implementation processes, and to develop revised implementation strategies where this is necessary.

3.6 Conclusions

Through undertaking an evidence review, this section of the report has presented the argument that the implementation of ICT-enabled integrated care requires the combination of two principle sets of processes:

- A step-wise progression of managerial tasks that come together to represent the core components of an implementation plan (‘management’).
- The ability to adapt these strategies for change in the context of the complex and multi-dimensional nature of practical reality (‘environment’).

Both tasks require key individuals with the managerial skills to effectively work across different contexts and settings. Both tasks are also characterised by a strong relationship-building component. Most importantly, implementation success relies upon managerial strategies that understand how the technical components for implementation (e.g. how ICT-enabled services are designed or delivered) is inherently inter-related to the social and cultural aspects of where integrated care is implemented.

This report now turns to the actual reported experiences of the six sites in the CareWell project (Sections 4-6); it should be noted that the core steps and lessons for deployment for policy makers and managers outlined are reflected in their different stories and journeys in implementing ICT-enabled integrated care.

Figure 3: An Implementation Model for Integrated Care (adapted from [4])
4. STRATEGIC PLANNING: THE CAREWELL EXPERIENCE

4.1 Introduction

In Section 3, it was recognised that the first phase in the implementation cycle of integrated care programmes requires investment in strategic planning and building support for change. This section examines these issues through direct observation and documented analysis from the CareWell experience. Across the CareWell deployment sites, there was evidence of good practice in strategic planning. However, in common with the wider experience of integrated care implementation more generally [e.g. 1, 11, 17], the live experience of implementation in CareWell shows that many of these lessons and key steps were not predicted or implemented in advance, but needed to be learned.

CareWell has sought to enable the delivery of ICT-enabled integrated healthcare services, treatment and support to frail elderly people living with complex needs. This was taken forward through re-designing multidisciplinary care processes and programmes. Two care pathways, with service delivery facilitated by a suite of ICT solutions, focused on co-ordinating care services and empowering the care recipient to self-manage, both when their health status was ‘stable’, as well as ‘unstable’ and potentially requiring hospital based care. The pathways transcended the organisational and care practitioner boundaries in the six sites where the configuration of services, workforce roles and responsibilities and ICT infrastructure were different, but the implementation of the pathways was underpinned by the need to use all available healthcare resources efficiently and effectively.

4.2 Assessing healthcare needs and the context for deployment

The first essential steps to the ‘implementation model’ for integrated care (see section 3.5 above) outline the needs to have a very clear understanding of population health needs, including who to target for care, linked to an in-depth understanding of the local context in terms of its current resources and capabilities to meet such need. The model suggests that this strategic planning process also provides an opportunity to develop a wider understanding and agreement across key stakeholders on how they might then address such challenges.

• In the CareWell sites, conducting an assessment of an organisation’s or local healthcare system’s readiness for change and service re-design was demonstrated to act as a catalyst to bring stakeholders together. For example, it enabled CareWell sites to better take forward a common agenda, as well as providing a baseline from which requirements across a range of project activities could be elicited. The sites also sought to utilise key tools to help their thinking. Two such tools currently available include the European Innovation Partnership on Active and Healthy Ageing, B3 Action Group’s maturity model, which has been further refined through the EU SCIROCCO project and Project Integrate’s Integrated Care Conceptual Framework (e.g. see http://www.scirocco-project.eu/).

It is not unusual for each element of the overall healthcare system to operate in isolation, with the workforce having little knowledge or understanding of how the different sectors work, or how they fit together to form a patient’s care pathway. This was evident in a number of CareWell regions. The initial work of the project, to collate, document and understand the organisational configuration and workflow of healthcare services and user requirements in the different regions, revealed diverse approaches and strategies for care service delivery and integration, as well as workforce roles and responsibilities and ICT maturity.

A key lesson for the future is that CareWell did not seek to define the clinical / care protocols and guidelines in advance, but concentrated on eliciting and mapping the existing care and information workflow with stakeholders in order for them to examine how to redesign and improve their processes in context. For example, the CareWell sites variously sought to examine issues related to: increasing technical and allocation efficiency; reducing errors; and improve outcomes and experiences for care recipients.

Key Questions for Strategic Planning

• Has the existing end-to-end care pathway for the target care recipient population been accurately documented in consultation with the key stakeholders, and depicted in a way that can be used as a basis for redesigning and improving the care workflow through the implementation of ICT tools?
• Have the appropriate members of the care team who perform the different care pathway activities been identified?
• Have the information flows and communication mechanisms been collected and mapped onto the care pathway?
In relation to the ICT tools to be implemented, have these been mapped onto the care pathways and their anticipated impact on the operational processes been agreed with all key stakeholders?

These questions provide crucial information to inform the re-design, change management and workforce training requirements to support deployment of ICT-integrated healthcare.

4.3 Building the value case

The implementation model developed in section 3.5 argues that a fundamental concern in the planning phase is how to develop and demonstrate the ‘value case’ for investment. This means that an integrated care programme should improve the overall quality of healthcare for the target population; the focus should therefore be on adding value to care systems rather than a more narrow focus on cost-containment.

Across the CareWell sites, the term ‘quality’ was interpreted in a number of different dimensions and interpretations, depending on the stakeholders involved and the identified benefits of the services planned to be deployed. The suite of ICT tools available for deployment to facilitate the six CareWell site integrated care programmes were chosen to provide a range of benefits to meet the different stakeholder priorities and interests.

One of the most useful approaches to build a value case is through logic modelling. The simplified logic model diagram below (see Table 2 below) illustrates the possible outcomes and benefits aligned to the different ICT tools deployed within CareWell. The potential benefits described in the last column have been colour coded; this coding regime has been applied to the different potential outcomes that, if achieved, will lead to the denoted colour coded benefits.

Key Questions for Building the Value Case

- Have the measures been aligned with the main priorities of any local, regional and national strategies, as well as those which may be required by a specific project?
- Is the data and information required to support the measurement of the benefits available predominantly from electronic records and ICT systems, i.e. routinely collected data that is readily available?
- Have the time points for analysing the data and information been agreed, and will these enable trends over time to be examined to assist in understanding healthcare system performance, acceptance of new ways of working, and changes in people’s experiences of the re-designed service delivery model?

4.4 Developing the vision and mission statement

Developing a vision and mission statement that is co-produced with key stakeholders is an important step that occurs towards the end of the planning phase of implementation (see Section 3.5). A common strategy internationally has been to develop in this vision a shared narrative for the future to explain why integrated care matters to both care providers and to patients.

