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Strategic Intelligence Monitor on Personal Health Systems Phase 3 (SIMPHS3)

*TDP (United Kingdom)
Case Study Report*

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Abstract

The Telecare Development Programme (TDP) case in Scotland (UK) is a patient-centred Integrated Care management process targeting the 65+ population in the country. It particularly addresses vulnerable subgroups of patients and patients with complex illnesses within the 32 communities across Scotland. The TDP case is a funding initiative developed between 2006 and 2011 by the Scottish Government in order to encourage the adoption of the telecare by health and social care services. It sought to demonstrate how telecare could contribute to support the safety and quality of life of older people and enable them to live at home longer, while significantly reducing the cost of health and social care services provisioning. During the period of 2006-2011, no less than 51 telecare projects were operating within all 32 Communities, covering the whole population of Scotland. The starting point of the TDP case was a change in the policy context that required a shift from a healthcare system oriented towards hospital-based treatment to a system based on preventive care to manage long-term conditions. TDP enables vertical integration within the Communities of Health Partnerships (CHPs), but should also promote full integration in a short to medium-term perspective, especially as the new legislative framework coming into force in March-April 2015 aims to integrate health and social care units, as a consequence of a recent health care spending review.

Preface

The Strategic Intelligence Monitor on Personal Health Systems (SIMPHS) research started in 2009 with the analysis of the market for Remote Patient Monitoring and Treatment (RMT) within Personal Health Systems (PHS). This approach was complemented in a second phase (SIMPHS2) with the analysis of the demand side, focusing on needs, demands and experiences made with PHS by healthcare producing units (e.g. hospitals, primary care centres), healthcare professionals, healthcare authorities and patients amongst others.

Building on the lessons learnt from SIMPHS2 as well as on the European Innovation Partnership on Active and Healthy Ageing initiative, SIMPHS3 aims to explore the factors that lead to successful deployment of integrated care and independent living, and define best operational practices and guidelines for further deployment in Europe. This case study report is one of a series of case studies developed to achieve these objectives.

The outcomes of SIMPHS2 are presented in a series of public reports discussing the role of governance, innovation and impact assessment in enabling integrated care deployment. In addition, through the qualitative analysis of 27 Telehealth, Telecare and Integrated Care projects implemented across 20 regions in eight European countries investigated in SIMPHS2, eight facilitators have been identified, based on Suter's ten key principles for successful health systems integration.

The eight main facilitators identified among these as necessary for successful deployment and adoption of telehealth, telecare and integrated care in European regions are:

- Reorganisation of services
- Patient focus
- Governance mechanisms
- Interoperable information systems
- Policy commitment,
- Engaged professionals
- National investments and funding programmes, and
- Incentives and financing.

These eight facilitators have guided the analysis of the cases studied in SIMPHS3 and a graphical representation with arrows whose length represents the relative importance of each facilitator is presented in each case study.

In addition to the above facilitators analysed in each case report, a specific section is dedicated to the analysis of care integration. It should be noted that the definition of vertical and horizontal integration used in this research is taken from the scientific literature in the field of integrated care¹ and differs from the one mentioned in the European Innovation Partnership on Active and Healthy Ageing Strategic Implementation Plan². We define horizontal integration as the situation where similar organisations/units at the same level join together (e.g. two hospitals) and vertical integration as the combination of different organizations/units at different level (e.g. hospital, primary care and social care).

¹ Kodner, D. (2009). All together now A conceptual Exploration of Integrated Care.

² http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/steering-group/operational_plan.pdf (page 27)

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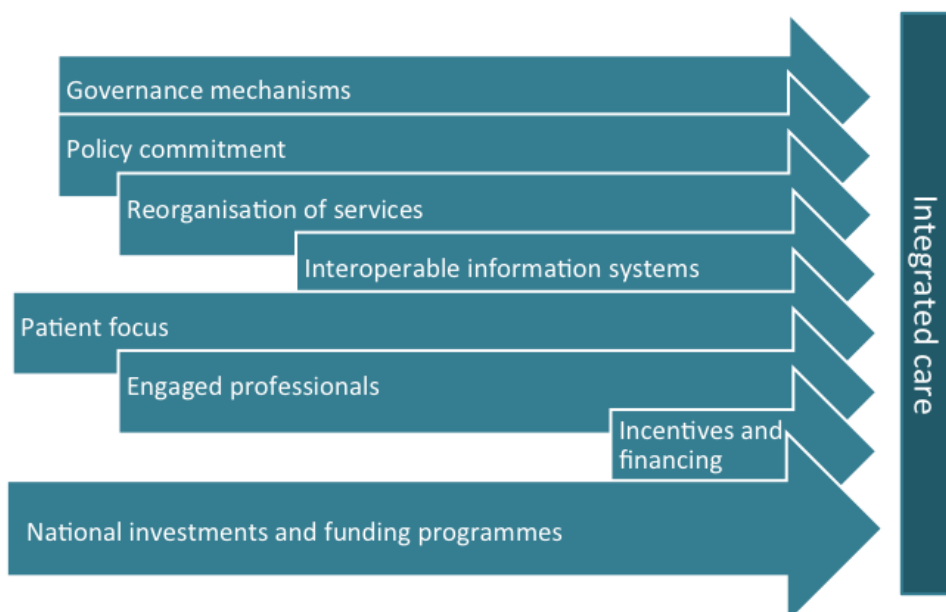
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Case outlook

The Telecare Development Programme (TDP) case in Scotland (UK) is a patient-centred Integrated Care management process targeting the 65+ population in the country. It particularly addresses vulnerable subgroups of patients and patients with complex illnesses within the 32 communities across Scotland. The TDP case is a funding initiative developed between 2006 and 2011 by the Scottish Government in order to drive the adoption of the telecare by health and social care services. It sought to demonstrate how telecare could contribute to the safety and quality of life of older people and enable them to live at home longer, while significantly reducing the cost of health and social care services provisioning. During the period of 2006-2011, no less than 51 telecare projects were operating within all 32 Communities, covering the whole population of Scotland. The starting point of the TDP case was a change in the policy context that required a shift from a healthcare system oriented towards hospital-based treatment to a system based on preventive care to manage long-term conditions. TDP enables vertical integration within the Communities of Health Partnerships (CHPs), but should also promote full integration in a short to medium-term perspective, especially as the new legislative framework coming into force in March-April 2015 aims to integrate health and social care units, as a consequence of a recent health care spending review.

A key driver of the TDP case is the strong commitment of both the local authority and the local health and social care actors. Indeed, the most successful cases of telecare implementation were those with well-established Community of Health Partnerships (CHPs), capable of combining primary and community services and sharing responsibility for planning and delivering personalised home care assistance. A strong performance evaluation culture can also be considered an important driver for the success of the TDP funding initiative. Barriers to the diffusion of the TDP case are numerous: lack of equipment interoperability; difficulties with respect to recruitment and training; lack of engagement amongst stakeholders in the implementation process; difficulties in understanding the role of telecare in wider agendas.



1 Background

1.1 Scottish social and health care services

Health services in Scotland are largely free at the point of delivery, available to all inhabitants and financed through general taxation. The responsibility for health and health-related services lies with the Cabinet Secretary for Health and Wellbeing. The Scottish Parliament, however, plays a huge role in scrutinizing the health system via its Ministers, as well as through a parliamentary Health Committee, Audit Scotland and Health Care Improvement Scotland, within a broadly held National Performance Framework. Next to the National Health System there is a private not-for-profit health care sector, which is independent and financed through private contributions. It comprises 7 acute medical and surgical hospitals, 10 mental health hospitals and clinics, 15 voluntary hospices and 2 specialist clinics.

