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BLOCKS

TOOLS AND METHODOLOGIES TO ASSESS INTEGRATED CARE IN EUROPE

Report by the Expert Group on Health Systems
Performance Assessment

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Tools and methodologies to assess integrated care in Europe

Report by the Expert Group on Health Systems Performance Assessment

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Brussels, March 2017

Foreword

Assessing the performance of integrated care is virtually virgin territory, and as soon as we embarked on this project to present tools and methodologies to assess integrated care, we knew it would be a challenge.

We had several questions, starting with a very basic one: What is integrated care? It turned out that within the expert group there were various interpretations of what this term meant, and it took some time to reach a consensus on the definition and scope.

However, even before we could agree on a common definition of integrated care, the reasons why we were addressing this topic were already clear. Firstly, at this stage of technological development and with current demographic patterns, we cannot rely on homogeneous, top-down healthcare solutions. Secondly, every patient is different and we need to develop patient-centred care tailored to individual needs and which allows them to be involved in their own care.

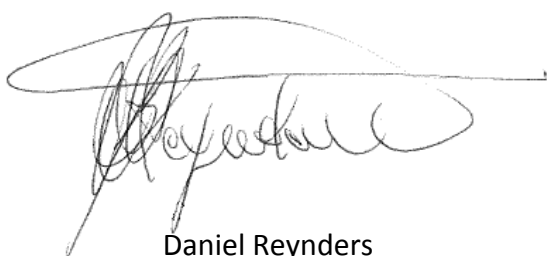
By the way, the patient we keep referring to is not a speculative and intangible concept. It's us. We all have been, are, or will be patients at some stage of our life. And we all would like to have access to the care that is best for us at the time we need it, and not to a generic pre-packaged solution. We wish to be at the centre. That's in a nutshell what we mean when we talk about integrated care.

Our second big question was: What are we going to measure? Should we focus on finding ways to measure the degree of integration of care or ways to measure the performance of integrated care systems?

In the end we decided to focus on both. Once we had looked at performance measurement, we realised that to achieve optimal results, an integrated care system has to be well designed, so we then went on to study the factors that enable effective integration of care. After all, as Avedis Donabedian wrote a long time ago, a *“good structure increases the likelihood of good process, and good process increases the likelihood of good outcome”*.

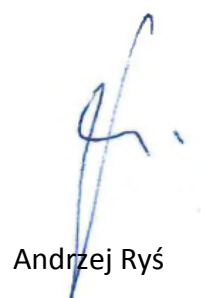
The result of our considerable deliberation and work is this report, which we have called "Blocks" to illustrate that setting up effective integrated care systems requires solid building blocks in the form of frameworks and indicators and good practices that are transferable across Europe.

We consider this report to be the first block in the tower; we hope and expect that it will substantially contribute to defining new ways to measure and improve the performance of our integrated care systems in Europe.

A handwritten signature in black ink, appearing to read 'D. Reynders', with a large, sweeping horizontal stroke above the name.

Daniel Reynders

Belgian Ministry of Health and Social Affairs
Head of General Services International Relations and
Public Health Emergencies

A handwritten signature in blue ink, appearing to read 'A. Ryś', with a large, sweeping horizontal stroke above the name.

Andrzej Ryś

European Commission – DG Health and Food Safety
Director for health systems, medical products and
innovation

Brussels, March 2017

Acknowledgments

This report has benefitted from valuable inputs and comments from all members of the Expert Group on Health Systems Performance Assessment (HSPA), the OECD, the WHO Regional Office for Europe, and the European Observatory on Health Systems and Policies. The report greatly profited from ideas, reflections, and information provided by the voluntary members of the Sub-group on integrated care.

Chapter 3 was prepared by Andrea Pavlickova, Donna Henderson, and Leo Lewis (B3 Action Group on integrated care of the European Innovation Partnership on Active and Healthy Ageing).

Chapter 4 was prepared by Ellen Nolte (European Observatory on Health Systems and Policies), with valuable contributions and inputs from the participants of the policy focus group.

Filip Domański, Loukianos Gatzoulis, Federico Paoli (DG SANTE) also contributed to the report; Anna Maresso took part in editing; Ingrid Schmidt (Swedish National Board of Health and Welfare) collected and summarised national experiences in implementing and assessing integrated care.

This report was prepared under the supervision of the two Chairpersons of the expert group: Daniel Reynders (Belgium Ministry of Health) and Andrzej Ryś (DG SANTE).

The full lists of members of the Expert Group on HSPA, the sub-group on integrated care, and the policy focus group on the measurement of integrated care are presented in the annexes.

Comments on the report would be welcome at the following address:

Secretariat of the Expert Group on Health Systems Performance Assessment

European Commission

Directorate General for Health and Food Safety

Unit B1- Performance of national health systems

B-1049 Brussels

E-mail: SANTE-HSPA@ec.europa.eu

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List of abbreviations

AHA	Active and Healthy Ageing
A&E	Accident and Emergency (Department in UK hospitals)
EIP	European Innovation Partnership
EC	European Commission
EU	European Union
GP	General Practitioner
HSPA	Health Systems Performance Assessment
ICT	Information and Communications Technology
IT	Information Technology
NHS	National Health Service (UK)
OECD	Organisation for Economic Co-operation and Development
PPP	Public Private Partnerships
PREMs	Patient-reported experience measures
SP	Specialist
WHO	World Health Organization
WPPHSL	Working Party on Public Health at Senior Level

Executive Summary

Background and scope of the report

The expert group on Health Systems Performance Assessment (HSPA) was activated in the autumn of 2014. It was mandated to focus each year on a particular policy area and to identify tools and methodologies to support national policy makers in developing HSPA in that specific area.

Following its first report in April 2016 on the assessing the quality of care (*So What? Strategies across Europe to assess quality of care*), the expert group directed its focus onto the assessment of integrated care. This area is a fundamental component of health system reforms: it is considered central to addressing challenges due to population ageing, the rising burden of chronic diseases and constraints in public resources. However, in spite of its political relevance there is a lack of widely available information in terms of tools, methodologies and indicators to assess this area of care delivery.

“The transition to integrated care is a highly complex process in all aspects: design, implementation and assessment of integrated care”

Measuring integration is different from measuring the performance of integrated care. This report addresses this dual challenge: on the one hand it focuses on design principles, building blocks, and system levers, to identify principles and factors that enable successful and effective integration of care. On the other hand the report looks for tailored ways to assess the performance of integrated care models in such a way that is able to capture the specific added value brought in by the integration.

The findings of this report are based on the discussions that took place in the expert group, which were triggered by the following activities:

- A review on experiences in implementing integrated care in Europe, carried out by the Action Group B3 on Integrated Care of the European Innovation Partnership on Active and Healthy Ageing (Chapter 3);
- A survey on experiences of integrated care in EU Member States, carried out by the HSPA sub-group on integrated care in the summer of 2016 (Chapter 4);
- A policy focus group on the measurement of integrated care, with experts from 17 European countries and international organisations, led by the

Defining integrated care

The report uses the following definition: *Integrated care includes initiatives seeking to improve outcomes of care by overcoming issues of fragmentation through linkage or co-ordination of services of providers along the continuum of care.*

Integrated care can be seen to be both a design principle and a means to achieve person-centred, efficient and safe care. Useful approaches have

“Measuring integration is different from measuring the performance of integrated care”

identified targeted areas for integration, namely functional, organisational, professional and clinical integration as well as the systemic levels at which it can occur, i.e. *horizontal integration* links services that are on the same level in the process of health care, (e.g. general practice and community care) while *vertical integration* brings together organisations at different levels of a hierarchical structure under one management umbrella (e.g. primary care and secondary care).

The transition to integrated care is a highly complex process in all aspects: design, implementation and assessment of integrated care. So far, the evidence base for the benefits of integrated care on both patient outcomes and cost-effectiveness is based on small-scale examples, although the scale of implementation is slowly growing. Better, more comparable and longer term data collection and reporting will be crucial for building a more comprehensive evidence base.

Building blocks, design principles and system levers

A review of experiences in implementing integrated care in Europe has identified elements of good practices deemed to be successful and which potentially could be transferable across Europe. A key lesson learned is that it matters a lot how integrated care is designed and implemented to fit local contexts and needs.

The review was able to single out several inter-related “building blocks” or “system levers” for the effective design and implementation of integrated care frameworks. These relate to:

1. Political support and commitment. System-wide transformative change can only happen when many policy levers are aligned and activated towards shared goals.

2. Governance. Establishing strong governance mechanisms at both national and local level and among all service providers, care authorities and actors involved is an essential step in configuring integrated care models.
3. Stakeholder engagement. The broader the ambition, the more numerous and diverse are the stakeholders that should be engaged; effective communication strategies establish trust, confidence and good collaboration and involvement of all stakeholders.
4. Organisational change. The provision of integrated care and service redesign implies changes in the healthcare structures, organisation of workflows, workforce development and resource allocation to provide more responsive care delivery.
5. Leadership. Effective national leadership and the emergence of local leaders are important factors in managing the complex process of transformation and implementation of integrated care solutions.
6. Collaboration and trust. The broad set of changes needed to deliver integrated care presents a significant challenge that can be partially overcome by the willingness to collaborate and put the interest of the overall care system above individual incentives.
7. Workforce education and training. The implementation of integrated care solutions often requires the redesign of health and social care professionals' roles and the creation of new roles to ensure continuity of care.
8. Patient focus / empowerment. The patient is a member of the "care team": he or she must be involved in the decision-making processes, and care plans need to be tailored to patients' individual needs.
9. Financing and incentives. Different funding models can support the transition to the time when the new integrated services are fully operational and the older ones are de-commissioned.
10. ICT infrastructure and solutions. Integrated care requires the sharing of health information across diverse providers to enable continuous collaboration and citizens' active involvement.
11. Monitoring / evaluation system. The establishment of monitoring and performance evaluation systems is essential to provide evidence of the impact on quality of care, cost of care, access and citizen experience.

"It matters a lot how integrated care is designed and implemented to fit local contexts and needs"

"Integrated care can be seen to be both a design principle and a means to achieve person-centred, efficient and safe care"

It is noteworthy that each identified system lever or building block is common to several of the integrated care case studies that were examined.

Measuring the performance of integrated care systems

Measuring the *performance* of integrated care not only has to take into account the objectives of a health system (e.g. improving health outcomes, enhancing the patient care experience and reducing costs) but also needs to reflect the complexity of integrated care systems which operate at different tiers of service delivery: micro (patient care), meso (organisational context) and macro-level (financing and policy context).

Furthermore, integrated care models can be introduced with different goals in mind: increasing effectiveness of the system, reducing costs, improving patient safety, etc. Before setting in place an assessment system it is important to explicitly define and agree on the goal of integrated care in a specific context, to permit a sound assessment of its performance.

“There is a need, or indeed an opportunity, to develop indicators that are specific to integrated care, although several existing indicators can be already used for measuring the performance of integrated care”

As countries vary with regard to HSPA frameworks more broadly and integrated care approaches more specifically, any integrated care measurement system or framework should be tailored to countries' specific goals, values and needs, with no single 'right' approach that would be applicable and valid for every system.

Different countries are at different stages in the development of integrated care systems. Therefore, approaches and frameworks to assess integrated care can be seen to lie on a continuum that stretches from selected indicators that may form part of a wider framework of system performance assessment to a specific integrated health system measurement approach.

Another concern relates to where integrated care performance assessments sit within the wider HSPA processes and systems in a given country, given that member states differ in the 'stage' of their journey to more integrated care systems. One proposal is that national HSPA reporting could include a set of core measures indicative of integrated care reported on a regular (e.g. bi-annual) basis, while more in-depth thematic volumes (on primary care, mental health care etc.) might provide more detailed insights into progress on integrated care.

In order to select relevant measures through which to evaluate the performance and progress of integrated care systems there needs to be a good understanding of:

- the core aims of integrated care;
- the desired outcomes;

- the timeframe over which such outcomes can reasonably be expected to be achieved;
- how impact can be measured;
- the robustness of measures;
- simplicity and ease of measurement.

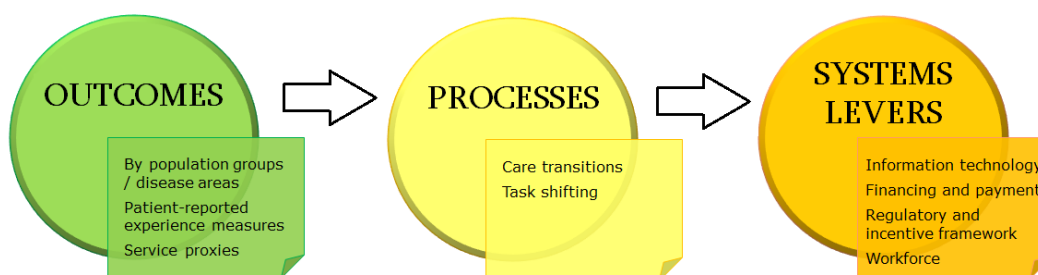
Only a small number of EU Member States have so far developed specific indicator sets to assess integrated care or that could be used for this purpose (Table 2). This reflects international experience, with

only a few other countries and the World Health Organization's 2015 global strategy on people-centred and integrated health services releasing documented frameworks and indicator sets (Table 3).

“Integrated care models can be introduced with different goals in mind: increasing effectiveness of the system, reducing costs, improving patient safety, etc.”

There is a need, or indeed an opportunity, to develop indicators that are specific to integrated care, although several existing indicators can be already used for measuring the performance of integrated care. Innovative indicators that are more specific to integrated care should be used to assess:

- ① Structure; to enable assessment of the basic conditions, building blocks or system levers needed to facilitate transformation to more integrated care systems.
- ② Processes – focusing in particular on those areas where service users are most at risk of lack of integrated service delivery, such as transition points between care levels and between sectors, and task shifting.
- ③ Outcomes – to capture in particular those for people with multimorbidity, as well as patient-reported experience measures (PREMs)



In fact, the Donabedian approach to evaluate quality of care by assessing structure, process and outcome provides a useful way to guide integrated care performance measurement. The expert group agreed with Donabedian statement that “good structure increases the likelihood of good process, and good process increases the likelihood of good outcome”.

Chapter 1

Introduction

Background

In June 2011, under the Hungarian presidency, the Council adopted a set of conclusions towards modern, responsive and sustainable health systems¹. As part of this process, the Council invited Member States and the Commission to initiate a reflection process aiming to identify effective ways of investing in health, so as to pursue modern, responsive and sustainable health systems.

Several working groups were established, with participants from Member States and the Commission. Among their conclusions was the recommendation to set up an expert group to deal with Health Systems Performance Assessment (HSPA).

The Council Working Party on Public Health at Senior Level (WPPHSL) acknowledged the recommendations and agreed on the terms of reference for the expert group on HSPA.² Its mandate was defined by the following objectives:

1. Provide participating Member States with a forum for exchange of experiences on the use of HSPA at national level.
2. Support national policy-makers by identifying tools and methodologies for developing HSPA.

3. Define criteria and procedures for selecting priority areas for HSPA at national level, as well as for selecting priority areas that could be assessed EU-wide in order to illustrate and better understand variations in the performance of national health systems.
4. Intensify EU cooperation with international organisations, in particular the OECD and the WHO.

In Autumn 2014, the Commission, in cooperation with Sweden, activated the expert group on health systems performance assessment (from here on: the Expert Group) inviting all Member States to participate; the OECD, the WHO Regional Office for Europe, and the European Observatory on Health Systems and Policies are permanent members of the Expert Group.

Sweden co-chaired the Expert Group together with the Commission until July 2016, when Belgium took over the role of co-Chair. Up to February 2017 the Expert Group has met eight times; four meetings have taken place in Brussels and four in other European capitals: Stockholm, Berlin, Rome, and Vienna. The meetings permit a deeper insight into Member States' experience and a more effective exchange of practices.

The scope of this report

The Expert Group focuses each year on a particular priority area, with the goal to identify tools and methodologies to support policy makers in developing HSPA in that specific area.

In its first year of activity, the Expert Group worked on the assessment of quality of care. It presented its findings in April 2016 in the report *So What? Strategies across Europe to assess quality of care*.³

During 2016, the Expert Group's area of interest was the assessment of integrated care. This area was selected because of the interest many health systems show towards the development of integrated care models, and also because of the scarcity of tools, methodologies and indicators to assess this area of care delivery.

It was clear from the first discussion among the experts in the Group that they were confronted with a double task. On the one hand, they had to find ways to assess the degree of integration of a system; in other words, to measure how firmly integrated were different layers of care delivery. On the other hand, the experts had to find tailored ways to assess the performance of integrated care models, which were able to capture the specific added value brought in by the integration.

The structure of this report mirrors this dual challenge: Chapter 2 presents an overview on theory, concepts and definitions of integrated care; this is based on the work developed during the

reflection process on health systems mentioned above, and on the following in-depth analysis carried out by experts in the Group.

Chapter 3 provides a broad analysis of experiences of integrated care models, aiming to identify key factors that enable good integration of care and readiness for integration. This analysis is done on the basis of a large number of cases and provides insights on how to assess the degree of integration of a system. This chapter was drafted by representatives of B3 Action Group on Integrated Care of the European Innovation Partnership on Active and Healthy Ageing: a collaborative space of partners representing around 120 multi-stakeholder commitments across the EU to promote integrated care services that are more closely oriented to the needs of patients.

Chapter 4 provides an overview of trends in assessing the performance of integrated care, together with some lists of indicators already in use in some pilot experiences. The chapter also discusses the potential use and usefulness of existing frameworks and indicators and the role of evaluating achievements in the context of broader, system-level performance assessment strategies and frameworks. The chapter was drafted by Dr Ellen Nolte of the European Observatory on Health Systems and Policies, and builds on insights from experts from 17 European countries that took part in a structured policy focus group whose main objective was to generate in-depth discussion and provide suggestions and recommendations for a framework for performance assessment of integrated care.

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Chapter 2

What do we mean by integrated care: theory, concepts and definitions

In carrying out the survey on the use of integrated care in Europe, the Expert Group referred to the following definition:

***Integrated care** includes initiatives seeking to improve outcomes of care by overcoming issues of fragmentation through linkage or co-ordination of services of providers along the continuum of care.*

This definition was used by the integrated care sub-group of the EU reflection process on modern, responsive and sustainable health systems.¹ It appeared to be broad enough to ensure that *a priori* no valuable initiatives would be omitted in the discussion on integrated care in the Expert Group.