The six CareWell sites each had their own local health priorities based on their populations’ needs, and the different starting points for the main building blocks required to deliver successful integrated healthcare services. Despite these variations, all sites learned the importance of their

<table>
<thead>
<tr>
<th>ICT service component</th>
<th>Outcomes</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemonitoring</td>
<td>Early anticipation of exacerbations, proactive symptom management ✓</td>
<td>Lower costs, with potential to release funding to support rebalancing of funding from secondary care to primary and community-based services. ✓</td>
</tr>
<tr>
<td>Educational platform</td>
<td>Enhanced patient empowerment and self-management capabilities and confidence ✓ ✓</td>
<td>Higher productivity enables &quot;more with the same funding&quot;. ✓</td>
</tr>
<tr>
<td>Messaging between care practitioners and care recipient</td>
<td>Positive care recipient experience ✓</td>
<td>More effective treatment improves safety &amp; outcomes. ✓</td>
</tr>
<tr>
<td>Electronic prescription</td>
<td>Reduced emergency room attendances and hospital admissions ✓ ✓</td>
<td>Proactive and faster intervention / treatment improves outcomes &amp; experiences. ✓</td>
</tr>
<tr>
<td>Electronic health record</td>
<td>Reduced outpatient consultations ✓ ✓</td>
<td>Better care recipient experience that improves care practitioner satisfaction. ✓</td>
</tr>
<tr>
<td>Interconsultation</td>
<td>Increase in virtual contacts ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>Call centre</td>
<td>Increase in clinical capacity ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>Virtual conference</td>
<td>Remote access to specialist opinion ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>Personal health folder</td>
<td>Remote access to triage ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>Nurse information system</td>
<td>Addressing service inequalities in rural areas ✓</td>
<td></td>
</tr>
<tr>
<td>Collaborative platform</td>
<td>Care delivered at or closer to a care recipient’s home ✓ ✓</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: A simple logic model for understanding the outcomes and benefits of ICT-enabled integrated care
Key messages

- Identify benefits for all stakeholder groups, e.g., care recipient experience, clinical outcomes, patients’ safety, as well as cost effectiveness. The MAST framework has seven domains including all these examples.

- There is no universal, evidence-based approach to benefits realisation of integrated care. However, significant improvements in some clinical outcomes, for example, are likely to be dependent on the intervention follow-up period duration and continued support for workforce new ways of working.

- Wherever possible, data that is routinely collected and stored in electronic systems, should be used as this will not only minimise potential errors with data entry, but also reduce the effort required by care practitioners and care recipients to complete additional questionnaires etc.

- Identifying a group of care recipients who can be used to compare the outcomes from the deployment group will strengthen the project’s evidence base. This group can be created by following the new service’s eligibility criteria and case finding procedures to establish a ‘matched’ group of people, although such an approach will not capture the patient experience elements of any monitoring or evaluation measures.

- If possible, construct the data analysis in such a way that any outcome and/or benefit can be attributed to a specific intervention or ICT tool that is included in the new care delivery model. In practice, this is very difficult to achieve when undertaking a real-world deployment project, as a service consists of multiple elements, some of which could change at any time without these changes being documented.

In most sites, integration was not perceived as an end in itself; more a journey which required commitment to and a belief in a goal to be achieved through strong dispersed leadership. The vision needs to be articulated in ways that all people can connect with the messages communicated, shared, reinforced and embedded into the local health economy. A good illustration of this was the experience in the Basque Country (see Box 3).

Key Questions for Developing the Vision and Mission Statement

- Is there clarity around the improvements we want to achieve within the local healthcare system?
- Does the vision describe the overall strategic context in which the project’s delivery has been planned?
- Have we identified what success will look like?
- Is the language used to describe the project’s objectives suitable for all stakeholders?
- Is there an understanding amongst key stakeholders of the role of ICT in delivering integrated healthcare services?
- Has each key stakeholder’s contribution towards the successful delivery of the project been identified and agreed with them and the partnership overall?

Identification of the key project stakeholders and understanding their contribution, involvement and influence on meeting the project’s objectives needs to be undertaken at the outset in order for them to participate in building the vision and strategic narrative.

Most CareWell sites approached this activity either through individual discussions and interviews with stakeholders, or through multi-disciplinary group meetings at the start of the project, and did not revisit the topic until the evaluation stage. Where both approaches were adopted, and as a continuum throughout the project stages, the stakeholders demonstrated more ‘ownership’ and ‘commitment’ to the narrative, able to effectively contribute to the operational aspects of integration from their perspective.

The vision and narrative must be translated into leadership actions within an operational action or implementation plan.

Ensure the project features in the local healthcare system’s ‘roadmap’ for innovation or service improvement.

Once the overall vision and strategy alignment work has been undertaken, all the key stakeholders and/or departments will need to review and update their own objectives to support the delivery of the project.
Box 3: Translating the vision into action – experience of the Basque Country, Spain

The Basque Country started their integrated care journey with the publication of “Strategy to tackle the challenge of chronicity in the Basque Country” in 2010. This document emphasised the need to examine existing theoretical frameworks developed and tested in other regions and countries to create a transformative conceptual framework blended with both bottom-up approaches designed to address their demographic challenges and inform the restructuring of healthcare delivery organisations, and top-down initiatives such as population-bases stratification, further development of EHR and creation of the Personal Health Folder, e-prescription and establishing the Kronikgune organisation.

During the first phase of the work, the activities to overcome the identified challenges were taken forward under an evolving narrative focusing on the provision of integrated and person-centred co-ordinated care designed to empower people living with the most prevalent and usually costly diseases of Diabetes, Chronic Obstructive Pulmonary Disease (COPD) and Congestive Heart Failure (CHF). From the bottom-up, the care pathways were re-designed with the involvement of care practitioners and care recipients; new models of care emerged which co-ordinated the relevant care processes between primary (GP and GP practice nurses) and secondary (hospital) care sectors. The implementation of the new pathways was supported by the introduction of case managers, reference internists and liaison nurses, as well as a change programme and tools to assist with workforce development, evaluation and sharing the learning.

The second aspect of the vision to achieve more efficient and improved care quality for their population was the reconfiguration of the healthcare delivery organisations to create a number of geographically based Integrated Care Organisations (ICOs) which brought together GP practices and hospital-based services into a single entity.

Following the successful completion and evaluation of the first phase, the “Integrated Care Plan for the Basque Country” was published in 2013; it described how the ICO model would be rolled out across the region to create 13 ICOs in total. The CareWell project commenced in February 2013, and it was clear from the outset that the project’s objectives were aligned to the local and regional strategic direction; it became an integral part of four of the new ICOs. CareWell was able to learn and build on the first phase approach to stakeholder involvement in the further development and testing of the care pathways to support multi-morbid frail older people, as well as build on and exploit the ICT infrastructure to provide a suite of ICT tools to facilitate the care pathway processes and information workflows.