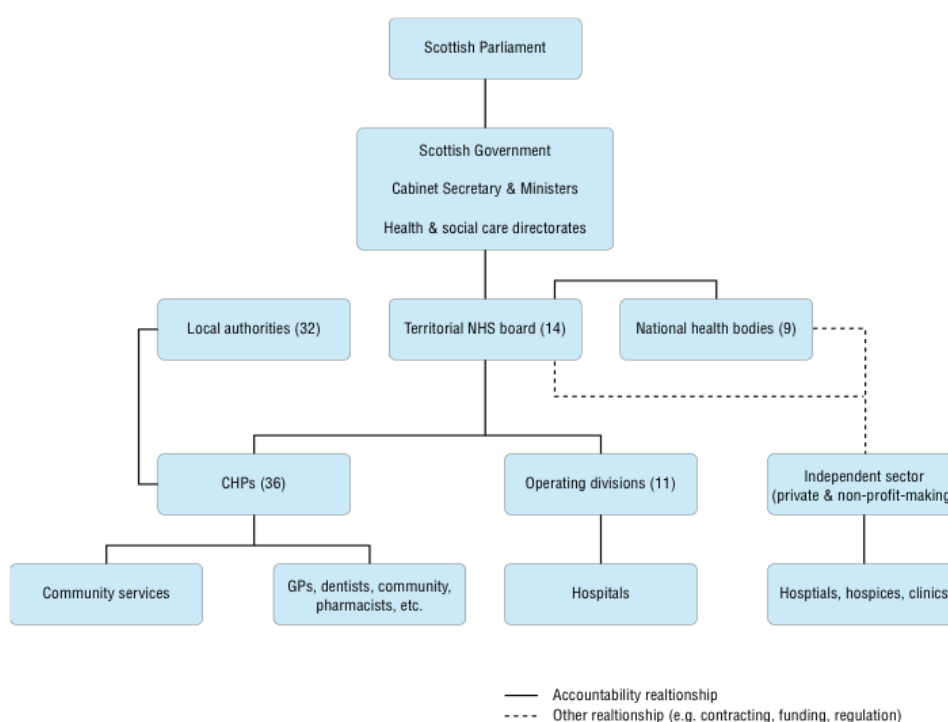
The Scottish Government determines the allocation of the budget between the NHS and other social services, such as education and sport. Once the budget is split, the Cabinet Secretary, advised by the Scottish Government Directorate for Health and Social Care, decides on the deployment of the funds allocated to health and social care and monitors its use. The Scottish Government Directorate for Health and Social Care retains responsibility for health and social care policy, while managing the NHS and monitoring social care services as provided by local authorities, as well as private and third sectors. This Directorate is led by a Director General who is also the Chief Executive of the NHS, and who is supported by professional advisers. The Directorate defines objectives and policies for health protection, sets targets, provides a statutory and financial framework for the NHS. It also intervenes in the event of problems or deficiencies at local level. Most of the health budget is distributed among 14 geographically-based NHS boards that are in charge of the planning and delivery of services in order to meet the healthcare needs of the population living in each region. The NHS boards retain significant powers in terms of patterns of local care provision and the setting of local priorities.

The boards provide strategic leadership and performance management of the entire local NHS system. Responsibility for service delivery is delegated to operating divisions for acute services and to specific committees (CHPS) for community and primary care services. Through the CHPs, the boards engage in contracts with independent professionals in primary care, such as GPs, dentists or community pharmacists, who are reimbursed in accordance to the services provided by them for the NHS.

In addition, there are nine national bodies in charge of services provided to the entire country, which are in turn supported by territorial boards. These focus on delivering services best provided by a single entity, e.g. ambulance transport, information, education and training, as well as quality improvement.

However, there is no purchaser-provider split applicable in the system. Most of the primary care providers function as independent contractors and are reimbursed in accordance with their specific contracts for the services provided. The NHS boards employ the staff working in hospitals and in the community directly on a salary basis.

Figure 1: Scottish National Health System characterization



Source: Steel & Cylus (2012)

1.2 Scotland (UK)

Scotland has a territory of about 78,387 km² and a population of 5.2 million habitants, with a density of about 67 habitants per km². It is located in the North of the United Kingdom. Scotland has an annual GDP of more than €166 billion, with an annual GDP per capita of €31,569. The average age of the Scottish population is about 44 years, with 17% of individuals above the age of 64. Current projections suggest that the population will age significantly, with the number of people aged 65 and over increasing by 59%, from 0.93 million to 1.47 million by that time. The key characteristics of the health care system in Scotland are summarised in Table 1.

Table 1: Scotland (UK) health care system and demographic characteristics

Geographical coverage km ²	78,387
Inhabitants per km ²	67
Number of inhabitants	5,254,800
Life expectancy at birth years	80.09 males – 85.1 females
Regional GDP (2012) billion €	166
Regional GDP per inhabitant (2012) €/inhabitants	31,590
General Practitioners /1.000 inhabitants (2010)	0.79
Specialists /1.000 inhabitants (2010)	1.94
Regional Budget for Health services management (2013) billion €	10
Health care professionals / 100.000 inhabitants	294
Regional health care budget € per inhabitants (2013)	1,903
Hospital beds (2012)	24,800
Hospital beds/1.000 habitants (2012)	4.7

Source: Scottish Government – Health and Social care

1.3 The TDP case

The Telecare Development Programme (TDP) case is a funding initiative developed over a period of six years (2006 – 2011) by the Scottish Government in order to encourage the adoption of telecare by local health and social care providers. It sought to demonstrate how telecare could contribute to the safety and quality of life of older people and enabling them to live at home longer, while significantly reducing costs of health and social care services provisioning. Simultaneously, the local governments of England, Wales and Northern Ireland engaged in promoting similar initiatives.

The objective of the TDP funding initiative was to encourage the 32 local communities of Scotland to develop an integrated care approach that would enable a shift from a hospital-based system to a system funded on preventive care to manage the long-term conditions of the ageing population.

The strategy behind the TDP funding initiative envisaged the rethinking and reorganisation of the existing home care services by means of a two-step funding programme. The first funding programme (2006-2008) aimed to distribute an average amount of about £100,000 to each initiative addressing the specifications of the bid. The second funding programme (2008-2011) targeted projects in which the developments made were considered satisfactory and where the new funding scheme was based on the degree of the mainstreaming potential of the cases.

The objectives of the funding strategy were twofold: in the first wave of funding, the TDP initiative aimed to motivate all local communities to adopt integrated home care initiatives. The second funding wave aimed to provide adequate pre-conditions for effective uptake of initiatives with high potential of diffusion across the entire local population.

From this perspective, the TDP case study is an interesting example of how a fully committed national government, in strict collaboration with its national health system, has developed an integrated care approach with its own funds and capabilities that is currently being spread across the whole country, with significant mainstreamed examples and important achievements that in the short/medium-term perspective could lead to structural changes in the entire health care system of Scotland.

The full list of co-funded projects represents an overall amount of £8.35 million for the period 2006-2008, provided by the Joint Improvement Team (JIT, 2008). An additional £8 million were made available to these initiatives during the period of 2008-2010 as capital funding to secure further mainstreaming of telecare services.

The initiative of Renfrewshire Telecare Service serves as an interesting example that is considered by both JTI (2013) and University of York (2013) as one of the cases with better chances of diffusion across the whole local context.

The Renfrewshire telecare service was approved in 2006 by the Scottish Executive Telecare Development Funds (TDP) with funding of £241,000. It was provided by the Renfrewshire Council and integrated into the existing Community Alarm Service. The local Council agreed to mainstream the service when the TDP funding ceased. In January 2008, the local Community Alarm and Telecare Service became part of the new service called "Renfrewshire Care 24". The service comprises care and support for vulnerable people that enables them to live at home as long as possible. During April 2012, the service achieved platinum member status in all elements of service provided including referral, service user

profiling, installation and response. Currently, Renfrewshire Care 24 works in partnership with the NHS, and with housing and independent services.

