



developing digital competences  
of care workers to improve  
the quality of life of older people

**D6.1 Toolkit for  
developing the  
Digital Competences  
of Carers**




# D6.1 Toolkit for developing the Digital Competences of Carers

Deliverable Title	D6.1 . Toolkit for developing the Digital Competences of Carers
Deliverable Lead	Arcola Research
Work package	WP 6
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Contributor(s)	All partners
Reviewer(s)	Gloria Ortiz, Veronique Maes
Dissemination level	Public
Project Number	297304
Instrument	CIP . ICT PSP . Pilot B
Start date of Project	09/03/2012
Duration	36 months
Project coordinator	IFEF   IPERIA

## Abstract

This Deliverable provides a Toolkit for implementing the Carer+ programme. It is aimed at policy-makers, training providers, certification agencies, labour organisations and other stakeholders involved in developing skills within the home care field. The Toolkit provides Guidelines, procedures and practice examples to support the successful development of digital competences of carers. These cover three levels: the  $\mu$ macrolevel (the policy environment needed to support competence development); the  $\mu$ mesolevel (the organisational infrastructure required) and the  $\mu$ microlevel (what is needed to apply the competences on the ground within the home care environment).

# Quality control checklist

Quality Control Check	Tick box
<b>Generic Minimum Quality Standards</b>	
Document Abstract provided	X
Document Summary provided (with adequate synopsis of contents)	X
CARER+ format standards complied with	X
Language, grammar and spelling acceptable	X
Objectives of Description of Work covered	X
Work deliverable relates to adequately covered	X
Quality of text is acceptable (organisation and structure; diagrams; readability)	X
Comprehensiveness is acceptable (no missing sections; missing references; unexplained arguments)	X
Usability is acceptable (deliverable provides clear information in a form that is useful to the reader)	X
<b>Deliverable specific quality criteria</b>	
Deliverable meets the 'acceptance Criteria' set out in the Quality Register	X
<b>For Key Deliverables only</b>	
Deliverable approved by external reviewers	N/A
Checklist completed and deliverable approved by Name: Gloria Ortiz Date: 15/05/15 Signature: 	

Final checklist to be completed and deliverable signed off by primary reviewer

# Document review history

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Version	Name	Status *	Date	Summary of changes
1	Joe Cullen	A	01/05/15	
2	Gloria Ortiz	PIR	15/05/15	Few spelling mistakes and typos
3	Véronique Maes	SIR	15/05/15	Second review . no further comments
4	Joe Cullen	A	15/05/15	Final version

**\*Status:** Indicate if:

A - Author (including author of revised deliverable)

PIR . Primary internal reviewer

SIR . Second internal reviewer

ER . External Reviewer



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The Toolkit for developing the Digital Competences of Carers is prepared in the framework of the CARER+ project co-funded by the Competitiveness and Innovation framework Programme - ICT Policy Support Programme.






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# Document summary

This document provides a Toolkit for implementing the Carer+ programme.

Toolkit provides Guidelines, procedures and practice examples to support the successful implementation of the Carer+ programme in the wider care sector. These Guidelines, procedures and practice examples cover three levels: the **macro** level (the policy environment needed to support competence development); the **meso** level (the organisational infrastructure required to develop competences) and the **micro** level (what is needed to apply the competences on the ground within the home care environment).

The Toolkit is intended to be used by policy-makers, training providers, accreditation and certification agencies, labour organisations and other stakeholders involved in developing skills within the home care field, including care and social services, training agencies, employer and employee representation bodies, content developers and providers, care teams, and carer support agencies.

The Toolkit firstly presents the Carer+ programme in terms of its Theory of Change model, which sets out step by step how the programme works to achieve its desired vision and goals. This Theory of Change is then presented in terms of the concrete components that make up the Carer+ programme, in order to help potential programme providers and users get a better idea of how the programme could support their interests, needs and objectives and to specify the essential components that are needed to support the development of digital competences for carers. It presents the Carer+ Theory of Change model.

The final sections of the Toolkit demonstrate how these components work in practice, by providing context setting information, guiding principles, essential requirements, pitfalls and solutions and examples of how to put them into practice.





# Introducing the Toolkit

## What the Toolkit is for

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This document provides a Toolkit for implementing the Carer+ programme. The Carer+ Programme is defined as the set of tools, procedures and practices through which care providers acquire and apply digital competences to improve the quality of care they provide and a better quality of life for those they care for.

Over its three year life cycle, the Carer+ project developed, piloted and evaluated an approach aimed at supporting professional care workers and informal carers in acquiring a set of digital competences that could then be used to enhance their practice in the home care environment. The longer term objective of this approach was to contribute to improving the quality of life of care recipients. To deliver this approach, Carer+ designed and put into place an infrastructure and process – the Carer+ programme – which is described in more detail below.

This Toolkit provides Guidelines, procedures and practice examples to support the successful implementation of the Carer+ programme in the wider care sector. These Guidelines, procedures and practice examples cover three levels: the macro level (the policy environment needed to support competence development); the meso level (the organisational infrastructure required to develop competences) and the micro level (what is needed to apply the competences on the ground within the home care environment).

## Who the Toolkit is for

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The Toolkit is intended to be used by policy-makers, training providers, accreditation and certification agencies, labour organisations and other stakeholders involved in developing skills within the home care field, including care and social services, training agencies, employer and employee representation bodies, content developers and providers, care teams, and carer support agencies.

Although the Toolkit is not directly aimed at carers themselves, it can provide useful information for care workers and informal carers interested in developing, enhancing and applying digital skills in their practice. In particular, the section that covers what is needed to apply the competences on the ground within the home care environment is recommended for carers.

## Toolkit Navigation

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The Navigation Map below shows how the Toolkit is structured and what each of its sections contains. Although the Toolkit has been written to provide a coherent picture of the Carer+ programme as a whole and how the programme can be implemented successfully, readers can use the diagram to find material that is of particular interest to them.





	<b>What this section contains</b>	<b>Who this Section is for</b>
<p>The Carer+ programme</p>	Describes the Carer+ approach, objectives, tools and services provided	Everyone
Programme Implementation Method	Sets out the conceptual model and the methodology needed to deliver the programme . and this Toolkit	Everyone
Policy Environment	Sets out what is needed at the policy (macro) level to support digital competences for carers	Policy-makers; care and social services; training agencies; certification bodies; employer and employee representation bodies
Organisational Environment	Sets out what is needed at the organisational (meso) level to support digital competences for carers . for example the learning methods and tools	Training providers; content developers and providers; accreditation and certification bodies
Field Environment	Shows how the Carer+ tools can be used in care practice and how carers should be supported on the ground	Care and social services; care teams; carers; carer support bodies

## Toolkit Navigation Map

As the Navigation Map shows, the Toolkit describes a process that is both sequential and also to some extent hierarchical.


Following this Introduction, the opening Section of the toolkit provides an overview of the Carer+ programme . focusing on the Carer+ vision, the presenting problem it sets out to address; how it expects to change that problem, and the tools, actions and procedures necessary to make that change happen. These can be seen as the ingredients with which the Toolkit works.

The next Section of the Toolkit sets out the implementation approach and methodology required to deliver the Carer+ programme. It discusses the thinking behind this approach . including the theory, research and practices that have fed into it.

The final three sections of the Toolkit go on to describe what is needed to put the implementation approach into practice. This is presented as a sequence of steps each of which needs to be put into place in order to create the conditions necessary for the next step to be taken. The three steps reflect three different levels, or environments:

- | The macro level (policy environment) . this focuses on recommendations for policy actions that need to be taken to create a supportive national and trans-national environment for competence development for carers.
- | The meso level (organisational environment) . this covers the infrastructure, tools and





processes needed to deliver the programme . focusing in particular on the organisational requirements for designing and delivering training, assessment and accreditation of digital competences.

| The micro level (field environment) . this focuses on how best to support carers on the ground to put what they have learned into practice. It looks at things like: which devices are best for which purposes; what are the main challenges that carers face in working with smart homecare and how can these be met; what practical steps can carer-givers take to work with their care-takers to use technologies to improve quality of life.





# About the Carer+ Programme

## What this Section covers

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This Section of the toolkit presents the Carer+ programme. Its main purpose is to familiarise readers with what Carer+ is intended to do, and in particular to introduce the tools and services that are available in the Carer+ programme. The aim is to help potential programme providers and users get a better idea of how the programme could support their interests, needs and objectives and to specify the essential components that are needed to support the development of digital competences for carers.

The Section is set out as follows:

- | The first part of the Section provides an overview of the Carer+ programme, focusing on its *‘Theory of Change’*
- | The second part shows how the different elements of the programme are configured and provides details of each component and what it does.

## Overview of the Carer+ programme

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Like all programmes, Carer+ has a vision. This vision could be expressed as follows:

*‘Carer+ wants to help care workers and informal carers understand how technologies, and the knowledge needed to use them, can improve their caring practice, and in this way, can contribute to improving the quality of life of those they care for.’*

This vision can also be expressed as a *‘Theory of Change’*. A Theory of Change is essentially a Roadmap that describes:

- | what the *‘presenting problem’* is that needs to be changed
- | what the solution to this problem is
- | what steps are needed to progress from the problem to the solution.

The Theory of Change defines all the building blocks needed to change a problematic situation, or in other words the things necessary to achieve a long-term goal or impact. A simple way of illustrating this is to map the *‘intervention logic’* (or logic model) of a programme like Carer+. The intervention logic:

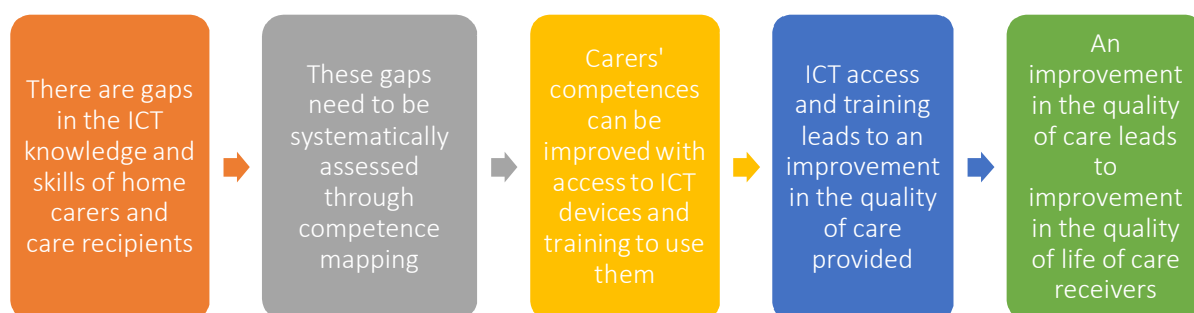
- | specifies the problem to be addressed by the programme
- | specifies how the programme will change the problem (what are its expected objectives, outcomes and impacts)
- | specifies the activities and outputs necessary to deliver the objectives, and expected outcomes and impacts
- | specifies how progress towards achieving the programme outcomes and impacts will be measured.

However, a Theory of Change model goes further than this basic intervention logic.



Whereas a simple logic model is essentially a descriptive device for mapping programme components - like objectives, activities, outputs, outcomes, impacts and evaluation indicators - and the relationships between them, the Theory of Change model embodies an explicit theory of how and why a programme might cause an effect. It has built into it a set of assumptions and hypotheses about what causes a problem, what particular actions will cause a change in that problem and what are the likely outcomes of these actions. In other words, a Theory of Change shows the causal pathways between a programme's objectives, its activities, and its expected outcomes and impacts. It says: 'If we take action X, then this will cause effect Y and this will eventually lead to outcome Z'.

In this sense, the implementation process of a programme is a living laboratory in which the assumptions and hypotheses about causes and effects that are embedded in the programme can be explored and tested. The overall Theory of Change model for the Carer+ programme is illustrated below.




### Carer+ programme Theory of change model

As the illustration shows, the Carer+ programme supports a change journey that consists of a sequential progression of 'step-changes' each of which has an effect on subsequent steps. The journey begins with an initial presenting problem and an explanation of what causes that problem:

- | presenting problem - the care sector shows, overall, a low level of professionalisation. The end result of this problem is that low professionalisation has a negative effect on the quality of care provided. The theory of change is that gaps in digital competences of carers contribute to low professionalisation. If these gaps could be addressed, then this would lead to an improvement in the quality of care that is provided and, ultimately, to improvements in the quality of life of care recipients.