It was noticeable when engaging with the users to inform them about CareWell and elicit their requirements, that they were well placed to understand the project’s objectives and the potential benefits that successful delivery would bring. However, they stressed the importance of ensuring that the good practice and learning achieved from the single-disease pathway approach, and early testing of a pathway for frail elderly patients during the first phase of transformation, was implemented methodically and systematically within the relevant care teams.

These consultation activities also revealed that care practitioners working in primary care placed greater importance on the need to properly define and extend the role of the nurses, provide them with appropriate education and training for caring and supporting multi-morbid patients, and how to maximise the use of the ICT tools including incorporating the patient-generated information and data into their decision making. They recognised that a system-wide approach of stakeholder participation would help tackle the inevitable communication challenges resulting from an increase in the size of the care team, and the complexity of care, treatment and support they provide.

The activities undertaken by the Basque Country in translating their ‘triple aim’ vision into action were designed to enhance the patient experience, improve the quality of care, and make efficient use of all resources, and illustrate a journey towards achieving integrated care for their population. This was a journey where stakeholders collaborated to co-design and co-produce the delivery of the workplan and learn from each other at every step, with it taking a number of years to achieve the full benefits. This is acknowledged by the policy makers who are supporting the innovation with a coherent long-term strategy for health and care reform at regional level, which is not static but updated to reflect changing priorities and advances in technology, and therefore provides the necessary enabling environment.
4.5 Creating the strategic plan

The final realisation of the strategic planning phase of activity is the development of the strategic planning documentation that describes and sets out how the policies and plans will be effectively developed, implemented and evaluated.

The CareWell project was an integral component of each site’s local and/or regional overall strategic plan for improving the health and wellbeing of their populations. Each site’s CareWell delivery plan set out the case for change, key challenges to be addressed, and priority areas of focus, including the provision of services for frail, older people living with complex healthcare needs. A good example is provided in Box 4 which describes how CareWell was integrated into the Regional Operating Plan 2014–2020 in Puglia, Italy.

With CareWell focusing on the delivery of ICT-enabled integrated healthcare services, the initial activities associated with developing the vision and narrative identified the mutually dependent relationship between the organisational and/or regional strategic plan, and the ICT or eHealth strategic plan.

Key Questions for Developing the Strategic Plan

- Does the plan embrace transformational change, balancing short-term requirements (incremental change) with the longer-term needs of the overall strategic plan?
- What current services need to continue, and which of these need to be re-configured to deliver the re-designed care pathways?
- Are there services that will no longer be required, and if so, how will these be stopped?
- Are there any quality of care issues which will need to be prioritised in the implementation plan?

Box 4: Contributing towards implementing Regional Operational Plan 2014–2020, Puglia, Italy

The ICT-enabled care element of the CareWell project enabled the Strategic Agency in Puglia to test out the development, implementation and evaluation of a number of ICT solutions and remote monitoring devices alongside the roll out of their integrated Chronic Care Model (CCM) coupled with the Digital Agenda Puglia 2020 programme. Of particular importance was the need to understand the impact of the introduction of technology on both the system, as well as the care practitioners, care recipients and family carers, in order to inform the acceleration of innovative solutions deployment through structural fund investments as part of the Regional Operational Plan 2014–2020.

The outputs from the multi-dimensional approach to evaluating CareWell (MAST methodology), together with the RAIL tool (Risks, Actions, Issues and Learning), together with other successful experimental projects, have provided the Health Social Care and Sport Department with a rich source of information and outcomes to guide their thinking for planning the full-scale deployment of the regional integrated care models.

The CareWell project has specifically provided information to policy makers on how:

- the introduction of remote monitoring of patients’ chronic diseases, health and wellbeing;
- involving the experience of users to enable a greater focus on re-designing the care system to support this and other empowerment approaches; and
- exploiting ICT tools to facilitate the co-ordination of care for the individual;

During the lifetime of CareWell, the Italian Government has approved a National Plan for Disease and Care Management for Chronic Patients; each Region is required to align their strategy to this National Plan. Puglia’s ICT-enabled CCM is strongly aligned to the National Plan, with some local variations reflecting the local geography and population.
demographics. Information on CareWell and the experiences of stakeholders involved in designing and implementing the project have been disseminated and shared throughout the Puglia Region, and beyond, to help other geographical areas develop their new organisational models designed to co-ordinate services across the continuum of care, improve quality, reduce costs, and empower patients living with complex chronic conditions, in line with the National Plan.

It is also very clear that providing proactive opportunities for the views of care practitioners, care recipients and family carers experiences to be elicited as the CareWell project progressed, not only helped refine local ICT-enabled CCM implementation processes and procedures, but also assisted in developing the scaling-up strategy at regional level. The collaborative approach strengthened the multi-disciplinary team working with the care recipients, and created an environment where all stakeholders felt they were contributing to the re-design of services, and were able to better respond to the changes being introduced.
5 IMPLEMENTING ICT-ENABLED INTEGRATED CARE IN CAREWELL

5.1 Introduction
This section examines the experience of the CareWell sites in implementing their strategic visions and plans into action. It examines how the CareWell sites have approached core issues, such as the procurement of services for the delivery of care, in practice. As predicted in the implementation model (see Section 3.5), it stresses the importance of ‘relational’ issues such as the education and training of professional staff to work collaboratively, and the importance of good communication and relationship-building activities.

5.2 Procuring services
The CareWell sites demonstrated the importance of the procurement process as a first step in the realisation of their strategic plans. In particular, these experiences outline that ‘what’ to procure needs careful consideration, and needs to be as comprehensive as possible, and with special regard to the coordination activities between different partners in care.

From this experience, it can be concluded that most ICT-enabled integrated healthcare projects require the procurement of one or more of the following:

- eHealth devices, e.g. telemonitoring devices, smartphones, tablets;
- ICT infrastructure components, e.g. servers;
- software; and
- interoperability middleware.

However, a general observation should be made that these procurement strategies sit within a wider commissioning (or integrator) function to support the development of a redesigned care system enabling different care professionals to work in teams and/or across care networks. The procurement of appropriate ICT is essential, but it was the case that the focus on the technology deployment was not necessarily linked as well as it could be to the service innovations that would use them. This observation reflects our wider understanding of implementation challenges in ICT-enabled integrated care, in that they require ‘simultaneous innovation’ in both care service redesign (e.g. care pathways or case management) as well as the technology tools to enable it [2, 3].