2 Integrated care analysis

2.1 Dimensions of integration

The target population addressed by the initial TDP-funded projects comprised elderly people in Scotland, who represent about 17% of the overall population of 65 years or older, 10% of whom are officially diagnosed to have dementia. During the period of 2006-2011, about 44,000³ users benefited from the services provided by the telecare projects funded under the Telecare Development Programme Initiative. The 51 funded projects addressed Integrated Home Care Management in several domains, such as:

- Use of medication dispensers (Aberdeen, Falkirk, Fife and Renfrewshire).
- Falls management programmes (East Ayrshire, Edinburgh, Falkirk, Fife, Perth & Kinross and South Ayrshire).
- Chronic Obstructive Pulmonary Disease (COPD) projects (Inverclyde, Moray, North Lanarkshire, Renfrewshire, Stirling and West Lothian).
- Home pod units (Argyll & Bute).
- Diabetes monitoring (Edinburgh).
- Childhood obesity management (West Lothian).
- Fitness in older people (Moray).

In all the above cases, the TDP-funded projects considered vulnerable subgroups of patients and patients with complex illnesses. The main target pathologies considered by the projects under the TDP funding initiative were chronic disease, cognitive impairment, frailty and related comorbidities. The characteristics of the telecare cases implemented under the TDP funding scheme present several types of integration. The most important one is service integration, which becomes evident when looking at the majority of the TDP-funded projects, given that most of them strived to integrate the entire home care service delivery chain. To this end, each local community supports the integration of the health and social care professionals. In the most successful cases, innovative ways were found to cooperate and sometimes organisational integration among health and social care organisations was possible. For example, the Renfrewshire community established as a result of the Renfrewshire 24 initiative, partnerships among the local NHS, representing district and practice nurses and primary care organisations, housing and independent services. It is important to note that service integration, and organisational and professional integration will play an ever more important role when the new legislation,⁴ which aims to integrate health and social care, comes into force at the beginning of 2015.

All the TDP-funded telecare services initiatives further promoted vertical integration among the local health and social care actors. To this end, especially in the mainstreamed projects,

³ JIT (2010) and JIT (2011) report that in the period 2006-2010 the number of people benefitting from the service were 29,000 (of which 7,300 subsequently abandoned the programme).

⁴ i.e. "Joint Working (Scotland) – Act 2014 which *"is seen as a framework to support improvement in the quality and consistency in the delivery of health and social care services in Scotland – to be achieved through formal integration of services for adults...."*. In particular the Regulation and Orders section of the Act sets out: *"those functions of a Local Authority that must be delegated in support of the integration of health and social care services."*

the local hospitals, practice nurses and GPs have developed clear protocols of co-operation that facilitate coordination between hospital discharge and home care service from the primary care professionals. At the same time, primary care professionals act as multiple sources of contact for monitoring the health status of patients at home, in order to avoid unplanned emergency admissions to the local hospitals. In the current mainstreamed Integrated Home Care Services funded by the TDP scheme, no evidence could be found of horizontal integration across the care actors of the same tier. All the TDP-funded cases analysed have a *medium degree of integration*, which underlines the presence of strong organisational and professional cooperation among the health and social care actors operating in the Integrated Home Care management initiatives. No evidence of resource sharing among the actors involved in the service provisioning could, however, be identified. Full integration appears to be achievable in the short to medium-term, taking into account the legislative⁴ changes anticipated. The following table summarises the level of deployment of the 32 local partnerships at the end of the first funding period (2006-2009). The scale used ranges from 1-10, measuring the extent to which the 32 local partnerships had embedded telecare services into various key processes and services, ranging from 1 = “not started yet” to 10 = “already completed”. Only 22% (6 of 32) of the projects were mainstreamed (score 9 and 10 in the table) at the end of the funding period, and 5 of them addressed care at home services, of which only 2 aimed to manage long term care and dementia.

Table 2: Telecare services deployment

	Mainstream Assessment Process	Care management and review processes	Care at home service	Community equipment service	Approach to managing LTC and Dementia	Budget setting processes
1	0%	0%	0%	22%	6%	9%
2	6%	6%	3%	0%	9%	16%
3	9%	3%	9%	16%	13%	19%
4	6%	16%	9%	13%	25%	3%
5	6%	9%	19%	3%	6%	13%
6	13%	13%	16%	6%	16%	13%
7	9%	22%	6%	6%	6%	3%
8	25%	13%	13%	13%	6%	6%
9	6%	3%	9%	3%	0%	9%
10	16%	13%	9%	6%	6%	6%
No response	3%	3%	6%	12%	6%	3%
Total	100%	100%	100%	100%	100%	100%

Source: JIT (2010)

2.2 Impact

Impact evaluation of the TDP funding programme was conducted both at national and local level during the entire implementation period. Despite the lack of counterfactual evidence, the JIT (2010) published the following statistics of the TDP outcomes for the period of 2006-2010, derived from the 51 TDP-funded cases:

- 1,500 hospital discharges avoided.
- 6,600 hospital admissions avoided.

- 2,650 care home admissions avoided.

The JIT estimated that the overall savings of the TDP initiative during the period 2006-2010 reached about £48.4 million. That means about net savings of £2,230 per patient in the period (£446/patient/year).

However, it is important to note that most of these savings are only nominal, unless structural changes in the health and social care systems are implemented and the number of hospital beds reduced.

Moreover, the JIT (2011) reported that in overall terms, 19% of the people aged 65 or more in the 32 local communities were using community alarm systems, 3.5% had more sophisticated social care packages and 1% (about 1,000 individuals) could benefit from a telehealth package by that time. A total of 44,000 of these people had been engaged through the TDP initiative.

Another interesting evaluation of the TDP funding initiative was a five year evaluation process performed by Newhaven Research (2011). It reported a total cost of £19.5 million of the telecare projects, of which TDP funding covered £13.6 million. The number of users covered was around 44,000 people, but around 13,000 of these subsequently stopped the services⁵. The estimated net savings in the five years under observation amounted to about £78 million (£1,770 in five years or £355/year per user) although the report stressed that the achieved impacts have to be regarded as purely hypothetical, unless structural changes within the Scottish local government are implemented.

2.3 Drivers and Barriers

Drivers of the TDP funding initiative largely depend on respective local characteristics and contexts. However, the literature review underlined that in terms of mainstreamed TDP funded initiatives, the key driver was strong commitment from both local authority and local health and social care actors.

It was further recognised that the most successful cases of implementation were those with well-established Community of Health Partnerships (CHPs) that would be capable of combining primary and community services with a shared responsibility for planning and delivery of personalised home care assistance. A strong performance evaluation culture was also an important driver for the success of the TDP funding initiative. This became evident in the funding allocation process organised by the Scottish Government to stimulate the implementation of funded initiatives. In particular, initial funding distribution to all 32 local communities across Scotland was based on the compliance of the funding requests to the bid specifications. It followed that during the first 3 years (2006-2007) of implementation, the evaluation conducted by the Scottish Government aimed to identify whether funded projects could be mainstreamed. The most successful projects received funding from the National Government under the TDP initiative for another 3 years (2008-2011), so that these initiatives could reach critical mass, ensuring the sustainability of the services once the funding ceased. The degree of funds allocated in this respect reflected the proportional stage of development of the projects. Thus, only 5 of the 32 local communities received the maximum level of funding during the second funding period.

⁵ JIT (2010) reports a figure of over 29,000 (7% with dementia, but the number is considered underestimated) people that began a telecare service through the TDP funding over the period 2006-2010. Over the whole period around 7,300 (25%) subsequently stopped receiving a service.