Following on from this initial theory of change, each step in the change journey then has its own theory of change and causal pathway

- | If care givers lack ICT knowledge and skills then it follows that a systematic mapping of these skills and knowledge gaps, set against a benchmark of the competences that ideally should be acquired, would highlight what improvements in competences need to be supported (Step 2)
- | If the competences that are required are mapped, then a training programme can

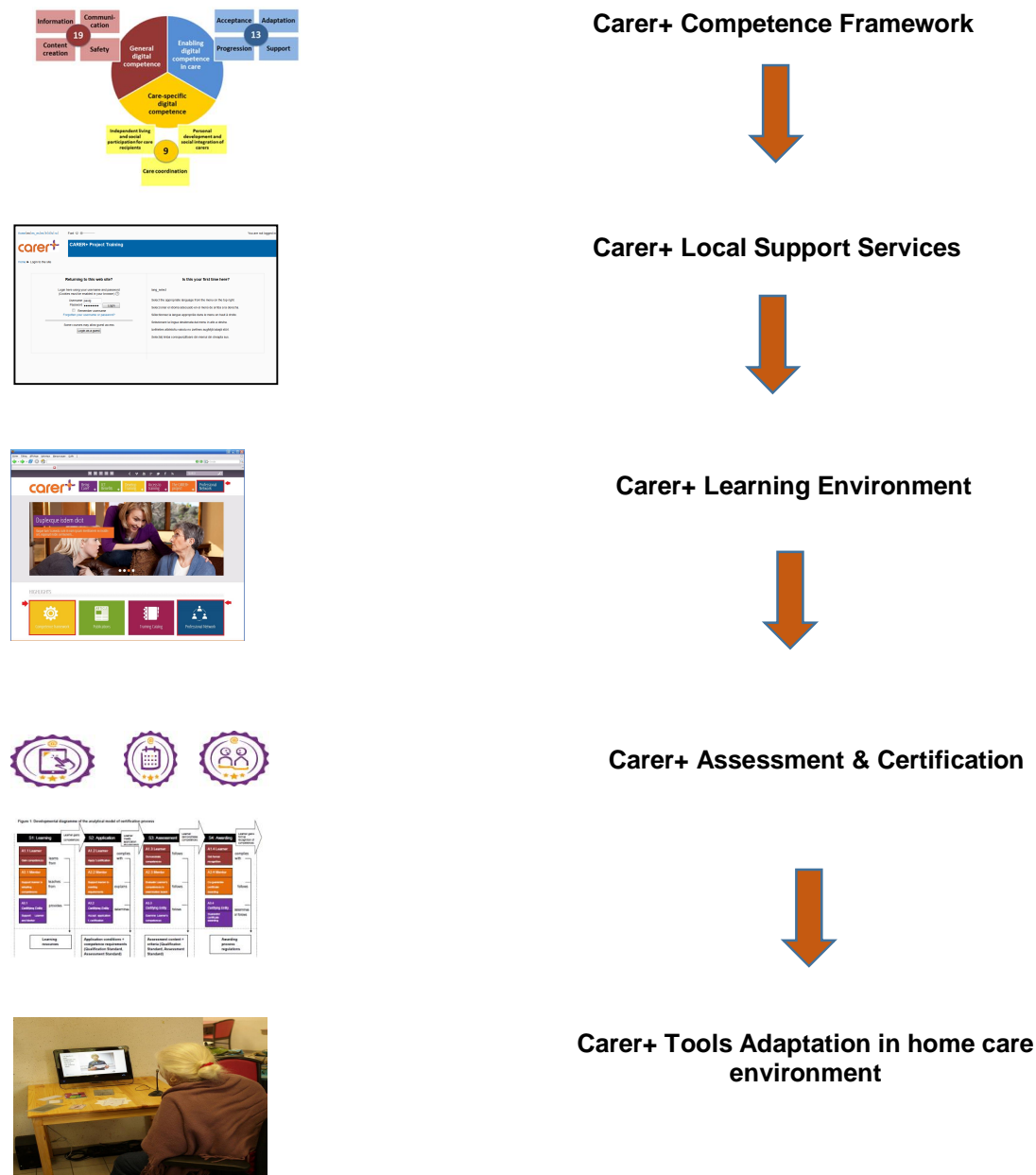


be developed to help carers acquire the necessary digital competences. Participating in the training programme will improve the knowledge carers have about how ICTs can support care practice and will equip them with new skills (Step 3).

- | Providing carers and care receivers with access to suitable devices will then allow carers to apply their new skills in their practice, working together with care receivers. This will lead to an improvement in the quality of care provided (Step 4).
- | An improvement in the quality of care provided will ultimately cause an improvement in the quality of life of care receivers (Step 5).

## The components of the Carer+ programme and how they work

In concrete form, the Carer+ programme is an integrated framework for implementing the Theory of Change described above. This framework is shown in the illustration below.



### The Carer+ Programme Framework



As the illustration shows, the Carer+ programme framework combines five integrated components:

- | The Carer+ competence framework. This sets out the key competences that carers need to apply in their practice. It provides the structure for the design of the Carer+ learning programme.
- | Local support services. This creates the infrastructure to support the learning programme and the subsequent adaptation and use of the Carer+ tools by carers within their care environment.
- | The Carer+ learning environment. This provides the infrastructure for carers to acquire digital competences, as well as the learning delivery approach and the learning content.
- | Carer+ assessment and certification. This provides the infrastructure and process for assessing carers' competences, validating and accrediting these competences and, going forward, sets out the procedures for subsequent certification of these competences.
- | Carer+ tools adaptation. This provides the infrastructure, tools and support to enable carers to apply their skills in their practice, working with care receivers using smart devices.

#### THE CARER+ COMPETENCE FRAMEWORK

The Carer+ digital competence framework could be described as the foundation stone of the Carer+ programme. It sets out the competences required for carers to understand and use digital technologies in their care practice. The framework incorporates state of the art standards in competence mapping and has adapted these standards for application within the care sector specifically, building on the Framework for Developing and Understanding Digital Competence in Europe (DIGCOMP) initiative developed by the European Commission Joint Research Centre.





It covers three core competence domains as follows:

- | General digital competence . these are baseline, or foundational, competences that are adapted from the DIGCOMP project and are organised under four themes of information, communication, content creation and safety.
- | Enabling digital competence in care . this defines competences that are required to transfer general competences into the care domain and are grouped under four themes of acceptance, adaptation, progression and support.
- | Care-specific digital competence . this defines specific competences that allow the enabled care competences to be contextualised and applied within care practice. They cover the areas of independent living and social participation for care recipients; personal development and social integration of carers; and care coordination.

Taken together, the Carer+ digital competence framework encompasses

- | 3 Competence Domains
- | 12 Competence Areas
- | 48 Competences
- | 2 Application Levels . level 1 means enabling digital competence in the carers' own work practices and Level 2 means enabling care recipients to understand and use digital technologies.

The framework is supported by examples of Learning Outcomes. These are not essential requirements but examples of how a competence can manifest itself through observable instances of a person's Knowledge, Skills and Attitudes. The Learning Outcomes are particularly important for the Carer+ programme because they directly link to the Carer+ learning curriculum and content and to the Carer+ assessment approach.

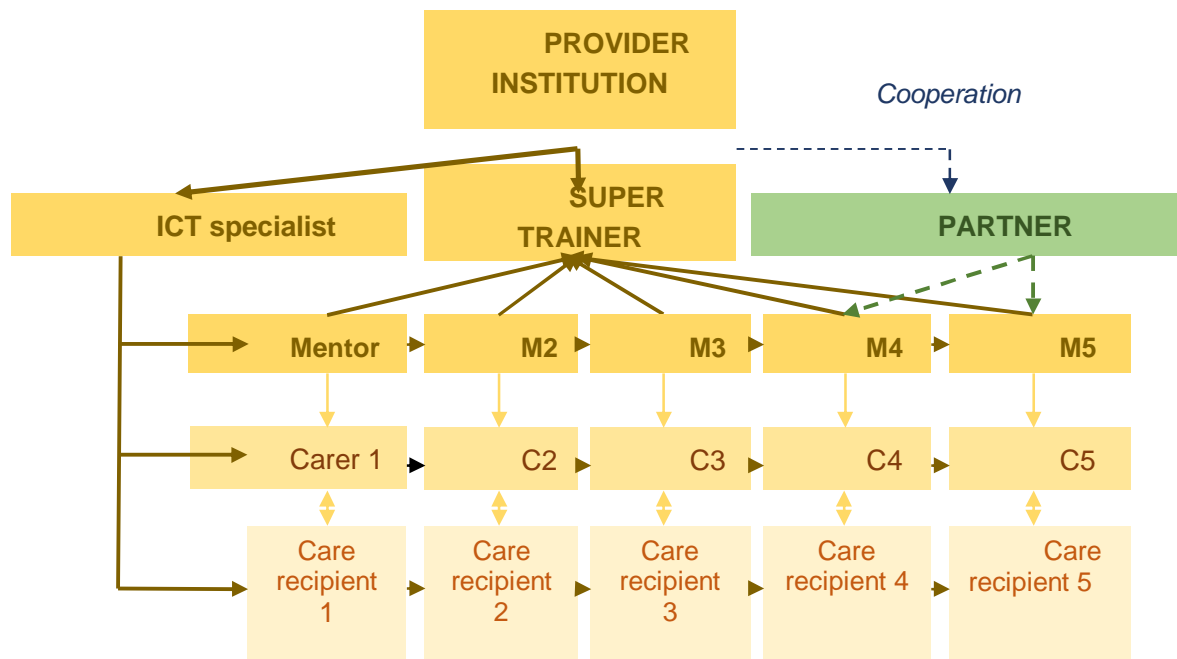
## **CARER+ LOCAL SUPPORT SERVICES**

This component of the programme provides the infrastructure, know-how and support needed to deliver the Carer+ training and, subsequently to create the conditions necessary for carers who have gone through the programme to access devices and applications that will allow them to put the skills they have acquired in the training into practice within the home care environment.

The focus in this component is on recruiting local support, training and mentoring staff who will help the carers through their learning programme, and then support them in using the Carer+ tools in their practice. The diagram below illustrates how this works.

As the diagram shows, the training effort which prepares the ground for subsequent digital-supported practice in the home care environment involves local support led by a super trainer as a professional leader of the staff. Super trainers are expected to coordinate the local staff involved in the realisation of the Carer+ programme. This requires an initial 3-day training programme to train these super-trainers and to enable the second tier of the training strategy . the mentors responsible for providing support to the care-givers involved in the piloting process on the ground - to carry out their role.





### Carer+ local support services

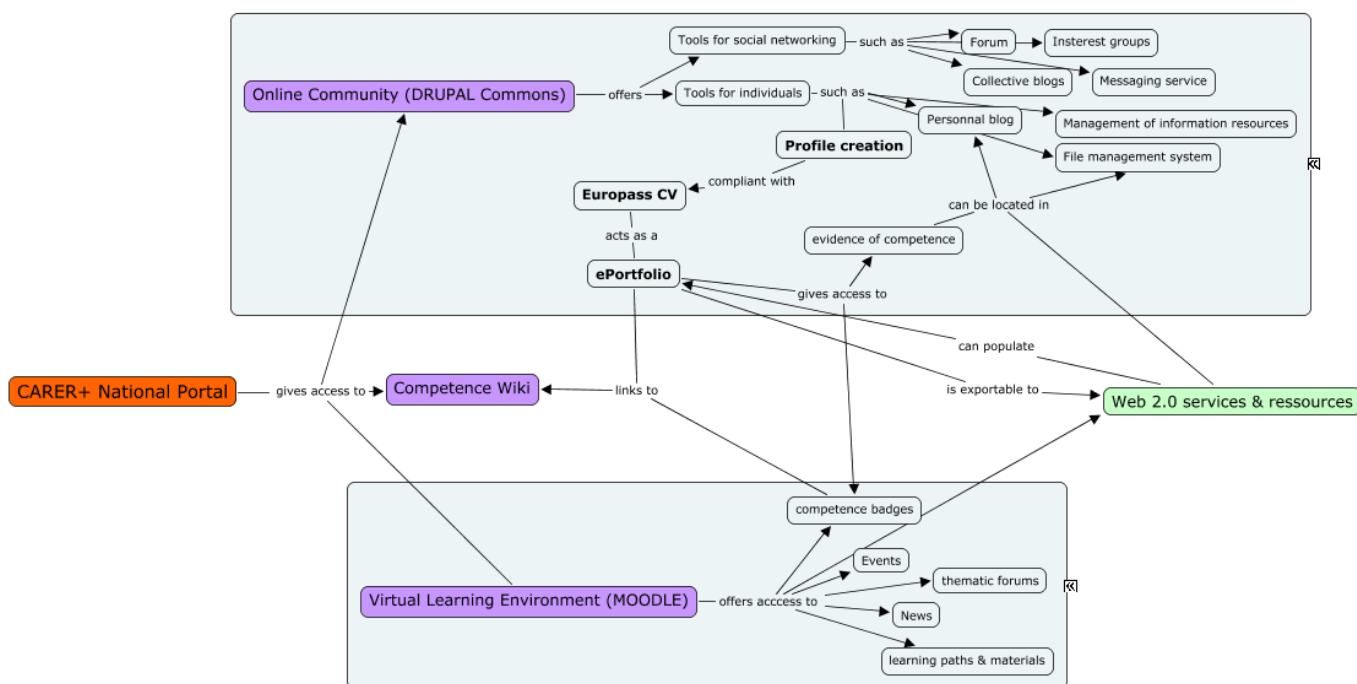
This mentoring role is to guide and provide individual support to carers (and care recipients) during the training (and home caring) period. They help participants to understand and better select an appropriate learning pathway, leading in turn to assessment of their learning and the final award of a Carer+ proficiency badge. They also support participants with information and problem solving. The training for mentors involves 60 hours capacity building training.

In addition, ICT specialists help all the participants (carers and care recipients) with provision of the equipment and handling the ICT tools supplied (installation, configuration, deployment at care recipients' homes and solving possible problems raised with the different ICT devices).

### THE CARER+ LEARNING ENVIRONMENT

The CARER+ online learning environment, aimed at providing training for carers to develop and apply their digital competences in practice - is made up of three interconnected services and platforms. The diagram below shows how they link together.





## Carer+ Learning Environment

Users can access all services and platforms of the Online Learning Environment from the CARER+ National portals. From there, users can log onto the online community which offers tools for social networking, such as a forum or a messaging service. The particularity of this online service is that the profile (present in every social network) is compliant with Europass CVs and allows users to create an e-Portfolio, which they can use to display evidence of their learning achievements and competences. This e-Portfolio is exportable to Web 2.0 services and resources and can be populated via these same services and resources. A file management system and a personal blog can also serve as repositories for evidence of skills and competences.