Naturally, this is only one of many approaches to answer the question of what integrated care is. Depending on which aspects are seen as crucial, scientific definitions as well as those adopted for everyday use, when integrated care projects and models are drafted, may differ.

The rest of this chapter is based on the presentation given by Dr Ellen Nolte at the seminar on integrated care measurement on 8 April 2016 in Rome.

Reasons for integrating care

Demographic changes have resulted in people living longer but also in the broad diffusion of chronic long-standing illnesses. As a consequence, a rising number of people with complex care needs require the development of care delivery systems that bring together a range of professionals and skills from the healthcare, long-term and social care sectors. The former helps them to overcome difficulties stemming from their health status deterioration. The latter continue to provide assistance when they get better and their condition is not acute but their ability to function independently is limited.

Failure to better integrate or coordinate services from these sectors may result in suboptimal outcomes. It not only entails a missed opportunity to bring together the best possible outcomes of cure and care activities but it also means that limited

resources may be wasted, including human and financial resources.

Integrated care classifications

Integration of care impacts upon many aspects of care systems' functioning. It concerns their different functions and levels. It may be limited to only one sector (health, social care) or be inter sectorial. All these factors make classifying integrated care multidimensional and almost as complex as the needs of those to whom it is provided.

Different approaches have attempted to capture the targets of integration, in terms of both its hierarchical levels as well as its degree (depth). Shortell et al. (1994)² and Simoens and Scott (1999)³ mention four targets of integration:

- functional: integration of key support functions and activities, e.g. financial management, strategic planning and human resources management;
- organisational: e.g. creation of networks, mergers, contracting;
- professional: e.g. joint working, group practices, contracting or strategic alliances of healthcare professionals within and between institutions and organisations;
- clinical: integration of different components of clinical processes, e.g. coordination of care services for individual health care service users, care pathways;

They differentiate integration depending on the levels of the system it involves:

- horizontal integration: links services that are on the same level in the

process of health care, e.g. general practice and community care;

- vertical integration: brings together organisations at different levels of a hierarchical structure under one management umbrella, e.g. primary care and secondary care.

The degree to which elements of a care system are connected places various initiatives on a continuum of integration:

- linkage: operating through separate structures of existing health and social services systems, with organisations retaining their own service responsibilities, funding and eligibility criteria and operational rules;
- co-ordination: this involves additional explicit structures and processes, such as routinely shared information, discharge planning and case managers, to co-ordinate care across various sectors;
- full integration: integrated organisation/system assumes responsibility for all services, resources and funding, which may be subsumed in one managed structure or through contractual agreements between different organisations.^{4,5,6}

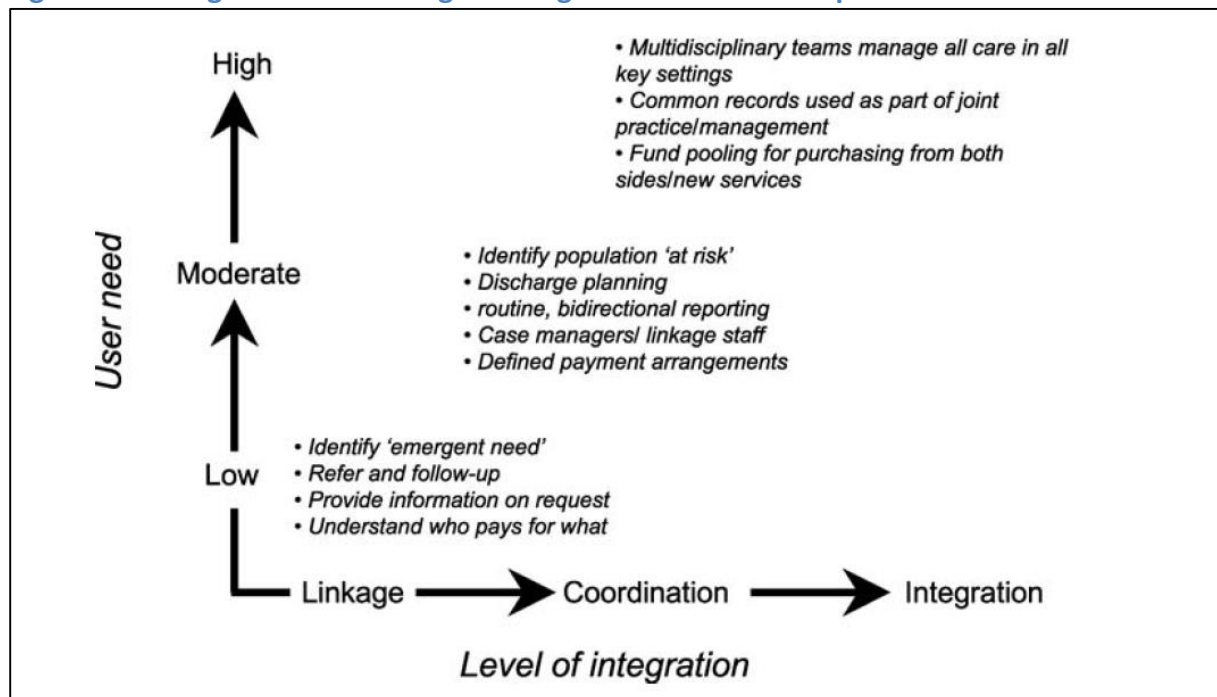
A relation may be observed between the needs of patients and the degree of integration in care systems. The more complex the care needs are, the more appropriate it would be to move along the integration continuum from linkage to full integration.

In systems where risk-stratification methods are used, mixes of services envisaged for different strata of the population differ in terms of integration

and completeness, depending on the level of needs for care. In the case of low-risk healthy people only health promotion activities are proposed whereas severely ill patients, especially those who have

terminal conditions, receive a vast range of health and social care services. The design of services reflects this relation between the level of needs and the degree of integration.

Figure 1: Setting the level of integration against user need to optimise care



Source: adapted from Leutz (1999)⁴ in Nolte & McKee (2008)⁷

Based on work by Leutz, the following activities relate to different needs levels and degrees of integration:

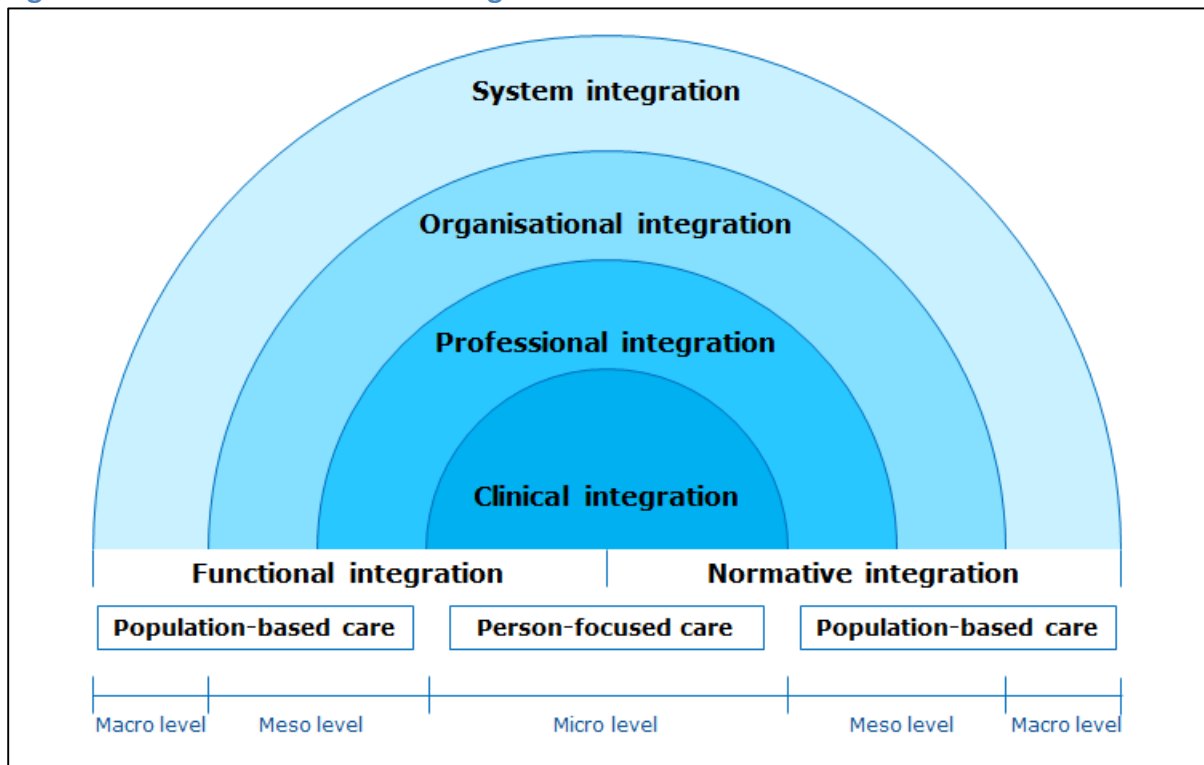
- low needs and linkage: identification of "emergent need"; referring and follow-up; on request provision of information; clarifying who pays for which services;
- moderate needs and co-ordination: identification of the population at risk; discharge planning; routine, bidirectional reporting; establishing of case managers and staff linkages; defining payment agreements;
- high needs and integration: all care in all settings is managed by multidisciplinary teams; using common health records as part of joint practice/management; funding is pooled to purchase cure and care services.

Another way of describing integrated care is by focussing on the process of integration. Normative integration occurs when shared values are at the core of implemented changes. The other type i.e. systemic integration, takes place if rules and policies are implemented in a coherent way. It needs to be highlighted

that the process of integration typically requires simultaneous action at different levels, involves different functions, and develops in different phases.^{8,9} Figure 2 presents integration of care on different levels: micro – clinical integration of person-focused care, meso – concerning professionals and organisations and the

population-based care that they provide and finally, macro level – where all the systems also providing population-based care are integrated. According to this approach both normative and functional integration take place at the meso and macro levels.

Figure 2: Different levels of care integration



Source: adapted from Valentijn et al. 2011¹⁰

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Chapter 3

Building blocks, design principles and system levers for integrated care

Many stakeholders consider integrated care as fundamental to reforming the health system to address challenges due to population ageing, the rising burden of chronic diseases and constraints in public resources. The transition to integrated care is, however, a complex process with high complexity being present in all aspects: design, implementation and assessment of integrated care.

In most cases integrated care has been implemented on a small scale, although there are cases where deployment is growing in size. The evidence from these earlier efforts suggests that benefits in terms of patient outcomes can be legitimately expected. In terms of cost-effectiveness, although some positive assessments were carried out¹, the evidence base is less clear.

This lack of evidence is partly due to the absence of available data collected over long-term periods; experts argue that it can take ten years or more to see a clear impact in terms of cost-effectiveness at system level. Partly it is also due to differences and inconsistencies in what is

measured, thus leading to data which are not comparable or easy to aggregate. Finally it is in part due to evidence not being reported in scientific publications, but only in the grey literature.

Nevertheless, there are cases where the implementation of integrated care has led to benefits, both in terms of health outcomes and cost-effectiveness. One lesson learnt from these cases is that it matters a lot how integrated care is designed and implemented to fit the local context and needs. If not done effectively, it may not bring benefits and, under such circumstances, whatever indicators are used to measure performance will inevitably show poor or suboptimal results.

Other lessons, which can be drawn from well-functioning integrated care programmes to date, concern elements that make them work well - the "system levers" - and elements that can be considered as "transferable".

To this end, a review of experiences in implementing integrated care in Europe

was carried out by the secretariat of the Expert Group and by the "B3 Action Group on Integrated Care" of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA). The objective of this review was to identify the elements of the good practices which were recognised by the owners of the good practices as successful and potentially transferable across Europe. The rationale was to capture learning embedded in the good practices and make it available to potential adopters of these innovative practices.

The cases examined came from various sources, with variable degree of detail in

their description depending on the template for the description of good practice. The sources are listed in the references of this chapter

Highlights of success factors from integrated care experiences in Europe

The review focused on identifying success factors and transferable elements from a number of integrated care programmes in Europe, according to the description and analysis in the documentation available. Annex 1 provides details of the findings for each case reviewed.

Figure 3: identified factors that enable successful integration of care



The review was not carried out in the context of a scientific forum or evaluation of the success factors. The bottom-up

approach was adopted with the objective to capture the experience and lessons learned in the implementation and

assessment of integrated care in the European regions. It has nevertheless highlighted a number of principles and factors which the stakeholder community in the domain of integrated recognise as being important, namely:

1. Political support and commitment
2. Governance
3. Stakeholder engagement
4. Organisational change
5. Leadership
6. Collaboration and trust
7. Workforce education and training
8. Patient focus / empowerment
9. Financing and incentives
10. ICT infrastructure and solutions
11. Monitoring / evaluation system

Annex 2 provides a summarised illustration of the experiences in which these principles were observed; each identified principle is common to several integrated care experiences.

Analysis of factors enabling successful integration of care and readiness for integration

Each identified principle from the review is discussed in greater detail below; case study examples are provided in square brackets for illustrative purposes.

Political support and commitment

The re-design of existing systems of care to provide a more integrated set of services will require changes across many levels, including the creation of new roles, processes and working practices.

This is a disruptive process; creating a compelling vision and strategy for integrated care with clearly defined

objectives [as in the Basque Country, Scotland] that is embedded in national / regional policy significantly determines the success of integrated service delivery models.

Furthermore, the policy needs to be built on the outcomes of stakeholder engagement and public consultations [Northern Ireland] to establish a common understanding and commitment on the future direction of travel [Basque Country].

Political commitment and support is required at all levels. At national level, policy support can foster initial investments to facilitate system integration [Belgium, Kinzigal] or to provide central funding in the realm of a systemic shift from hospital-based treatment to preventive care for long-term conditions [Scotland]. Such a shift can only be triggered by national political engagement and willingness to change, especially in centralist states [Région Ile-de-France] whilst political support at the regional and local levels plays a more important role for federal states or states with strong regional powers [Brescia, Catalonia, Emilia-Romagna, Southern Denmark]. However, system-wide transformative change can only happen when many policy levers are aligned and activated towards shared goals.

Political commitment often results in the adoption of innovative legislation and legal frameworks to support implementation of integrated care services and to promote cross-sectoral strategic planning [Italy, Scotland, Southern Denmark]. In general, overall political mobilisation elevates the issue of

integrated care and associated forms of cooperation and agreements among all parties. Involvement of all stakeholders in the development, implementation and dissemination of the new models and ways of working, and formalisation of agreements between parties proves to be a successful factor in integration of services [Walcheren].

This involves, for example, collaborations between home care, primary care and acute (hospital) care [Skåne], introduction of telemonitoring services following top-down political decisions [Northern Ireland, Olomouc], agreements to ensure continuity of care [Southern Denmark] or to implement tools to support integrated care delivery, such as risk stratification tools [Scotland].

Governance

One of the first steps to consider when approaching integrated care is the establishment of strong governance mechanisms at both national and local level [Scotland] and among the private service providers and the care authorities/actors involved [Kinzigal].

These governance mechanisms can take the form of "joint governance" through an Integrated Management Board made up of representatives of all providers [North West London, Walcheren, Olomouc]. Such a Board can be responsible for defining agreed goals and outcomes, a shared performance and evaluation framework [North West London], and procedures and standards [Southern Denmark, Scotland].

Joint governance can be operationalised via a single management structure, which integrates health and social care organisations and becomes responsible

for commissioning and providing health and social care services [Torbay]. Another way of achieving this is through the establishment of a new organisation whose role is to manage the redesign of care to facilitate system integration. This organisation has accountability for managing the healthcare budget and responsibility for concluding contracts with a range of care providers [Kinzigal].

Next to such management structures, working partnerships among care actors and providers need to be established, with a shared responsibility for planning and delivering care [Scotland]. At local level, care delivery organisations can benefit from having lean/flat structures: these promote trust among managers and care staff and also help to save on overheads, which can enable re-investment of savings into innovation and care improvements [Buurtzorg].

Continuity of care can be ensured by a supportive legal framework that promotes cross-sectorial strategic planning to meet the needs of the population [Scotland] and the formulation of agreements that strengthen cooperation among administrations and care providers [Olomouc, Southern Denmark].

Within the overall governance scheme, achieving the right balance between top-down and bottom-up levers and configuring the right incentives is an important ingredient for success [Basque Country, Belgium].

Stakeholder engagement

Integrated care includes many levels of integration: between primary and secondary care, among stakeholders involved in the care process, or across

many organisations. It may be developed simply for healthcare needs (i.e. vertical integration) or it may include social workers, the non-for-profit sector and informal care (i.e. horizontal integration). The broader the ambition, the more numerous and diverse are the stakeholders that should be engaged and with whom one should communicate.

Similarly to political commitment and support, stakeholder engagement needs to happen at all levels and across all relevant sectors [Emilia-Romagna, Valencia]. Strong clinician collaboration [Catalonia, Northern Ireland], engagement of policy actors [Kinzigtal], participation of municipalities [Saxony], voluntary and statutory organisations [Northern Ireland, Emilia-Romagna], involvement and reflection on the opinions of patients and citizens and commitment and co-operation between health and social care professionals [Badalona, Getafe, Puglia] are essential for the implementation of integrated care solutions.

Effective communication strategies establish trust, confidence and good collaboration and involvement of all stakeholders. It is also necessary to overcome any communication barriers and increase awareness among participant organisations [Kinzigtal].

All stakeholders need to be equally and regularly engaged in policy formulation, budget spending [Torbay] design and development of solution specifications [Pardubice, Scotland]. This has often been referred to as “stakeholder empowerment”. Engagement of stakeholders in the implementation phase of projects is also critical to successfully

put in place integrated care services and foster acceptance of organisational changes in care delivery and managerial processes [Southern Denmark, Belgium]. Early involvement is a critical success factor in speeding up the design and implementation of integrated care services.

Improved cooperation [Norrbotten] and active engagement of stakeholders is facilitated by the creation of networks to promote and support knowledge transfer, dissemination of findings, reflections and feedback on the implementation of integrated care services [Emilia-Romagna, Saxony, Scotland].