Barriers for the implementation of TDP-funded initiatives are also largely influenced by local context characteristics. Barriers can be divided into two groups depending on the stage of development of the funded project: implementation stage and mainstream stage in the local community. The most important barriers of the implementation stage comprise:

- **Lack of clarity about expected outcomes.** This is a typical barrier that highlights the lack of cohesion among the local health and social care players in agreeing on expected results of the project. This disagreement in many cases hindered the achievement of a strong commitment among the parties involved and led to unsuccessful implementation of the initiatives in question.
- **Limited, inconsistent or poor project management.** Inadequate project management is another important barrier to the implementation of the telecare projects, especially in those initiatives, where the care organisations involved maintained control over their staff members within the implementation team. The most successful telecare projects, however, were those with fully established CHPs. In these cases, the main local care actors perform previously agreed roles and responsibilities in the project implementation within the CHPs. The manager of the CHP would in most cases be in charge of the management of the funded initiative on integrated home care.
- **Lack of cluster sponsorship/engagement by senior decision makers.** This is a typical barrier arising from care managers' resistance to change. They perceive the new, more integrated initiative as a dangerous situation for their established organisational power. Again, the most successful initiatives funded had well established CHPs, where the organisational barriers across local health care actors were already to a large extent overcome.
- **Fear of the consequences of “getting it wrong”.** This barrier was a problem in cases, where weak project management coupled with limited telecare skilling capabilities in the project team, have hindered the possibility to implement an integrated home care service re-design.
- **No clear purchasing scheme and difficulties in risk sharing of implementation cost.** This barrier produced significant delay in the implementation of the local initiatives and in some cases stopped their development entirely.

The barriers that have been identified during the telecare project mainstreaming process comprised:

- **Lack of equipment interoperability, equipment reliability and infrastructure gaps.** These barriers were mainly a consequence of limited skills, or lack of them, in the project team for telecare service re-design, that in many instances failed to provide technical specifications to direct technological providers to find solutions supporting interoperability with the existing legacy systems, and to provide technological solutions with a high degree of reliability in real conditions of use. Infrastructural gaps, mainly related to the lack of connectivity and bandwidth, also represented important barriers to the successful mainstreaming of telecare projects. These gaps have made it impossible to provide integrated home care services to the local target population accordingly.
- **Lack of engagement among stakeholders in the implementation process.** This important barrier was due to the lack of strong vertical integration among

primary care providers, social care organisations and secondary care units. On the other hand, the most successful mainstreaming initiatives had well established CHPs, which were fully entitled to drive integrated home care service processes forward and to facilitate collaboration amongst all the local care actors.

- **Limited commitment to telecare from senior managers is a continuing problem.** In some cases, telecare projects have been implemented successfully, but local senior managers lack interest in transforming the project results into fully sustainable services. It can be assumed that the main reason for this is the additional effort needed on the part of the local actors in terms of level of organisational integration, and the promotion of structural changes in the local care processes that could imply permanent shift of balance of care from secondary to primary providers in the management of long-term conditions for older people.
- **Difficulties with respect to recruitment and training,** which in the new care services provided, constitute a fundamental element for success and sustainability of the telecare initiative. It is highly related to commitment and implies the need to define adequate incentive schemes that take into account the additional responsibilities that the new health care service delivery processes demand of the primary care actors.

2.4 Organisation, health professional and patients

In general terms, the organisational models implemented in the 51 TDP-funded projects of the 32 Scottish local partnerships are based on the paradigm summarised in the following Table 3.

Table 3: Dimensions of Paradigm Shift

Current Model	Evolving Model of Care
Geared towards acute conditions	Geared towards long-term conditions
Hospital centred	Locally responsive
Doctor dependent	Team based
Episodic care	Continuous care
Disjointed care	Integrated care
Reactive care	Preventative care
Patient as passive recipient	Patient as partner
Self care tolerated	Self care encouraged and facilitated
Carers undervalued	Carers supported as partners
Low tech	High tech

Source: Sergeant (2010)

The key elements of the new paradigm are the preventive care actions to reduce emergency situations in long-term chronic disease management. To this end, integrated services among primary, secondary and social care are implemented so as to guarantee a continuum of care for patients across different tiers of care.

Following the above principles, in most of the TDP-funded initiatives, GPs and nurses played a pivotal role in guaranteeing multiple points of access to the care system. Moreover, the telecare technologies made important contributions to continuously monitoring patients at home and to preventing emergency visits. These new and more integrated ways of providing care services require a multidimensional team composed of GPs, nurses, social

care providers and social housing representatives. The main advantage of these teams is that they set up and follow more personalised care processes that take into account the needs of both patients, families and caregivers.

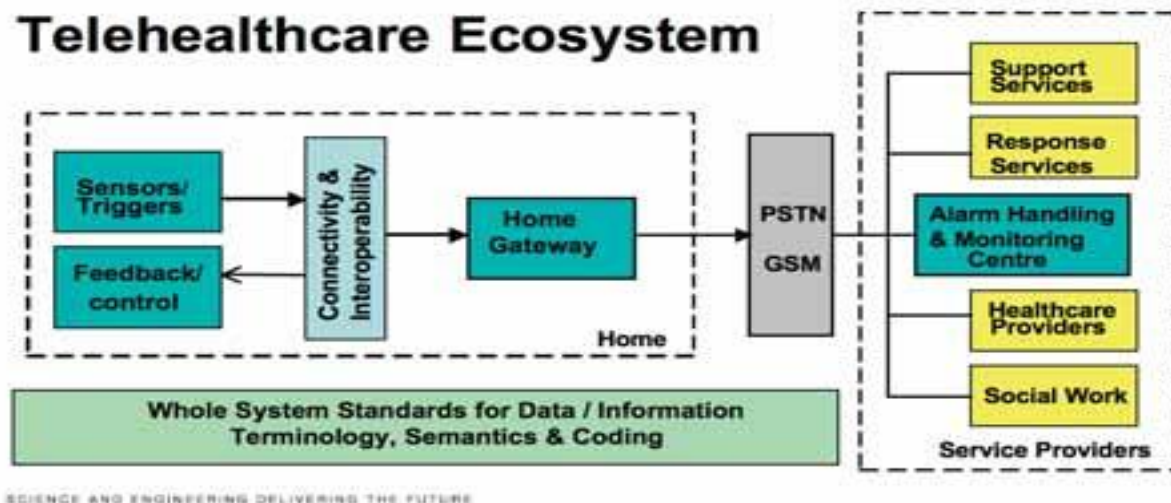
The role of health care specialists and hospital doctors in the new care process is important, albeit limited to the validation of the diagnosis of chronic conditions of patients provided by care teams, and the definition of personalised home care pathways to be followed within long-term disease management processes.

In the more successful initiatives mainstreamed in the local communities, CHPs played a fundamental role in ensuring cooperation between tiers of care, and they stimulated the information-sharing between all actors involved in the care process management. In particular, the most advanced cases found solutions to stabilise the telecare teams in permanent organisations set up through partnerships of local health and social care actors. This was the case of the Renfrewshire telecare services, which, together with the local community alarm, formed the new service under Renfrewshire Care 24 as soon as the TDP funding ceased. It was set up as a partnership amongst local NHS, representing the primary care professionals, (GPs, district and practices nurses) and the housing and independent service departments of the local government.

2.5 Information and Communication Technologies

The telecare technology used in TDP-funded telecare projects had an important impact on implementing and mainstreaming sustainable services. Figure 2 depicts the different roles performed by technology in TDP-funded telecare initiatives.

Figure 2: Example of ICT integration in the TDP funded projects



Source: SSAC, 2009

The figure illustrates how technology performs four specific roles in telecare services:

- **Sensors and triggers.** These are fundamental for automatic monitoring of the environmental conditions of patients' homes and for preventing risks (e.g. if the patient falls, leaves the house without warning, uses home appliances unexpectedly). The use of these technological tools can reduce the workload of

formal and informal careers, while at same time increasing the amount of context and patient-related information that can be used to prevent risks.

- **Feedbacks and controls** are technological tools that perform two main functions. On the one hand, they pre-process information collected by the sensors and subsequently trigger specific countermeasures in the most advanced technological configurations (e.g. turn off the natural gas if the sensor detects an increasing level within the home environment), or inform the alarm handling and monitoring centre through the home gateway. On the other hand, they manage recovery actions based on feedback received from the monitoring centre.
- **Home gateway** is an interoperable tool that guarantees interaction between the sensors, the triggers and the home controls system, and the alarm handling and monitoring centre.
- **Alarm handling and monitoring centre technological facilities.** They constitute the heart of the telecare system, where all the patients' and home environment information are processed and provided to the relevant care actors for immediate recovery actions.