The curriculum and course content comprises a total of five courses: two core compulsory courses that must be studied one after the other; followed by three electives in areas of professionalization and the provision of social care interventions. The five courses cover the following areas:

**Course 1:** This course covers foundational digital competence and is designed to lead the participants from a novice or beginner state to one where they are confident in both the use of mobile Internet devices, basic applications, security, privacy and digital content.

**Course 2** is the second core course and situates the care worker as a designer of care interventions to develop capability to build and test solutions to identified problems.

**Course 3** focuses on the professional development activity of the participants to enhance their competences in the areas of planning, reporting, communicating and networking and professional profile building.

**Course 4** focuses on promoting independent and assisted living. It is orientated towards designing and implementing social care interventions with ICT to support and promote independent living for care recipients

**Course 5** focuses on ensuring that participants will be able to design and implement ICT based interventions with care recipients.

The programme is designed to work in a blended setting with all activities supported by the virtual learning environment and an online, social network community. Each of the individual courses is approximately 35 hours in total and designed to run over a period of eight weeks with short, small group, weekly face-2-face sessions with a mentor. The course modules combine text with visual material and practice-based exercises.

**How will this module help you?**

At the end of this module, you will be able to:

- 1 Explain what an online community is
- 2 Identify tools for communication and collaboration on the internet
- 3 Support the research and selection of online communities on the internet
- 4 Explain how to interact in 2 of the most popular online communities (Facebook and Wikipedia)

**Training aims**

- 1 Know what an online community is
- 2 Learn about tools for communication and collaboration
- 3 Carry out research and selection online
- 4 Explain how to interact in online communities

### Example of Carer+ course module

Training participants are supported in choosing an appropriate learning pathway through the use of the Carer+ profiling tool. This is designed to provide information on the baseline skills of participants enrolling in the Carer+ programmes and to provide some indication of their knowledge and attitudes towards ICTs and learning. The results are made available to mentors and tutors and also to the participants themselves. The aim is to understand the baseline skills and motivations of the participants to help organize their learning journey through the Carer+ programme. The results from this tool also provide baseline evidence for assessment.

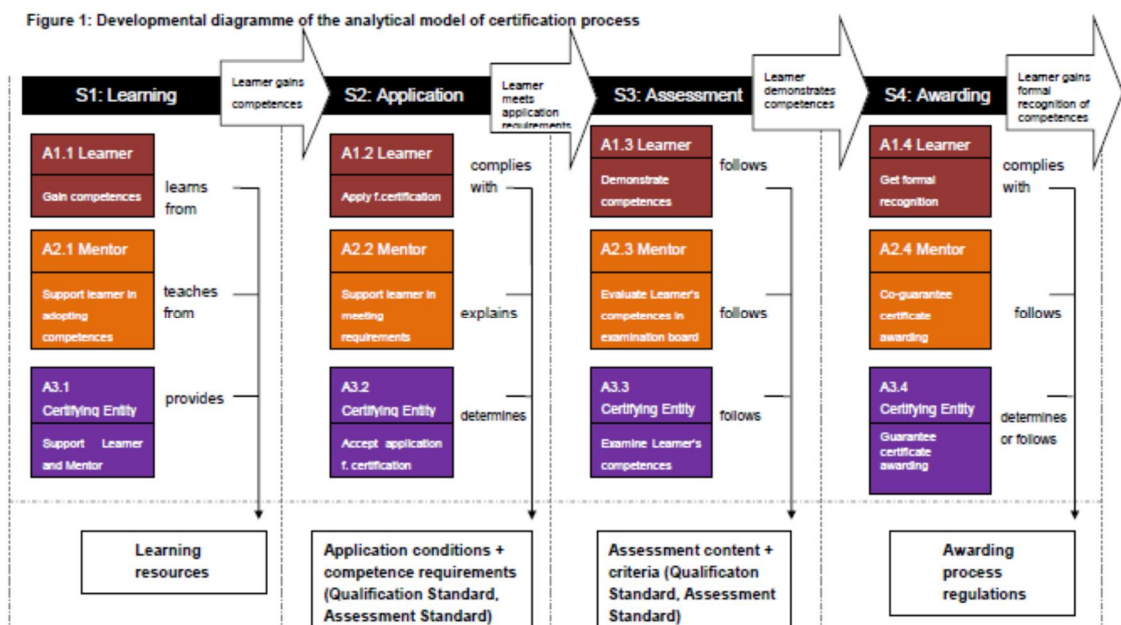
### CARER+ ASSESSMENT AND CERTIFICATION

This component provides the infrastructure and process for assessing carers' competences, validating and accrediting these competences and, going forward, sets out the procedures for subsequent certification of these competences. Users can be awarded competence badges when they complete modules contained in the Moodle virtual learning platform. These competence badges correspond to competences stored in the Competence wiki. Users can add them to their e-Portfolio, thus adding other evidence of their successful training and competence acquisition. This is done through the Carer+ Micro-certification system, which defines a set of proficiency badges representing the successful development of skills and competences via both the non-formal and formal learning pathways and through the use of the learning environment e.g. active engagement in online discussion forums. Micro-certification is used to promote and develop the acquisition of baseline hard and soft skills or proficiencies that are required as prerequisites to following the formal learning pathways. Micro-certification allows learners to *win proficiency badges* – a fun and motivating way to benchmark skills and provide other learners within the learning environment a visible mechanism by which they can usefully identify relevant expertise amongst their peers. These are designed and coded to denote the achievement of different levels of proficiency and competence area.



### Carer+ proficiency badges

Carer+ has developed a certification model to take learning outcomes forward beyond the award of proficiency badges and into the more formal environment of assessment and certification. Certification is understood in Carer+ as a destination on a pathway that begins with an intentional decision to learn, continues via systematic organisation of the learning according to an outcome-oriented framework, and reaches a stage of demonstration of the acquired competences through undergoing an assessment phase based on specific quality criteria and resulting in an institutional recognition of the competences possessed by the learner. This model is currently developed as an analytical framework for assessment and certification . because it is clear from the research Carer+ has carried out that assessment and certification within the broader world of national systems is highly dependent on the cultural and legislative context in different countries. The model, shown below, therefore represents a minimal default standard for certification process and, at the same time, a tool for identifying common features and gaps when compared with existing certification processes in the area of digital competence of care workers.



The certification model is based on four processes: the learning process, through which carers gain competences; the application process, through which carers meet relevant competence requirements by applying what they have learned; the assessment process, through which these competence requirements are formally assessed against specific criteria and the awarding process through which carers gain formal recognition of their acquired competences. The conditions needed to support this model are discussed below in this Toolkit.

## CARER+ TOOLS ADAPTATION

The final component in the Carer+ programme focuses on infrastructure and support provision to enable carers to apply their skills in their practice, working with care receivers using smart devices. The service developed by Carer+ to do this consists of the deployment of a pervasive technological environment for self and professional development within the home, supported by an educational approach that promotes active cooperation (peer-to-peer and intergenerational learning) and which is in turn supported through mentoring and technical advice provided by local support teams.

A number of different combinations of smart technologies for home care have been developed and tested within Carer+, including:

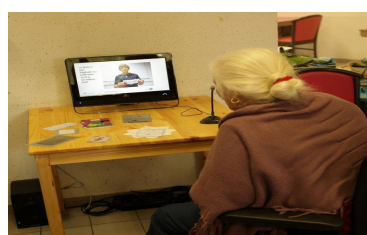
- | The use of complex Smart Networked Objects enabled with Wi-Fi, ZigBee, Bluetooth, 3G+, LED, and RFID technologies integrating all-in-one solutions for e-Inclusion and eHealth: and offer functionalities that range from fall prevention to communication services that facilitate the social link with family and relatives via health planners, health narrative records, cognitive stimulation and text-to-speech engines - based on the Li1q device.
- | The use of simple Smart Networked Objects enabled with Wi-Fi, 3G+, and RFID technologies integrating all-in-one solutions for eInclusion.
- | Internet tablets coupled with a Webnapperon
- | Internet tablets coupled with NFC readers and tags.

The Li1 is a communication device designed by a French enterprise. It is designed to provide care recipients as well as their caregivers with a set of services, in order to make life easier, to increase the efficiency of care and to detect and prevent health issues. At its core the Li1 offers short distance communication using different wireless technologies, effectively creating a home area network. These include: ZigBee enabled devices such as sensors and actuators; Bluetooth devices such as smart phones and eHealth sensors; Wi-Fi connections to ADSL boxes and tablet computers; RFID cards and objects; NFC devices and smart phones. It can also provide long distance communication through 3G/GPRS/Edge connections and/or via the ADSL. This enables it to support services like building and maintaining social bonds; diary organization; day to day information/entertainment; care administration and management; concierge services.



## The Li1

Webnapperon is an open platform for the digital inclusion of older people. It helps them to connect to digital social networks. It aims at keeping the social link between the care receiver and his/her personal network: family, friends, and local information but also to access any digital information. The terminal is connected to the internet. It looks like a digital picture frame with a mat in front of it, where interactions are based alternatively on a RFID tag reader or via touchable screen. The device embeds a text-to-speech engine for blind people. The reader is placed under a mat, by simply placing an object associated with an RFID tag on the mat, an operation starts: display and read with, an associated URL, RSS feed, text, audio or video files. Using the back office administration platform, family members and carers can configure RFID tags that they can stick later on objects. Each tag can be assigned to a specific function.



## Webnapperon

In the Carer+ programme piloting, the Li1 was replaced by more widespread use of tablet and smartphone devices . for example Nexus 7 and 10, iPad mini and iPad 4 - to deliver services. This was firstly because of problems in the supply of the device but also because initial testing identified a number of problems with regard to its use. The use of smartphones and tablets proved a simpler, more efficient and more effective way of delivering Carer+ services . not least because smartphones and tablets were more familiar to carers and care receivers and they were viewed with less anxiety.

The use of these devices, combined with the digital competences acquired by carers as a result of their participation in the Carer+ learning programme, is the central focus of the Carer+ delivery of home care services to care recipients. This delivery is based on a mutual (intergenerational) education and learning process between carers and the care receivers. Carers typically carry out a mapping exercise of care recipients' individual social and health care needs and then tailor their own caring working practices according to these personal needs. Mentoring and technical support from ICT specialists is constantly available during the whole adaptation phase for each carer.

The process of adapting the Carer+ tools to the home care environment depends on two main things: the legislative and administrative framework that governs care services within a particular country or region, and the specific needs of carers and care receivers in individual care environments. The care system often requires that assessment for older people must be undertaken by a social worker using a needs assessment methodology. After a needs assessment is completed, a task schedule is drawn up and given to a care service provider to provide the care service. The main feature of home care provision is continuous cooperation between these parties. The Carer+ adaptation and utilization process must therefore take into accounting prevailing local conditions.





# Delivering the Carer+ Programme

## What this Section covers

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This section sets out the implementation approach and methodology for delivering the Carer+ programme described in the preceding section. It is set out as follows:

- | The first part explains how the approach has been developed, and provides a brief summary of the key inputs that have shaped the approach
- | The second part presents the approach in detail.

## The thinking behind the implementation approach

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The Carer+ implementation approach and methodology described below has been shaped by inputs from three main sources:

- | A review of relevant theories and concepts in the field of technology development and diffusion
- | A review of relevant research in the use of ICTs to support independent living for older people
- | A review of the results from the Carer+ evaluation.

### THEORETICAL PERSPECTIVES

The starting point for developing the Carer+ implementation approach was a review of the literature on technology development, its diffusion and its utilisation within complex social settings. The main focus of this review was to understand how the technological design process works; how technological innovations become adopted and how they are then adapted for use in actual practices. Its main purposes were firstly to identify the obstacles to the successful adoption and adaptation of technologies in real practice, and, secondly, to understand how users actually work with technologies to serve their needs. We therefore hoped to identify ways in which the obstacles to successful utilisation of the Carer+ tools could be addressed, and to identify the ways in which the use of the tools could be best supported.

The key source texts for the review were drawn mainly from the social constructivist approach to technology. Social constructivism emphasises the social shaping of technologies and more broadly the sociology of technology (Woolgar, 1991)<sup>1</sup>. These perspectives envisage technology and innovation as contradictory and uncertain processes. Technology development proceeds through the interaction of social and technical elements that cannot be separated from one another, and are in constant mutual tension. Technologies, once developed and implemented, not only react back upon their environments to generate new forms of technology,

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<sup>1</sup> Woolgar, S (1991) 'The Turn to Technology in Social Studies of Science', *Science, Technology, & Human Values*, Vol. 16, No. 1 (Winter), pp. 20-50.





but also generate new environments (Williams and Edge, 1995)<sup>2</sup>. The relationship between technology and society is therefore never a one-directional, continuous process of change and progress. Technologies are developed, shaped, and adopted, responding to social needs, and to specific political and economic circumstances that reflect the broader contextual backdrop at the macro level. As tools of social interaction, technologies - particularly media technologies - adopt the topography of the society in which they are developed and used (Di Maggio, 2001)<sup>3</sup>

The review identified three key concepts that have been applied to help shape the Carer+ implementation approach and methodology. These are:

- | Technical coding
- | Civilising Choices
- | Value-embedded action systems.

### Technical Coding

The technical code reflects how technologies are socially and culturally constructed, in the sense that technological design and development does not happen in a vacuum. The features of the design of a technology-enabled social innovation and the development trajectory it takes will be shaped by the roles and interests of the stakeholder groups involved (Feenberg, 1995)<sup>4</sup>. As a general rule, the more powerful the stakeholder, the more influence they will have on technology design and development. Technical coding also refers to the immanence of technology. At the genesis of technological innovation, the developmental trajectory an innovation eventually takes is up for grabs. There is a relatively short moment of technological flux before the technology becomes coded and stabilised. Following stabilisation of the technological innovation, the technical code will determine how the technology is used and embedded in real practices. But since the design and development path of technologies tends to amplify the positions and interests of powerful stakeholders, the form a technology eventually takes through the process of development, adoption and adaptation through use will be dictated by powerful stakeholders, so that weaker stakeholders may lose out in their attempt to extract value from using the technology.