It was also observed that regions and organisations often have to follow strict regulations and guidance in relation to procurement, and the timescales involved in specifying requirements, announcing the tender, issuing the contract, taking receipt of the products, and preparing any products ready for deployment, is often dependent on the level of contract funding.

Key Questions to Support Effective Deployment

- Have all the key stakeholders been involved in user-centred design activities to ensure their requirements are elicited, understood and documented?
- Does the project plan include realistic timescales for each stage of the project, such that it is clear when the procurement process and equipment and/or service readiness activities need to have been concluded for each product and or service to be implemented?
- Have all potential procurement routes been examined?
- In addition to the initial education and training provided to the user (workforce, care recipients and family carers), through either online tutorials, individual or group-based learning sessions on the new service and ICT tools, has a Help Desk facility been established, and does its role go beyond technical support for the ICT elements of the service?

Key messages

- For European projects, procurement processes and timescales are much less of an issue if equipment and/or service providers have been included as a project partner for a region or organisation.
- Ensure key stakeholders are involved in the procurement evaluation process, and have the opportunity to test and review equipment and devices where relevant.
- Use of an existing suitable procurement framework contract can reduce the procurement timescales, particularly for equipment and service contracts over the OJEU threshold.
- Testing any ICT tools in the home environments of a small group of care recipients is likely to alleviate many problems which often result from taking ICT solutions from a ‘laboratory’ into the real-world; the inclusion of this activity in the work plan can reduce the technical problems experienced by users, as well as inform any revisions to the education and training materials and approaches.
5.3 Mutual gain: using incentives

Generally speaking, successful integrated care programmes will need to include carefully defined incentives to ensure that the incremental improvements result in economically positive impact and outcomes for the relevant stakeholders. This is often referred to as rebalancing the finances across the system, where success can sometimes involve losses in revenue or funding for some stakeholders or parts of the system, e.g., where more out of hospital preventative services are provided to avoid unnecessary hospitalisation.

Within the CareWell project, the issue of addressing ‘mutual gain’ was not an explicit strategy. However, some pilot sites were keen to use incentives to gain support for implementation, for example through incentivising GPs to participate. Typically, financial incentives were used to reimburse GPs for specific activities, including case finding assessments, enrolment activities and data collection. Box 5 provides a case example in the use of incentives from Veneto, Italy. It is also not unusual for GPs to be given financial incentives for a limited period of time to implement an enhanced or new care service whilst they develop and embed the required processes into routine care delivery.

Key messages

- Although financial incentives can be used to influence the structure, processes, and outcomes of improving the quality of care, embedding preventive measures in the healthcare system, and stimulating an improvement in overall chronic conditions management, there is currently insufficient evidence indicating what aspects of integrated care can be improved in the medium to long term and in which contexts.
- The introduction of incentives in one region may not be transferrable to another region due to the underlying healthcare funding model.
- The offer of incentives can facilitate the involvement of some stakeholders, particularly GPs; some CareWell sites provided some funding to practices participating in the project.
- If any ICT solutions where additional personal use was enabled are withdrawn from a care recipient following the completion of a project or chronic conditions programme, any improved clinical outcomes or levels of self-management may not be sustained.
- Use of an existing suitable procurement framework contract can reduce the procurement timescales, particularly for equipment and service contracts over the OJEU threshold.

Box 5: Incentivisation of GPs to deliver integrated care – Veneto, Italy

In many health care systems, a key factor for the successful integration of care is the adoption of payment systems that incorporate appropriate financial incentives. General practitioners in Veneto are independent professionals of primary care services within the healthcare system, and financial incentives were used to encourage GPs to sign up to participating in the CareWell project.

The local contract (Patto Aziendale) between the health authority and the GPs enabled an enhanced payment to be given to GPs to incentivise the identification and enrolment of patients into the project, undertake the necessary data collection activities, and participation in care pathway re-design activities. This additional payment (30€ per patient enrolled) was provided once the GP had undertaken a scheduled home visit to a patient, explained the CareWell service and project to them, and gained their written consent to participate in the CareWell project.
5.4 Communication and relationship building

The achievement of care service improvements is often dependent on ensuring the project plan reflects the needs of the public, care recipients and their family carers, care practitioners, and many other partners and organisations; engagement with these local healthcare economy stakeholders is extremely important, and should be viewed as a fundamental building block for co-producing the strategy and co-designing the approach to implementing the integrated care programme.

A range of activities to ensure the appropriate level of stakeholder “buy in” can also yield valuable insights into what is important to them, and which tools and techniques are most likely to work with each group. Outcomes from such an approach can be the identification of the project’s “champions”, establishing trusted relationships and channels of communication, as well as managing the stakeholders’ expectations of the integrated care programme.

Once the organisational strategic vision and narrative has been co-created with the key stakeholders, and the anticipated benefits identified, the workforce will need to have the capacity and confidence to pursue meaningful change in their operational processes and procedures. CareWell did not provide a single conceptual model for sites to use as a basis for their new CareWell ICT-enabled services.

In addition to establishing good relationships with key stakeholders, such as care delivery organisations, their staff, care recipients and citizens, increasingly partnerships are being created between care organisations, and research institutions such as universities and industry. Within CareWell, some sites further built on their multi-sectorial relationships, and included their associated partners as consortium members. One such example was the Zagreb (Croatia) site, where the Health Care Centre collaborated with the University of Zagreb and Ericsson to develop, test and evaluate the ICT tools to support the two CareWell care pathways. This partnership not only facilitated a tiered approach to supporting the care recipients and care practitioners with the ICT as described in the good practice below, but also enabled the innovations of Ericsson, working in collaboration with the University, to be tested in a real-world environment.

Key Questions to Support Communication and Engagement

- Do your “champions” reflect the range of stakeholders, and are they influential individuals among their peers?
- Have you identified the range of communications mechanisms required to reach all your project participants, including those who may be considered “hard to reach”, and considered the use of incentives to ensure essential stakeholders participate?
- Have you taken the necessary steps to ensure stakeholders receive up-to-date and accurate information about the project, as well as a resource for their questions or concerns to be addressed?

Key messages

- Successful ‘buy in’ of stakeholders will only be maintained if they are involved in key activities throughout the project’s lifecycle. A communications plan which provides details on what will be communicated, to whom, frequency and medium should be drawn up and revised to reflect any new communication methods and opportunities.
- Involvement of a care recipient and family carer representative on the project’s decision making group or Board will ensure that their voice is heard and their views taken into consideration.
- Providing opportunities for stakeholders to share their experiences and give feedback on all aspects of their participation in the project or new service can keep people motivated and feel that their contribution to the care system and new service is valued. These opportunities can take advantage of ICT through online chat discussions, teleconferences, online shared feedback repository, as well as face-to-face meetings, group discussions and questionnaires.
5.5 Building collaborative capability and capacity

The growth in the use of ICT to support the delivery of healthcare services has significant implications for healthcare providers in terms of ensuring both care recipients and their family carers and care team not only receive appropriate ICT education and training, including security and confidentiality of person-identifiable information and information governance, but also have access to continued support where necessary.