The 51 cases of TDP-funded projects (see Annex 1) have developed the above technological features to different degrees. In some cases, the technological choice was focused on the purchase of novel triggers and sensors that would enable assistance to more patients through integrated home care services. This occurred in local communities where the telecare services were already in place and the alarm handling and monitoring centre already operational (e.g. in Angus; Argyll&Bute; East Ayrshire; Glasgow city; Moray; and Renfrewshire).

In some other cases, the projects allocated their funding to establishing an alarm handling and monitoring centre and to supporting a few cases of telecare home assistance to test the new integrated care management approaches (e.g. in the City of Edinburgh; Fife; Highland; Inverclyde; and South Lanarkshire). Further cases looked at the technology used in equipping social houses with telecare (e.g. in Aberdeen city case and Western Isles).

Lastly, some cases preferred to limit or disregard the purchase of technology and instead concentrated their funding on the training of care professionals and the setting up of integrated care service process from an organisational point of view (e.g. in Dundee City; East Lothian; and East Renfrewshire).

Thus, in terms of technology used in the TDP-funded projects, it can be concluded that there are telecare and telehealth systems that support patients and professionals by reducing emergency admissions to hospitals and at the same time guarantee 24/7 monitoring of patients, without increasing the workload of the carers. Nevertheless, no evidence of interoperable information systems to enhance the communication across the continuum of care could be found. The information collected on patients, their home environments and care procedures, is not automatically shared between primary and secondary care units, even if monitored by the alarm handling and monitoring centre.

2.6 Governance

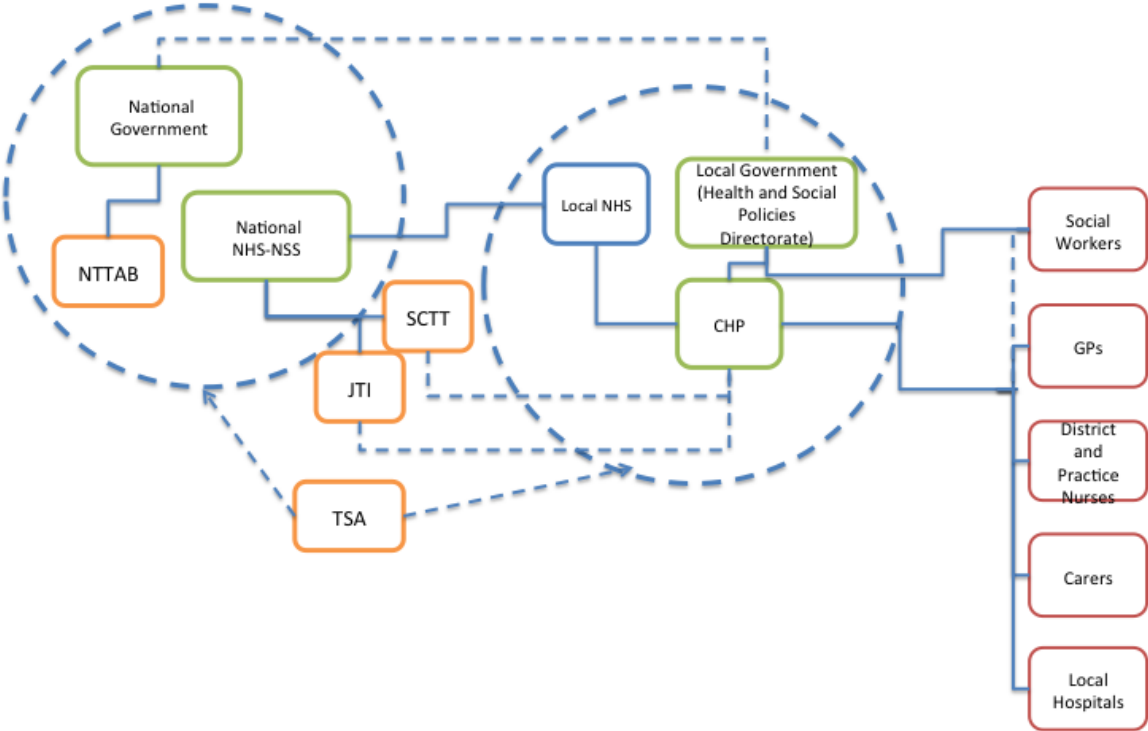
To understand how the governance of the TDP case has been organised, it is necessary to distinguish between the TDP funding allocation management process and the design and development of TDP-funded projects.

The governance of the funding process is mainly the responsibility of the Scottish Government (Scottish Government Health and Social Care Directorate) that acted as promoter and founder of the initiative. Since 2006, it allocated about £20 million to stimulate the diffusion of telecare practices across Scotland. Additional funds were allocated by the Government to mainstream the most promising initiatives of the 32 local partnerships as established in the preceding period. The second national governance actor of the initiative is NHS Scotland, which represents the health care actors involved in the telecare service delivery processes. In the governance of the TDP funding initiative, it performed an advisory role in relation to the choice of the projects to be funded and in terms of assessment of the results achieved.

The design and development of TDP-funded projects depends largely on the local context in which the telecare projects are implemented. In general terms, the main players comprise: the housing and social care departments of the Local Councils, which are responsible for the social service delivery to the local communities; the local NHS organisations that represent the health care professionals (GPs, district and practices nurses, hospital doctors and specialists) in charge of service provisioning. Together, they promoted and designed the telecare project to be funded by the National Government and helped drive its implementation in the local contexts. In more advanced situations, this governance underpinned the establishment of the Communities of Health Partnerships (CHPs). Their task is to facilitate the integration of primary care, specialist services and social care so as to ensure that TDP-funded projects meet the objectives set for them.

The following figure sketches the governance model.

Figure 3: TDP Governance model



Source: Authors' elaboration

Enabling organisations that the National Governance used to steer the initiative comprise:

Scottish Centre for Telehealth and Telecare (SCTT). The Scottish Centre for Telehealth and Telecare was established to support and guide the development of telehealth and telecare throughout Scotland and forms part of NHS 24. The Centre's role is to provide support and advice to all these key stakeholders, and to help evaluate the potential benefits of new technologies, with the view to making Scotland a recognised global leader in telehealth and telecare. Specifically, its tasks comprised:

- Disseminating best practice.
- Providing practical support, both clinical and technical.
- Co-ordinating the evaluation of projects.
- Evaluating the impact of telehealth and telecare on service redesign.
- Developing inter-operable standards and protocols.

Joint Improvement Team (JIT). The Joint Improvement Team is a partnership between the Scottish Government, NHS Scotland, the Convention of Scottish Local Authorities (COSLA), and the Independent and Housing Sector. It provides a range of practical improvement support structures, including knowledge exchange, development innovation, improvement capacity and direct practical support to local health, housing and social care partnerships across Scotland, in order to implement the innovative care approaches, including those related to Telecare services.

National Telehealth and Telecare Advisory Board (NTTAB) established by the Scottish Government to drive forward the telecare agenda. NTTAB was primarily responsible for the strategic development of the National Telecare Programme. The Board is made up of senior members of the main stakeholders of the telecare programme (e.g. Carers Scotland; Chartered Institute of Housing, JIT; Scottish Centre for Telehealth; Telecare Service Association; Scottish Government; NHS24). The Board advises and supports Senior Officers in the management of the Telecare Development Fund.

Telecare Services Association (TSA). The Telecare Services Association (TSA) is the industry body for telecare and telehealth, and the largest industry-specific network in Europe. It is a not-for-profit, membership-based organisation, with a current membership of over 370 organisations. TSA promotes and supports the telecare and telehealth industry, highlighting the benefits of telecare and telehealth for commissioners across health and social care, service users, their families and carers. The TSA is the nationally recognised Standards Body for the delivery of technology-enabled care and support services for both telecare and telehealth in the UK. It has facilitated the development of a new technical standard – BS8521, which seeks to further enhance the interoperability of telecare products.