A good example of this is the design, evolution, adoption and adaptation of the bicycle. In the illustration below, two types of bicycle - a racing cycle and a safety cycle - are shown. When asked to identify which is which, most people give the wrong answer. The racing cycle is in fact the one on the left - the Victorian Penny Farthing and the one on the right is the safety cycle

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<sup>2</sup> Williams, R. and Edge, D. (1999) *The Social Shaping of Technology* in Dutton, W. (Ed.) *Information and Communication Technologies: Visions and Realities*, Oxford University Press, Oxford, pp. 53-68

<sup>3</sup> Di Maggio, P., Hargittai, E., Neuman, W. R. and Robinson, J. P. (2001) *Social Implications of the Internet*. *Annual Review of Sociology* 27:307-336.

<sup>4</sup> Feenberg, A. (1995). *Alternative Modernity: The Technical Turn in Philosophy and Social Theory*. Berkeley: University of California Press





**Racing cycle**



**Safety cycle**

The modern racing cycle is popularly assumed to be a direct descendent of the Victorian penny farthing. In fact, racing bikes can be seen as an evolution of a completely different technology – the safety bicycle, emerging in Victorian times to provide a less dangerous alternative to the penny farthing, which was originally bred for speed competitions. So high was the fatality rate in these speed competitions that the government of the time stepped in to issue restrictions on their use and specify design standards for future bicycle development which paved the way for the subsequent evolution of the safety cycle (Pinch and Bijker, 1986)<sup>5</sup>. The innovation space in which the safety bicycle developed in its early gestation was characterised by a number of possible innovation scenarios, or to put it another way by a contest of meanings – between the bicycle as a mass transportation tool; the bicycle as a sportsman's toy, and so on. However, the safety design eventually emerged as the dominant form of bicycle.

Implications for delivery of Carer+ programme:

- | the devices and technological tools used to deliver services within the home care environment need to be seen not simply as technical artefacts with neutral, objective and given properties, but as embedded cultural practices that will change according to their context of use. Care givers and care receivers therefore need to be supported in identifying ways in which the tools can be incorporated in everyday practices and activities that are meaningful, useful and valuable.
- | in order to ensure that the technical coding of the Carer+ tools does not exclude the weaker stakeholders involved, care recipients must be actively involved as co-collaborators and co-constructors of the strategies and actions taken in the home to use the Carer+ tools effectively.

### Civilising Choices

If we accept the proposition that technological innovations reflect technical codes and contests of meanings then it follows that they also embody what Feenberg described as civilising choices. An extreme example of this is the 17th century Spanish flintlock pistol shown below.

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<sup>5</sup> Pinch, T. J., & Bijker, W. E. (1986). Science, Relativism and the New Sociology of Technology: Reply to Russell. *Social Studies of Science*, 16, 347 - 260.



### Spanish flintlock pistol, 16th century

This pistol, along with horses, metal armour, and above all organisational know-how was a key technological innovation in enabling the Spanish conquistador, Pizarro, accompanied by 168 Spanish soldiers to destroy the 80,000-strong army of the Inca ruler Atahualpa in 1532, at Cajamarca. The Spanish forces used a cavalry charge against the Incan forces, in combination with gunfire from cover. The subsequent imprisonment and execution of Atahualpa laid the foundations for the future systematic colonisation and exploitation, and economic, social and cultural decimation of one of the Old World's most powerful civilisations, contributing in the long term to the current glaring disparities in wealth and cultural influence between the colonised and the colonisers <sup>6</sup>.

The point from this example is that technologies, as noted above, are not neutral. They embody complex belief systems in the way they are developed and utilised. In principle, the Conquistadores could have applied their technological advantage to the mutual benefit of the Incan and Spanish cultures. Instead, the civilisation choice of the technological innovations developed and used by the Conquistadores was one of destruction, exploitation and subjugation. Although an extreme example, the Spanish flintlock pistol embodies the principles of technological civilising choices. As with the process of technical coding, all technologies reflect contests of meanings that embody choices for adoption and adaptation that will benefit some and disadvantage others.

Implications for delivery of Carer+ programme:

- | The care domain . and in particular the field of assistive technologies . presents choices that have profound implications for the empowerment and dignity of vulnerable people and, conversely for their disempowerment. Research shows a prevailing tendency to impose these choices on older and vulnerable people by adopting technological solutions that prioritise outcomes like surveillance, containment and pacification.

The adaptation and utilisation of the Carer+ tools therefore needs to recognise the rights and needs of care recipients and to avoid situations in which the tools are imposed from above. Care recipients should be actively involved in decisions and choices about the use of the Carer+ tools.

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<sup>6</sup> Diamond, J (1997) *Guns, Germs, and Steel: The Fates of Human Societies*. W.W. Norton & Company

## Value embedded action systems

Technologies provide benefits for their users not simply in relation to their innate properties but in terms of how they embody different purposes and beliefs. Users extract value from technologies not because they make initial rational decisions about what these technologies can do but because they embark on a process of engaging with and interpreting the meaning of the technologies. It is through this process that the very technology itself becomes established through practice. through value embedded actions. An example is the use of neuro-imaging like magnetic resonance imaging (MRI) and computerised axial tomography (CAT) scans in neuro-science and neuro-surgery.



### Example of a CAT scan


What is striking about the use of these technologies is their uncertain relationship with practice. As Cullen and Cohen (2006) show the use of CAT and MRI scans by clinicians in the treatment of psychiatric problems like schizophrenia has less often been driven by the clinical utility of scans, for which there is little evidence of effectiveness, than by the search in medical research for the holy grail of neurology, how the mind works. Consultants routinely scan patients presenting with schizophrenic symptoms for evidence of physical pathologies like brain lesions, although the incidence of these is historically low. The main use value of these scans is less for diagnosis than to construct an evidence base for research. Equally, for patients, a print-out of their MRI or CAT brain scan has an important social purpose. It provides a full-colour, concrete picture of a condition that had hitherto remained ever-present but essentially ephemeral. In one case, a schizophrenic patient who had been given a copy of his MRI scan subsequently had it made into Christmas cards for distribution to friends and family<sup>7</sup>. In this example, the constructions made by those involved in the design, development and use of the technologies on health, concepts of illness, ideas of treatment and appropriate action are all increasingly mediated by and through the technology. In other words, the technologies are immanent, they are active and embody value embedded action systems.

Implications for delivery of Carer+ programme:

- | Programme delivery needs to understand and reflect how technologies are constructed by the different stakeholders involved. Specifically, the programme should incorporate

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<sup>7</sup> Cullen, J and S Cohen (2006) Making Sense of Mediated Information: Empowerment and Dependency, in New Technologies in Health care ed. A Webster, Palgrave, Basingstoke.



procedures and tools for assessing the needs of users, and mapping how these reflect values and beliefs.

- | On this basis, care providers and care receivers need to be supported in working together to identify ways in which the Carer+ tools can be used in activities that maximise use value.

## RESEARCH

The background work for the development of the implementation approach for the Carer programme included a review of research in the use of ICTs for to support independent living for older people. A number of studies and reports were consulted, the most relevant of which was a study carried out by the European Commission JRC Institute for Prospective Technologies<sup>8</sup>. This carried out a mapping of programmes and interventions in the field, covering other reviews in the field, including a review of 8,000 papers on smart technologies for older adults (Morris, 2010) and identified 14 good practice cases that had a clear evidence base of impact. Another IPTS study, carried out in the context of the EU CARICT project, was also reviewed. This was based on a mapping of 52 ICT-based services for informal carers developed in Europe, and a cross. analysis of 12 of these initiatives to get data on their impacts, drivers, business models, success factors, and challenges<sup>9</sup>. In addition, we reviewed all of the relevant research reports uploaded in the Carer+ database, together with relevant papers from the academic literature (for example a study on the adoption of mobile devices by homecare nurses)<sup>10</sup>. The key conclusions and implications for developing the Carer+ implementation approach derived from the research review were as follows:


- | Successful implementation of ICTs in the home care environment requires the involvement of end-users (carers, elderly people and formal care staff) as active players in the design of the services, complemented by training in digital and care services competences
- | The carers' perception of usefulness is the main factor in the adoption of technology
- | Technological innovation cannot be done in a vacuum. It requires the progressive integration of ICT-based services for informal carers in the formal long-term care system
- | Integration requires co-operation between stakeholders, including non-profit organisations (third sector)
- | The effectiveness and success of implementation depends on existing infrastructure. This means that technologies to support carers and care recipients need to be adapted to the exploit the features of the existing ICT and digital inclusion infrastructure

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<sup>8</sup> Carretero, S. (2014). Mapping of effective technology-based services for independent living for older people at home. Seville: Joint Research Centre, Institute for Prospective Technological Studies, JRC. Scientific and Technical Reports Series.

<sup>9</sup> Carretero et al (2013) Can Technology-based Services support Long-term Care Challenges in Home Care? Analysis of Evidence from Social Innovation Good Practices across the EU: CARICT Project Summary Report

<sup>10</sup> Zhang, H (2010). Factors of Adoption of Mobile Information Technology by Homecare Nurses: A Technology Acceptance Model 2 Approach. Computers, Informatics, Nursing, 28, 1, 49-56.

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- | A key barrier to successful implementation is overcoming negative attitudes and scepticism
  - | Successful implementation on a wide scale requires scientific evidence of impacts to convince potential partners and users of the credibility of the services
  - | An effective implementation method requires an effective business model.


### RESULTS FROM THE CARER+ EVALUATION

The final input to developing the Carer+ programme implementation approach was the results from the Carer+ evaluation. This was mainly based on data collected and analysed from the piloting impacts assessment, but included other evaluation activities. It covered the following:

- | Results from the Carers survey
- | Conclusions from focus groups carried out with carers and care receivers
- | Individual carer diaries and case studies of carers participating in the pilot programme
- | Training programme evaluations
- | Carer+ Validation Workshops. These were organised with groups of external experts and stakeholders in the care field.

The main implications for the delivery of the Carer+ programme from this review were as follows:

- | Users have different profiles, different circumstances and different needs. The profile of professional care workers is very diverse . with a wide spectrum of educational background and status; variations in current digital competences; wide variations in job stability and prospects and a similar pattern of diversity in the environments in which they work. Equally informal carers present very different circumstances, experience and needs. The Carer+ implementation approach therefore needs to identify these contextual variations and provide support to enable the Carer+ tools to adapt to the context of use.
- | However, professional care workers are different from informal care-givers. They have a different background, education, skills base, motivation and aspiration. The Carer+ programme needs to recognise and respond to these differences.
- | In turn, care receivers present a correspondingly diverse pattern of circumstance and need. This is exemplified by the issues and problems experienced in home care situations, which range from physical health conditions through emotional and psychological issues to challenges around things like social isolation, financial anxieties and boredom. The Carer+ programme needs to be sufficiently flexible to respond to this variability.
- | Both care providers and care receivers were challenged by the introduction of new technologies and new ways of working together. This led to anxieties around change and resistance to change. It is crucial that these anxieties and resistances are understood and addressed as part of the collaborative needs assessment and the delivery plan that is developed between key stakeholders at the start of the adoption process.

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- | Care receivers only engage with technologies when there is evidence that they will add value to their daily lives. This reinforces the findings from the literature review . that the Carer+ tools need to be utilised within the home environment in ways that are practical, value added and in line with care receivers beliefs and everyday lives.
  - | Care providers are also challenged by the motivational, time and intellectual commitment required to participate in an unfamiliar learning programme. The Carer+ learning offer therefore needs to recognise these challenges and provide incentives to overcome them.

## The Carer+ implementation approach

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Based on the findings described above, the Carer+ implementation approach to develop the digital competences of carers is shown in the diagram below. The approach follows the Carer+ Theory of Change and ‘change journey’ set out in this Toolkit. This maps a journey towards a desired destination. As always in a journey the traveller expects certain things to be in place: information about the route; transport to get there; resources to sustain the traveller on the way. But in every journey obstacles are encountered along the way, expectations of the journey change, and when the traveller arrives at the destination, they often find it isn’t really what they expected. The Carer+ programme implementation methodology therefore:

- | map the route
- | highlights the support required to achieve the journey
- | warns about the obstacles and how to avoid them
- | manages expectations.