CareWell has seen some traditional face-to-face services and interventions being complemented, and sometimes substituted, by digital communications such as e-prescriptions, remote monitoring and teleconsultations through video conferencing or real-time online platform collaborations.

The introduction of these technologies has also allowed care teams to be enhanced to include practitioners from different organisations and disciplines, meaning that more inter-professional collaboration and learning is possible. Therefore, when considering the requirements for training and support for staff, address the workforce changes and associated multi-disciplinary and inter-disciplinary relationships; these will need to form part of a comprehensive staff training and development programme.

Boxes 6 and 7 provide two specific examples of what the CareWell sites in Powys and Zagreb have sought to achieve through the education and training of both care recipients as well as care professionals. These experiences demonstrate that investing in education, training and skills development is an essential implementation strategy to build the ability to use new information technologies effectively, and to collaborate well with partners in care, including patients and carers.

Key Questions for Developing Collaborative Capacity

- Has training on information governance been provided, including content to remind care practitioners of their ethical and legal duty to safeguard the confidentiality of the information they hold about their care recipients, and the need to seek consent before data is shared (there are some exceptions depending on the circumstances and regional laws)?
- Have the necessary project information, education and training materials been developed in different formats, e.g. large print, easy to read and understand, online tutorials, with the target population cohort in mind? This is particularly important when the care recipients may have variable levels of digital and health literacy.
- Have care practitioners received information and participated in discussions to help them understand that ICT-enabled care goes wider and deeper than adding ICT to replace or facilitate existing processes; it is an opportunity for them to re-design the care and information workflows?

Key messages

- If the workforce has been involved in the design and planning stages, they are likely to have clear views on where their gaps in knowledge and experience are, and how best these gaps can be filled through appropriate education, development and training on new ways of working and the ICT tools.
- The training programme should be aligned to the implementation plan timescales as far as is possible, in order for the new learning to be retained and applied in a timely way. This approach is likely lead to better adoption of the redesigned care model, associated operational processes and ICT tools.
- Training members of the care team to facilitate care recipient education will facilitate education and knowledge exchange forming an integral part of each contact with the care recipient.
- Providing care recipients and family carers with continued access to personalised self-management education and training materials which are dynamic and interactive should maintain their motivation to manage their symptoms, look after themselves, and seek relevant care and support when needed.

Box 6: Bring your own device (BYOD) approach to training care recipients, Powys, Wales

The Powys CareWell site adopted an innovative approach to sharing information about CareWell and providing training to use the ICT tools to care recipients and family carers.

The project team recognised that whilst older people may have their own smartphone, tablet or PC, they often lack confidence in using the device. Therefore, care recipients who had consented to participate in the project, together with their family carers, were invited to attend group education and training sessions and to bring their smartphone or tablet with them.
The programme for the sessions included information on the project, reinforcing the information given to care recipients as part of the enrolment process, together with hands on interactive training designed to assist the participants to:

- Seek good quality information on chronic conditions and self-management from reputable internet sites.
- Register and logging on to My Health Online (MHOL).
- Use the MHOL ePrescription functionality to order repeat prescriptions.
- Book an appointment with a care practitioner at the GP practice, e.g. GP or practice nurse.
- Seek information on availability of local care services and support.
- The approach received very positive feedback from the participants, and was an efficient and effective way for the project team to provide education and training to a group of individuals who live in rural areas of Wales.

**Box 7: Enabling the Use of Mobile Applications, Zagreb, Croatia**

The CareWell partners from the Zagreb pilot site designed and developed an ambitious suite of ICT tools to support the delivery of their re-designed care pathways. Field nurses were provided with a mobile application on an android tablet together with a set of Bluetooth physiological measurement devices to take and record vital signs, symptom management questions, as well as the questionnaires administered as part of the project, e.g. Geriatric Depression Scale and PIRU.

A second module focused on patient education and empowerment. It provided a compendium of educational videos, PowerPoint presentations and documents with information to support self-management for the different chronic conditions that care recipients were living with, together with advice on physical activity and nutrition.

Additional modules enabled messaging between field nurses, GPs, care recipients and family carers, a Personal Health Record (PHR) viewer provided access to all data collected and trends as part of care management, and an imaging module took photos of skin lesions. All the data entered into the field nurse’s app was uploaded and integrated into the GP’s electronic medical record system.

The care recipients were given an android smartphone and same app as the field nurses, but with only the PHR viewer, educational content, and messaging modules enabled. They were able to see all the measurements and questionnaire responses the field nurses had collected whilst visiting them and, also see all the educational material independent from the nurse’s visit. In order to provide alternative interfaces, some patients also had a smart TV with the same three modules enabled.

The complexity of the CareWell ICT solution and its interoperability with the GP EHR meant that it was important to consider the appropriate level of technical support for each element of the solution; a tiered approach was developed and implemented.

The first line support for patients and carers was provided by field nurses, who were trained to resolve very simple technical issues on Ericsson Mobile Health smartphone application or FER Home Health Smart TV. For example, nurses might help patient or informal carer if they had problems with application log-in, providing additional information on how to use the devices, make sure that Home Health Smart TV device was correctly connected to TV set, or that the correct channel had been selected on the TV. Nurses received basic trouble shooting knowledge during the training.

Level 2 support from Ericsson Nikola Tesla and FER support engineers was activated for any unresolved level 1 problems, with field nurses having direct phone contact to the engineers who had also provided the nurses with Level 1 training. This approach established trust and confidence in the team members.

Experienced engineers working at Level 2 were able to easily route any complex problems or major malfunctions to Level 3. The GP electronic medical record system (G2) was integrated into the Level 3 support, with any CareWell related problems reported directly to Ericsson. If resolution of problems involved support engineers visiting a care recipient’s home, they were accompanied by a field nurse.
5.6 Service implementation

Within the implementation model described above (section 3.5), the issue of service implementation - the way that care is managed and delivered in practice – emerges as a reasoned and logical approach to care as developed during the planning phases. The time and effort needed to underpin effective service implementation is therefore hugely significant to the success of integrated care programmes, but it is the effectiveness of service implementation itself that will determine whether ICT-enabled integrated care will have the intended transformational impact on care systems and care outcomes.

To underpin service implementation, many healthcare systems internationally are deploying risk stratification tools as a way to improve the targeting of preventive care services and treatments, particularly for those living with chronic conditions. These approaches help to understand the most ‘at risk’ patients, and, in partnership with the knowledge of care professionals, enabled targeted care to be achieved.