2.7 Organisational processes

After the implementation of the TDP funding initiative, the organisational processes underpinning local telecare services in Scotland have been reorganised, especially in those cases where the funded projects were due to become mainstream services for the local communities. As already discussed in §2.4, the new organisational model implemented by the TDP funding initiative is influenced by the paradigm shift from hospital care management-centred processes to more patient-centred processes. This was apparent in most examples of TDP-funded project implementation, but especially in those initiatives

which were mainstreamed at local level after the funding period expired. In these cases, the integrated home care processes for chronic disease management can be organised in four main steps: referral, assessment, installation and service provision:

- 1. Referrals.** With the TDP funding initiative, this area has been improved significantly. To some extent, it can be regarded as the most important step in the chronic disease home care management process, as it aims to identify people who are at high risk of emergency admission to hospital, and who therefore really need home telecare services. In the reorganised chronic disease management process, a given patient's need for the telecare service can be assessed by various organisations and professionals, such as a Social Work Area Team, Housing and Housing Associations, the Local Health System, GPs, district and practices nurses, etc. All of them function as multiple points of access to the telecare service, and increase the possibility of providing quality telecare service to the patients and thus avoid or delay hospitalisation.
- 2. Assessment of the potential service user.** This task is organised by the telecare service coordination unit. This can be a permanent dedicated team as in the case of Renfrewshire 24, or by a team composed of both health and social care professionals who belong to different organisations, as in the case of Moray Community. In any case, the assessment of the potential user of telecare services is undertaken by a multidisciplinary team that uses a shared-needs assessment protocol to evaluate the multiple facets of the needs for assistance of patients and their families. This step in the telecare management process has been renewed with the TDP-funded projects, and it allows a more integrated evaluation of the patient through health and social care operators. The main advantages of this step are to make assistance services more personalized to the patient and to reduce the coordination costs among the organisational units in charge of service configuration and delivery. The assessment of patients' and their families' needs also includes a visit by the Assessment Team to patients' homes to discuss the available options, so as to provide a tailor-made package of telecare equipment and explain the installation processes in detail.
- 3. Set-up.** This step simply entails the installation of the agreed equipment, which is undertaken by qualified engineers. The equipment is routinely checked by the local organisation in charge of the telecare service delivery. No significant changes have been made in the framework of TDP-funded projects for this step.
- 4. The last step is the provision,** 24 hours/365 days per year, of the following services:
 - *Community Alarm and Telecare Services.* This is the standard service offered by the telecare management process. When an alarm is raised, the service is mainly provided by a minimum of two volunteer key holders living close to the patient. In addition, the community care assistant nurses who provide intermediate care also offer a telecare response service whenever possible. The use of key safes, where deemed appropriate, complements the voluntary nature of these particular response mechanisms. Where an emergency or crisis situation has been confirmed by the contact centre staff and no volunteer key holders are available to attend an incident, then response will usually default to the relevant emergency service.
 - *Additional non-standard services provided under the telecare management processes comprise:*

- *Single Point of Access* – this provides a single entry point to Intermediate Care Services in the local community (e.g. Care Homes and Day Centres; Department of Medicine for the Elderly Day Hospital; GPs; Nurses; Hospital Consultants; Psychogeriatric Day Hospital; Social Work Area Teams; Social Work at Royal Alexandria Hospital).
- *Rapid Response* – this joint health and social care service can provide personal care, domestic services and housing support for up to two weeks to help a person remain in his or her own home after an emergency and to prevent further referral to the hospital.
- *Out of Hours Homecare Management Support* – this service includes assessment of needs, arranging care services, responding to enquiries or problems and supporting staff with any difficulties in delivering planned care.
- *Overnight Homecare* – this service provides personal care and support, domestic service and housing support tasks between 10pm and 6am, 365 days a year.

The four step process for chronic disease home care management process, organised through the TDP funding initiatives, enables a very high degree of integration between health and social care services, at least in the local communities, where the projects were mainstreamed after the funding period. Moreover, it is evident that the new services provide a continuum of care, where all the actors can act as point of contacts to both continuously assess the patients' and their families' needs, and raise warnings to support the telecare management team on a personalised service. Vertical integration is ensured across primary and secondary care, thanks to the telecare centre supporting information-sharing among health care professionals involved in the chronic disease management process of a given patient.

2.8 Reimbursement model and economic flow

The reimbursement models for GPs and the other health care providers in Scotland are still based on a bundled payment plus coordination fee for the implementation of specific activities, such as the one foreseen for the telecare service management process. Currently, no innovative reimbursement model has been applied and no outcome-oriented incentives are foreseen for the care managers and health care professionals involved in the delivery process. The Telecare management process does not affect the cost of the services provided to patients. These remain unchanged and are based on current practices, where the cost of the service depends on the typology of the disease and the socio-economic characteristics of the patient and his/her family.

It is important to note that each local community applies a different pricing policy for telecare service provision. For example, in Renfrewshire, the telecare service currently costs users £3.10 per week, which is a contribution to the running of the responder service. Weekly costs vary across Scotland, and some Councils do not levy any charge on their telecare users. A complete list of the service costs for the users is provided by Sergeant (2010), see Table 4. The fragmentation of telecare cost across the 32 local communities is not only an additional barrier to the diffusion of common health care practice, but presents some concerns in relation to the equality of the services provision to the citizens/patients across the country.

Table 4: Weekly costs for the patients

Partnership	Charge Per week	Comments
Aberdeen City	£1.30	Basic charge for Community Alarm Service (CAS). Telecare free of charge.
Aberdeenshire	£1.00	Basic charge for CAS. Telecare free of charge
Angus	£1.00	Flat fee for CAS and telecare
Argyll & Bute	£4.00	Basic charge for CAS. No charge for telecare.
Clackmannanshire	Free	
Dumfries & Galloway	£2.80	Charge is for calls handling service. If the user is assessed as having a cognitive impairment or dementia and unable to use the pendant, service is provided for free.
Dundee	£1.50	Basic charge for CAS. No charge for telecare.
East Ayrshire	£3.75	Basic charge for CAS. Charge subject to financial assessment.
East Dunbartonshire	£3.42	Basic charge for those who request CAS. If user assessed as needing service, this is free of charge. Issues regarding charging for telecare still to be addressed.
East Lothian	£1.33	No charge for telecare.
East Renfrewshire	£1.50	Basic charge for CAS. Charging for telecare subject of further consideration.
Edinburgh	£4.70 - £6.75	Basic charge for CAS. Additional charge for telecare made up to total of £6.75 per week for CAS + telecare.
Falkirk	Free	
Fife	£1.00	Basic charge for CAS. No charge for telecare.
Glasgow	Free	Currently being reviewed with a view to introducing a charging policy in this financial year.
Highland	£5.00	Basic charge for CAS. No charge for telecare.
Inverclyde	Free	
Midlothian	Free	Requires further consideration.
Moray	Free	Subject to regular reviews as service develops.
North Ayrshire	£3.00	Basic charge for CAS. No charge for telecare. This is currently under review.
North Lanarkshire	Free	
Orkney Islands	Free	
Perth & Kinross	£3.15	Basic charge for CAS, which is subject of financial assessment. No charge for telecare provision, however this will be subject of review.
Renfrewshire	£3.10	Basic charge for responder service.
Scottish Borders	£2.16	Core charge for CAS and low level need. No charge for users under 16 years of age or who access palliative care. Currently no charge for telecare.
Shetland Islands	Free	
South Ayrshire	£2.78	Basic charge for CAS. No charge for telecare.
South Lanarkshire	Not supplied	Not supplied
Stirling	£1.50	Basic charge for equipment. Currently being reviewed with a view to abolishing charge.
West Dunbartonshire	£2.00	Basic charge for CAS. No charge for telecare.