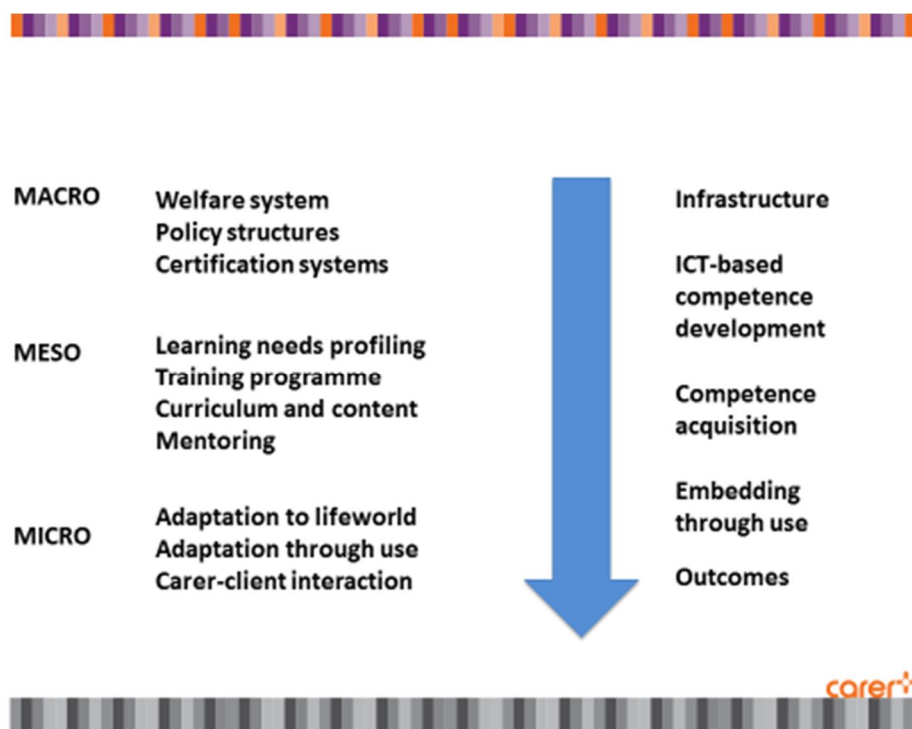
As the diagram shows, the implementation plan is based on a process that operates at three levels. The process supports the implementation of the Carer+ programme framework and its constituent five components through putting into place:

- | The infrastructure required to deliver the Carer+ services
- | The competence framework
- | The mechanisms necessary to acquire the relevant competences
- | The embedding of acquired competence through use
- | The structures and processes necessary to demonstrate outcomes.

The process is implemented at three levels or environments:

- | The macro (policy) environment
- | The meso (organisational) environment
- | The micro (field) environment.





### The Carer+ programme implementation approach

At the policy level, the requirements to support competence development are:

- | Adaptation to the prevailing welfare and social services system
- | Sensitivity to transversal EU policy discourses . for example the Social Investment Package (SIP ); Growth and Jobs; Mobility . to promote transferable skills applicable to other sectors
- | Sensitivity to policy agendas at Member State level
- | Adaptation to prevailing certification systems
- | The involvement of the private sector
- | The involvement of training and certification networks.

At the organisational level, the requirements to support competence development are:

- | The adoption of the Carer+ competence framework
- | Setting up of the local support teams and networks
- | Engaging carers in participating in the learning programme
- | Providing a credible and trustworthy mentoring system
- | Making sure that participants in the training programme are given enough time to complete the course, and do not suffer adverse opportunity costs as a result of their participation
- | Adaptation of the Carer+ programme to the local context
- | An appropriate business model to deliver services.





At the field level, the requirements to support competence development are:

- | Clear pay-offs for carers, e.g. improve co-ordination with social services; improve relations with client family; improve human relationship with client
- | Clear pay-offs for care receivers, e.g. ICTs reduce time and stress in paying bills
- | A service that is embedded in the care receivers life world and routine
- | Good technical infrastructure and support
- | Adaptation to the limitations of the care environment . Carer+ is not an assistive technology, it is a facilitator.

The next three sections of the Toolkit set out what is required to put this approach into practice in the three environments highlighted above:

- | the policy (macro) environment
- | the organisational (meso) environment
- | the field (micro) environment.





# Positioning Carer+ in the Policy Environment

## What this Section covers

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At its present stage of development, Carer+ is essentially a pilot project that has operated within the parameters of an EU-funded programme. Although by its nature, Carer+ has a trans-national outlook and has worked across several EU countries, its future implementation will depend on whether and to what extent the programme can be more widely adopted across a broader spectrum of countries and regions and, more importantly, the extent to which it can be embedded within existing care systems and structures at the national and trans-national level. The section therefore looks at the prospects for wider implementation; the current policy drivers that could support the broader implementation of the programme; what Carer+ needs to do to impact on policy; how Carer+ can build on the effort it has already expended in creating opportunities for further implementation. The section is set out as follows:

- | the first part of this section explores the context and background of care provision and the current policy environment
- | the second part sets out ways in which Carer+ needs to have an impact on policy in order to support its future implementation
- | the final part discusses existing opportunities that could be built on.

## Context and policy background

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### THE CONTEXT OF HOME CARE

The policy environment in which Carer+ operates is being shaped by a complex set of economic, social, cultural and political dynamics that together are re-defining the ways in which health, social and welfare services . and as a result home care services . are now being delivered.


First, as has long been recognised, changes in EU demographics, with people living longer, mean that the demand for care services is increasing. It is predicted that, by 2020, the proportion of people aged 80+ in the EU will reach 5.7 % (compared with 4.3 % in 2010) and will grow to 10.1 % by 2050. In contrast, it is predicted that the working age population (aged 15 to 64) will shrink by 16 % by 2050<sup>11</sup>.

Second, as people live longer, they typically become less healthy and less active, and require more support from health, social and welfare services. According to the same European Commission data, more than half of the EU population aged 65-74 and 63 % of 75+ people had a long-standing illness or some health problem that increased their need for some form of living assistance.

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<sup>11</sup> European Commission, Long-term Care Challenges in an Ageing Society 2010.





Third, because of a reduction in revenues from taxes and other sources as a result of people retiring from the labour market, the money available to spend on welfare is reducing. As an EC Report concluded: "For Europe and many other countries around the world, the ongoing demographic development has significant socio-economic implications: in the future there will be more older people in absolute as well as relative terms, there will be considerably more old people particularly in the upper age range, there will be fewer family carers providing informal support for these, and there will be a smaller productive workforce to contribute to the creation of economic wealth in general and to the financing of health and social services in particular"<sup>12</sup>. The economic issue has been further exacerbated by the recent global economic crisis, fiscal problems in the Eurozone and as a result further pressures on health, social and welfare budgets.

Since home care is generally more cost effective than residential care, Member States are now focused on enhancing tailor-made home care services. Hence, institutional care is reserved more for those with severe disabilities/conditions. The increasing need and demand for home care is underlined by the fact that according to EC research around half of people aged 80+ were living alone, though, cultural aspects result in different trends and levels for different countries. In addition, the research shows that the vast majority of EU citizens prefer to be looked after in their own homes for as long as it is possible rather than being placed in institutions<sup>13</sup>.

The growing demand for home care raises the need for formal, professional care as well as informal supportive structures. However, the prospective reduction of the working age population, the rise of educational attainment of the population and low wages and benefits in the sector make care work less attractive. This means informal care is likely to play an increasingly significant role and has different approaches, actors and features in different countries. It typically includes spouses, partners and other family members, friends, neighbours or relatives. However, a higher participation of women in the labour market and the increase in alone-elderly households with relatives often living apart, means that family members might not be available to provide care in the future.

Other, privately hired informal home care assistance is also appearing, with or without a work contract and with or without social insurance coverage. In the last few decades in some European countries, increasing numbers of informal caregivers are migrant workers, which has implications regarding the quality of the services provided. Migrant family care assistants often lack professional skills and face limited training opportunities because of their language barriers. Working conditions can be problematic with many migrant workers working without supervision or reasonable time off struggling with isolation, emotional and physical stress.

## THE POLICY CONTEXT


In response to these drivers, a range of policy interventions have been implemented within the EU that create a supportive environment for the Carer+ programme. The Agenda for New

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<sup>12</sup> European Commission. "ICT and Ageing" 2008, pp4

<sup>13</sup> European Commission. "Long-term Care Challenges in an Ageing Society" 2010





Skills and Jobs focuses on flexibility and security in the labour market, skills development and better working conditions, and is linked to the European Framework for key competences for lifelong learning. The European Platform against Poverty and Social Exclusion promotes active inclusion, reform of health systems, informal learning and social innovation. The Social Investment Package (SIP) focuses on helping member states to pursue active policies prioritising social investment and the modernisation of their welfare systems in order to address the unemployment, poverty and social exclusion challenges brought about by the economic crisis and the sustainability challenges posed by the demographic trends. The Social Investment Package specifically focuses on neglected areas like affordable quality childcare and education, training and job-search assistance, housing support and accessible health care.

All of these policy initiatives prioritise the role of ICTs in delivering more efficient and effective care. Many governments have been prioritising the role of non-government organisations in service construction and delivery and of de-centralising the provision of care even further down the supply chain to individual providers. This is where the strategic value of ICT channels exists, by allowing services to be accessed directly by intermediaries and to individual care workers themselves to deliver the right service portfolios to vulnerable clients. The expected value proposition, when involving the Third Sector and related organisations, as well as individual care providers, is that they will help deliver services more effectively to beneficiaries because they are nearer to the local problems (being locally based). They can often address problems coherently (they can join-up services across government silos), and they can deliver resource savings to government. Changed paradigms in society stimulate transformation of services. Care is no longer based on charity but on rights: vulnerable people have the right on affordable basic health care<sup>14</sup>.

## THE OBSTACLES


Both the contextual and the policy background are creating opportunities for the Carer+ programme to help address the increasing demand for home care services; provide new social innovation services that are filling the gaps in health and welfare systems vacated by central government; support the professionalization of the home care sector; increase the contribution made by ICTs in delivering smart services. However, there are a number of obstacles that are inhibiting these opportunities. The main barriers are:

- | the diversity and variability of care systems across the EU
- | the diversity and variability of training and certification systems
- | economic and financial issues, including the lack of established business models in the domain
- | the unevenness of ICT diffusion and infrastructure

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<sup>14</sup> Inno-serve (2012) Literature review on innovation in social services in Europe+, Work Package 1, May 2012: <http://inno-serv.eu/>



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- | organisational inertia and resistance to change
  - | personal anxieties and resistance to adopting ICTs by carers and care recipients

It has long been recognised that welfare and care systems in the EU are shaped by the underlying political economy and economic culture. The approach developed by Esping-Andersen (1990) suggests that social services in different EU countries are fundamentally being driven by the prevailing economic system. Nations can be clustered into types, according to the approach adopted and instruments applied to social security and welfare. This reflects the degree of de-commodification and the kind of stratification countries create. The *liberal* type entails means-tested assistance, modest universal transfers, or modest social insurance plans (England and the Netherlands). Benefits cater mainly for low-income people and state dependants, with little redistribution of income. The *conservative-corporatist* type is characterized by a moderate level of de-commodification. The state's intervention is restricted to providing benefits that maintain incomes relative to occupational status (Austria, Italy, France, Germany). In the *social-democratic* type, the level of de-commodification is high. Welfare benefits are generous, universal and highly redistributive and they do not depend on any individual contributions. The state will pre-emptively intervene to prevent social problems arising and provide care when they do (the Nordic countries). In the Mediterranean type, welfare is shaped by a reliance on family structures (Spain, Portugal, Greece)<sup>15</sup>. Subsequent work has reviewed the original typology to take account of conditions in newer EU member states, particularly those from the former *Eastern bloc* to identify an additional three types: neo-liberal, with minimal state intervention, low welfare spending, low taxes, strongly deregulated labour markets and widespread liberalization (the Baltic states and Slovakia); social-corporatist, with strong state intervention and centralised welfare (Czech Republic, Slovenia, Romania, Bulgaria) and *hybrid* with strong protectionism and high levels of openness (Poland, Hungary)<sup>16</sup>.


This picture is reinforced by the evidence gathered by Carer+ in its analysis of the conditions affecting home care across EU states. In Denmark, for example, every resident is entitled to personal and practical assistance if s/he cannot perform basic personal and practical activities autonomously, regardless of ability to pay. The system of care services is decentralised: the responsibility for the provision of personal and practical assistance rests with the local authorities. They must consider all requests for personal and practical assistance. The decisions of the local authorities must be based on a specific and individual assessment of the need for assistance. In Germany, home care is focused on statutory long-term care insurance, which was codified in 1995 into the Social Code (Sozialgesetzbuch). It is a contribution financed compulsory independent social insurance scheme, in accordance with compulsory affiliation and sickness insurance limits. This *core protection system* is reinforced with voluntary additional insurance for long-term care for every citizen. In Ireland, benefits for long-term care are organised centrally and are operated nationally on the basis of National Guidelines. Long-term care is provided on the basis of universal entitlement, with some elements of social

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<sup>15</sup> Esping-Andersen G (1990) *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press & Princeton: Princeton University Press, 1990

<sup>16</sup> Stambolieva, M. (2011) The Post-Yugoslav Welfare States – from Legacies to Actor Shaped Transformations, in *Welfare States in Transition: 20 Years after the Yugoslav Welfare Model*. Friedrich Ebert Foundation






assistance, e.g. the Nursing Homes Support Scheme involves a financial assessment which is used to determine the applicant's co-payment. Schemes are tax financed and there is also a universal social charge. The UK operates a non-contributory, state-financed system providing cash benefits and benefits in kind (social care) for elderly or disabled persons and their carers. Local authorities are responsible for identifying the needs of their local population and commissioning services to meet them. Services are delivered through the public, private and voluntary sector.

The lesson for Carer+ is that there is no single universal delivery mechanism that can provide a one-size-fits-all solution to the diverse systems that prevail in different EU countries. Equally, the same picture applies to training systems. In France, for example, the education of carers is paid by employers. They pay taxes that are collected by an accredited fund-collecting agency (OPCA). This agency then takes responsibility for paying vocational training to carers. In case the carer is unemployed, his/her training may be paid by the state via the Pôle emploi (French employment agency). In Italy, the formal qualification of Carerqas such does not exist in some regions. However, regional regulations mention a number of skills relevant to caregiving, which can be certified through a *declaration of competence*. This allows credit recognition for access to further training aimed at achieving a qualification (Healthcare Assistant). In France again, the National Register of Professional Certification establishes precisely the perimeter of activities of a job. The qualifications listed in the register are recognised across the whole country.