The CareWell sites recognised that a relatively small number of frail, multi-morbid, older people were accounting for a disproportionately large percentage of overall healthcare costs, and therefore used various mechanisms and tools to identify those at greatest risk of hospitalisation or residential care as their project target population, including threshold models and clinical judgement. Inclusion and exclusion criteria were agreed with all site representatives and the evaluation team. For example, in Veneto, the recruitment of patients followed a clear set of guidelines in order to ensure the right patients would be inducted into the trial (see Box 8).

Another key approach across the CareWell pilot sites was the pre-determined use of two evidence-based care pathways that identified the range of ICT tools that should be used to facilitate care co-ordination, patient empowerment and home support to those frail and multi-morbid older people identified and eligible for care. The combination of the use of evidence-based chronic care strategies, such as case finding and care pathway development, has been shown to have positive benefits. For example, it has supported a fundamental shift in care from hospital based to primary care led care for older persons in Puglia, Italy (see Box 9), and helped to redesign care services in Lower Silesia in Poland (see Box 10).

Key Questions for Effective Service Implementation

- Has the target population to be offered the integrated care service been suitably defined and agreed with key stakeholders?
- Has the mechanism for case finding the target population been identified?
- Do care practitioners understand how risk stratification and case finding tools can facilitate joint decision making and personalised care plans?
- Is care design and delivery supported by evidence-based care pathways and/or decision support tools?

Box 8: Patient recruitment in Veneto, Italy

The identification and recruitment of patients to participate in CareWell involved a series of steps, many of which required the involvement of a GP and primary care service. During the stakeholder engagement activities, the project team recognised the need to support GP practices in their patient recruitment processes and keep the time spent on any administrative tasks to a minimum. Practices were assisted in the following ways:

- A member of the project team with access to the Region’s Adjusted Clinical Groups (ACG) case finding tool, that generates high risk case management patient lists, undertook a search to identify those patients who fulfilled any of the eligibility criteria found in the records. It is important to note that a proxy measure of ‘patient receives home-visiting nursing services’ was used during the first stage, as no frailty assessment information, e.g. Comprehensive Geriatric Assessment, is recorded in a patient’s electronic health record.

- The second step involved a GP and primary care service reviewing the ACG tool-generated initial list, confirming whether the inclusion of home-visiting nursing services in a patient’s care plan is due to their frailty, or for some other clinical intervention. They would also complete any missing eligibility criteria variable if known, and consider each person’s suitability from their personal knowledge of the individual.

- Once the final list of suitable patients had been agreed, a member of the project team updated the project’s database of included patients, and pre-populated individual CareWell service invitation letters and consent forms with all the relevant demographic information for each patient.

- During a scheduled home visit, the GP gave the patient information on the new CareWell service, and if they agreed to receive the new service, obtained their written consent.

Ensuring that any additional project-related administrative tasks to be undertaken by the care practitioners were kept to a minimum ensured that they were able to concentrate on their clinical work. Integrating the introduction to the project and gaining consent as part of a routine GP home visit resulted in a high level of patient enrolment to the CareWell service at little additional cost to the healthcare system.
**Box 9: Towards primary care led integrated chronic care in Puglia, Italy**

The catalyst to develop a regional strategic approach to delivering integrated care in Puglia was the closure of 18 small hospitals in 2011. The Nardino Programme was established to strengthen the involvement of primary care practitioners and services to create an integrated care team focused on empowering people living with chronic conditions to self-manage, and ensure their care, treatment and support was co-ordinated effectively to improve their experience and care outcomes.

The Chronic Care Model (CCM) developed by the McColl Institute was the main conceptual framework that informed and underpinned the development and implementation of the Nardino Programme in one geographical area of the Puglia region. Taking the key elements of the CCM, Care Managers, who were mostly nurses by profession, were recruited to work alongside GPs and other appropriate specialist care practitioners within the health district; together with the care recipient, the integrated care team was formed.

The care team re-designed the care pathways for diabetes, cardiovascular diseases (CVD) and high CVD risk, CHF and COPD, and updated the shared care guidelines to support the new care and information workflows resulting from the re-designed pathways. The care team had access to additional communication tools and a shared electronic patient record/file where information on the care plan and the interventions and support provided by each team member was documented.

The CareWell project built on the work of the Nardino Programme, firstly through a range of user requirements elicitation activities which were guided by the learning derived from the first integrated care team implementation in the region. The disease-specific care pathways were examined to ensure that the care and information workflows, for multi-morbid, frail older people offered the CareWell services, were accurately identified and documented for the different care settings and health status of the care recipient. Particular attention was given to the role of ICT in terms of which solutions and tools should be made available for the care team to effectively support patient empowerment and the co-ordination of a person’s care.

All of this initial work within CareWell contributed to the provision of the comprehensive Care Puglia Platform which is web-based and brings together the relevant information from a number of other electronic record and care management systems in the region to provide a ‘dashboard’ of patient-specific information. The Care Puglia Platform played a pivotal role enabling the health system leaders to effectively articulate the vision and describe how the CCM would be rolled out across the region.

It is important to note that policy makers recognised that the successful delivery of integrated care takes time, and is a journey of discovery that should involve key stakeholders. They consider that the good practice demonstrated in tackling the challenges faced and the lessons learned within CareWell will be enormously valuable and contribute to accelerating the Regional strategy for full scale deployment of sustainable health and social care systems.

**Key messages**

- Wherever possible, the inclusion and exclusion criteria should be able to be applied by interrogating electronic record systems rather than a member of a patient’s care team undertaking an additional assessment with or without the patient being present.

- Reaching a consensus on how to identify patients suitable for the intervention from sites where the organisation and delivery of healthcare services varied, resulted in additional workloads for some care practitioners in a number of sites.

- The aim of an effective risk stratification programme is to ensure that the benefits to the population of introducing a new service outweigh the costs of providing the service itself.

- Care practitioners will often know their care recipients very well. However, their opinions on who should be offered the new integrated care service should be elicited once the formal case finding mechanisms have identified those people who meet the service eligibility criteria.

- There can be many reasons why an individual person may not accept or be suitable for an ICT-enabled service, including sensory problems, health and digital literacy, as well as ICT infrastructure issues such as home-based broadband and mobile phone signal availability.
Box 10: Integrating telecare service into re-designed care and information workflow in Lower Silesia, Poland

The CareWell project enabled Lower Silesia to reconfigure their care delivery model for frail, older people living with chronic conditions to progress from a largely reactive, fragmented service where ‘unstable’ patients often experienced frequent hospital admissions, to providing a proactive model which focused on empowering the care recipient to self-manage, and enabling care practitioners to better co-ordinate care services through the introduction of a suite of ICT solutions.