Source: Sergeant (2010)

3 Transferability

TDP initiatives have been funded in the recent past throughout all 32 local communities across Scotland, but only a few of them are now mainstreamed services for their respective local communities. The degree of transferability of the most successful telecare initiatives in other Scottish local context can therefore be regarded as rather difficult. The main barriers this process have been discussed in §2.3. However, in terms of transferability the most important barriers relate to local management's resistance to change and the lack of skills in telecare technological issues and related delivery service processes. The National Government of Scotland is trying to overcome these barriers through a new national

telecare plan for Scotland. The key objectives of the new programming period (2013-2015) are:

- To promote telecare services for an additional 300,000 people.
- To create awareness around telecare use.
- To develop innovation through integration of academia, care professionals, service providers and industry.
- To increase international transferability of the Scottish telehealth and telecare solution and good practices.

Regarding the last of the above objectives, the National Government of Scotland has acknowledged that Scotland could become a reference point for the EU in telehealth and telecare so they are willing to put these types of initiatives high on the agenda. As a result of this in April 2013, the Scottish Government announced £2.8 million funding for two major telecare programmes, namely **United4Health⁶** and **SmartCare⁷**. The programmes are funded jointly by the European Commission and the Scottish Government as part of the Digital Health and Care Innovation Partnership. The programmes support people with long-term conditions living in Ayrshire, Renfrewshire and Lanarkshire. Its objectives are to enlarge the number of chronic patients that can benefit from telecare services in these local communities and to transfer the experiences of Scottish telecare across the EU28.

The Scottish Government's new funding initiatives suggest that there is a transferability cost for the telecare initiatives from local communities with mainstreamed services to other local contexts. Most probably, knowledge transfers would prove difficult without a significant economic contribution from the National Government. Therefore, beside the already discussed barriers to the diffusion of the telecare service at local level, the investment cost for the technological equipment has to be taken into account as a further issue that can potentially prevent the wider adoption of such services.

The new funding initiative can thus be regarded as an attempt by the National Government to encourage the local communities to leverage more integrated care services to overcome the traditional hospital-centred care delivery model. They could thus achieve savings in chronic disease management which, when the funding period expires, could guarantee the sustainability of telecare service in the local communities.

The same considerations can be made with regard to transferability to the rest of the EU28. Transferring experience gained in the mainstreamed TDP-funded initiatives partly relies on the capability of the National/Regional Governments to economically support their local communities in purchasing telecare equipment. At the same time, local actors must commit themselves to creating favourable conditions for the adoption of this innovative chronic disease management approach.

4 Conclusions

The TDP case in Scotland is a patient-centred integrated care management process targeting the 65+ population in the country. It focuses on vulnerable subgroups of patients and patients with complex illnesses in the 32 communities across Scotland.

⁶ See: <http://www.united4health.org/>

⁷ See: <http://pilotsmartcare.eu/home/>

This funding initiative was developed between 2006 and 2011 by the Scottish Government to encourage the adoption of telecare by health and social care services. It demonstrates the contribution of telecare can make to the safety and quality of life of the elderly by enabling them to live at home longer, significantly reducing the cost of health and social care services provisioning.

Between 2006 and 2011, 51 telecare projects operated by 32 partnerships were funded across Scotland. A total TDP funding of £8.35 million was provided for the period between 2006 and 2008, and an additional £8 million was made available during the period 2008-2010, in order to mainstream more telecare services. However, by the end of the second funding wave only 5 local communities created mainstreamed homecare telecare services for their local population.

In the TDP case, GPs and nurses provide the gateways to services. They play a pivotal role in service implementation in Community Health Partnerships. The TDP projects were promoted and founded by the Scottish Government, which continues to be fully committed, together with the Scottish NHS National and Local Organisations to supporting and diffusing the approach across Scottish communities.

A key element of the funded telecare projects is the ICTs supporting the mainstreamed telecare services, as developed through the TDP funding scheme. These have four main components: (1) sensors and triggers, (2) feedbacks and controls, (3) home gateway and alarm handling, and (4) the technological facilities of the monitoring centres. Together, they represent significant investment costs that have to be borne by the local communities, especially when the equipment has to be provided to the whole target population. The importance of reducing the service's start-up costs is reflected by the support provided by the Scottish Government, which still applies in the current programming period 2013-2015. High investment costs are also an important issue that could prevent the transfer of mainstreamed initiatives to other Scottish and EU local contexts. Therefore, the possibility that National/Regional funding could be used to transfer the experiences to similar contexts should be considered in order to help reduce the costs of the equipment. Resistance to organisational change by senior managers of the local care organisations and the lack of telecare skills are also important barriers that need to be addressed.

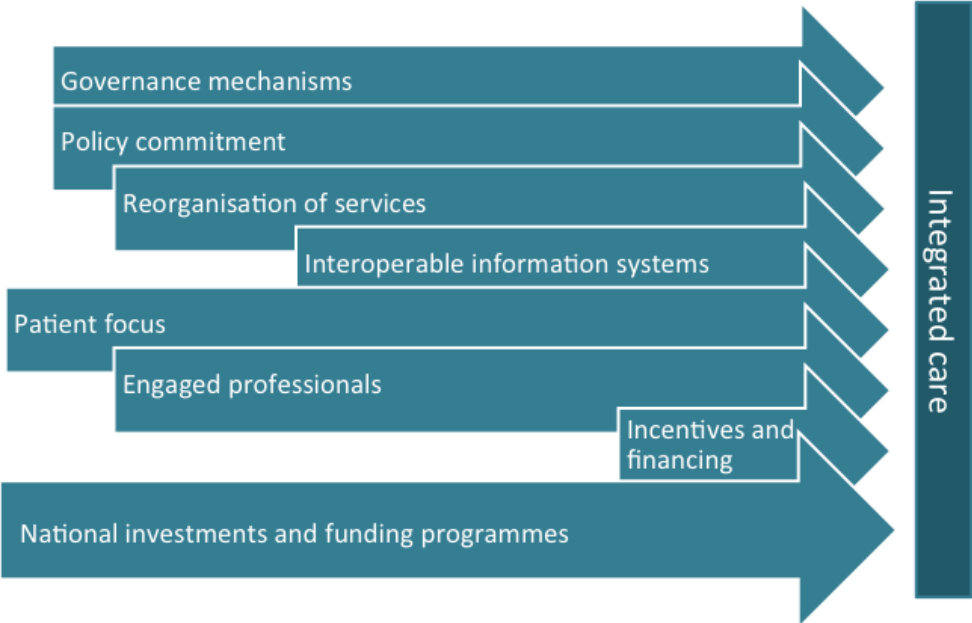
The barriers to telecare services at local level are summarised below:

- Lack of equipment interoperability, equipment reliability and infrastructure gaps.
- Lack of engagement amongst stakeholders in the implementation process.
- Limited commitment to telecare from senior managers is a continuing problem.
- Difficulties with recruitment and training of professionals.
- Lack of adequate incentive schemes.

Figure 4 below provides a summary of the contribution of the 8 facilitators to the development of the TDP initiative. National investment and funding programmes play a pivotal role in steering the initiative, largely due to the significant investment necessary to purchase the telecare equipment and to support wide deployment of the service at local level. Patient focus is another facilitator that has driven the local communities to reconsider their chronic care services at home in a more integrated and effective way. Governance mechanisms and policy commitments follow as facilitators mainly for local communities to implement and mainstream integrated home telecare services. Together, these factors supported the reorganisation of service processes, which has helped health care actors to

define more patient-oriented services with a high degree of vertical integration across all the care tiers. Interoperable information systems, however, seem to provide only moderate impetus to the implementation of the home telecare service processes. However, it could gain importance as soon as a telecare service is widely adopted in the local context. In this situation, only fully reorganised and integrated services enabled by interoperable infrastructure could guarantee cost savings and high quality service to the patients at the same time. The benefits that could be gained by this kind of integration remain purely hypothetical without effective reorganisation of the health care systems at national/regional level. Lastly, incentives and funding for the health care professionals do not appear to be important facilitators in the development of the initiatives.