Organisational change

The provision of integrated care and service redesign implies changes in the healthcare structures, organisation of workflows, workforce development and resource allocation to provide more responsive care delivery. There are a number of ways in which the regions can support the expansion of integrated health and social care programmes and re-organise their systems, services and care processes.

This reorganisation often requires horizontal integration and collaboration among general practitioners (GPs) and other health and social care providers [Kinzigtal, Puglia]. Examples include the establishment of integrated primary care centres [Valencia] to enlarge the scope of healthcare centres; the introduction of social services [Olomouc] or full integration of health and social care services [Badalona, Northern Ireland, Scotland] to ensure continuity of care and shared responsibilities [Jönköping].

Emphasis on the patient and the need to re-orientate the focus of care from the hospital to the patient is another critical element of service redesign [Norrbottn, Scotland, Skåne, Southern Denmark, Belgium].

Other examples include building partnerships and cross-sectoral cooperation of health and social care providers to establish standards assessments, technical and clinical protocols [North West London, Olomouc, Puglia, Scotland, Walcheren] and to introduce integrated care pathways to streamline the management of health problems across prevention, acute care, rehabilitation, chronic and palliative care and to ensure a continuum of care [Languedoc-Roussillon, Norrbotten, Puglia, Saxony, Trikala, Valencia].

The redesign of professional roles and the provision of new or extended roles for health and social care professionals also enable the implementation of integrated care [Olomouc, Puglia]. These comprise: the inclusion of social workers in healthcare settings to promote integration between care levels and areas [Basque Country, Torbay], the introduction of new roles such as case managers [Badalona], management and continuity nurses who apply case management methodologies [Valencia], or health and social care coordinators/ managers [Torbay]. Other examples include the establishment of integrated, co-located health and social care teams, with a strong emphasis on multi-professional leadership and development [Torbay].

The regions have adopted various approaches to help identify and correct

deficiencies related to the implementation of organisational changes. For example, the use of business process notation models, flexible implementation and incremental pace to accommodate the learning processes of both health and care professionals and patients appear to be effective strategies to deal with the complexity of organisational changes [Catalonia, Northern Ireland]. Other examples include the establishment of dedicated project teams or Steering Groups with dedicated local implementation officers to implement the change [Northern Ireland, Scotland]. This has the dual purpose of maintaining momentum during a period of change and conflicting priorities and of providing local and regional dedicated support, including technical support, for strategic planning and service redesign [Northern Ireland, Scotland].

In general, change management is addressed through agreeing strategic and operational objectives along with responsibilities; developing and implementing an agreed operational plan; and communication strategy [Norrbottn, Northern Ireland, Scotland].

The government may also provide incentives (money, time and external support) to health and care professionals for re-thinking and re-designing the organisation of health in pilot regions [Belgium: the action plan of the pilot regions must include 14 components and has to address structural change].

Leadership

Effective national leadership and the emergence of local leaders / champions are important factors in managing the

complex transformation and implementation of integrated care solutions [Jönköping, Olomouc, Scotland, Walcheren].

The existence of “digital champions” is a critical enabler in implementing digital health and care services at scale [Scotland]. Other examples include the establishment of improvement leaders and leadership fora for discussions and decision-making across organisations [Skåne]. This often requires a significant investment in senior management leadership, local leadership programmes and dedicated programme support [North West London, Torbay].

Organisational stability and continuity of leadership is another critical enabler of integrated care, including scientific, managerial and clinical leadership [Catalonia, Getafe, Torbay]. Strong clinical leadership, in particular from GPs, plays a central part in ensuring the effective participation and engagement of other clinicians [North West London].

Engaged healthcare professionals and local champions are more prone to work together to achieve positive outcomes and facilitate a snowball effect for the large-scale deployment of integrated care solutions [Catalonia, North West London].

Collaboration and trust

The broad set of changes needed to deliver integrated care at a regional or national level presents a significant challenge. This requires re-organisation of services [Badalona] and care processes; alignment of purposes across diverse organisations and professions; and the willingness to collaborate and put the

interest of the overall care system above individual incentives [Belgium, Emilia-Romagna, Kinzigtal, Norrbotten, Southern Denmark, Valencia]. The introduction of very flat structures, with less hierarchy, is an interesting approach to building an ecosystem of trust and collaboration among involved stakeholders [Buurtzorg, Jönköping].

The establishment of networks for healthcare providers and other agencies and authorities enables active cooperation, networking and trust among stakeholders [Belgium, Piemonte, Saxony]. Healthcare providers are also involved in the design and specification of the service procured and in the selection of the contractors to deliver this service [Northern Ireland].

Collaboration and trust among stakeholders are facilitated by the participation in European, national and regional projects that have the objective of facilitating knowledge transfer, learning and generating further evidence on integrated care [Catalonia, Languedoc-Roussillon, Olomouc, Puglia, Scotland].

Workforce education and training

As the systems of care are transformed, many new roles need to be created and new skills developed. As demands continue to change, skills, talent and experience must be retained and the systems of care need to become ‘learning systems’ that are constantly striving to improve productivity and increase success.

As such, the implementation of integrated care solutions often requires the redesign of health and social care professionals’

roles [Catalonia] and / or the creation of new professional roles to ensure continuity of care, e.g. telemedicine physicians, management nurses, nurse coaches and continuity nurses [Olomouc, Puglia, Valencia]. This is often supported by dedicated education and training programmes on extended roles [Brescia, Buurtzorg, Piemonte, Puglia].

The incorporation of the training modules as part of the solution is another example of workforce education and training [Puglia]. In addition, commitment to adaptive, continuous learning and long term education plans has proven to be successful in empowering the workforce [Brescia, North West London, Norrbotten].

The establishment of learning networks to support sharing of good practices and knowledge is another common success factor [Belgium, Norrbotten, Saxony, Scotland]. There are various resources freely available to support workforce development, such as webcasts with re-useable content for undergraduate teaching sessions [Scotland], conferences, dedicated newsletters, development of manuals, and personal discussions with interested parties [Saxony].

Other resources to drive change include the establishment of multi-stakeholder education and training steering groups for staff working in health, social care and housing services [Belgium, Scotland]. The rationale is to promote cross-sector collaboration and develop a skills framework, particularly for the healthcare professionals involved in the delivery of digital services [Scotland].

Patient focus / empowerment

Patient empowerment has to be at the core of integrated care. This implies that the patient is a member of the “care team”, that he / she is involved in the decision-making processes, and that care plans are tailored to patients’ individual needs. It has been argued that the barriers to patient empowerment are mainly located at the cultural level and affect both patients and health and social care professionals.

Patient empowerment occurs at the different levels within health and care systems. There are examples of involvement of patients at the policy level at the heart of strategic planning for integrated care and the vision for improvement [Scotland, Torbay], at an operational level through co-creation of care plans and service solutions [North West London, Norrbotten, Olomouc, Scotland], and in engagement and recruitment processes [Puglia]. Other examples include the involvement of patients in providing feedback on some service specifications and on the development of products [Belgium, Northern Ireland].

Another critical element of patient empowerment is the development and implementation of training strategies [Northern Ireland] and the provision of education and training programmes and tools for patients to increase health literacy and patients’ ability to participate in the collaborative decision-making processes [Belgium, Northern Ireland, Norrbotten, Puglia, Scotland]. The format of education and training modules has changed over the years, with a current focus on educational games, social media,

networks and other platforms and training facilities [Puglia].

Equally, patients are empowered through access to their healthcare data and information about health care services [Puglia, Olomouc, Scotland]. Data privacy is a critical incentive to use these services [Puglia].

Another aspect of patient empowerment lies in the recognition that not all services are appropriate for all patients. Stratification of patients and identification of the “right” patient is a critical element to successful patient empowerment [Basque Country, Norrbotten, Olomouc, Scotland].

In general, truly empowered patients prove to be the drivers of change and they help to focus on the quality of provided services [Valencia].

Financing and incentives

Moving towards integrated care requires initial investment and a degree of operational funding during the transition to the new models of care as well as on-going financial support and incentives until the new services are fully operational and the older ones are de-commissioned. This means well-established incentives, financing and reimbursement schemes to allow alignment of the financial interests of payers and providers in the system [Kinzigal].

Several models can be observed across European regions. The shared-revenue model promotes additional incentives for healthcare professionals. For example, in the case of Kinzigal, the regional health management company is co-owned by the

physicians’ network in the region; a part of the generated margins / profits is re-invested in training of local physicians and another part is available to physicians as increased income. The shared-revenue models leverage health improvements by incentivising prevention activity and efficiency savings in processes [Kinzigal].

The concept of a guaranteed budget for a region is an incentive to organise health and social care differently: when a region had less expenditures during the pilot period (4 years) they can re-invest the efficiency gains in their region [Belgium].

Another form of incentive is the performance-based financial bonus. For instance, doctors are paid if patients are fit for work after 4 weeks on a programme and remain in the same condition for other 6 months without any interruptions. In contrast, if the patient is still not fit for work after 8 weeks on the programme, the doctors are financially penalised, e.g. by 7% of their remuneration [TK in Germany].

Another example [Valencia] shows financial bonuses resulting in up to 40% higher earnings for high performance and for the compliance of healthcare professionals. In some cases, the incentives target private entities to treat patients in the most appropriate and cost-effective setting, which means limiting the demand on hospital services through preventive and community care services [Valencia].

Another form of incentive is the long-term contract (10 years or more) that allows for initial investment until earnings are sufficient to secure return on investment

[Kinzigal, Valencia]. The evidence also shows that sustainability of service provision in the long-term is incentivised via investment to attract young doctors to specific regions by offering them training positions required for their medical qualifications [Kinzigal].

A bundled payment scheme where risk is shared between payers, healthcare providers and ICT suppliers seems to release system-level efficiencies and to facilitate investment in ICT innovation without increasing total healthcare costs [Catalonia]. Other examples include: shared risk models (Public-Private Partnership, PPP) between healthcare providers and IT providers [Catalonia], contractual models (PPP with capitation) where a private entity receives a fixed annual sum per local inhabitant from the regional government [Valencia], and pooled budgets for integrated commissioning with a shared risk approach and capitation payment to cover all patient care [North West London, Torbay].

The end-to-end managed service model may be useful to develop innovative and flexible services. This means that the contract is for the provision of a service, including clinical triage, and not simply for the purchase of patient equipment and software. It provides the capacity and capability to flexibly manage and grow the service over time [Northern Ireland]. Another example is the reward funding model where those performing well are given extra funding whereas those who have not achieved the required targets are provided with additional intensive support to meet them [Scotland].

In some regions, the introduction of business cases is emerging [Northern Ireland], particularly in the case of the delivery of remote tele-monitoring services.

ICT infrastructure and solutions

Integrated care requires, as a foundational capacity, the sharing of health information and care plans across diverse care teams and sectors to enable continuous collaboration, measuring and managing outcomes, and enabling citizens to take a more active role in their care. This means building on existing eHealth services; connecting them in new ways to support integration; and augmenting them with new capabilities, such as enhanced security and mobility. This process is equally supported by the introduction of information governance and privacy and security policies [Puglia, Scotland].

The timeline of implementation of health information systems needs to be carefully planned. There is a need to incorporate considerable leeway for refinement and unexpected complexity of ICT solutions and infrastructure [North West London]. Another critical factor is connectivity and broadband availability [Trikala].

The existence of common ICT infrastructure [Belgium, Brescia, Kinzigal, Norrbotten, North West London, Southern Denmark, Valencia] facilitates the transferability and deployment of ICT solutions. The simplification of ICT infrastructure enables easier use of interoperability standards to support integration of services and information flows across the continuum of care [Badalona, Campania Catalonia, Emilia-

Romagna, Southern Denmark, Trikala, Valencia].

The definition of both clinical and technical standards is an important enabler of information sharing [Catalonia]. Another enabler includes analytics and algorithms to allow exchange of structured and unstructured data between healthcare providers and suppliers or to provide feedback on patients' behaviour [Catalonia, Olomouc, Puglia].

The introduction of an open ICT platform to support organisational interoperability and collaborative work, with no need to replace the pre-existing proprietaries, has proven to be an important element to overcome resistance to ICT solutions [Badalona, Catalonia, Emilia-Romagna, Puglia]. Scalable and robust ICT systems with rich user interfaces allow the gradual implementation of additional ICT components with minimum disruption [Campania, Catalonia].

Various tools to manage the health information of enrolled patients have been introduced in Europe. This includes the introduction of unique patient identifiers and / or centralised shared electronic health records to support cooperation between GP practices and other care actors across health and social care settings [Badalona, Kinzigtal, Olomouc, Scotland, Southern Denmark, Valencia]. Confidentiality and security measures applied to patient records, registries and other online services and devices for use by patients have proven to be a critical factor in enabling information-sharing and continuous collaboration.

The use of ICT solutions appears to be more effective when it is introduced as part of the service redesign [Scotland, Olomouc]. The use of ICT solutions in routine practice has facilitated the work of healthcare professionals, improved the management of workflows [Olomouc] and empowered citizens [Getafe]. The reliability of ICT solutions is a prerequisite for confidence and trust in using ICT by patients and health care professionals [Norrbotten, Olomouc, Puglia].

A further enabler of implementation of ICT solutions to support the integration of health and social care services concerns procurement frameworks that address the issue of variances in procurement processes from area to area [Scotland]. The introduction of modular systems ensures vendor independence so that different vendors can provide specific functionalities [Badalona].

Monitoring / evaluation systems

As new care pathways and services are introduced to support integrated care, there is a clear need to ensure that the changes have the desired effect on quality of care, cost of care, access and citizen experience. This supports the concept of evidence-based investment, where the impact of each change is monitored and evaluated.

Some monitoring and performance evaluation systems have been established to provide evidence of impact in a number of European regions [Kinzigtal, Scotland, Skåne, Torbay, Valencia]. Continuous evaluation of the progress of the strategies for integrated care is critical to scale up process as it provides the results

and lessons learned during the implementation process [Basque Country]. In addition, a strong performance management culture within the National Health Service (NHS) can be observed [Scotland].

Benchmarking exercises are other examples of monitoring systems, often facilitating the allocation of performance-based financial bonuses [Skåne] and providing cost analytics and what-if capabilities [Valencia]. The evaluation of the performance of GP surgeries and other multi-disciplinary groups drives

competition and encourages sharing of best practices [North West London].

The Maturity Model

It is noteworthy that the findings of the review of integrated care cases in Europe bear a strong resemblance to the dimensions of the Maturity Model developed by the B3 Action Group on Integrated Care of the European innovation partnership on active and healthy ageing.

Figure 4: Maturity Model for Integrated Care



The Maturity Model was developed on the basis of interviews with 12 European regions with a rationale to capture the local learning and experience when implementing integrated care. The Maturity Model intends to assess the system's capacity to adopt integrated care approaches. It covers a broad range of areas, which relate to system levers and essential blocks in terms of readiness and maturity to implement integrated care.

The Maturity Model functions as a self-assessment tool that: (a) provides an indication of the readiness of care authorities to adopt integrated care and (b) supports them to improve their capacity to deploy integrated care services. As such, the Maturity Model is not an objective measurement with an intention to compare the regions in terms of their performance in integrated care. It serves instead as a tool to facilitate very complex multi-stakeholder discussions on

integrated care in order to guide the regions on how to improve rather than rank their performance in this area. The Model provides useful insights on where the European regions currently stand in terms of weakness and strengths and thus provide an opportunity to share good practices in integrated care and promote learning from each other.

The many activities that need to be managed in order to deliver integrated care have been grouped into 12 "dimensions", each of which addresses a part of the overall effort (Figure 2). Annex 3 provides a more detailed description of the Maturity Model and Table A3 summarises these 12 maturity dimensions and their corresponding maturity indicators. The Annex also contains guidance on how to apply it in order to assess maturity.

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Chapter 4

Measuring the performance of integrated care

Integrated care tends to raise high expectations for enhanced effectiveness and efficiency, and the sustainability of broader service delivery. There is an expectation for integrated care to support the achievement of the so-called ‘Triple Aim’ approach – a simultaneous focus on improving health outcomes, enhancing the patient care experience and reducing costs.¹

In order to assess the extent to which the transformation to more integrated care systems meets these overarching goals, it will be necessary to collect evidence involving ongoing monitoring of progress to identify potential problems, support the further development of approaches and inform decision making within a framework that includes specific and measurable objectives.²

Measurement of progress will have to reflect the complexity of integrated care systems. Existing approaches to, and frameworks for, assessment have sought to capture these through considering the different tiers of service delivery at the micro (patient care), meso (organisational context) and macro-level (financing and policy context)²; distinguishing structure,

process and outcome dimensions³; focusing on different perspectives such as patient/family, health care professional(s), and system representative(s)⁴; or a combination of these.⁵

As different countries are at different stages in the development of integrated care systems, approaches and frameworks to assess integrated care can further be seen to lie on a continuum that stretches from selected indicators that may form part of a wider system performance assessment framework⁴⁻⁷ to an integrated health system measurement approach.^{2, 3} Against this background there is a need to better understand the range of approaches and indicators that have been developed so far and how measurement of integrated care performance sits within a broader HSPA framework in a given context. This will also help to inform policy development that is suited to individual countries’ needs and resources.

This section of the report aims to contribute to filling this gap by:

1. providing an overview of trends in and indicators used for assessing the performance of integrated care. This draws on a rapid review of published

documents; it includes a brief discussion of some of the requirements for indicator selection for assessing the performance of integrated care and a summary overview of examples of existing indicator sets and frameworks that are being developed or implemented in various countries or settings.

2. discussing the potential use and usefulness of existing frameworks and

indicators in countries' efforts to move to more integrated health services and systems, and the role of evaluating achievements in the context of broader, system-level performance assessment strategies and frameworks. This second component builds, mainly, on insights from experts from 17 European countries that took part in a structured policy focus group of the Expert Group (Box 1).

Box 1: Policy focus group – Integrated Care

The policy focus group brought together experts with in-depth knowledge on their respective HSPA processes from 17 countries in Europe. By means of a semi-structured facilitated discussion coordinated by the European Observatory on Health Systems and Policies, experts reflected on frameworks and indicators for performance assessment of integrated care.