The theme of diversity and unevenness can also be detected in relation to economic and financial considerations. Standards and systems of paying for home care vary across the EU. In France, the employed carer is entitled to benefits on the same basis as other employees. The beneficiary of the allowance can make use of home services offered by specialised organisations (services organised by the municipality, by state-authorized associations or by undertakings). She can also opt to remunerate these organisations by using a universal service employment cheque (chèque emploi service universel, CESU). The beneficiary can choose to be the employer either directly or by proxy. In Belgium, the economics of home care is focused on care insurance (Zorgverzekering/Assurance soins). The Flemish care insurance was created by the government in addition to the existing social security system. The care insurance enables a care insurance fund to take responsibility (in the form of a monthly benefit) for payment of costs connected with the provision of assistance and services of a non-medical nature. Care insurance is financed by payment of contributions. In the Czech Republic, social services have multi-source financing. They are financed from state, regional and municipal subsidies, from direct payments of clients, from the revenue of providers and from gifts. The main benefit of social care services is the care allowanceq which is a state benefit paid to individuals dependent on care. The amount of care allowance corresponds to the degree of dependence on careq which is based upon an assessment of self-care capabilities. Family members of people using the services may, but do not have to, provide the care.

The economic and financial dimension is not solely confined to paying for care. The costs of ICT-mediated service provision is also an issue for Carer+. The current level of market maturityq(costs, who pays and how much, which players are involved in the supply chain) varies throughout Europe. While first generation applications seem to have reached saturation in





several countries, second generation services have not been mainstreamed yet (only the UK is undertaking this at present). Second and third generation applications are only in a pilot/trial stages in a few Member States. The most significant financial barriers are the limited public provision and public funding/cost subsidies, unevenness in the diffusion of innovations, disparities in geographical availability, the variability of infrastructural readiness to use advanced level technological solutions and the lack of standardised business models

Moving from pilot projects to mainstream provision also causes difficulties in some countries. There is clear resistance by service providersqmanagement and carers themselves as well as the recognition that both carers and older people as end users are unwilling to acquire the necessary digital skills. <sup>17</sup>

## Recommendations to achieve policy impact

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To address the obstacles highlighted above, Carer+ needs to support changes in the policy field in three main areas:

- | Raising the policy profile and credibility of Carer+ and developing new networks
- | Promoting economic and financial relevance
- | Promoting new forms of service delivery partnerships.

Recommendations for raising the policy profile and credibility of Carer+ are:

- | an effort is needed by Carer+ partners to engage with key networks in EU countries that interface with certification bodies and ultimately government agencies
- | making the case for how the Carer+ certification model can support relevant policies . particularly the Social Investment Package (SIP); the growth and jobsqagenda, the employability and mobility agenda and the Grand coalition for Digital Jobs
- | developing a better understanding of how migration patterns influence the care sector labour market, how these patterns impact on certification and how migration policy needs to link up with certification policy .

Recommendations for promoting economic and financial relevance are:

- | develop a clear business and service model . one that links to the certification process. This model should clearly identify the cost consequencesqcosts if no scaling up and professionalization of home carers takes place.
- | A cost consequence approach reinforces the need for Carer+ to develop a business and service model that recognises the current pressures on welfare budgets and the fiscal crisis in the EU. Such a model needs to be flexible and adaptable to work with variations in different welfare systems and countries.

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<sup>17</sup> . European Commission. ICT & Ageingq 2008





- | the business model needs to clearly demonstrate the sustainability and added-value of professionalisation of the home care providers to the benefit of the elderly people in an independent living setting
- | develop strategies for working with the *black economy* The experience of Carer+ reinforces research findings that significant numbers of carers are *invisible* This raises issues around professionalization, job insecurity and exploitation.

Recommendations for promoting new forms of service delivery partnerships are:


- | Working to support closer collaboration and integration between health services and social services
- | Developing new partnership models that involve collaboration with private sector organisations, social entrepreneurs, third sector organisations and health and care services.

## Building on existing initiatives

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To support the policy impact effort outlined above, Carer+ can build on the foundations it has already developed through its networking, piloting and awareness-raising interventions . including the Policy Visits organised through work package 1 of the project. These should be seen as potential catalysts for future growth of the programme. They include the following.

- | Working with Bilbao City council. Bilbao has recently created a specific training programme for homecare workers based on the Carer+ model. It is being developed by Grupo SSI and the Basque Government. The intervention offers a clear opportunity for Carer+ to explore new forms of collaborative partnerships involving commercial and civic stakeholders.
- | Work with the EFFE (European Federation for Family Employment), which has launched the "Manifesto for recognition of household services, family employment and homecare in Europe+. This manifesto has the objective to bring together all professional decision-makers and experts across Europe, combining their strengths and expertise in order to identify European families needs and to find solutions adapted to each cultural context. This offers an important opportunity for Carer+ to address a number of policy impact objectives: raising profile and credibility; developing collaborative networks that impact on key national and pan-European structures; providing a space to explore how to balance standardisation of services with adaptability to local context . particularly with regard to the valorisation and professionalization of homecare jobs.
- | A similar foundation has been built in the Emilia-Romagna region in Italy, where Carer+ has been engaging with local health care and public utility agencies exploring, amongst other things, how to integrate bridge initiatives like the creation of a shared database of accredited homecare workers to guarantee quality of service and at the same time surface undeclared work in the *black economy*



# Delivering Carer+ - the Organisational Environment

## What this Section covers

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This Section describes what is needed to put the Carer+ implementation approach into practice at the meso level (organisational environment), covering the infrastructure, tools and processes needed to deliver the programme. It focuses on the four key organisational programme components presented in Section 2 of this Toolkit (About the Carer+ Programme). These are:

- | Setting up local support teams
- | Designing Training
- | Implementing training
- | Assessing and certifying competences.

For each component the following information is provided:

- | Context information (what presenting problems addressed in this part of the Carer+ programme and what are the main objectives)
- | Guiding principles (what rules must be followed in delivering this part of the programme)
- | The essential requirements and activities for successful implementation
- | Pitfalls and how to avoid them
- | Examples of how to do it in practice.

## Setting up local support teams


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### CONTEXT

This component of the programme addresses the need for the care workers involved in the programme to be supported in dealing with a new set of tools - the Virtual Learning Environment and the ICT devices used to improve care delivery and quality of care. Since most care workers who take the training . and most of their care receivers . are unfamiliar with all or some elements of these tools, there are issues around anxiety, access, engagement and motivation that need to be addressed.

In addition, there is a need for the pilot organisation to monitor the pilot process (both training and use of the device).





The objectives of this part of the programme are therefore:

- | To set up an appropriate team that will follow and support the carers and care recipients through the online training programme and with the usage of the applied ICTs.
- | Organising a service of technical support to the carers involved in the pilot.
- | Providing specialist support on care-related topics dealt within the course.

### GUIDING PRINCIPLES

- | It is crucial to assign a lead trainer or team leader who will co-ordinate the effort, provide leadership and create buy-in

- | Training the trainers is the foundation for success

- | Providing appropriate job contracts that detail the exact tasks will set clear boundaries and goals

- | Ensure supervision of team working is implemented

- | The main principle is that of integration of competences. The local support team should be multidisciplinary (i.e., not just staff who help with the technical problems related to the use of the devices or the VLE, but also specialized staff who can supplement the care-related training modules with pertinent advice on how to contextualise the contents; provide advice on what tablet-based activities can be proposed to the care recipients based on their physical and mental conditions, etc.).

### ESSENTIAL REQUIREMENTS AND ACTIVITIES

- | The staff should include experts with the following expertise: a) **ICT specialist** (who can help with the technical problems), b) **trainers** (familiar with Moodle platform or similar technical online learning environments), c) **mentors/facilitators**, possibly with a social service or home care service provision experiences, who can help with adopting training lessons and exercises to home care practice

- | Trainer and mentor/facilitator roles should be separated

- | Train the trainer programme

- | All local staff members should attend the train the trainer programme

- | Local staff also should be equipped with the ICTs being used by care workers and recipients

- | One mentor should not deal with more than 8-10 carers (participants)

- | In case of more than one site, sufficient team support should be provided for every involved sites

- | **Technical support team:** excellent knowledge of all the devices used in the programme: how they work, what their functionalities are, compatibility, etc. combined with problem-solving and interpersonal communication skills. The creation of a dedicated telephone helpline to support learners with the technological aspects of the training (e.g., I can't access the platform with my credentials, I can't open a file, I can't edit my profile, etc.)

would be helpful.

**Care-related specialist support team:** these should be recruited in close cooperation with the local/regional/national authority in charge of planning and organising domiciliary care services. The authority should select a number of staff members suitable to be a part of the local support team based on the requirements of the programme and possibly in charge of the various phases of the domiciliary care organisation process. Minimum technical requirement should be an at least average level of digital skills to enable the staff to do a preliminary test the course, create an online community for the carers and involve them in activities based on the VLE contents, act not only as a content-related support but also as a cohesion agent to keep the learners motivated. Other requirements are pedagogical and interpersonal communication skills.

#### PITFALLS AND HOW TO AVOID THEM

Mentors and facilitators who are appointed to the local support team should not be drawn from the carers who will participate in the learning programme. This will create extra time pressures and could be de-motivating. If carers are recruited they should be provided with some extra benefit or incentive.

Some issues are experienced when local support staff are recruited externally, i.e. from outside the programme local co-ordinating organisation. This can create issues around things like authorisation and requests to do work outside normal hours.

One solution is to draw up a *cahier des charges* where each step of the process is listed, the connection between the various steps is made clear, and the activities to be done by each staff member are described in detail and quantified in terms of number of hours/days necessary and allocated time slots for the activities. The *cahier des charges* should be then signed for acceptance by both the general manager and the staff members immediate supervisor in order to ensure that the appointed staff will be allowed to devote their time to the activity within their employment contract.

#### PRACTICE EXAMPLES

##### **Train the Trainers programme structure and content used in Carer+ piloting**

The train the trainer programme contains:

1. Introduction (project objectives)
2. ICT tools in home care (a theoretical part based the international and/or national literature)
3. Home care for older people (if mentors/trainers need it)
4. Use of the ICT device
5. Use of the online training platform
6. Roles of the local staff

The train the trainer programme lasts 40-60 hours and it can include both face-to-face and distance learning parts. Distance learning parts should be used as complementary (only for exercises that can be attended autonomously, based on knowledge obtained through the face-to-face contact hours).

### Example of local support team structure, Italy pilot

In the Carer+ pilot programme in Italy the total number of local staff (mentors) involved in the training was 9. Of these 9 people, 4 were IRS (the pilot co-ordinators) internal staff members appointed as **technical mentors** and 5 were the team of **content (care-related) mentors** appointed by the local pilot partners.

The team of 4 technical mentors was composed of 4 staff members of IRS with a background in social science and at least 10 years experience in projects and activities in the field of social and welfare services - including home care:

3 mentors

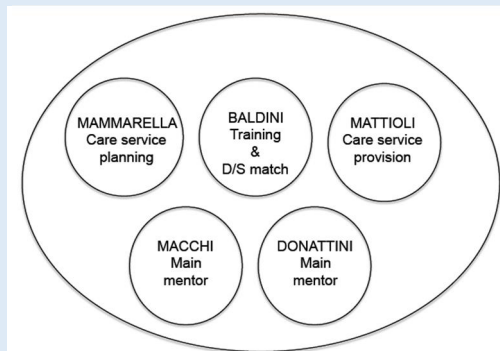
1 ICT specialist

The team of 5 care-related content mentors was composed of:

**2 main mentors** (social workers) in charge of assisting the carers during the training

**3 supervising mentors** (head of unit/service) experts in care planning, care service provision, and training and d/s match respectively,

as shown in the diagram below:



The content mentors team was organised for operating on a rotating basis according to the professional engagements of the various members.

## Designing Training

### CONTEXT

This component of the programme emphasises the important role of the carer as a key mediator to raise awareness for care receivers of the opportunities afforded by ICTs to enhance the quality of life of older people in care. As highlighted in the Introduction to this Toolkit, the design of the Carer+ implementation programme draws on theory and practices that emphasise how technologies are socially and culturally constructed and how they embody a technical code that reflects power relationships between technology designer, adopted, adapter and user and how they reflect civilising choices that can empower care workers and recipients, or, conversely, control them.

The objective of the Training Design is therefore to deliver a coherent and comprehensive set of learning, teaching and training materials that involves carers as co-collaborators in a pedagogical dialogue. This will support more effective development of their competences and professional skills and ultimately more effective relationships with care receivers.



## GUIDING PRINCIPLES

- | All learning should be driven by authentic activity;
- | Basic knowledge skills and attitudes should be revisited in more depth to achieve deep learning;
- | Peer support and peer learning should be encouraged by providing opportunities to share experiences.

## ESSENTIAL REQUIREMENTS AND ACTIVITIES

The delivery of the curriculum is based on two modes of participant engagement:

- | **Face-to-face activities.** The expectation here is that carers will benefit from interaction and facilitation by a trainer and mentor. Face-to-face training will kick-start the activities here and will include peer learning in order to facilitate shared understanding during the development of common digital competences.
- | **Personal activity driven study.** The expectation here is that individual learning will be scaffolded by digital resources and will drive the self-development of competences. This will be strengthened by peer supported online activity in the Carer+ virtual learning environment.

## PITFALLS AND HOW TO AVOID THEM

Two main possible challenges need to be considered:

- | Inadequate facilitation by a trainer and lack of peer learning activity, leading to less effective face-to-face interaction.
- | Lack of engagement by the carer in personal activity-driven study, leading to not taking full advantage of the the digital resources available and possibly facing problems in engaging with digital resources.