Figure 4: TDP Integrated care facilitators



Source: Authors' elaboration

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Annex 1: Status of the implementation of 31 cases of telecare services

Project (initial funds allocation for the period 2006-2008) (population) (further funds allocation in 2008-2009)	Focus	Development of the initiative	Management of the initiative
Aberdeenshire (236.260) (£316,248)	Virtual Care Village model; expansion of Intermediate Care Provision; management long term conditions	Community Planning Board	Older People Management Team
Aberdeen City (206.880) (£266,174)	Expansion of a Rehabilitation step-down project with an additional 5 flats fully equipped with Telecare; review of the existing community alarm service	Joint Operational Management Group	Telecare Development Office was appointed for the initiative
Angus (109.320) (£154,741)	Videophones to undertake virtual visits/wellbeing checks and social interactions; door side bogus caller alarms system integrated with the call centre; long terms conditions telehealth trial; rural virtual clinics; intermediate care at home	Angus Community Planning partnership	Constituted by a programme reference group constituted by Community health Partnership Manager; head of Angus Council Housing Division and Head of Angus Council Older People Services
Argyll&Bute (91.390) (£141,953)	The funds have been used to complement other community equipment of the existing Telecare Response Service	Argyll & Bute telecare Strategy Group	Argyll & Bute Strategic Health and Social Care Partnership
Clackmannanshire (48.900) (£75.000)	Equipping 5 houses for telecare assistance.	Clackmannanshire CHP	Clackmannanshire CHP
Dumfries & Galloway (148.030) (£219,964)	Long term Conditions management; sheltered housing upgrade	Telacare management group	Joint Future Senior Management Group
Dundee City (142.170) (£ 141,755)	Interim Lifestyle Monitoring ; bogus caller alarms for 100 household; provision of assistive technology; 200 carer training	Dundee Health & Local Authority Forum	Telecare Programme Development Group
East Ayrshire (119.290) (£181,500)	Provision of Assistive technology	East Ayrshire Joint Future Partnership	Joint Future Implementation Group
East Dunbartonshire (105.460) (£143,260)	Upgrading the Hourcare 24 service; provision of assistive technologies	East Dunbartonshire Joint Planning Forum	Joint Older People Planning & Performance Strategy Group
East Lothian (92.830) (£82,401)	Training and awareness raising; provision of assistive technologies	East Lothian Partnership	Telecare Project Board
East Renfrewshire (89.290) (£125,176)	Training and awareness raising; provision of assistive technologies	East Renfrewshire CHCP	Older People and Long Term Condition Group

Project (initial funds allocation for the period 2006-2008) (population) (further funds allocation in 2008- 2009)	Focus	Development of the initiative	Management of the initiative
City of Edinburgh (463,510)	Upgrade the community alarm software; upgrade of call systems in sheltered properties; supporting people housing support provides to reduce waking night or sleepover; improve hospital discharge performances using communication dispenser linked with community alarm technology and existing support services. Remote door locking system; provision of assistive technologies	City of Edinburgh partnership	Telecare Programme Management Group
Falkirk (149,680) (£197,162)	Replacement of passive alarm with more sophisticated trigger device to the 5,700 community alarm users; increase fall detection programme; sheltered housing smoke alarms provision of assistive technologies	Forth Valley Health and Falkirk Council Housing and Social Work services	Forth Valley Health and Falkirk Council Housing and Social Work services
Fife (358,930) (£485,376)	Intermediate care service development; lifestyle monitoring integrated with telehealth; expansion of existing telecare services to an additional 280 users.	Fife Community Planning Partnership	Health & Social Care Partnership
City of Glasgow (580,690) (£911,102)	Purchase of core packages of 750 service users (unit, pendant, smoke alarm, bed sensors, PIT detectors, temperature extreme sensors), plus around 150 enhanced packages including fall, flood, gas detectors	Glasgow Community Planning partnership	Glasgow Community Planning partnership
Highland (215,310) (£331,527)	Upgrade of existing community alarm service; enhanced telecare services; cost-benefit analysis of the sample to extend the service in the whole territory	Joint Committee for Action in Community Care	Highland Community Care Partnership
Inverclyde (81,540) (£123,922)	3 telecare demonstration centres; upgrade the community alarm; 10 additional mobile telecare packages	Joint Care ELPA	Joint Care Board and the Joint Future Partnership
Midlothian (79,290) (£111,845)	Purchase of core packages of 170 service users (unit, pendant, smoke alarm, bed sensors, PIT detectors, temperature extreme sensors)	Midlothian Community Care Partnership	Joint Community Care Partnership and Telecare Joint Forum
Moray (86,750) (£121,280)	<i>Provision of services to the people at risk of readmission as identified by SPARRA; enhance the community alarm service with additional sensors (unit, pendant, smoke alarm, bed sensors, PIT detectors, temperature extreme sensors) for 110 new users</i>	Community health and Social Care Partnership Committee	Management group constituted by the key stakeholders
North Ayrshire (135,490) (£131,140)	Provision of telecare assistance to 20 Older people with complex needs who require care management and additional support to stay at home	North Ayrshire Older People Partnership	Older people Services in North Ayrshire
North Lanarkshire (323,780) (£452,127) (200,000£ was given in 2008)	Upgrade of existing alarm system, installation of video cameras in 17 shelter housing complexes; equipment for intermediate care service, telemedicine pages and locators	North Lanarkshire Health and Care Partnership	North Lanarkshire Health and Care Partnership

Project (initial funds allocation for the period 2006-2008) (population) (further funds allocation in 2008-2009)	Focus	Development of the initiative	Management of the initiative
South Lanarkshire (305.410) (£419,728) (additional 200.000£ was given in 2008)	Transforming the current ad hoc telecare service arrangement into a robust telecare strategic infrastructure.	South Lanarkshire telecare Initiative	Joint Future Older People group
Orkney Islands (19.770) (£75,000)	Training and telecare equipment purchase.	Orkney Community Planning Partnership	Joint Management Team supported by the social care, housing and the voluntary sector
Perth & Kinross (140.190) (£190,825)	Provide 1000 telecare packages (module, pendant, smoke alarm, health sensitive monitor, flood detector 2 PIT movement detector)	Perth & Kinross and Wellbeing Partnership	Telecare Working Group
Renfrewshire (169.590) (£241,048)	Additional 150 service user will receive enhanced packages of telecare service (lifestyle monitoring, medication alarms, chair occupancy, dementia clocks, audio/visual controls)	Renfrewshire Community Health Partnership	Older Peoples' Joint Planning and Performance Improvement Group
Scottish Borders (110.240) (£159,932)	Develop a more integrated systems for telehealth and telemedicine and provision of a basic telecare package to 3150 users and complex telecare package to 250 users	Scottish Borders Community Planning Structure "New Ways"	Telecare Development Group
Shetland (21.880) (£50,000)	Reshaping the on-call, out of hours response services and upgrading the current community alarm service by providing enhanced telecare services to 15 vulnerable people in the community and 5 people with dementia	Community Health Partnership	Older People Service team
South Ayrshire (111.670) (£157,400)	Upgrade the existing telecare services with training and information workshops; provision of telecare services to additional 300 people	South Ayrshire Joint Future Planning Partnership	South Ayrshire Joint Future Planning Partnership
Stirling (87.810) (£122,527)	Training programme for staff; new telecare equipment, enhancement of the existing community alarm service; 50 new service users assisted	Community Health Partnership and the Forth Valley older people strategy group	Older people development group
West Dunbartonshire (91.240) (£142,429)	New telecare equipment; upgrading smart technology to a sheltered housing complex; use of telecare in the wider community using a variety of sensors; introduction of mobile assessment packages; 350 new service users assisted	Older People Strategy Group	Health Improvement and Social Justice Partnership
West Lothian (165.700) (£220,163)	Expansion of existing telecare core package to a further 500 service users; extension of lifestyle monitoring to 100 service users in the community to help to identify the early on-set of illness	West Lothian Community Health & Care Partnership Board	Home Safety Service
Western Isles (26.350) (£75,000)	Undertake training for existing call centre staff on the use of full range of telecare equipment; purchase of telecare equipment; increase the range of existing services including dementia; support 25 new service users with complex needs and up to existing users being reassessed for a wider range of equipment supply (with special attention to those with dementia)	Western Isles Partnership	Health and Social Care Project Group

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