Focus groups are frequently used in qualitative research to explore topics that are not easy to observe or that are sensitive, to ascertain perspectives and experiences from people on a topic in a short time span, or to gather preliminary data and clarify findings from another method, among other uses.⁹

The main objective of the focus group was to generate in-depth discussion and provide suggestions and recommendations for a framework for performance assessment of integrated care. Taking existing frameworks for performance assessment of integrated care as a starting point, focus group discussions explored a set of questions around:

- Domains for measuring integrated care
- The degree to which existing domain indicators reflect integrated care as it is considered in participants' individual country context
- The potential to distinguish between core indicators (which should be measured by all countries) and supplementary indicators (which countries may wish to monitor) in each domain
- Data availability and options for new data collection
- The role of international organisations in facilitating countries' efforts to develop assessment frameworks and indicators and collect relevant data

Focus group participants were provided with background documentation prepared by the European Observatory, which summarised documented trends in performance assessment of integrated care and provided examples of existing indicator sets and frameworks that are being developed or implemented in various countries or settings. This material was shared with participants in advance to the meeting of the policy focus group, held on 22 September 2016 in Brussels. Subsequent to the meeting, focus group participants were given the opportunity to consult with other experts in their countries and to provide additional comments and insights and, where appropriate and relevant, documented empirical evidence subsequent to the policy focus group meeting. Additional comments and suggestions received were incorporated into the present report to ensure that it appropriately reflects country's experiences.

The policy focus group approach builds on a similar exercise undertaken as part of the work by the Expert Group on quality of care (2016).⁸ The main objective of the focus group was to generate in-depth discussion and provide suggestions and recommendations for a framework for performance assessment of integrated care. However, and in line with the previous report, the policy focus group explicitly did not seek to benchmark countries' experiences, or to evaluate whether a given country is performing better on integrated care than another one. Instead, it provided a forum for exchange of experiences of, and views on, assessing integrated care performance and how this sits within wider efforts to measure health system performance, and the lessons that might be learned from the insights gathered, both in terms of informing policy development in the countries concerned as well as cross-national policy learning by means of exchanging examples of good practices.

Choosing indicators to assess the performance of integrated care

Identifying indicators suitable for assessing the performance of integrated care systems faces the same challenges that have been described for choosing measures capturing the quality of care more broadly.^{10, 11} Fundamental to measurement is the notion that an observed change in a given indicator reflects something about the underlying care delivery and quality.¹² Therefore, if measurement is to guide further improvement, indicators should meet certain criteria to allow for appropriate conclusions about cause and effect to be drawn or cause of action to be taken (Box 2). Or, to put it more simply, the identified indicators need to show that taking a particular action leads to some desired outcome, such as lower morbidity or mortality.¹³

Box 2: Desirable attributes of quality indicators

Analysts have presented lists of desirable attributes of quality indicators, with validity (the extent to which the measure captures the concept it is meant to measure), reliability (the extent to which measurement with the given indicator is reproducible) and sensitivity to change considered among the key criteria.¹² Depending on the context and purpose of measurement, the range of indicator attributes may be broadened, however. For example Pringle et al. (2002) proposed a list of 12 attributes to guide indicator selection, arguing that, in addition to being valid and reliable, should also be communicable, effective, objective, available, contextual, attributable, interpretable, comparable, remediable and repeatable¹², with others adding adaptability¹⁴, feasibility¹⁵, acceptability¹⁶, policy relevance¹⁵ and actionability¹⁷ as further criteria for quality indicators.¹²

The applicability and relevance of selection criteria will vary with the purpose and context of measurement. For example, international quality measurement initiatives, to a great extent, have to rely on existing data sets to enable

comparison. Thus, feasibility and comparability form important criteria for indicator selection, such as within the OECD Health Care Quality Indicators (HCQI) Project (Table 1).¹⁸

Table 1: Selection criteria for quality indicators in the OECD Health Care Quality Indicators Project

Criterion	Definition
Validity	Sufficient scientific evidence exists to support a link between the value of an indicator and one or more aspects of health care quality
Reliability	Repeated measurements of a stable phenomenon get similar results
Relevance	An indicator measures an aspect of quality with high clinical importance, a high burden of disease or high health care use
Actionability	An indicator measures an aspect of quality that is subject to control by providers and/or the health care system and is actually used at a national level for policy making, monitoring or strategy development
International feasibility	An indicator can be derived for international comparisons without substantial additional resources
International comparability	Reporting countries comply with the relevant data definition and where differences in the indicator values between countries reflect issues in quality of care rather than differences in data collection methodologies, coding or other non-quality of care reasons

Source: Carinci et al. (2015)¹⁸

In the context of identifying a set of indicators for measuring the quality of integrated care in the UK, Raleigh et al. (2014) drew on criteria proposed by the UK Association of Public Health Observatories¹⁹, namely, importance and relevance, validity, accuracy, reliability, feasibility, meaningfulness, implications

for action and avoidance of perverse incentives.⁵ Indicator selection was further informed by a broader set of considerations, ranging from the population being targeted by integrated care efforts to the feasibility of data collection (Box 3).

Box 3: Considerations for selecting indicators for measuring the quality of integrated care

Raleigh et al. (2014) describe a broad set of considerations that may guide the selection of indicators for measuring the quality of integrated care. These are⁵:

- Size of the population covered
- Represents important aspects of the care system
- Is (wholly or partly) within the control of care services (i.e. attributability)
- Change is detectable within suitable time frames
- Unambiguous interpretation
- Likelihood of being meaningful to service users, carers and the public
- Likelihood of being meaningful to care professionals, managers and commissioners (i.e. purchasers of services)
- Reflective of the service user perspective and/or value for money perspective
- Timeliness
- Ability to assess the impact on inequalities between service user groups and areas as it relates to access to and outcomes of care
- Measurable from routinely collected data

Clearly, the applicability of different considerations will vary by country and

system context. However, reflecting on the evidence for integrated care²⁰ and

following Goodwin (2015), a small number of core requirements that a framework or indicator set for assessing integrated care performance will need to meet can be identified.²¹ Thus, in order to select relevant measures through which to evaluate the performance and progress of integrated care systems there needs to be a good understanding of:

- the core aims of integrated care: who is involved and what does the approach or system seek to influence
- the desired outcomes: what outcomes should result from integrated care and to what extent are the measures aligned with the range of desired outcomes
- the timeframe over which such outcomes can reasonably be expected to be achieved: to what extent have available measurement categories the potential to be improved?
- how impact can be measured: to what extent can an observed change in a given outcome measure be attributed to integrated care activities and strategies?
- the robustness of measures: to what extent can a given measure inform action for further improvement by decision-makers and professionals and does it incite perverse incentives?
- simplicity and ease of measurement: what data is already being collected and what are the options for novel and innovative ways to collect data that will align with data collection systems already in place?

Indicator sets for assessing the performance of integrated care: a summary overview of existing frameworks and indicators

A survey on the use of integrated care in EU countries carried out by the sub-group on Integrated Care in the summer of 2016 highlighted that only a small number of EU Member States have so far developed indicator sets dedicated to the assessment of integrated care.

Of the countries responding to the survey, United Kingdom has developed a small set of national metrics for measuring progress in health and social care integration efforts locally. Italy has developed a specific set of indicators to explicitly measure aspects of integrated care, but these are currently not measured at the national level. Four countries (Austria, Belgium, Spain, Sweden) pointed to the existence of indicator sets that were not specifically developed for assessing the performance of integrated care as such but may be used for this purpose, at least in part (Table 2).

In the Netherlands, experiences with assessing integrated care are gathered in relation to selected dimensions within regional-level pioneer sites and in Spain, data are being collected within the National Health Barometer (*Barómetro Sanitario*) that can be used for the assessment of aspects of integrated and coordinated care. Finally, in Estonia, a 2015 assessment of the state of health system integration identified a set of eight indicators that sought to measure the extent to which care is delivered in the appropriate care setting and of coordination and continuity of care across

care settings for a set of acute and chronic conditions, where applicable.²²

These observations for EU Member States reflect international experiences more broadly, with only a small number of countries and organisations having published a set of quality indicators through which to monitor performance as a means to support the move towards

more integrated health systems.²³ These include, in addition to the UK, New Zealand and the US, along with the WHO global strategy on people-centred and integrated health services (2015), which suggested a monitoring framework that builds, in part, on these national proposals and initiatives.²

Table 2: Indicators used for assessing performance of integrated care in selected EU Member States

Austria		
Austria has not developed an explicit framework for assessing the coordination and integration of care. A specific outcomes framework has been devised in relation the 2013 health reform; the framework includes indicators that could be linked to various aspects of integrated care		
Belgium		
Comment	Dimension/s	Indicators
<p>A systematic approach is being developed as part of the integrated care pilot programme.</p> <p>At present the only experience with assessing integrated care is related to selected dimensions within the national HSPA process: continuity, effectiveness and patient centeredness</p>	Continuity of care	<ol style="list-style-type: none"> 1. Informational continuity in general practice: Coverage of global medical record (% of population with at least one contact with their GP within three years) 2. Usual Provider Continuity index ≥ 0.75 3. Management continuity between hospital and GP: GP encounter within 7 days after hospital discharge (% patients 65+) 4. Coordination in ambulatory care: Proportion of adult diabetics (under insulin) with a convention/passport/care trajectory (% of patients) 5. Coordination in hospital care: Patients with cancer discussed at the multidisciplinary team meeting (%)
	Patient centeredness	<ol style="list-style-type: none"> 1. Doctor spending enough time with patients during the consultation (% of respondents, contact with GP/SP) 2. Doctor providing easy-to-understand explanation (% of respondents, contact with GP/SP) 3. Doctor giving opportunity to ask questions or raise concerns (% of respondents, contact with GP/SP) 5. Doctor involving patients in decisions about care and/or treatments (% of respondents, contact with GP/SP)
	Effectiveness	<ol style="list-style-type: none"> 1. Asthma hospital admissions in adults (/100 000 population) 2. Complication of diabetes hospital admissions in adults (/100 000 population)
Estonia		
Comment	Dimension/s	Indicators
Indicators identified as part of the 2015 study that sought to assess the state of health system integration ²²	Extent to which care is delivered in the appropriate care setting	<ul style="list-style-type: none"> • Avoidable hospital admissions • Extended hospital stays • Avoidable specialist visits

	Extent of adequate coordination and continuity across care settings	<ul style="list-style-type: none"> • Under-provision of preventive services • Adequate provider continuity in primary care • Incomplete discharges from acute inpatient care • Inadequate acute inpatient follow-up care • Unnecessary preoperative diagnostic procedures
Italy		
Comment	Dimension/s	Indicators
A number of indicators that form part of wider performance assessment efforts are being used as proxies for integrated care. A specific set of indicators to explicitly measure aspects of integrated care has been developed	Effectiveness and continuity of care	<p>Indicators that are already in use as proxies for integrated care</p> <ul style="list-style-type: none"> • Avoidable hospitalisation for asthma, COPD, diabetes • One-year mortality and MACCE after IMA discharge <p>Indicators that have been developed but are not as yet measured at national level</p> <ul style="list-style-type: none"> • Adherence to evidence-based treatment • Follow-up for diabetes, COPD, heart failure, colon and breast cancer
The Netherlands		
Comment	Dimension/s	Indicators
At present the only experience with assessing integrated care is related to selected dimensions within regional-level pioneer sites. A national for the assessment of integrated care has not yet been developed	Not yet specified	<p>Diabetes care: A combination of process and outcome indicators, e.g. HbA1c levels, BMI, blood pressure, foot examinations, kidney function testing, cholesterol testing, etc.</p> <p>Population management pioneer sites:</p> <ul style="list-style-type: none"> • Population health (e.g. health outcomes, disease burden, functioning, quality of life, etc.) • Quality of care (e.g. patient safety, effectiveness, responsiveness, etc.) • Cost per capita (e.g. cost of care, volumes, productivity losses, etc.) • Implementation process
Spain		
Comment	Dimension/s	Indicators
Aspects of integrated care are included in selected indicator sets including data collected within the National	Care coordination, patient experience	<p>Percentage of patients reporting that their questions about their treatment have been answered by the primary care centre</p> <p>Percentage of patients reporting that specialist</p>

Health Barometer (<i>Barómetro Sanitario</i>)		<p>appointments were arranged by the primary care centre</p> <p>Percentage of patients perceiving that their family doctor and the specialist they had to see communicate and coordinate well</p> <p>Percentage of patients reporting that they have been given all the information needed when having to visit a specialist or being admitted to hospital</p>
Sweden		
Comment	Dimension/s	Indicators
A specific set of indicators to explicitly measure aspects of integrated care has not (yet) been developed. However, a number of indicators that form part of wider performance assessment efforts may be used as proxies for integrated care	Integrated care (examples of indicators as proxies)	<p>Percentage of patients that have received help to stop smoking after an AMI</p> <p>Prescribing and use of inappropriate medications for persons aged 75 and older and living in “elderly homes” compared with the total group of 75 + persons (reflecting coordination and integration of medical expertise within social care for the elderly)</p> <p>Coordination in cancer care: Patients with cancer discussed at the multidisciplinary team meeting (reflecting integration within specialist care among different health care professions)</p> <p>Different aspects of avoidable hospitalisations</p>
	Patient centredness (examples of indicators derived from patient questionnaires)	<ul style="list-style-type: none"> • Health care providers spending enough time with patients • Health care provider communicating easy-to-understand information • Involvement in decisions about health care interventions
The United Kingdom		
Comment	Dimension/s	Indicators
National metrics – currently developing a set of standards		<ul style="list-style-type: none"> • Non-elective admissions • Delayed transfers of care • Admissions to care homes

Source: Country responses to the EC Expert Group on HSPA survey on integrated care (2016)

Table 3 provides a summary overview of selected features of existing indicator sets and frameworks for assessing the performance of integrated care. It is important to highlight that examples presented in Table 3 capture documented frameworks and indicator sets only. As countries’ attempts to move to more

integrated care systems are evolving, so are their efforts to develop systems for performance measurement, which however, may not yet have been made publicly available.

Table 3: Documented frameworks and indicator sets for assessing the performance of integrated care

Country/ organisation	Context	Objective	Domains	Indicator selection: considerations and criteria	Indicators
Italy					
Ministry of Health/National Agency for Regional Services	<i>National Plan for Chronic Diseases(2016)/National Outcome Evaluation Programme (ref 30a e 30b:</i> http://www.regioni.it/sanita/2016/09/27/connferenza-stato-regioni-del-15-09-2016-accordo-tra-il-governo-le-regioni-e-le-province-autonome-sul-documento-piano-nazionale-della-cronicita-478007/ ; http://95.110.213.190/PNEedizione16_p/index.php)	To implement and evaluate effectiveness of an integrated care plan for chronic diseases	The Ministry of health in agreement with all the regions has approved in September 2016 a national plan to address chronic diseases, proposing: 1. a new cultural approach at system, service, professional, and patient level 2. an integrated model between hospital and community 3. support for home care 4. patient-centred approach 5. multidimensional and outcome evaluation	The National Outcome program already includes indicators to evaluate integrated care indirectly. Indicator selection was framed according to: homogeneous data quality across Regions, interconnecting capacity of health databases, scientific evidence, implementation within regional or local evaluation systems. Clinical and organizational appropriateness were considered. Specific indicators to evaluate integrated care have also been developed but not yet calculated, identifying a model of integrated care and results of implementation to be measured through HSPA indicators specifically developed.	1. Process indicators: adherence to clinical guidelines, timeliness of interventions; 2. Outcome indicators: mortality, avoidable hospitalisation, disease complications: • Avoidable hospitalisation for ambulatory care sensitive conditions (ACSC) • 1 year mortality and MACCE after admission for Acute Myocardial Infarction • Medium term complications (mortality, revascularisation and amputation) after admission for severe artheropathy • Long term complication for diabetes 3. Indicators of interaction process/outcome.

New Zealand					
Government: Ministry of Health	Integrated Performance and Incentive Framework (IPIF) (2014) ³	To “support the health system in addressing equity, safety, quality, access and cost of services” (p. 1) ³	<p>System-level measures intended to “encourage integration for service improvement” (p. 4) across organisations within district health systems; system-level measures are set nationally and are aligned with the Triple Aim:</p> <ol style="list-style-type: none"> 1. Improved health and equity for all populations 2. Best value for public health System resources 3. Improved quality, safety and experience of care <p>Adds selected measures of capacity and capability that underpin the system</p> <p>System-level measures serve as ‘high level organising principle’ for locally determined contributory measures which reflect needs and priorities of local communities and health services</p>	<p>Principal considerations:</p> <ul style="list-style-type: none"> • System-level measures are specific and measurable • Contributory measures are a balance of performance indicators and “tin opener” measures (i.e. to inform discussions without specific targets or thresholds) • There is a balance of input, output and outcome measures • The collection and reporting of measures should not increase the reporting burden on providers <p>Sees the process of indicator development to be a continuing one with placeholders for areas for which readily available indicators do not currently exist (e.g. healthy adolescent and healthy ageing)</p>	The proposed initial system measures comprise 19 indicators; these are not specific to integrated care as such
United Kingdom					
NHS England	<p><i>National programme of integrated care and support Pioneers</i></p> <p>Beginning in 2013, the programme involves a total of 25 integrated pioneer sites that are developing and testing</p>	The pioneer programme aims to “[showcase] the benefits of providing person-centred, integrated care” and to “[share] evidence and practical support with	<p>Distinguishes 6 principal headings:</p> <ul style="list-style-type: none"> • Community wellbeing and population health • Organisational processes and systems • Personal outcomes • Resource use/balance of care 	Indicator selection was framed by explicit use of a pragmatic approach that reflects the elements of care coordination and integration covered by other existing frameworks, while also taking account of wider system aspects.	The proposed indicator set distinguishes a generic indicator list which comprises 35 indicators and sub-sets for specific clinical or population groups, including mental health and learning disabilities (18 indicators); cardiovascular

	new and different ways of bringing together health and social care services across England.	<p>others seeking to adapt and adopt pioneer experience in their own health and care economies” (p. 7)²⁴</p> <p>To support this programme, the Department of Health commissioned a scoping review to identify and provide advice on indicators of integrated care for progress monitoring using routine data.⁵</p>	<ul style="list-style-type: none"> • Service proxies for outcomes • User/carer experience 		<p>disease (5 indicators) and cancer (1 indicator)</p> <p>An overview of the 35 indicators is included in the generic list is presented in document 5 (see references)</p>
Department of Health and Department for Communities and Local Government (England)	<p><i>Better Care Fund (BCF)</i></p> <p>A pooled fund for the NHS and local government (responsible for social care) to commission jointly health and social care services. Starting in 2015/16, the government committed £3.8 billion to the BCF, which was supplemented by an additional £1.5 billion contribution from local areas.²⁵</p>	<p>“[T]o drive the transformation of local services to ensure that people receive better and more integrated care and support” (p. 5)²⁵</p>	Not reported	<p>To measure progress of integration through the BCF, the BCF Policy Framework established four national metrics which local areas are required to report on.²⁶</p> <p>National metrics based on a range of criteria, in particular, “the need for data to be available with sufficient regularity and rigour” (p. 9)²⁷</p>	<p>National metrics 2016-17²⁶:</p> <ul style="list-style-type: none"> • Non-elective admissions (also referred to as emergency admissions); • Delayed transfers of care from hospital per 100,000 population • Long-term support needs of older people (aged 65 and over) met by admission to residential and nursing care homes, per 100,000 population • Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services