Through the care pathway re-design activities, the key stakeholders identified the need to provide ICT which not only efficiently and effectively supported the care and information workflows, but, where possible, would provide an integrated platform that had the potential to link to other relevant ICT systems; but in the short term, they would enable the region to start on their integrated care journey. This aspiration was not unrealistic, as at the beginning of CareWell, there was a low level of maturity in relation to health and social care delivery facilitated by ICT, and the adoption of ICT such as smartphones and tablets amongst the general population. Lower Silesia had a simple hospital EHR, a number of different ICT systems to support various departmental functions such as radiology and pathology, and GP activity was recorded in an electronic medical record, but not shared with other care practitioners or ICT systems.

The project was able to take advantage of a separate innovative initiative in the region which was using wrist bands with Near Field Communication (NFC) functionality to store and share an individual’s key personal and medical information with members of their care team. Care recipients enrolled into the CareWell project by their hospital specialist or GP were provided with an NFC wrist band which stored their personal data and relevant medical information in order to set up the telemonitoring technologies; this also acted as their electronic referral for the CareWell service. Care recipients visited a CareWell Contact Centre where the information from their wrist band was automatically transferred to the CareWell ICT platform to populate the database and authorise the allocation of appropriate telemonitoring equipment (smartphone and physiological measurement devices); they also received training on using the CareWell app which had modules to record and automatically upload physiological measurements to the CareWell Contact Centre platform, provide personalised educational content to help the care recipient self-manage, and contact social services or the Contact Centre directly.

For the first time, care practitioners were able to monitor their care recipients, and respond proactively to any fluctuations in their health and wellbeing, often without a face-to-face consultation, emergency room attendance or hospital admission.
6. MONITORING, EVALUATION AND CONTINUOUS QUALITY IMPROVEMENT

6.1 Introduction

The implementation model for integrated care described in Section 5 argues that there is an essential need for integrated care programmes to monitor and evaluate their impact and effectiveness. The model also suggests that the quality, sustainability and scalability of pilot programmes requires an ability to undergo reflective thinking, and so to institute changes and modifications over time. This needs to be an active, managed and transparent process, such that improvements in service quality and/or care outcomes that can be demonstrated over time may be linked to the ongoing changes in the way care is planned and implemented.

The traditional monitoring and evaluation process for service improvement projects in a series of key decision points to:

- identify the problem;
- plan the actions to respond to the problem;
- monitor implementation of the actions; and
- collect and analyse data to revise the actions as needed, and assess the effectiveness of the actions.

In essence, therefore, the implementation model for ICT-enabled integrated care follows the principles for quality improvement as established in the ‘Deming cycle’, more commonly referred to as “Plan, Do, Study, Act” or PDSA. In many countries, the implementation of healthcare innovations is often accompanied by a facilitated quality improvement process that uses PDSA cycles to support the speed and effectiveness of implementation.

From the outset, CareWell recognised the importance of including robust monitoring and evaluation systems and processes to provide the necessary information to assess progress, generate information for project management and decision making, and produce evidence on the impact on health outcomes to inform sustaining, replicating and scaling-up the CareWell service.

6.2 Monitoring and evaluating progress in CareWell

Each pilot site prepared a comprehensive implementation plan which detailed the approach and actions in relation to:

- ICT solutions: development, testing, installation and support.
- Care practitioner and care recipient: education and recruitment.
- Care practitioner and care recipient: education and training.
- Adherence to any relevant regulatory issues.

At project level, an online tool for the recording of risks, actions, issues and lessons learned (RAIL tool) was developed and implemented with each site regularly populating and revising their data to reflect the operational monitoring of the project’s delivery, as well as the ongoing learning.

The evaluation of the project was conducted using the Multi-dimensional Assessment for Telemedicine (MAST) framework which was adapted for use to assess integrated care projects through the SmartCare EU-funded project. The MAST framework evaluates a project from the perspective of seven different domains: health problem and characteristics of the application; safety; clinical effectiveness; patient perspectives; economic aspects; organisational aspects; and socio-cultural dimension, together with ethical and legal aspects. The domains were evaluated using a range of both quantitative and qualitative measures, as well as predictive modelling techniques for the economic analysis.

Key Questions to support Monitoring and Evaluation

- Does the monitoring process review and update the risk register regularly and ensure that the learning is captured and shared?
- Has the generation of new data and information from the ICT solutions been made available to members of the care team to assist them in their care and support service delivery?
- Are stakeholders encouraged to share their learning at internal and external events, and bring new knowledge back to the organisation for consideration as part of the ongoing quality improvement of the service?
6.3 Benefits realisation

The full benefits of an integrated care programme may take several years to be realised. Although the CareWell project had a limited intervention period, many sites saw improvements in outputs and some early outcomes. However, longer term outcomes such as those that are cash releasing will only be achieved with the continued focus on service improvements.

To support benefits realisation, it is important in the planning stage to develop a good understanding of the 'logic' behind the interventions being deployed (see Figure). For example, as Box 11 outlines, it would be possible to examine the benefits realised for the Basque Country by providing information on the outcomes achieved, and how these are linked to benefits. Such an approach would illustrate progress on delivering the overall objectives of their regional strategic plan, and provide useful feedback on whether the components of interventions were having their intended impact.

Key Questions
- Has consideration of changes to patterns of service use, rather than an overall reduction in healthcare utilisation been factored into the logic model?
- Does the logic model contain short, medium and longer term outcomes?

Key messages
- There is no defined set of measures that are the considered the right ones for assessing the impact of integrated care, particularly when access to electronic sources of routinely collected data for community and home-based services is not as mature as that for hospital and GP practice based services.

Box 11: CareWell benefits realisation for the Basque Country, Spain

Whilst it has not been possible within CareWell to determine the cause and effect of any specific single element of service improvement implemented, it is clear that a suite of ICT solutions coupled with an organisational change and workforce development programme can produce benefits for all stakeholders. The populated simple logic model below illustrates the benefits realised for the Basque Country, and provides information on the outcomes achieved, and how these are linked to benefits; this illustrates the progress in delivering the overall objectives of their regional strategic plan.