These challenges can be overcome through careful and continuous monitoring of carer learning by the mentor. The balance between face-to-face and online activities may need to be adapted to address difficulties the carers have and lack of activity in either setting. The peer learning activity needs to be encouraged by the mentors in both face-to-face and online learning set ups.

## PRACTICE EXAMPLES

### Using activity-based problem-solving learning

The courses of the programme focus on topics and activities that correspond to the identified competence area described in the digital competency framework. Each one incorporates tasks that employ an **activity** orientated and problem solving learning approach. For example, by the end of Course 2 the participants attain a set of competences that enable them to understand the role and benefits of the use of ICTs in social care and to design and evaluate interventions for particular home care settings for older people. In particular participants:

- Identify a range of benefits that ICTs can bring to social care settings within the home for older people;
- Evaluate the needs of particular home-care situations and translate these into meaningful social care interventions;
- Assess the risks and challenges associated with a specific ICT intervention;
- Plan for and then evaluate an ICT based intervention.

### Using pedagogic devices to support purposeful activity

In the Carer+ courses there are a number of pedagogic devices used to support learning through purposeful activity. These include:

Multiple choice questions MCQs to complete

Micro projects that the participants are engaged with

Badges that are used to motivate participants while studying the Carer+ curriculum

A portfolio style submission to demonstrate evidence of achievement


## Implementing training

### CONTEXT

Digital skills are more and more necessary even in domiciliary care where domotics, tele-health, and tele-medicine tools . as well as digital access to health care services - are becoming widespread. However, most carers have low digital skills which need to be developed or updated. In addition, working in domiciliary care or residential care is a highly stressful and socially misrecognised job where a carer may experience loneliness, isolation, exclusion. The contextual, personal and cultural factors need to be taken into account in implementing training.

The main objectives of this component of the programme are therefore:

- | To validate the relevance and adequacy of learning resources developed according to the digital competence framework by testing them in real conditions, and check if they can transform a %regular carer+into a %carer++thanks to ITC skills applied to homecare.



| To train carers to develop their digital skills for both work and leisure in order to update their competence, improve their professionalism on the one hand, and increase their well-being by using the potential of Internet on the other hand, for maintaining their social bonds, staying in touch with their families in their countries of origin, to prevent exclusion and loneliness and other situations of distress which are common among this group of workers.

### GUIDING PRINCIPLES

- | Successful learning outcomes depend heavily on learning interaction and sufficient face-to-face sessions. The results of the impacts assessment of the Carer+ pilots showed that all participants agreed that face-to-face sessions were more effective and they would have liked to have more than they were provided with.
- | However, face to face sessions require significant resources and present complications in terms of delivery, not least because they require time commitments from both learning providers and learners. These time constraints need to be recognised and sufficient resources built into the learning delivery programme.
- | This means that it is important in learning programme delivery to respect the time plan, the budget available and to ensure the relevant and necessary staff are available . particularly IT experts to solve any problems with the on-line platform, and super trainers and mentors to bridge the training model with carers on the ground and make it accessible to them
- | The learning programme must ensure that personal data protection rules are complied with in the countries in which the programme is delivered.
- | The main principles of training are **development of competences** and **inclusion**. Training is a means not only to provide knowledge and information to update the carers' technical-professional competence, but also to encourage socialization and the creation of a community for mutual support at both professional and social/personal level.

### ESSENTIAL REQUIREMENTS AND ACTIVITIES

- A strong and effective induction phase, enabling trainees to familiarise themselves with the technologies, the pedagogic approach and the learning content
- Sound time programming, equipping and follow-up of participants
- Logistical/organizational requirements: a classroom equipped with a computer, loudspeakers, beamer, flipchart; small group face-to-face training sessions (max 6-8 people each) or presence of a trainer/mentor every 5-6 learners during plenary sessions (for supporting learners in materially performing the operations on the tablet and/or in the VLE) + one trainer/mentor in charge of coordinating the session and operating the VLE from the central computer connected to a beamer.
- Pedagogical requirements: sufficient interaction time among learners allowed during each session; constant follow-up by trainers/mentors in-between the training sessions to maintain motivation; flexible duration of the various modules based on the needs of







the participants.

### **PITFALLS AND HOW TO AVOID THEM**

A key challenge is drop-out of participants. This reflects the need to maintain the motivation level throughout the training, and ensure mentors are available for participants, not only during face-to-face sessions.

Insufficient time allowed for induction into the programme . particularly the use of devices. The Carer+ pilot impacts assessment showed that participants wanted more time to discover the tablet they used and feel comfortable and confident with this device.

There are challenges around self-directed learning. This can add further isolation to the already isolated carer. The solution is to compensate with sufficient face-to-face training time (approx 50% of the total training time) to foster inclusion and encourage the creation of new connections and friends and at the same time develop a positive relationship with technology thanks to its use in a social context.

Learner demotivation is another challenge. Demotivation may happen when the tasks are perceived as exceedingly difficult and/or when the person feels a lack of support or lack of consideration by the trainer/mentor, and/or when the person cannot participate to training sessions due to time constraints. To solve this it is advisable to create and maintain a constantly active communication channel between learners and mentors (e.g., a Facebook group), with one or more mentors in charge of moderating.

Another challenge is time constraints. The working hours of the participants (especially those who are employed on a live-in basis) sometimes make it complicated for them to leave their workplace to attend the face-to-face training sessions. This could be solved either by early and participatory planning of the training sessions or organising several shorter small-group training sessions with one trainer/mentor based on the carers' off time schedule (e.g., one 1-1½-hour small group session each weekday instead of one 6-8 hour plenary session per week).

### **PRACTICE EXAMPLES**

#### **Creating a Support Environment through Collaboration and Peer Group work**

A number of ways developed in Carer+ through which participants in the learning programme created their own strategies to solve problems like isolation and lack of time.

Several mentors in France set up a follow up system through emails, sms, phone calls, skype calls, hard-copy guidelines, etc., to ensure a more tailored support to each participant and to address issues around uneven digital skills amongst the peer group.

A contribution to solving the time constraints challenge was offered by the care recipients' family members who accepted to replace the carers during the training hours. This was attained thanks to a strong awareness-raising and active involvement action by the care recipients' families for the carers to successfully conclude the training.



## Personalising the Virtual Learning Environment

The screenshot shows a user profile for Carmen Amerise. The page is titled 'Carmen Amerise: Profilo pubblico'. It features a navigation menu on the left with options like 'Home', 'My home', 'Pagine del sito', 'Il mio profilo', 'I miei corsi', 'Lavori', 'Carmen Amerise', 'Visualizza', 'Interventi nel Forum', 'Blog', 'Messaggi', 'Annunciations', and 'Corsi'. The main content area includes a profile picture, a bio stating 'Sono Carmen Amerise, collaboro con [Eco, Istituto per la Ricerca Sociale](#), e sono mentor del progetto Carerplus. Potete contattare [zia](#) [@Simona, Simoni](#) (PR) per ricevere supporto tecnologico nell'utilizzo del tablet.', social media links for Twitter and Facebook, and course information for 'Città, Località', 'Indirizzo email', 'Profili corso', 'Primo accesso', and 'Accesso più r...'. There is also a 'Invia un messaggio' button and a 'Sei collegato come Di Concetto Francesco. (Esci)' notification.

In Italy, one of the strategies used to reduce feelings of isolation by learning programme participants was to personalise the VLE platform by allowing learners to access dedicated links to programme delivery co-ordinators, mentors and technical support staff. These included picture of the staff. The effect was to make the learning programme feel more human for programme participants and to create a sense that the learners were supported by real people.

## Assessing and certifying competences

### CONTEXT

If the Carer+ programme is to realise one of its key objectives . improving the professionalization of workers in a sector that is prone to uneven levels of competences and practices . then it is crucial that the learning delivered by the programme, and the competences acquired, are effective, recognised, valued and transferable.

The courses of the programme focus on topics and activities that correspond to the identified competence area described in the digital competency framework. For example, by the end of Course 2 the participants attain a set of competences that enable them to understand the role and benefits of the use of ICTs in social care and to design and evaluate interventions for particular home care settings for older people.

The main presenting problem with certification for Carer+ relates to the question: how to make the Carer+ certification logic compatible with national qualification systems and certification processes in order for the care workers to have their Carer+ skills and competences recognised, and possibly certified, beyond the project's frame.


The objectives of assessment are therefore:

- | to ensure that carers have acquired the attributes, attitudes and learning outcomes covered in the learning programme
- | to reinforce the carers' recognition of their learning achievements

The objective of certification is therefore:

- | to develop a certification process for the digital competences for social carers that links





this process with the Carer+ Digital Competence Framework and beyond, to national systems and processes.

### GUIDING PRINCIPLES

The key guiding principles in competence assessment for the Carer+ programme are:


- | Ensure that the assessment approach directly relates not only to the competence domains set out in the Carer+ competence framework but also specifically evaluates the extent to which carers have assimilated the learning outcomes embedded in the framework
- | The assessment process and tools should be designed to reduce the tensions and anxieties carers feel about having their performance evaluated, not least because many of the target group lack formal qualifications and have limited experience of the academic world
- | The assessment process and tools need to reflect all aspects of the pedagogic design and content structure adopted in the learning programme. This includes purposeful activities like micro projects

The key guiding principles in competence certification for the Carer+ programme are:

- | The certification process needs to be based on an analytical model that incorporates process (Actors, Stages and Relations), stages (Learning, Application, Assessment and Awarding), and types of Actors (Learner, Mentor and Certifying Entity).
- | The certification process should not presuppose any application entry requirements based on formal education, or require that the candidate have a minimum number of years of relevant work experience or proven employment history in care services. It should be based strictly on determining whether a person possesses a defined set of competences.
- | Since the Carer+ programme at its current stage cannot be directly embedded in existing national certification structures and systems, it should concentrate on certificates issued outside regulatory / accreditation frameworks and put effort into developing ways of integrating within sectorial / national systems in the future.

This component provides the infrastructure and process for assessing carers' competences, validating and accrediting these competences and, going forward, sets out the procedures for subsequent certification of these competences. Users can be awarded competence badges when they complete modules contained in the Moodle virtual learning platform. These competence badges correspond to competences stored in the Competence wiki. Users can add them to their e-Portfolio, thus adding other evidence of their successful training and competence acquisition. This is done through the Carer+ Micro-certification system, which defines a set of proficiency badges representing the successful development of skills and competences via both the non-formal and formal learning pathways and through the use of the learning environment e.g. active engagement in online discussion forums. Micro-certification is used to promote and develop the acquisition of baseline hard and soft skills or proficiencies that are required as prerequisites to following the formal learning pathways. Micro-certification allows





learners to *win proficiency badges* . a fun and motivating way to benchmark skills and provide other learners within the learning environment a visible mechanism by which they can usefully identify relevant expertise amongst their peers. These are designed and coded to denote the achievement of different levels of proficiency and competence area.

### ESSENTIAL REQUIREMENTS AND ACTIVITIES

For assessment, the essential requirements and activities are:

- | providing learners with competence badges when they complete modules contained in the Moodle virtual learning platform. These competence badges correspond to competences stored in the Competence wiki.
- | designing these proficiency badges so they represent the successful development of skills and competences via both the non-formal and formal learning pathways
- | linking learning outcomes with the e-Portfolio, thus adding other evidence of their successful training and competence acquisition.

For certification, the essential requirements and activities are:

- | Defining an appropriate Qualification Standard, based on the Carer+ Digital Competence Framework. It follows the DCF structure and organising principles, as well as the logic of competence development contained therein.
- | Defining an appropriate Assessment Standard which focuses on what is to be looked for in a candidate, and how to look for it. In short: what to verify and how.

### PITFALLS AND HOW TO AVOID THEM

The key assessment challenges are:

- | Making sure the assessment process and micro-certification is engaging and fun. This was addressed in the Carer+ pilot by using multiple-choice questions to avoid placing academic pressure on participants; using a distinctive set of badges in the micro-certification system that were engaging as well as clearly indicating achievement levels.
- | Convinving participants that assessment benefits them and not the programme providers. This can be addressed by linking the assessment to practical outcomes related to achievement . for example by using portfolios.
- | Ensuring that the on-line tools used in the assessment process comply with technical standards and interoperability . in this case using Mozilla standards.

The main issue for Carer+ certification is differences in national and regional legislations governing certification. The optimal way of realising the certification potential of the Carer+ outcomes at the current phase of their development to is to embed them into already existing qualifications systems.



## PRACTICE EXAMPLES

### Using Multiple Choice Questions to make assessment less intimidating

By the end of Carer+ Course 2, participants are expected to be able to:

- Identify a range of benefits that ICTs can bring to social care settings within the home for older people;
- Evaluate the needs of particular home-care situations and translate these into meaningful social care interventions;
- Assess the risks and challenges associated with a specific ICT intervention;
- Plan for and then evaluate an ICT based intervention.

This involves evaluating their purposeful activity Purposeful activity is assessed via **Multiple Choice Questions (MCQs)** rather than ~~an~~ essay style questions.

### Certification Opportunities

As the certification process has just been developed, it is very early to provide any examples of implementation. Nevertheless, there are some examples from the validation workshops that can be considered as the first dissemination activity related to the Carer+ certification process:

Example 1: The Carer+ Digital Competence Framework and curricula can support the French Ministry of Labour in defining qualification standards for care work;

Example 2: The Carer+ certification model could be complementary to the European Care Certificate (ECC), which in fact represents a basic certificate for care workers.