The Scottish Government	<p><i>Health and social care integration as per 2014 Public Bodies (Joint Working) (Scotland) Act</i></p> <p>The 2014 legislation put in place a framework for integrating health and social care in Scotland.²⁸ The Act requires regional health boards, which plan and commission community health, primary and secondary care for their populations, and local authorities, responsible for adult social care and social work, to establish integrated partnership arrangements. Coming into force in April 2016, 31 local partnerships have been set up across Scotland in which NHS and local council care services are jointly responsible for the health and care needs of patients.²⁹</p>	<p>To “ensure that those who use services get the right care and support whatever their needs, at any point in their care journey.</p> <p>Integration will mean a greater emphasis on enabling people to stay in their homes, or another homely setting, where possible, sharing their lives with their family and friends, doing the things that give life meaning and value.” (p. 1)²⁹</p>	<p>The 2014 legislation has defined nine National Health and Wellbeing Outcomes, which “provide a strategic framework for the planning and delivery of health and social care services” (p. 1).⁷</p> <ol style="list-style-type: none"> 1. People are able to look after and improve their own health and wellbeing and live in good health for longer. 2. People, including those with disabilities or long term conditions or who are frail are able to live, as far as reasonably practicable, independently and at home or in a homely setting in their community. 3. People who use health and social care services have positive experiences of those services, and have their dignity respected. 4. Health and social care services are centred on helping to maintain or improve the quality of life of people who use those services. 5. Health and social care services contribute to reducing health inequalities. 6. People who provide unpaid care are supported to look after their own health and 	<p>Newly established Integration Authorities must report annually on how they are improving the National Health and Wellbeing Outcomes, including on ‘core suite of integration indicators’</p> <p>The indicators have been (or will be) developed from national data and they are organised into two groups, according to the principal data source they derive from:</p> <ol style="list-style-type: none"> 1. Outcomes indicators based on survey feedback “to emphasise the importance of a personal outcomes approach and the key role of user feedback in improving quality” 2. Indicators derived from organisational/ system data primarily collected for other reasons <p>It is acknowledged that the identified indicators need to be tested in practice in terms of usefulness for reporting progress and identifying areas for improvement and so inform</p>	<p>The proposed core suit of integration indicators includes a total of 23 measures. Of these, 10 are survey based and the remaining 13 derive from routinely collected organisational or system data.</p> <p>An overview of the 23 indicators is presented in document 7 (see references).</p>

			<p>wellbeing, including to reduce any negative impact of their caring role on their own health and wellbeing.</p> <p>7. People using health and social care services are safe from harm.</p> <p>8. People who work in health and social care services feel engaged with the work they do and are supported to continuously improve the information, support, care and treatment they provide.</p> <p>9. Resources are used effectively and efficiently in the provision of health and social care services.</p>	<p>planning. There is an expectation that indicators “will develop and improve over time, and that some of them still require data development”. (p. 1)⁷</p>	
United States					
Agency for Healthcare Research and Quality (AHRQ)	<p>Increasing efforts by organisations and systems across the U.S. enhance care coordination to strengthen patient-centred, high-quality care but lack of measures to assess the extent to which care coordination is being achieved.</p> <p>Recognised need to identify care-coordination-specific measurement results</p>	<p>Research project launched by AHRQ aiming to “develop an atlas to help evaluators identify appropriate measures for assessing care coordination interventions in research studies and demonstration projects, particularly those measures focusing on care coordination in ambulatory care”. (p. 1).⁴</p>	<p>Measures of care coordination are organised along two dimensions to facilitate selection of care coordination measures by Atlas users (see also Error! eference source not found.⁶ in Annex 5)⁴:</p> <p>1. Mechanisms to achieve care coordination:</p> <p><i>Care coordination activities</i></p> <ul style="list-style-type: none"> • Establish accountability or negotiate responsibility • Communicate • Facilitate transitions • Assess needs and goals • Create a proactive care plan • Monitor, follow-up and 	<p>Included measures:</p> <ul style="list-style-type: none"> • focus on the ambulatory care setting (for example, transition from inpatient to outpatient care) • reflect structure (e.g. presence of a patient registry that can identify complex patients with coordination needs), process (e.g. % patients asked to review their medications during a primary care visit), and intermediate outcomes (e.g. % test results communicated to patients within a specific timeframe) • have valid measurement 	<p>The 2014 Atlas update lists around 90 existing measures of care coordination that are organised along the two dimensions: mechanisms to achieve care coordination; perspective</p>

	to inform better understanding of the mechanisms that lead to better outcomes. ⁴		<p>respond to change</p> <ul style="list-style-type: none"> • Support self-management goals • Link to community resources • Align resources with patient and population needs <p><i>Broad approaches</i></p> <ul style="list-style-type: none"> • Teamwork focused on coordination • Health care home • Care management • Medication management • Health IT-enabled coordination <p>2. Measurement perspective:</p> <ul style="list-style-type: none"> • Patient/family • Health care professional/s • System representative/s 	<p>properties according to National Quality Forum (NQF) standards</p> <ul style="list-style-type: none"> • have been field tested • are within the public domain 	
National Quality Forum (NQF) ³⁰	<p>Care coordination considered to be a crucial component to help health care systems to achieve improved patient outcomes and enhance the quality and affordability of care.</p> <p>Recognised need to “establish a meaningful foundation for future development of a set of practices with demonstrated impact</p>	Multi-phased Care Coordination project launched by NQF in 2011 to “address the lack of cross-cutting measures in the NQF measure portfolio by developing a path forward for meaningful measures of care coordination leveraging health information technology” (p. 3). ⁶			<p>Starting from evaluating 12 cross-cutting measures potentially suitable for assessing coordination, the NQF eventually recommended a total of five measures:</p> <ul style="list-style-type: none"> • Emergency transfer communication: % patients transferred to another health care facility whose medical record documentation indicated that required information was communicated to the receiving facility prior to departure or within 30 minutes of transfer

	on patient outcomes” around care coordination (p. 3) ⁶				<ul style="list-style-type: none"> • Median time from emergency department arrival to time of departure from the emergency room for patients admitted to the facility from the emergency department • Median time from emergency department arrival to time of departure from the emergency room for patients discharged from the emergency department • Median time from admit decision time to time of departure from the emergency department for emergency department patients admitted to inpatient status • Medication reconciliation: Number of unintentional medication discrepancies per patient (hospitalised adults); assesses the actual quality of the medication reconciliation process by identifying errors in admission and discharge medication orders due to problems with the medication reconciliation process.
World Health Organization					
	<i>Global strategy on people-centred and integrated health services</i>	Global strategy is considered to be “a call for a fundamental paradigm shift in the	Informed by existing frameworks and indicator sets, the proposed measurement framework distinguishes 6 domains:	Proposed list of potential measures to be used for monitoring progress to achieving the strategy builds on	The proposed list includes a large number on potential measures of people-centred and integrated health services

		<p>way health services are funded, managed and delivered [...].to meet the challenges being faced by health systems around the world as populations are living longer and the burden of costly long-term chronic conditions and preventable illnesses that require multiple complex interventions over many years continues to grow” (p. 7)²</p>	<ol style="list-style-type: none"> 1. System-level measures of community well-being and population health 2. Service proxies for improved health outcomes 3. Personal health outcomes for people and communities 4. Resource utilisation measures that demonstrate the reorientation of activities towards primary and community care 5. Organisational processes and characteristics that support evidence that systems to support high-quality people-centred and integrated health services are in place 6. User and carer experiences 	<p>indicators that have been developed in different settings to assess the impact of people-centred and integrated health services.</p> <p>It specifically drew on the New Zealand Integrated Performance and Incentive Framework³¹, Raleigh et al. (2014)⁵, the AHRQ Care Coordination Measures Atlas⁴ and the NQF-endorsed measures for care coordination⁶, alongside indicators proposed in specific settings.^{32, 33}</p>	<p>examples of which are presented in Annex 5.</p>
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How can existing frameworks and indicators be used in countries' efforts to move to more integrated health services and systems? Insights from the policy focus group

Considering the documented frameworks and indicator sets presented in the preceding section and reflecting on their own experiences in health system performance assessment more broadly and measurement of integrated care specifically, policy focus group discussions centred on three interlinked areas: (i) countries' understanding of integrated care, (ii) the selection and interpretation of indicators for integrated care measurement, and (iii) the purpose of a separate measurement framework for integrated care.

The interpretation of integrated care is key to determining what will be measured

Thus, mirroring the above discussion of core requirements that a framework or indicator set for assessing integrated care performance will need to meet²¹, a fundamental point raised by focus group participants was the recognition that the understanding and conceptualisation of integrated care will be key to determining what will be measured. It was also seen to be core to defining the scope of integrated care, and the extent to which relevant efforts also include social care. There was debate about whether integrated care is seen to be a 'design principle' for health service and system organisation more widely or whether it should be interpreted as a means to achieve person-centred, efficient and safe care.

As discussions progressed, it became clear that these views are not necessarily seen to be sitting on opposite ends of a given conceptualisation of integrated care but rather that they provide a useful basis for how to approach measurement. Indeed, as suggested by focus group participants, integrated care can be seen as a tool to do things differently in order to better address the challenges that health (and social care) systems are facing in the light of the changing disease burden and rising demand vis-à-vis financial constraints.

There appeared to be emergent consensus that a useful way to think about measurement of integrated care performance was that proposed by Donabedian (1988) to evaluate the quality of health care, based on structures, processes and outcomes, arguing that a "good structure increases the likelihood of good process, and good process increases the likelihood of good outcome" (p. 1743)³⁴ and we will explore this approach in more detail below.

Selecting and interpreting indicators for integrated care measurement: the same but different?

As noted, prior to the policy focus group meeting, participants were presented with an overview of existing frameworks and indicator sets for assessing integrated care that had been developed in different settings. These are summarised in Table 3, with more detailed examples presented below. These include the list of generic indicators for assessing the quality of integrated care as proposed by Raleigh et al. (2014) to inform the monitoring of progress in the context of the National programme of integrated care and support Pioneers in England (Table 4).

Table 4: Generic indicators for assessing integrated care as proposed by Raleigh et al.

Domain	Indicator
Community wellbeing and population health	<ol style="list-style-type: none"> 1. Excess winter deaths 2. Proportion of people who use (social care) services and their carers who reported that they have had as much social contact as they would like 3. Proportion of physically active and inactive adults
Organisational processes and systems	<ol style="list-style-type: none"> 4. Delayed transfers of care from hospital, and those which are attributable to adult social care; Delayed transfers of care, days of delay, all ages, all settings, per 100,000 older population 5. Access: attendance at A&E (separate for out-of-hours and between 9 am and 5pm) 6. Potential indicators linked to changes to GP contracts from April 2014
Personal outcomes	<ol style="list-style-type: none"> 7. Proportion of older people (65+) who were offered rehabilitation following discharge from acute or community hospital 8. Improving access to GPs 9. Proportion of older people (65+) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services 10. Social care related quality of life 11. Carer reported quality of life 12. Injuries due to falls in people aged 65+ 13. Proportion of people feeling supported to manage their (long term) condition 14. Proportion of patients with fragility fractures recovering to their previous levels of mobility/walking ability at 30/120 days
Resource use / balance of care	<ol style="list-style-type: none"> 15. Bed days for selected patient types 16. Hospital use in the last 100 days of life 17. Gross residential and nursing care expenditure, per 100,000 older people 18. Gross residential and nursing care minus NHS contribution. Per 100,000 older population 19. Numbers receiving long-term community-based care as a proportion of total numbers receiving long-term care services (by user group) 20. Numbers receiving long-term social care as a proportion of the sum of numbers receiving emergency hospital care and numbers receiving long-term social care (by age group, or just for 65+ group) 21. Numbers of people receiving long-term community-based social care relative to population (by age group, or just for 65+ group) 22. Proportion of gross current social care expenditure funded through income from the NHS (by user group)
Service proxies for outcomes	<ol style="list-style-type: none"> 23. Emergency admissions stratified by age (e.g. young people, over 65s); and risk group 24. Avoidable inpatient activity for people with ambulatory care sensitive (ACS) admissions, including long term conditions, e.g. lower limb amputations in people with diabetes 25. Patients with multiple admissions per year for specific age groups/prior conditions 26. Readmissions for selected patient groups, e.g. falls 27. Proportion of people using social care who receive self-directed support, and those receiving direct payment 28. Persons (65+) discharged for rehabilitation from hospital, per 100,000 older population

User / carer experience	<p>29. Proportion of people dying at home/place of their choosing</p> <p>30. Improving people's experience of integrated care</p> <p>31. Safety: the proportion of people who use services who say that those services have made them feel safe and secure</p> <p>32. GP Patient Survey: (i) % reporting having had enough support from local services or organisations to help manage their long-term health condition(s); (ii) % reporting how confident they are that they can manage their own health; (iii) % reporting knowing how to contact out-of-hours GP service</p> <p>33. Inpatient survey questions: (i) % reporting whether hospital staff took family or home situation into account when planning discharge; (ii) % reporting whether hospital staff discussed with patient whether they would need any additional equipment in their home or adaptations made after leaving hospital; (iii) % reporting whether hospital staff discussed with patient whether they needed any further health or social care services after leaving hospital; (iv) % reporting whether they received copies of letters sent between hospital doctors and their family doctor (GP)</p> <p>34. A&E survey questions: (i) % reporting whether hospital staff took family or home situation into account when they were leaving the A&E department; (ii) % reporting whether their GP was given all the necessary information about the treatment or advice that they had received in the A&E department</p> <p>35. VOICES national bereavement survey questions: (i) % reporting whether the deceased person when at home in the last three months of life, received any help at home from a range of services; (ii) % reporting whether services worked well together; (iii) % reporting whether they felt that they and their family were getting as much help and support from health and social services as they needed when caring for the deceased person; (iv) % reporting whether hospital services worked well with the deceased person's GP and other services outside of the hospital; (v) % reporting whether the deceased person had enough choice about where he/she died; (vi) % reporting whether they/their family were given enough help and support by the health care team at the actual time of the deceased person's death; (vii) % reporting whether they had talked to anyone from health and social services, or from a bereavement service, about their feelings about the deceased person's illness and death</p>
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Source: Raleigh et al. (2014)⁵

Similarly, as part of the health and social care integration reform in Scotland, the Scottish government presented a 'core

suite' of 23 integration indicators, listed in Table 5.

Table 5: Proposed core suite of integration indicators, Scotland

Outcomes indicators based on survey feedback “to emphasise the importance of a personal outcomes approach and the key role of user feedback in improving quality”	Indicators derived from organisational/system data primarily collected for other reasons
<ol style="list-style-type: none"> 1. Percentage of adults able to look after their health very well or quite well. 2. Percentage of adults supported at home who agree that they are supported to live as independently as possible. 3. Percentage of adults supported at home who agree that they had a say in how their help, care or support was provided. 4. Percentage of adults supported at home who agree that their health and care services seemed to be well co-ordinated. 5. Percentage of adults receiving any care or support who rate it as excellent or good. 6. Percentage of people with positive experience of care at their GP practice. 7. Percentage of adults supported at home who agree that their services and support had an impact in improving or maintaining their quality of life. 8. Percentage of carers who feel supported to continue in their caring role. 9. Percentage of adults supported at home who agree they felt safe. 10. Percentage of staff who say they would recommend their workplace as a good place to work.* 	<ol style="list-style-type: none"> 11. Premature mortality rate. 12. Rate of emergency admissions for adults.* 13. Rate of emergency bed days for adults.* 14. Readmissions to hospital within 28 days of discharge.* 15. Proportion of last 6 months of life spent at home or in community setting. 16. Falls rate per 1,000 population in over 65s.* 17. Proportion of care services graded ‘good’ (4) or better in Care Inspectorate Inspections. 18. Percentage of adults with intensive needs receiving care at home. 19. Number of days people spend in hospital when they are ready to be discharged. 20. Percentage of total health and care spend on hospital stays where the patient was admitted in an emergency. 21. Percentage of people admitted from home to hospital during the year, who are discharged to a care home.* 22. Percentage of people who are discharged from hospital within 72 hours of being ready.* 23. Expenditure on end of life care.*

*Note: * indicator under development*

Source: Scottish Government (2014)⁷

Annex 5 presents an overview of examples of potential measures of people-centred and integrated health services as compiled by WHO in the context of the Global strategy on people-centred and integrated health services.²

Reflecting on these existing indicators and indicator sets for assessing integrated care performance, several policy focus group participants observed that the majority of indicators presented tended to be used in ongoing HSPA exercises that are not specific to integrated care.

Examples include indicators such as hospital admissions for conditions considered avoidable by good quality primary care. It was noted that the same indicator can be interpreted in different ways to help explain, assess and understand integrated care.

Focus group participants suggested that there may be a need, or indeed an opportunity, to develop additional indicators that are more specific to integrated care. As indicated above, there appeared to be emergent consensus

among discussants that measurement should consider indicators of structure, processes and outcomes (Figure 5).

Thus, a number of focus group participants pointed to the need for any measurement system to consider indicators of structure to enable assessment of the basic conditions, building blocks or system levers needed to facilitate transformation to more integrated care systems (integrated care as a design principle). Examples of system levers include the basic organisational and financial frameworks in place and the degree to which these enable or hinder better integration, along with infrastructural measures, such as information and communication technology, and aspects of the workforce, among others.