<table>
<thead>
<tr>
<th>ICT service component</th>
<th>Outcomes</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational platform</td>
<td>Early anticipation of exacerbations, proactive symptom management ✓ ✓ ✓</td>
<td>✓ Lower costs – with potential to release funding to support rebalance of funding from secondary care to primary and community-based services</td>
</tr>
<tr>
<td>Messaging between care practitioners and care recipient</td>
<td>Enhanced patient empowerment and self-management capabilities and confidence ✓ ✓ ✓</td>
<td>✓ Higher productivity – enables &quot;more with the same funding!&quot;</td>
</tr>
<tr>
<td>Electronic prescription</td>
<td>Positive care recipient experience ✓</td>
<td>✓ More effective treatment – improves safety &amp; outcomes</td>
</tr>
<tr>
<td>Electronic health record</td>
<td>Reduced emergency room attendances and hospital admissions ✓ ✓ ✓</td>
<td>✓ Proactive and faster intervention / treatment – improves outcomes &amp; experience</td>
</tr>
<tr>
<td>Interconsultation</td>
<td>Reduced outpatient consultations ✓ ✓</td>
<td>✓ Better care recipient experience – that improves care practitioner satisfaction</td>
</tr>
<tr>
<td>Personal health folder</td>
<td>Increase in virtual contacts ✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td>Collaborative platform</td>
<td>Increase in clinical capacity ✓ ✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remote access to specialist opinion ✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remote access to triage ✓ ✓ ✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Care delivered at or closer to a care recipient’s home ✓ ✓</td>
<td></td>
</tr>
</tbody>
</table>
The above logic model illustrates the effectiveness of the Basque Country’s approach to developing and implementing a suite of interlinked ICT solutions, rather than a single technology, to deliver tangible outcomes for care recipients, care practitioners and the care system as a whole. Patient empowerment to self-manage and take control was improved through the provision of the educational platform with the messaging function enabling care recipients to seek timely virtual advice and support without having to physically attend an appointment at their GP practice or emergency room.

There was a positive outcome in healthcare utilisation with reduced face-to-face consultations and an increase in virtual contacts resulting in additional clinical capacity being created from interconsultations via the EHR, integration of additional clinical data from chronic conditions programmes into the joint EHR supporting primary and secondary care services, and increased access to specialist opinion.

6.4 Quality improvement

Evidence suggests that embedding good quality improvement methods into all stages of the project’s lifecycle will assist in monitoring the project’s progress and lead to greater benefits and successful outcomes for stakeholders. Such methods build continuous improvement and learning into the implementation stage, avoids repetitive cycles of planning, and enables the learning to be applied in an iterative way. Box 12 provides the example of work in Powys that has developed ten interlinked projects for service improvement enabling managers and care professionals to self-reflect on the quality of care they provide and to make changes as a result.

Key Questions for Quality Improvement

- Has the new care model been adequately tailored to optimise the resources available in the local healthcare environment which, in itself, is also likely to be changing as a result of other strategic initiatives, and local, regional and national priorities?
- Are the measures selected to realise the benefits the correct ones, or do they need to be adjusted to reflect a change in strategic or service priorities?

Box 12: Monitoring progress of CareWell service improvement in Powys, Wales

CareWell’s innovative approach to monitoring the progress each site was making towards delivering the service improvements associated with the re-designed care pathways and implementation of the ICT solutions was undertaken by a multi-disciplinary group of representative stakeholders at individual GP practice level in Powys.

Each of the ten separate, although interlinked, project improvement areas were self assessed at the beginning, middle and end of the implementation stage, using the guidance provided by the project’s evaluation team. This guidance included a level of implementation scale graded 0 – 5 with 0 equating to no activity or involvement and 5 denoting that the service improvement was fully implemented and mainstreamed.

Undertaking this activity at GP practice level enabled the Powys CareWell project team to not only monitor the progress each practice was making in implementing the CareWell service, but also where additional support was required in relation to resolving any technical issues, organisational blockages or workforce development problems. In addition, the self-assessment exercise provided an opportunity for the key stakeholders to share their experiences, learn from each other and have a visual representation of the progress they were contributing to.
The above spider chart illustrates Welshpool GP Practice’s ICT-enabled service improvements. It is interesting to note that, like all the GP practices in Powys, they were unable to implement or progress some of the solutions due to reliance on external organisations developments. Both the video conferencing using Microsoft Lync and Patient Led Monitoring are national initiatives with the VC via Lync requiring robust information governance procedures to be drawn up for NHS Wales and this work was not undertaken within the timescales of CareWell, and funding for telemonitoring not being secured from the national Technology Enabled Care programme.
7. A SUMMARY OF KEY LESSONS

Throughout the sections of this report we have sought to draw out the key messages for managerial action alongside some of the key questions that decision-makers should ask of themselves throughout the implementation process. These are not repeated here; instead, the focus is on what these imply for managers and key decision makers tasked with taking forward programmes similar to CareWell.

- Provide guidance and facilitated support for managers and decision makers to help their understanding of the implications of the ICT-enabled integrated care programme (see ‘implementation model’ in Section 3) and associated organisational and workforce change management.
- Take a “whole-of-system” approach that is tailored to suit the local context of deployment, and recognises the resources, capabilities and skills available, and how these can be developed to respond to new ways of working.
- In enabling integrated care to happen, effective managers and decision makers are essential to facilitate the process of implementation over time. This suggests that investment should be put into supporting effective leadership and management strategies, in addition to the education and training needs for professionals, patients and carers. This will ensure that implementation at the clinical and service level (where it matters most) is fully effective.
- ICT-enabled integrated care is a complex service innovation which requires strong key stakeholder relationships at all levels to facilitate the change in co-producing the design, implementation and mainstreaming of new service models and delivery systems.
- The cyclical nature of the implementation process implies that engaging with partners in care should be a continuous process and requires good communication skills.
- Sustainable results and impact take time. Policy makers and managers should agree realistic expectations for the short, medium and longer term as part of a flexible plan that can respond to the learning, new priorities and technological advances.
- From the outset, decision-makers must establish processes to monitor and evaluate outcomes. This requires investment in generating data and knowledge, but also in instituting a continuous and transparent process of quality improvement.

- The literature evidence suggests that whilst managers and decision makers may have been trained in project management, they are rather less well prepared to tackle the change management challenges implied through transformative service innovations such as those developed in CareWell.

In conclusion, the experience of CareWell provides many important lessons for decision makers and managers in how to implement integrated care effectively. What is striking is just how complicated and multi-faceted the task becomes when working across organisations and professional groups with diverse needs and ways of working, using new ICT-enabled modalities to communicate with each other and to provide care.

The model for implementing ICT-enabled integrated care developed in this report gives the same attention to:

- the softer skills of managers in relationship building and developing competencies; and
- the more technical aspects of implementation such as strategic planning, procurement and evaluation.

For those seeking to replicate, adapt or grow new approaches to care delivery that are similar to the CareWell experience, it is this dual focus on the relational as well as the technical aspects of implementation that is the core lesson.
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