# Delivering Carer+ - the Field Environment

## What this Section covers

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This Section describes what is needed to put the Carer+ implementation approach into practice at the micro level (field environment), covering the infrastructure, tools and processes needed to deliver the programme. It focuses on three key programme components necessary to support carers and care recipients to work together to use digital competences and devices to improve the quality of home care and quality of life. These are:

- | Selecting carers and receivers to use the Carer+ tools
- | Equipping carers and receivers with Carer+ tools
- | Supporting carers and receivers in using the tools

For each component the following information is provided:

- | Context information (what presenting problems addressed in this part of the Carer+ programme and what are the main objectives)
- | Guiding principles (what rules must be followed in delivering this part of the programme)
- | The essential requirements and activities for successful implementation
- | Pitfalls and how to avoid them
- | Examples of how to do it in practice.

## Selecting carers and receivers to use the Carer+ tools

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### CONTEXT

A successful learning programme is only successful if it attracts, recruits and trains participants who will get the best out of it and will in turn make a contribution to helping their peers learn. Equally, the Carer+ programme has to ensure that the skills acquired by carers in the programme are then relevant for use in the individual care environments in which they work – not least by being transferred into benefits for their care receivers as a result of mutual collaboration. This means that the caregiver-car receiver needs to be receptive.

At the same time, this part of the programme has logistical drivers. Carers need to be aware of the programme, they have to access the infrastructure and their working environment needs to be compatible with engaging in learning activities.

The main objective of this component of the programme is therefore to select existing caring couples who are motivated and committed to participate in the programme.





## GUIDING PRINCIPLES

- | Older people living in a home environment and not receiving social or health care through a residential care institution (without age limit however specific health situations) should be taken into consideration
- | Carers or informal caregivers (e.g. family members) can be involved
- | Involvement can happen via the carer or via the care recipients however both parties need to be committed to participate (they should be existing caring couples who work with each other for a while)
- | Independent carers or service provider institutions can be both targeted.

## ESSENTIAL REQUIREMENTS AND ACTIVITIES

There are four main involvement strategies that can be implemented:

- | Option 1: service providers can involve their own staff (care workers) and clients (care recipients)
- | Option 2: cooperation with local social service provider(s) or with local organisations providing outreach to the participants (carers and care recipients)
- | Option 3: organise a local recruitment campaign to find potential participants from the market
- | Option 4: use a mixed methodology of these.

The implementation strategies for these options are as follows

### **Option 1: Involve own staff and care recipients**

| In this scenario, target groups such as care workers and care recipients have to be provided with all the information directly. Web- and paper-based information both have to be available. Staff can be informed by internal workshops.

### **Option 2: Cooperate with local social service provider(s) or other local organisations**


| In this case, a Committee can be set up where the partner organisations can be represented in order to make a decision about target groups and select participants together. An agreement needs to be put into place that expresses the intention of partners to implement the programme, and the institutional commitment to the programme's objectives as well as the provision of all the technical, human and institutional conditions that are necessary for the proper, safe and professional implementation of the programme.

### **Option 3: Organizing a local recruitment campaign**

| A local recruitment campaign can promote the extensive reach of the potential participants in the target settlements/regions of the pilot exercise. It relies on the web and paper-based information services; however it is specifically aiming at:

- | households of older people and their supporting informal caregivers,



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- | care workers,
    - | home care service providers,
    - | basic health care institutions,
    - | family doctors (GPs),
    - | community centres, libraries etc.
    - | local governments *and*
    - | local media.

| In this case, an application form should be used (via the website and/or placed at community places, libraries, GPs etc.) that can be sent to the pilot institution.

#### | **Option 4: Mixed involvement scenario**

Programme co-ordinators may decide to organise a multi-method involvement procedure which involves:

- | A local committee can be set up to decide the final list of participants (the principles of selection - e.g. the health situation of the care recipient, the motivation level of carers . should be decided by the members of the committee). Members can be selected from the service provider, the local government (social service department), associations of carers or care recipients etc.

- | An informed consent should be signed with the participants

- | Giving the ICT device to the carers and the care recipients at the end of the pilot can be a great incentive

- | Since carers are taking an extra task in the pilot (they will be teaching the older people to use the technology), some incentives (e.g. extra payment) should be taken into considerations (if circumstances allow)

#### **PITFALLS AND HOW TO AVOID THEM**

The main challenge is avoiding large dropout rates. It can be useful to conduct an ~~exit~~ exit interview to find out about participants experiences reasons for dropping out.







The main objectives of this component of the programme are therefore:

- | To provide to carers with a user-friendly ITC device enabling them to participate in the Carer+ training, to acquire relevant homecare-related ITC skills and ultimately apply them in practice
- | Allowing access to digital technology to those who could benefit from it but for various reasons (financial, cultural, etc.) do not have access to it.
- | Testing potential ICT devices and tools that will add value to practices.

### GUIDING PRINCIPLES

- | The main principle is that of **inclusion**. It is important to make sure that the devices chosen are suited to the needs of the users (screen size, user-friendliness, handiness, etc.)
- | Another principle is that of **acceptance** (the carer/care receiver should receive an acclimatisation session where the device and its main functionalities and instructions for use are explained to them).
- | Devices need to be adapted to the participants' profiles.
- | Personal data protection rules applicable in participating countries must be complied with.

### ESSENTIAL REQUIREMENTS AND ACTIVITIES

- | Decide which actors will be equipped in the pilot programme (carers and/or care recipients, family members, team leaders/coordinators)
- | Produce a budget plan (e.g. buying or leasing the equipment?)
- | Map and select ICTs that is available on the market
- | Pre-test the ICT devices previously with carers and/or care recipients (with the actors who will be equipped in the pilot programme)
- | Provide wireless Internet connectivity to the ICT devices and future users
- | Decide what to do with the devices after the end of the pilot programme.
- | Develop and apply an appropriate contract . e.g. an exhaustive free loan contract where the details of free loan are explained with special reference to how the initiative is funded and details of the funding institution (if applicable), specifications of minimum commitment by the user are set, terms for either return or donation of device are clearly described.
- | Set up an equipment register where all the information on each device (model, serial number, no. of SIM card, PIN, PUK, etc., and the data of each user are recorded).

## PITFALLS AND HOW TO AVOID THEM

One of the key pitfalls is providing ICTs that are not fit for purpose. The best way of avoiding this is to carry out a comprehensive testing of possible devices and tools before making a decision on which ones to use.

The second major pitfall is underestimating the fears and anxieties that users may have about ICTs. These could be prevented by devoting time to the induction and acclimatisation phase which should be ideally performed by a social worker (content mentor) first and then completed by the technical mentor to ensure users will be happy with the devices and tools.

## PRACTICE EXAMPLE

**Procedure for testing the suitability of devices**

In the piloting programme, the following devices were tested for suitability:

- | Google Nexus 7
- | Google Nexus 10
- | iPad mini
- | iPad 3 or 4
- | Kindle Fire HD
- | Galaxy Tab 2 10.1
- | Galaxy Tab 2 7
- | Galaxy S III and Note II

The validation covered the following assessment criteria:


- | **Usability:** out of the box set-up, touch-screen, preciseness, fault tolerance, sensitivity, keyboard, navigation, ease of set-up, accessibility of the interface (e.g. zoom) intuitiveness, learnability.
- | **Physical characteristics:** robustness, quality of build, ease of cleaning, screen size, display quality, weight, buttons, affordances.
- | **OS specific features:** store front, app development, app range, app variety, updating system, cloud storage, language options.
- | **Device hardware features:** connectivity (3G, Wi-Fi, Bluetooth), speed, memory size, battery length, time to charge, connection ports, camera/s.
- | **Other:** positive feeling in using the device; satisfaction, efficiency, sense of accomplishment.

## Supporting carers and receivers in using the tools

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### CONTEXT

The application of the Carer+ tools . i.e. the combination of digitally acquired



competences and digital devices and applications . in the home care environment is the end product of the Carer+ programme. It signifies the final destination of the Carer+ change journey and its Theory of Change. The programme can only be judged a success if the learning acquired through it has a positive effect on subsequent care practices and ultimately on quality of life for both carers and care receivers. The key presenting problem, as discussed in the introduction to this Toolkit, is to support carers and care recipients to use the tools in ways that are authentic, useful, practical, embedded in everyday practices and life and above all are compatible with values and beliefs.

In practical terms, support provided needs to address issues like the resistance carers and receivers have to technology, potential technical difficulties they may have in using the tools, demotivated, ICT-blocked, uncomfortable or unconfident participants.

The main objectives of this component are therefore:

- | To motivate and make carers and care recipients feel accompanied and supported all through the process
- | To solve problems faced during the programme implementation
- | To ensure that carers are able to routinely use ICT devices.
- | To offer different methods that can effectively and constantly support carers and care recipients during the programme.


#### **GUIDING PRINCIPLES**

- | A key guiding principle is to create the conditions in which the care environment becomes a value embedded action system in which the tools can be explored, experimented with and applied in ways that add value
- | Ensure that devices and applications are adapted to the user's profile and needs
- | Ensure that relevant personal data protection rules are complied with
- | Provide local support staff that are available over the whole duration of the programme
- | Ensure technical support is available that covers the range of devices and applications used
- | Provide enough time and support for users to learn to use the technology
- | Provide opportunities for users to contact local staff members
- | Provide opportunities for carers and for care recipients participating in the programme for networking and sharing experiences

#### **ESSENTIAL REQUIREMENTS AND ACTIVITIES**

- | Organise induction sessions at the beginning of the programme to provide participants with a clear overview of the aim of the programme and benefits it can bring to them
- | Develop and implement platforms to deliver ongoing and appropriate support by the local team (technical by ICT experts and other by mentors and trainers): face to face interviews, skype support, phone line, e-mail, whatsapp)



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- | Organise similar ways to provide opportunities for users to contact local staff members - face-to-face opportunities; workshops; group meetings; Skype support; Phone line; E-mail contact
  - | Set up and moderate platforms for carers and for care recipients participating in the pilot programme for networking and sharing experiences - online communities like Google+ groups, Facebook or Twitter groups, LinkedIn groups etc.

#### **PITFALLS AND HOW TO AVOID THEM**

- | There is a risk of exceeding the local team capacity to solve problems. This risk could be minimized by:
  - o Adapting the ICT devices to each participant ( for instance adapting care recipientsq desktops by creating direct access .or NFC tags-to apps/programmes they may use)
  - o Organizing an initial face-to face- training to care recipients in order to clearly explain the benefits of using ICT on their daily lives and basic guidelines to use ICT devices .
  - o Facilitating networking amongst participants in order to share problems and solutions
  - o organizing face to face exchanging sessions and workshops
  - o making a social network available
  - o Creating a register of incidences to optimize the process.
  - o Addressing issues with demotivated participants. For example, several mentors in France set up a follow up system through emails, sms, phone calls, skype calls, hard-copy guidelines, etc., to ensure a more tailored support to each participant
- | An online learning environment without a sufficient face-to-face support can be very challenging for the carers, therefore face to face support is essential especially during the delivery of the training programme for carers
- | Because of the often isolated situation of carers (especially independent ones) and informal caregivers, regular meeting opportunities and/or online communities for them can be extremely important (since they usually do not have any chances to meet people with the similar background)

#### **PRACTICE EXAMPLES**



### Value embedded actions: Evernote



In this example, as a result of increased skills in searching on-line, the care workers realised that applications for organisational purposes were very useful, such as Evernote or the calendar application.

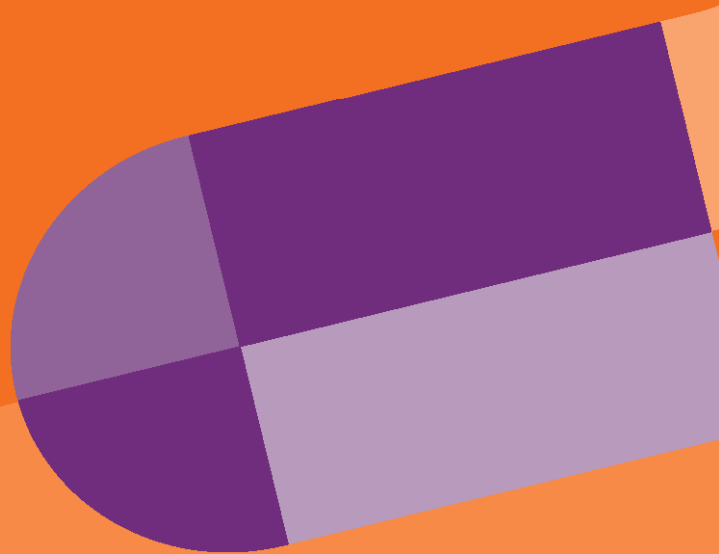
The carers used Evernote to better organise their day to day tasks, set alarms and reminders for key activities. The main outcomes were that day activities were more clearly organised and the care recipient had a feeling of a more organised and quiet day to day life. The example shows how new applications become adopted through use in familiar practice. The applications were used like classic paper agendas, so the regular organisational tasks remain unchanged while the tool used for it (mainly Evernote application) was new and added significant value to routine practices.

### Value embedded actions: Einstein Brain Trainer



In this example, the home care worker engages in competitions with the care receiver, each using their own tablet, using the Einstein brain training app.

The gaming and competitive environment of the activity where the carer does the same exercises as the care recipient allows the care recipient to accept the cognitive stimulation tool as an entertaining activity, such as playing briscola, an Italian card game that the care recipient likes to play. The collaborative interaction between care and receiver provides entertainment for the receiver as well as improving mental health by stimulating cognitive functions. Working together with the carer also enables the recipient to avoid the feeling that the exercise is part of a therapy imposed from above.



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- FEPEM, FR
- TELECENTRE, BE
- 3S, AT
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