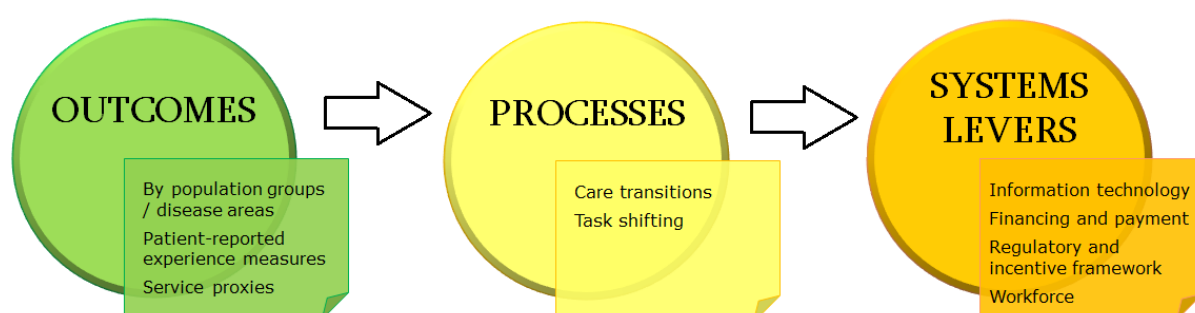
There was a perception that performance assessment of integrated care would benefit from the further development of thinking in this area, with potential indicators to go beyond a simple binary assessment (present or not present) to an evaluation of how well a given structure is suited to allow more integrated delivery of service - for example, compatibility and interconnectedness of different IT

structures among different providers or across sectors.

Likewise, viewing integrated care as a means to achieve patient-centred care reflects the processes in place, with measurement helping to understand how well they are suited to ensure achievement of desired outcomes. There was a suggestion that indicators could specifically focus on those areas where service users are most at risk of lack of integrated service delivery, such as transition points between care levels (e.g. primary care and secondary care; hospital discharge) and between sectors (health and social care), and task shifting.

Finally, although there was some agreement that existing HSPA indicators could already provide useful insights about selected aspects of integrated service delivery, for example service proxies such as avoidable hospital admissions mentioned above, participants identified the need for additional outcome indicators, capturing those for people with multimorbidity in particular, as well as patient-reported experience measures (PREMs).

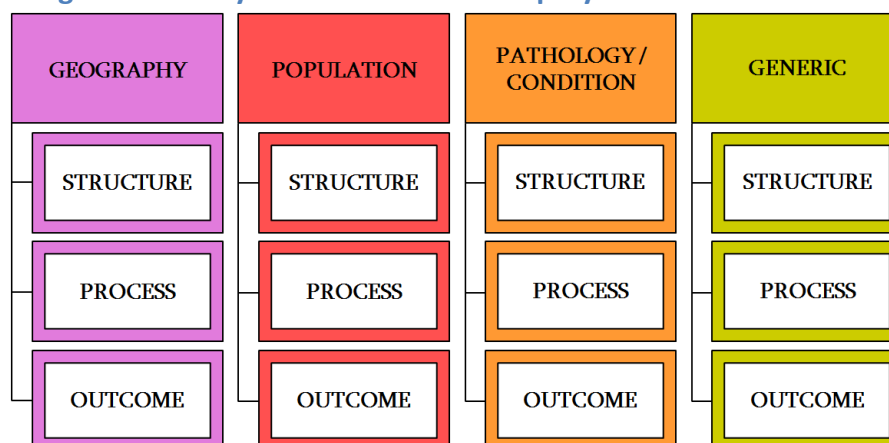
Figure 5: Proposed approach to conceptualise the measurement of the performance of integrated care



Against the background that countries have different starting points and priorities relating to the transformation to more integrated service delivery an alternative conceptualisation of the approach outlined in Figure 6 sees the

different components of structure, process and outcomes delineated according to geographical areas, different populations or different conditions in order to help inform improvement efforts.

Figure 6: Conceptualising the measurement of the performance of integrated care by different areas of enquiry



However, independent of the specific approach to indicator selection, focus group participants emphasised the need for careful interpretation of observed trends. Recognising the complexity of the issues and the context-dependency within which outcomes are achieved it was highlighted that indicators should not be looked at in isolation but needed to be interpreted in the given system setting.

There seemed to be agreement among participants for a narrative to help understand the degree to which a given indicator may tell us something about integration. There was recognition that it will be difficult to identify indicators that can be solely attributed to integration. It was thus suggested to use outcome indicators such as avoidable hospital admissions as a starting point and then 'dig deeper' to explain observed results or variation in outcomes, such as the extent to which the processes in place have led

to observed results or the degree to which system levers have caused the relevant processes to perform the way they have as illustrated in Figure 5.

Focus group discussions stressed that the selection of indicators should be driven by individual systems' requirements. However, at the same time there was acknowledgment for the need to identify a set of comparable indicators that may be considered core and that would allow for comparative assessment over time and between regions or countries.

Is there a need for a separate framework for measuring the performance of integrated care?

Several policy focus group participants raised questions about the purpose of a 'new' framework for measuring the performance of integrated care. It was noted that such a framework, if aimed for,

should be seen to provide guidance for countries to help inform their own thinking rather than being prescriptive.

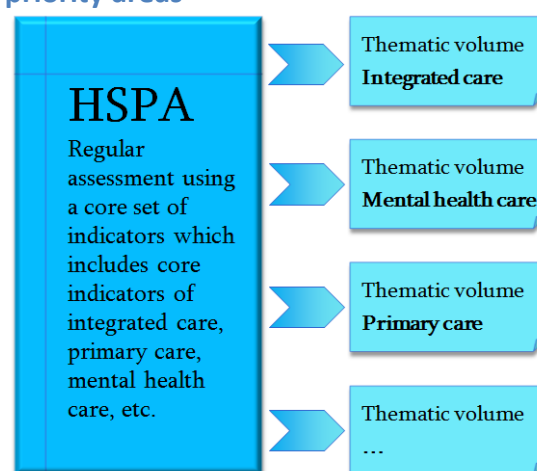
There was emergent agreement among discussants that as countries vary with regard to HSPA frameworks more broadly and integrated care approaches more specifically, any integrated care measurement system or framework should be tailored to countries' specific goals, values and needs. There was consensus that there was no single 'right' approach that would be applicable and valid for every system.

This last point is closely related to a further concern raised by a number of focus group participants. This centred on where integrated care performance assessments sit within the wider HSPA processes and systems in a given country. It was highlighted that countries differ in the 'stage' of their journey to more integrated care systems, with some having established explicit legal frameworks for integrated health and social care systems (e.g. Scotland²⁹) or are in the process of doing so (e.g. Finland³⁵) while others might set priorities differently.

Again, there appeared to be consensus that any model should be flexible and adaptable to different national or local contexts, where applicable. There was a proposal that national HSPA reporting could include a set of core measures indicative of integrated care that are being reported on a regular (e.g. bi-annual) basis, while more in-depth thematic volumes might provide more detailed insights into progress on integrated care. Such an approach could see different in-depth investigations alternate with, for example, a focus on

primary care, mental health care, or other priority areas (Figure 7).

Figure 7: Proposed model for alternate, in-depth HSPA reporting on identified priority areas



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Chapter 5

Conclusions

Integrated care includes initiatives seeking to improve outcomes of care by overcoming issues of fragmentation through linkage or co-ordination of services of providers along the continuum of care.

Integrated care is not a goal in itself; it is rather a precious tool when it addresses complex care needs of people that require a systemic approach involving professionals and skills from the healthcare, long-term and social care sectors.

In this case, failure to better integrate or coordinate services from these sectors may result in suboptimal outcomes. It not only entails a missed opportunity to bring together the best possible outcomes of cure and care activities but it can also result in wasting limited resources, both human and financial.

Integrated care is multidimensional and almost as complex as the needs of those to whom it is provided. Integration of care impacts upon different functions and levels of care systems; it may be limited to only one sector (health, social care) or be inter sectorial.

Elements of care systems may be connected with different degrees over a continuum of integration, from simple linkage to coordination, up to full integration. The more complex patients' care needs are, the more appropriate it

would be to move along the integration continuum from linkage to full integration.

Measuring integration is different from measuring the performance of integrated care. The reflection on building blocks, design principles and system levers touches upon the first challenge: it provides insights on the factors that enable effective and successful integration of care. Good practices were reviewed to identify key factors that are potentially transferable across Europe.

On the other hand, the Expert Group considered tailored frameworks and indicators to assess the performance of integrated care systems, which are able to capture the specific added value brought in by the integration. This analysis focused not only on the structure of integrated care models, but also on processes and outcomes.

Building blocks, design principles and system levers for integrated care

The transition to integrated care is a complex process with high complexity being present in all aspects: design, implementation and assessment of integrated care.

Integrated care models have to be carefully designed and implemented to fit

the local context and needs. Failing to do so effectively may not bring benefits and, under such circumstances, whatever indicators are used to measure performance will inevitably show poor or suboptimal results.

Design principles, building blocks and system levers should be included as part of the framework for assessment of integrated care. The identified principles and success factors for integrated care are inter-connected and are common across the integrated care experiences across Europe.

The following principles and factors were recognised as being important to enable successful and effective integration of care:

1. Political support and commitment
2. Governance
3. Stakeholder engagement
4. Organisational change
5. Leadership
6. Collaboration and trust
7. Workforce education and training
8. Patient focus / empowerment
9. Financing and incentives
10. ICT infrastructure and solutions
11. Monitoring / evaluation system



These eleven principles bear a strong resemblance to the twelve dimensions of

the Maturity Model developed by the B3 Action Group on Integrated Care of the EIP on AHA.

Measuring the performance of integrated care

Integrated care models can be introduced with different goals in mind: increasing effectiveness of the system, reducing costs, improving patient safety, etc. Before setting in place an assessment system it is important to explicitly define and agree on the goal of integrated care in a specific context, to permit a sound assessment of its performance.

In order to select relevant measures through which to evaluate the performance and progress of integrated care systems there needs to be a good understanding of:

- the core aims of integrated care;
- the desired outcomes;
- the timeframe over which such outcomes can reasonably be expected to be achieved;
- how impact can be measured;
- the robustness of measures;
- simplicity and ease of measurement.

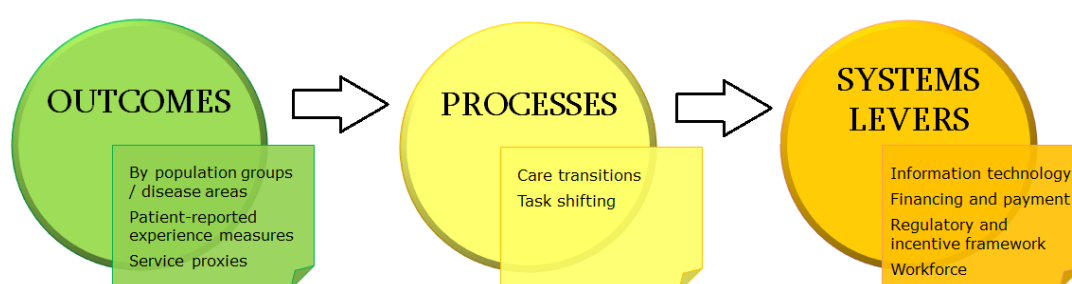
Integrated care can be seen to be both a design principle and a means to achieve person-centred, efficient and safe care.

The Donabedian approach to evaluate quality of care by assessing structure, process and outcome provides a useful way to guide integrated care performance measurement. The Expert Group agreed with Donabedian statement that “good structure increases the likelihood of good process, and good process increases the likelihood of good outcome”.

There is a need, or indeed an opportunity, to develop indicators that are specific to integrated care, although several existing indicators can be already

used for measuring the performance of integrated care. Innovative indicators that are more specific to integrated care should be used to assess:

- ① Structure; to enable assessment of the basic conditions, building blocks or system levers needed to facilitate transformation to more integrated care systems.
- ② Processes – focusing in particular on those areas where service users are most at risk of lack of integrated service delivery, such as transition points between care levels and between sectors, and task shifting.
- ③ Outcomes – to capture in particular those for people with multimorbidity, as well as patient-reported experience measures (PREMs)



There is no single ‘right’ approach that would be applicable and valid for every system. As countries vary with regard to HSPA frameworks more broadly and integrated care approaches more specifically, any integrated care measurement system or framework should be tailored to countries’ specific goals, values and needs. However, at the same time it would be valuable to identify a set of comparable indicators that may be considered core and that would allow for comparative assessment over time and between regions or countries.

Indicators and trends need to be interpreted carefully. Given the complexity of the issues and the context-dependency within which outcomes are achieved, indicators should not be looked at in isolation but need to be interpreted in the given system setting. The report presents several frameworks and lists of indicators that have been developed by different European and non-European countries.

ANNEXES

Annex 1

Table 6: Success factors and transferable elements from integrated care experiences in Europe

Index	Practice	Region/MS	Intervention & Target group	Success factors	Transferable elements
1	Integrated care through pilot projects (<i>pilot projects in starting phase /conceptualisation phase</i>)	Belgium: 20 regions of 100 000 to 150 000 inhabitants (in total: covering 1/3th of the Belgian population; 3.672.558 inhabitants)	<p>Target group: the whole Belgian population with a focus on people with a chronic disease</p> <p>Intervention: the implementation of a national plan with the principles of</p> <ul style="list-style-type: none"> *Triple Aim, * improving equity * job satisfaction for the care providers by launching pilot projects (in regions). 	<ul style="list-style-type: none"> • Co-creation with political commitment and stakeholder involvement: a combination of bottom-up and top-down by stimulation of bottom up ideas and entrepreneurship with guidance from the policymakers by setting out the framework for innovation and encouraging the collaboration between partners in the region. During the conceptualisation phase regular inter-vision between stakeholders-government. • Great emphasis on population-oriented care: The action plan of different pilot groups must be based on the needs in their region (stratification of the population). • Patient focus: each pilot project must implement strategies to enhance patient empowerment, also individual patients or patient organisations must be involved in the governance of the project. • Encouraging organisational change and actions not limited to only one part of integrated care: stepwise approach, financial and coaching support. The action plan of the pilot regions must include 14 components of integrated care (e.g. Case management, care continuity, 	<p>Pilot projects are in the conceptualisations phase, there are no implementations so far. During the 1 year preparation time, following elements were identified:</p> <ul style="list-style-type: none"> • The bottom-up /top down approach • Guidance through coaching support, proximity of the government

				<p>electronic patient record, ...) and has to include re-designing the organisation of health in their region.</p> <ul style="list-style-type: none"> • Attention for evidence based practice and quality of care: A scientific team will assist the pilot projects in building a culture of quality and procedures for auto-evaluation and monitoring. • Financial reform: the concept of a guaranteed budget for a region, and the possibility to re-invest efficiency gains in their region. 	
2	Integrated health and social care services in the Pardubice region	Pardubice, CZ	Holistic set of support, care, and services (health and social care) tailored to the needs of individuals with reduced self-sufficiency due to illness, disability or frailty and to support their carers.	<ul style="list-style-type: none"> • Close interdisciplinary co-operation between all agencies and workforce involved rather than small municipalities without sufficient expertise and finances. • Availability of strategy & vision of services in the region. • Creation of AZASS (Association of local / regional municipalities) which includes mayors, economist and healthcare professionals and covers all the health and social care services in 27 municipalities to avoid instability from political cycle; introduction of legally based cooperation of municipalities. • AZASS has single executive leadership team with each municipality having a proportioned vote to number of citizens but none can have a majority. • Members of the public can collaborate with leadership team to create solutions for local problems. • Clear strategic leadership. 	<ul style="list-style-type: none"> • Structured rules of co-operation within the AZASS association shared by municipalities – participatory democracy. • Approaches to personal co-operation and communication between stakeholders and the 27 municipalities. • Workforce development - retraining & creation of new roles.

				<ul style="list-style-type: none"> • Regular communication and engagement with all stakeholder involved; interdisciplinary working teams. • Individualised approach to the different needs of workforce following the introduction of new care models (retraining & creation of new roles). • Sharing of information about patients/clients. • Reconfiguration of health and social care services following bankruptcy of hospital was an opportunity to redesign the care model which successfully enabled the introduction of the whole set of new social services which did not exist before. • Removal of inhibitors, including both legal and financial constraints. 	
3	Improved management of visits in Home Care	Olomouc, CZ	Provision of nursing services to patients living at home facilitated by electronic evidence of visits and activities undertaken.	<ul style="list-style-type: none"> • Automated uploading/integration of home care nursing visits and activities into the hospital information system resulting in better information accuracy / data integrity. • Providing smartphones or tablets with NFC identifier (smart card) that act as a gateway for the identification of data which reduced the need for the nurses to manually enter the data and contributed to improved user acceptance and patient safety. • Simple software and devices. • Service is part of routine homecare services in the country. • Improved management of the workflows due to electronic evidence of visits. • Training of the nurses. 	<ul style="list-style-type: none"> • IMACHECK software. • Training of the nurses. • Involvement of patients in the design of electronic identification centre.

				<ul style="list-style-type: none"> • Involvement of patients in the design of electronic identification system. • Availability of dedicated financial resources. 	
4	Telehealth service for patients with advanced heart failure	Olomouc, CZ	Telehealth service for patients with advanced heart failure	<ul style="list-style-type: none"> • Adaptation of clinical protocols developed in United4Health project to specific needs of the region. • Patients did not have to repeat their measurements for their different chronic conditions as the remote monitoring CHF parameters also applied to support remote monitoring of patients with haemodynamic support (ventricular assist device -VAD) before orthotopic heart transplantation (OTS) or in long term regimen and thus patient and care practitioner acceptance was improved. • Minimal organisational changes required to routine hospital work flow. • Software platform supports additional chronic diseases, therefore suitable for multi-morbid patients. • Technical reliability of distant communication. • Creation of new jobs in relation to the establishment of the services. • Transferability of equipment to other patients. • Dedicated funding for the service. • Education & training of the workforce. 	<ul style="list-style-type: none"> • Appropriate vital sign parameters for multi-morbid patients. • Clinical protocols and revised work flow. • Roles and responsibilities of clinical staff. • The practice has already been transferred to another region in Czech Republic.
5	Telemonitoring of patients with AMI and in anticoagulation regime	Olomouc, CZ	Anticoagulation regime remote monitoring for older people post AMI	<ul style="list-style-type: none"> • Minimal organisational changes required to routine hospital work flow. • Devices enable bidirectional communication between clinicians and patient which improved patient and care practitioner acceptance and patient safety. 	<ul style="list-style-type: none"> • Clinical protocol and revised work flow. • Patient stratification and intervention targeting process. • Roles and responsibilities of clinical staff.

				<ul style="list-style-type: none"> • Existence of central system (portal) which was tailor made for the University Hospital Olomouc. • Patient empowerment – availability of measured data to patients; patients can directly access / download data from the portal. • Political support. • Application of experience / outcomes of U4H projects (avoid the duplication of efforts / mistakes). • Acceptance of intervention by the patients and healthcare professionals. 	
6	Gesundes Kinzigtal	Kinzigtal, Baden Württemberg, DE	Population-oriented integrated care and service integration encompassing: preventive care management, life style changes and disease prevention, chronic disease management.	<ul style="list-style-type: none"> • Establishment of an organisation whose pivotal role was the redesign of primary care, population health management and financial management to facilitate system integration. Gesundes Kinzigtal GmbH holds ‘virtual accountability’ for the healthcare budget for the population group, and has negotiated cooperation contracts with a range of local providers that have agreed to adhere to a set of guiding principles, standards and procedures. • Strong governance mechanisms among the private service provider and the health actors involved, especially the association of GPs of Kinzigtal region (the regional health management company is <u>co-owned (two-thirds) by the physicians’ network in the region</u>). • Strong engagement of health and policy actors, in particular, the primary care 	<ul style="list-style-type: none"> • The establishment of a regional health management company: this is transferable to any other part of Germany and also to countries with similar insurance-based health care systems such as the Netherlands, Austria and Switzerland (Bismarck health care systems). • In the case of Beveridge health systems, the increasing presence of private health insurance companies in public systems could facilitate the implementation of the Gesundes Kinzigtal model in the <u>private</u> sector. • Available elements to support replication: quality indicators, evaluation protocols, program outlines, incentive systems, guidebook, data warehouse, reporting system.

				<p>providers.</p> <ul style="list-style-type: none"> • A strong patient focus driven by preventive care services. • In-depth reorganisation of services and logistical re-engineering of care processes. This reorganisation implies horizontal integration and collaboration among GPs and the other healthcare and social care operators through service contracts established with Gesundes Kinzigtal, to share patients' information and services. • Establish trust, confidence and good collaboration among health providers to overcome the communication barriers. Strong public relations and frequent contact to citizens. • Well-established incentives and financing and reimbursement schemes - alignment of the financial interests of payers and providers in the system. <ul style="list-style-type: none"> ○ Strong relationship between the integrated management company and local statutory health insurers (sickness funds). The contracts are based on a shared health gain approach, with the resulting <u>benefits being shared</u> between the sickness funds and Gesundes Kinzigtal GmbH. ○ The <u>shared-revenue model</u> promotes additional incentives for health professionals, since the regional health management company is <u>co-owned by the physicians' network in the region</u>: 	
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				<p>part of the generated margins/profits is re-invested in training local physicians, OptiMedis personnel and for innovative programmes – see pages 19-20, 24-26). The overall incentives for GPs bring 15% increase of their personal income.</p> <ul style="list-style-type: none"> ○ The shared-revenue model leverages health improvements by incentivising prevention activity and efficiency savings in processes. ● Long-term contract (10-years): an incentive for sustainable health investments and prerequisite for a meaningful evaluation. Allows for initial investment until earnings are big enough for ROI. ● A common ICT infrastructure and Centralised Electronic Health Record to support cooperation across GPs' practices and other care actors, to manage the health information of the enrolled patients and to share it among all care actors. ● Policy commitment which led to the adoption of innovative legislation in support of integrated care services. The initial investment was facilitated by national policy (Statutory Health Insurance Modernisation Act in Germany). ● Establishment of a monitoring and evaluation system, to provide evidence of the impacts (with cost-benefit analysis). ● Sustain service provision in the long-term, via investing a significant amount of money to attract young doctors to the region by offering 	
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				training positions, for the type of training required for their medical qualifications.	
7	Geriatric Concept	Saxony, DE	<p>Target group: geriatric patients with chronic diseases.</p> <p>Integrated care model for cross-sector cooperation of the health care providers, establishing standard assessments, introducing treatment pathways and supporting formal and informal carers.</p>	<ul style="list-style-type: none"> • Active cooperation of the health care providers in the networks, including GPs. Establishing standards and treatment pathways agreed on by all net partners. • Participation of the municipalities as key stakeholders. • The implementation process is accompanied by conferences, workshops and training courses for formal and informal carers. E.g. special training meetings for geriatrics network stakeholders ("GerineTrainer") every 6 to 8 weeks on the care of patients suffering from dementia turned out to be very successful. 	<ul style="list-style-type: none"> • Special screening tools. • Living environment strategies. • Guidelines and counselling and care frameworks.
8	TK Integrated Care Contract for Back Pain	various locations, DE	<p>Integrated care model (linking doctors, hospitals and outpatient care facilities) to improve the treatment of back pain. Focus on secondary & tertiary prevention</p>	<ul style="list-style-type: none"> • Re-numeration comprises of financial incentives to achieve sustainable treatment. <ul style="list-style-type: none"> ○ If patients are fit for work after four weeks and remain like this for six months without any interruptions, their doctor receives a financial bonus. If a patient is still not fit for work after eight weeks on the programme doctors are penalised 7% of their re-numeration. 	<ul style="list-style-type: none"> • The process of patient selection and the implementation methodology is available and could be implemented by other insurance funds in Germany or in Europe.
9	SAM:BO Cooperation on care pathways	Southern Denmark, DK	Cooperation on care pathways between GPs, local authorities	<ul style="list-style-type: none"> • Supportive legal framework: the Danish Health Legislation, which obliged the regional councils and the municipalities to sign an 	<ul style="list-style-type: none"> • The principles for electronic communication between the health sectors in the region (have already

	in the Region of Southern Denmark		<p>and hospitals. Backed up by a Shared Care Portal as a tool in the treatment of the complex chronically ill patients. Currently available for patients suffering from CVD, but will be rolled out to include COPD, diabetes, and cancer.</p>	<p>agreement on issues related to health and psychiatry - to strengthen cooperation between hospitals, municipalities and the general practices, and ultimately ensure continuity of care.</p> <ul style="list-style-type: none"> • Political commitment and consensus: Strong commitment of the regional government. SAMBO was agreed upon and signed at political level, both by the Regional Council and by the 22 city councils. • Well-established and continuous health innovation processes involving all the regional stakeholders. Such innovation ecosystem helps anticipate organisational and technological issues before defining operational standards and procedures. • The existence of an electronic information and communication network infrastructure, which integrated all the health care actors in the region using shared interoperability standards, shared care records, together with an already wide diffusion of eHealth applications. • Strong participation of the stakeholders in the implementation. This was critical for the operationalisation of the SAM:BO initiative in local contexts as the latter requires full acceptance of organisational changes in care delivery and managerial processes. It helped speed up the design and implementation of services and to apply common standards. • A dedicated team followed the entire process, ready to support the implementation of the new organisational structures, but also to 	<p>been transferred to the other 4 regions in Denmark).</p> <ul style="list-style-type: none"> • The procedures and standards developed (these do not require significant investments). • Transferability is feasible in the Danish context, as the legal framework is the same and there is a common ICT that could support the practical deployment of the case in other regional or local contexts within the country. • Favourable conditions for transferability of SAM:BO initiative are national, regional or local contexts where: <ul style="list-style-type: none"> ○ There is a unique patient identifier. ○ There is an existing health care infrastructure which supports information sharing between the healthcare and social care actors. ○ A healthcare system transformation is already underway, so that health and social care actors are more willing to accept such organisational and cultural changes. ○ A legal framework for integrated care is already well-established.
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				<p>assist in the roll-out of the new electronic communication.</p> <ul style="list-style-type: none"> • Strong governance in terms of definition of procedures and standards. • Cross-sector organisational implementation is most successful when the procedures and instructions are a result of cooperation across all sectors and new practices are taught in a cross-sector set-up where both municipal staff and hospital staff are trained together. • The organisational implementation works best when clear agreements and instructions on the individual's tasks and use of IT are formulated. • The technical implementation is strengthened by developing IT as tools to support the work process that relates to the agreements and instructions. IT is best developed through active user involvement in the development phase. • Re-organisation of the care service with an emphasis on the patient, to re-orientate the focus of care from the hospital to the patient. 	
10	Basque Strategy for tackling the challenge of chronicity	Basque Country, ES	Target group: chronic patients Population Intervention Plans in the clinical field to provide healthcare in a coordinated and efficient manner among all players involved for each	<ul style="list-style-type: none"> • Making the transformation of the healthcare model a priority health policy, with a clear vision and defined objectives. • Create a "narrative" beyond "cost containment", provide a vision and structure which needs to be attractive, as well as a cohesive common understanding on where the main problems are, what are the key issues to tackle and how to do it. • A very relevant aspect to consider is that one 	<ul style="list-style-type: none"> • The knowledge acquired during the implementation process of the projects. • Implementation methodology of the innovative projects.

			target population.	<p>can pull off advances in a non-aligned context but system-wide transformative change will only happen when many policy levers are aligned and activated in the same direction.</p> <ul style="list-style-type: none"> • A right balance between top down and bottom up levers and the inclusion of right incentives as well as common objectives in health outcomes. • Continuous evaluations of the advances of the strategy are critical to the scaling up process, because they provide the results and lessons learned during the implementation process. • Research projects, thereby generating a network of improved scientific evidence concerning the treatment and care for chronicity are also important. 	
11	Population Stratification	Basque Country, ES	<p>Target group: chronic patients. Construction of prospective statistical models which will provide an estimation of the health resources likely to be needed per each individual throughout the following year. The entire Basque population has been stratified, based on demographic, medical and social</p>		<ul style="list-style-type: none"> • The methodology used. • Lessons learned (key aspects to take into account, barriers and facilitators).

			variables as well as the previous use of resources.		
12	PROMIC	Basque Country, ES	Target population: heart failure patients older than 40 and showing stage II to IV (NYHA) heart failure conditions. Assessment of the effectiveness of a Heart Failure Care Management Program Patients.	<ul style="list-style-type: none"> The potentiation of the roles of nurses and the inclusion of social workers in the health setting promotes integration between care levels and areas, without the necessity of costly investments. 	
13	BSA	Badalona, Catalonia, ES	Target population: patients with complex chronic conditions. Care Model for Patients with Complex Chronic Conditions (MAMCC) is used. Stratification of population. Integration of health and social care.	<ul style="list-style-type: none"> Reorganisational process and the governance mechanism established have been the main drivers of integrated care. Engagement and co-operation of health and social care professionals. Existence of interoperable information systems. Resistance to technology on the part of health and social care professionals and patients has not been perceived as a barrier which hampers integrated care deployment. The absence of major conflicts between the distribution of resources and the alignment of incentives among different levels of health care and social care. 	<ul style="list-style-type: none"> The technology developed at BSA could be relatively easy to transfer to other health care organisations. This technological innovation, however, would not have an impact without the necessary organisational and institutional innovation. BSA is an integrated care organisation which was created in a region with NHS model. Transferability to health insurance environment would be more difficult.
14	NEXES - Supporting Healthier and	Barcelona, Catalonia, ES	ICT-enabled integrated care services:	<ul style="list-style-type: none"> Political support and commitment from the local government. Sustained leadership was crucial; first, from a 	<ul style="list-style-type: none"> Professional role redesign: case manager as the lead for the different programmes. Train participants in the

	Independent Living for Chronic Patients and Older People		<ul style="list-style-type: none"> ▪ well-being and rehabilitation, ▪ enhanced care for frail patients, ▪ home hospitalisation and early discharge, ▪ remote support for diagnostic and/or therapeutic procedures. <p>The focus is on highly prevalent chronic conditions (COPD, chronic heart failure and diabetes).</p>	<p>more scientific/clinical perspective; later from a managerial one.</p> <ul style="list-style-type: none"> • Having engaged healthcare professionals and champions in most locations facilitated a snowball effect for the larger deployment of services in these locations. • Specific logistics in place to support the tasks involved in the program. The use of business process notation models was of help to identify and correct deficiencies. • Incremental pace to accommodate the learning process of both professionals and patients. Flexible pace of adoption is a sensible strategy to overcome contextual factors. • Deployment of care pathways by motivated and engaged inter-professional teams facilitated the re-organisation of the services to ensure cooperation between tiers of care and between health and social care. • Simple and robust ICT solutions, with particular attention on interoperability at health system level, in order to enhance communication and information flows across the continuum of care, are effective in ensuring extensive adoption. • An open ICT platform supporting organisational interoperability and collaborative work was an important enabler of the implementation (no need to replace pre-existing proprietary Electronic Health Record / HIS, which helped overcome resistance). • Focus on efficiencies of novel integrated 	<p>adequate skills.</p> <ul style="list-style-type: none"> • Flexible pace of adoption is a sensible strategy to overcome contextual factors. • An open ICT platform supporting organisational interoperability and collaborative work, with no need to replace pre-existing proprietary Electronic Health Record / HIS. This requires a rather medium level of customisation. The ICT platform can mediate between external applications and its core module, and act as the common frontend showing only the relevant information and interfaces to the relevant end-user. <ul style="list-style-type: none"> ○ Integration with external Hospital Information Systems and other legacy systems is achieved by implementing web services for interoperable machine-to-machine interaction. ○ Organisational interoperability between professionals participating in integrated care programmes is enabled by means of a common frontend. ○ Modular system which ensures vendor independence so that different vendors can provide specific functionalities.
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				<p>healthcare services rather than on implementation of ICT into traditional approaches.</p> <ul style="list-style-type: none"> • A bundle payment scheme where risk is shared between payers, healthcare providers and ICT suppliers seems to be adequate to release the efficiencies at health system level, facilitating investment on ICT innovation without increasing total healthcare costs. 	
15	MECASS – Collaborative model between health and social care	Barcelona, Catalonia, ES	Integrated, patient-centred, care model, between health and social care, for chronic diseases patients.	<ul style="list-style-type: none"> • A shared risk model (PPP) established between the healthcare provider and the IT provider. Both organisations facilitated human resources to develop the platform that allowed the objectives. • Organisational processes, both clinical and administrative, clearly defined and shared among stakeholders. • Strong clinician collaboration, a bottom-up approach. • System interoperability and Standardisation. Definition of both clinical and technical standards, to share relevant information among all the players. 	<ul style="list-style-type: none"> • Common intervention plan, shared among all the health and social care professionals. • Definition of both clinical and technical standards, to share relevant information among all the players. • The developed platform, based on an open architecture, that allows the holistic vision on patients. The technical solution allows escalating the integrated care management to different healthcare programs and different regions. <ul style="list-style-type: none"> ○ Connectivity and interoperability with patient-centred management, and analytics technology that allows two-way exchange of structured and unstructured data between the healthcare provider and other suppliers. ○ Scalable and robust system with a rich user interface. It provides for the gradual implementation

					of additional components.
16	Getafe	Getafe, Madrid, ES	<p>Target population: older in- and out-patients.</p> <p>Continuous, progressive and coordinated attention to patients at high risk of functional decline, institutionalisation, and hospitalisation, at home or in residential care settings.</p>	<ul style="list-style-type: none"> • Computerisation – the use of Health Information Systems in routine practice has facilitated the work of the physicians who visit patients at their homes or nursing homes. • Commitment of the professionals. • Public funds as the main source of financing. 	<ul style="list-style-type: none"> • The core component is a “way to do the things” instead of instruments or devices. It allows to expand the model to different settings. • It is possible to select the components best fitted to specific needs or budgets. • Although the whole system embraces several parts, it is possible to decide to implement a few of them. • It is also possible to introduce some functional changes according to the characteristics of specific organisation.
17	Alzira model	Valencia, ES	<p>Vertical integration across primary and secondary care to provide universal access to a range of primary, acute and specialist health services to the local population.</p>	<ul style="list-style-type: none"> • High clinical, managerial and cultural integration. <ul style="list-style-type: none"> ○ The inclusion and clinical integration of primary care into the wider system, is important. ○ Integrated primary care centres established to enlarge the scope of some of the health centres, with onsite x-ray services, accident and emergency departments, and medical specialist outpatient clinics. ○ A consultant physician is attached to each health centre, working with the same patients as the GP, to implement clinical guidelines with the local GPs and 	<ul style="list-style-type: none"> • The <u>contractual model (PPP with capitated payment)</u>: first applied to the Hospital de La Ribera, replicated to over 20% of the Valencia region, and also used in an area of Madrid.

				<p>reduce the number of inappropriate hospital referrals.</p> <ul style="list-style-type: none"> ○ Integrated medical care pathways, to streamline the management of health problems across prevention, acute care, rehabilitation, chronic care and palliative care. ○ Population health management culture. ○ Health objectives alignment across the whole organisation. <ul style="list-style-type: none"> ● Reimbursement model: the provider (a private entity) receives a fixed annual sum per local inhabitant (capitation) from the regional government. <ul style="list-style-type: none"> ○ Long-term contract - long-term business perspective; no short-term profit. ● Private operators have an incentive to treat people in the most appropriate and cost-effective setting, which means limiting the demand on hospital services through preventative and community care. <ul style="list-style-type: none"> ○ Patients, who are free to go elsewhere for care and hence cost the provider money in that case, also drive the model to focus on its quality and customer service. ● A unified IT system across all services, with a shared patient record between GPs and specialists. Comprehensive and up-to-date information drawn from a shared database. ● Rigorous management culture requiring accountability and compliance with a set of procedures and guidelines. 	
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				<ul style="list-style-type: none"> • Incentives for staff to ensure compliance. Performance of staff is monitored and staff receive bonuses as a result of high performance; can earn up to 40% more than in other hospitals in Valencia. • Benchmarking - cost analytics and what-if capabilities. 	
18	Holistic health and social services at home programme	Valencia, ES	<p>Target group: older patients and their caregivers.</p> <p>Providing patients and informal care givers with comprehensive care at home, favouring transition from hospitalisation to home care.</p>	<ul style="list-style-type: none"> • Strong emphasis in the standardisation of its processes and in the maintenance of high quality services. • Having experience in using IT solutions supporting work of care unit. • Engagement at political level. • Co-operation with primary, secondary and tertiary care providers. • Agreement with patients' association • Scientific and technical support from experts in these fields. 	<ul style="list-style-type: none"> • Standardised and validated processes. • Usage of IT technologies specifically supporting the unit work, including a specific healthcare record.
19	Integrated care through case management in the Valencian Region	Valencia, ES	<p>Target population: chronic patients over 65 years, who require social and health care at home.</p> <p>Setting up a pilot case management unit in two primary care centres to assess the effect of a case management programme applied in primary care.</p>	<ul style="list-style-type: none"> • Cooperation between different actors and sectors, as such regional and local administration, private companies, professionals, patients and caregivers • Creating two new professional positions: 'management nurses' and 'continuity nurses' who apply the case management methodology from a primary health care centre and in hospitals to better connect both spheres between themselves and with social resources. 	

20	eTrikala	Trikala, EL	Integrated Care based on an ICT infrastructure managed by a telecare centre that constitutes a single entry point to health and social services provision.	<ul style="list-style-type: none"> • Inter-professional teams across the continuum of care • Policy leaders facilitating the participation of all stakeholders and fostering innovation in the health system • Broadband internet, which covers most of the municipality's geographical area 	<ul style="list-style-type: none"> • Using interoperable ICT standards.
21	HTLA: Health Territory Local Agreement	Région Ile-de-France, FR	Target population: people of 75+ years old and extended to 60+ when concerning prevention. Better coordination between local health and social stakeholders	<ul style="list-style-type: none"> • Political will • Performing the diagnosis and analysis of the maturity of care through special toolkit prepared for this purpose. • Identification of the partners to be involved. • Availability of finances and resources to perform new tasks connected with management of the Agreement within the relevant organisations has to be validated before the signature of the Agreement. 	
22	Multimorbid clinic for chronic diseases (MACVIA-LR)	Languedoc-Roussillon, FR	Target population: patients with major chronic diseases Integrated care pathways for chronic diseases	<ul style="list-style-type: none"> • Combination of best practices in integrated care instead of definitely seeking the new ones. • Chronic disease clinic based on comorbidities and/or falls integrated with all components of health and social care to provide an integrated cost-effective solution 	<ul style="list-style-type: none"> • Transferability using the expertise of the chronic disease programme which has been translated into 52 languages and transferred successfully to 64 countries.
23	Campania nel Cuore	Campania, IT	Integrated care for hypertensive patients, facilitated by use of ICT.	<ul style="list-style-type: none"> • The ICT is scalable and there are interactions with other clinics and departments to integrate their electronic records with Campania Salute. • A strong interaction with the hospital management and with its ICT services is at the core of the interoperability, to ensure 	<ul style="list-style-type: none"> • The ICT is easily transferable. It is possible to make acquisitions of modules separately, according to resources and opportunities.

				<p>maximum impact.</p> <ul style="list-style-type: none"> • Dedicated personnel are key to a fast forwarding of scale-up implementation. 	
24	ARIA	Emilia-Romagna, IT	<p>Home follow-up program combining tele-monitoring and chest physiotherapy in preventing and early treating acute respiratory episodes.</p> <p>Patients affected by: neurological, neuromuscular, rib cage diseases causing chronic respiratory failure.</p>	<ul style="list-style-type: none"> • Tele-medicine and home-tele-monitoring services are innovative and powerful tools that can contribute to deliver benefit both to patients/caregivers and health system in the whole; • Collaboration among different Wards medical specialists, GPs, patients/caregivers; • Active involvement of local/regional home-based service providers. 	<ul style="list-style-type: none"> • The model can be applied to patients with Amyotrophic Lateral Sclerosis, Quadriplegia and Gold stage IV COPD.
25	SOLE/FSE	Emilia-Romagna, IT	<p>Patient-centred integrated care services.</p> <p>SOLE is the integrated network of local health Units, hospitals, GPs and paediatricians of the Emilia-Romagna region in Italy.</p> <p>FSE is a software application that helps organise, retrieve and manage</p>	<ul style="list-style-type: none"> • Strong commitment of the regional government to reinforce quality of care and efficiency, reducing at the same time operating costs of clinical services; • Involvement of relevant partners/stakeholders; • Adoption of ICT platforms/infrastructures/networks to make possible the sharing of data/information. 	<ul style="list-style-type: none"> • From a technological perspective, the SOLE/FSE infrastructure was built up in accordance with the interoperability specifications agreed among the regional and national organisations of a majority of the EU28 member states during the development of the EU project EPSOS. The software code could be easily transferred to local contexts in Italy and in Europe. • The investment that could hinder the transferability of the SOLE/FSE initiative is related to ICT infrastructure. The SOLE/FSE initiative could only be transferred

			the clinical history of every citizen of the region.		<p>in areas where there is broadband.</p> <ul style="list-style-type: none"> • The most critical success factors for transferability to other regions/countries are favourable institutional and cultural contexts and the local presence of a common strategic and operational management of the local health and socio-sanitary systems to guarantee: <ul style="list-style-type: none"> ○ Strong commitment by the local government. ○ The deployment of integrated care initiatives that make use of the SOEL/FSE infrastructure. ○ The cultural and organisational changes that allow information sharing across different tiers of care and between health care professionals in the same tier.
26	eCare Network in Bologna	Emilia-Romagna, IT	Coordinated municipal social and healthcare services to support frail old people of age 75+. Tele-monitoring, tele-assistance and tele-company services for preventing the aggravation of social and healthcare frailty and for early detection of possible	<ul style="list-style-type: none"> • Very close interaction with the voluntary sector, associations and public administration • Gathering of key resources in a given area in order to offer opportunities and services to the older population, making them easily visible and accessible even by those who, like many older people, usually do not have a high knowledge of what can be enjoyed in support of their condition of loneliness and frailty. 	<ul style="list-style-type: none"> • The network of citizens, associations, public authorities, professionals is the base for an upcoming evolution of the service and its experimentation in other regional cities and regions (namely Lombardia, Piemonte, Puglia).

			worsening signals to avoid unnecessary hospitalisation.		
27	Diabetes mellitus integrated care management	Emilia-Romagna Region, IT	<p>Target population: type II Diabetes patients without complications</p> <p>Development of evidence based recommendations for integrated care addressed to General Practitioners (GP) and Center for Diabetes</p> <p>Identification of the population affected by diabetes using information derived from local and regional administrative databases and clinical databases.</p> <p>Health Homes (Case della Salute): multidisciplinary care teams, nursing case management, ICT platform, point of care testing, social services.</p>	<ul style="list-style-type: none"> • Health Homes: collaboration between general practitioners and specialists (diabetologists, cardiologists, pulmonologists, oculists, nephrologists and others) • Health Homes: integration between health and social services • Evidence based clinical pathways • Adoption of ICT platforms (SOLE network) to share data between healthcare professionals and services • Commitment of the regional government to reinforce quality and continuity of care • Involvement of relevant partners/stakeholders 	<ul style="list-style-type: none"> • Clinical pathway methodology transferable to other chronic conditions such as heart failure, COPD, renal failure, dementia

28	Breast and colorectal cancer clinical pathways	Emilia-Romagna Region, IT	Development of evidence based recommendations by the Regional Oncologic Commission	<ul style="list-style-type: none"> • Commitment of the regional government to reinforce quality and continuity of care • Evidence based clinical pathways • Multidisciplinary teams • Breast and colorectal cancer performance indicators definition and monitoring • Involvement of relevant partners/ stakeholders 	<ul style="list-style-type: none"> • Clinical pathway methodology transferable to other neoplastic conditions
29	Proactive care in Health homes (Case della Salute)	Emilia-Romagna Region, IT	<p>Target on patients with chronic disease</p> <p>Development of a predictive model to identify patients at high risk of hospitalization or death</p> <p>Profile of patients' risk for hospitalization or death provided periodically to primary care departments</p> <p>Proactive case management and personalised care</p>	<ul style="list-style-type: none"> • Multidisciplinary teams • Integration between health and social services • Commitment of the regional government to reinforce quality of care • Involvement of relevant partners/ stakeholders 	<ul style="list-style-type: none"> • The model of patient selection is transferable to other areas/conditions

30	PDTA	Brescia, Lombardy, IT	<p>Focus on “home care management” and health and social services integration, mostly addressed to dementia/Alzheimer patients.</p> <p>Integrated care approach based on a standardised diagnosis of disease and personalised therapeutic and pharmacological pathways continuously monitored by GPs.</p>	<ul style="list-style-type: none"> • Integrated care has been on the Brescia Local Health Unit agenda for the past 15 years. This local policy commitment has been the main facilitator of the PDTA case. • Continuous training actions targeted at GPs, the network of service providers, non-professional caregivers and patients’ families. • Single and continuously updated IT system that contains data from both patients and service providers. 	<ul style="list-style-type: none"> • The transferability of the PDTA case to other Italian regions does not require significant investment in terms of organisational effort or technological infrastructure. • Transferring the PDTA approach to other EU28 contexts would probably be far more difficult, given the different health care organisation systems.
31	Integrated Care Model in Lombardy (CReG-based)	Lombardy Region, IT	<p>3.5 million residents with chronic conditions</p> <p>Expenditure for chronic diseases accounts for about 75% of the region’s overall health care expenditure</p> <p>Lombardy “Regional Plan for Chronicity and frailty 2016-2018” implements organisational</p>	<ul style="list-style-type: none"> • Strong commitment of the regional government • Identification of care managers • Prospective and flexible Personalized Care Plan (PCP) for each patient • Care Management Service (CMS) to ensure PCP accomplishment • IT supported integrated clinical pathway • Integrated Model tested and validated at primary care level • Cooperatives of GPs established to manage integrated care • reduced risk of hospital admissions for any cause • reduced risk of emergency department 	<ul style="list-style-type: none"> • Methodological approach to define CReG classes scalable and transferable to other regions • Personalised Care Plan (PCP) scalable and transferable

			<p>innovation in the health system targeted to patients with chronic illnesses (28,4 million euro).</p> <p>Strategic Plan based on a Population Health Management approach</p> <p>Health-based clinical risk adjustment model to identify, classify and stratify chronic patients into “CReG classes” (CReG: Chronic Related Groups) - homogeneous both in terms of diagnosis and costs</p> <p>Services targeted to CReG class related patients’ needs, with focus on monitoring, outcomes evaluation and quality improvement</p>	<p>admission among enrolled patients</p> <ul style="list-style-type: none"> • improved clinical outcomes in identified patient groups (diabetes, hypertension) 	
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			<p>Integrated care management calibrated on CReG class applying innovative tools at different care settings (primary care, specialised ambulatory care, hospital care)</p> <p>CreG Tariff: risk-adjusted capitated Prospective Payment System at primary care level to cover costs of 1-year service for each class</p>		
32	Family and Community Nursing role implementation	Piemonte, IT, Liguria, IT, Primorska (Slovenia) Karnten (Austria)	Citizens aged over 65 followed by Family and Community Nurse (including prevention strategies and care pathways adherence and other levels of care)	<ul style="list-style-type: none"> (see EIP-AHA Good Practices documentation) 	<ul style="list-style-type: none"> (see EIP-AHA Good Practices documentation)

33	Home radiology service	Piemonte, IT	Citizens/patients (especially older and frail) needing radiological diagnostics follow up living in remote areas have the possibility to avoid stressful and dangerous transportation to hospital	<ul style="list-style-type: none"> • Involvement of all needed stakeholders • good communication with GPs and medical specialists • good collaboration with local health services (home care basic services and administrative services) 	<ul style="list-style-type: none"> • The operational framework of the home radiology service in Piedmont is working since 2007 and it has been extended to the whole regional area.
34	Home video dialysis	Piemonte, IT	Video-dialysis allows the patient or the partner/caregiver in the management of peritoneal dialysis who are not able to provide independently (http://www.aslcn2.it/lospedale-alba-bra/specialita-mediche/nefrologia-dialisi-e-nutrizione-clinica/video-dialysis/)	<ul style="list-style-type: none"> • Collaboration between health and social service staff and a small enterprise that patented a new technology together with clinicians • Self management and patient empowerment • Collaboration among healthcare staff at different levels of care (hospital-primary care facilities-GPs) • very good results at low costs 	<ul style="list-style-type: none"> • After overcoming initial barriers, coordination and collaboration has improved and the model can be exported. • The technology employed for the home video dialysis service can be adapted and transferred to other settings and environments
35	The hospital-at-home service (HHS)	Piemonte, IT	The hospital-at-home service (HHS) is an alternative to the traditional wards for elderly patients. The team operates 7	<ul style="list-style-type: none"> • Trust established between caregivers, patients and hospital at home staff • Communication amongst the various healthcare providers involved, especially between GPs and hospital staff. • Patient satisfaction 	Elements that could be transferred to other settings should be evaluated for each single context

			<p>days a week and looks after 25 patients a day, on average. Every year, a mean of 450 patients are treated at home. The most common causes of admission are cardiopulmonary, cerebrovascular, metabolic, and neoplastic diseases.</p> <p>HHS can be directly activated by GPs as an alternative to hospital admission, or by hospital wards to allow early and protected discharge from hospital</p>	<ul style="list-style-type: none"> • HHS demonstrated to be as efficacious as a traditional ward for elderly and functionally compromised patients 	
36	Medication Reconciliation and safety	Piemonte, IT	<p>Integrated path among professionals belonging to different levels of care organisations (hospital pharmacists, local care pharmacists, GPs, risk management</p>	<ul style="list-style-type: none"> • Active involvement of patients • Better communication between patients and healthcare staff • correct prescription and adherence to therapy • <i>Pocket list</i> of prescribed drugs given to each patient to be checked at each transition to a different care setting • In 2017, a web portal will be implemented where hospital staff in charge, GPs and 	<p>The developed communication matrix between stakeholders can be replicated and exported to other areas and settings</p>

			<p>experts, together with university researchers) aimed at checking the correct prescription of drugs at transitions in care (hospital admission, transfer from one unit to another during hospitalization, or discharge from the hospital to home or another facility), aiming to prevent ADE's (adverse drug events)</p> <p>Medication reconciliation refers to the process of avoiding inadvertent inconsistencies across transitions in care by reviewing the patient's complete medication regimen at the time of admission, transfer, and discharge and comparing it with the regimen being</p>	<p>patients can access drugs plans prescribed, for an increased safety of drugs combination</p>	
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			considered for the new setting of care		
37	Oncology pathways	Piemonte, IT-Regional	Oncology Pathways, within the Regional Oncological Network of Piedmont and Valle d'Aosta. Oncological patients are taken care of, from diagnosis to follow-up, by each level of healthcare organisations involved		
38	Integrated Pathways for Heart failure care, HCV patients, dyslipidaemia, low back pain	Piemonte, IT	Patients affected by heart failure, HCV, dyslipidaemia, low back pain		
39	Telehomecare, Remote Monitoring for patients Heart Failure, and Diamonds	Puglia, IT	Telemonitoring aimed at patients with Heart Failure, COPD & Diabetes Remote monitoring for people living with Congestive Heart	<ul style="list-style-type: none"> • Existence of technology system / platform (H&H Hospital at Home) to enable the detection of clinical and instrumental parameters. • Introduction of integrated management of hospital and territory. • Provision of real-time Self-Monitoring Blood 	<ul style="list-style-type: none"> • H&H Hospital at Home Technology system. • Stakeholder engagement. • Clinical & Technical protocols. • Clinical training package. • Telemedicine platform.

			Failure	<p>Glucose (SMBG) monitoring.</p> <ul style="list-style-type: none"> • Availability of smartphone-connected glucometer modified for USB cable connection to smartphone reduces error as blood glucose readings are not manually entered into the App. • Automated adjustment of insulin dosage through DSS algorithm which improves patient safety. • Provision of immediate feedback on patient uploaded glucose readings Increases acceptance of tele-monitoring by patients and care practitioners. • Existence of tool to allow verification of the appropriateness of SMBG in relation to the diabetes status, accessible by the payers as well. • Patient empowerment through the direct access to data on their diabetes status. • Update of existing clinical and technical protocols. • Workforce training. • Regular evaluation of the satisfaction of healthcare professionals, patients and caregivers. • Improved communication between GPs & Specialist. • Early involvement and engagement of all stakeholders involved, including the patients, caregivers, health and social care partnerships. • Using evidence-base for implantable cardioverter-defibrillator (ICD) from EU project (More-Care). 	<ul style="list-style-type: none"> • Clinical triage and management protocol. • Algorithm integrated into the Decision Support System. • Extended role of clinicians' education and training package.
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				<ul style="list-style-type: none"> • Introduction of system based on primary care nursing. • Creation of new telemedicine physician and nurse dedicated roles; including the provision of training for these roles. • The central control room which receives the tele-monitoring data minimises risk of a staff member not having access to the full historical data and enables appropriate staff member to respond to any alerts as necessary. • Providing intervention safety reassurance to patients. 	
40	CKD Integrated care	Puglia, IT	Integrated telemedicine platform for predictive medicine, telemonitoring and CKD patient empowerment	<ul style="list-style-type: none"> • ICT regional structure, with privacy and securing systems. • Provision of a home-based renal dialysis platform which enabled two-way dialog between patient and remote renal specialist increased acceptance by patients and care practitioners of telemedicine solution and service redesign. • Dedicated telemedicine clinical specialists. • Accurate information on telecommunications infrastructure capability of patient's home which reduced unnecessary staff resources spent on resolution of technical problems as well as increasing acceptance by patients of telemedicine solution. • Clinician led telemedicine integrated CKD pathway development. • Patient empowerment through the introduction of edu-games & social networks that are part of the platform. • Training of care and case managers, nurses 	<ul style="list-style-type: none"> • Diagnostic and therapeutic protocols. • Telemedicine integrated CKD clinical pathway. • Centralised Control Room to support regional roll-out and beyond of multiple telemedicine applications.

				and physicians – new professionals responsible for the virtuous paths between hospital and territory, including the availability of training facility.	
41	Smartaging Mindbrain	Puglia, IT	Primary and secondary prevention and early diagnosis of cognitive decline and Alzheimer's disease based on computerised analysis of biomarkers in 50-64 year olds.	<ul style="list-style-type: none"> • Existence of telecom platform and inclusion of the interventions in the existing platform. • Automated feedback report to patients on their lifestyle and physiological measurements rather than clinicians' time being used. • Dedicated telemedicine clinical specialists • Adequate training and support for older patients, including training facilities. • Providing data privacy policies for patient reassurance. • Patient empowerment through the instructions on healthy lifestyle. • Building on the success / outcomes of previous FP 7 European projects. 	<ul style="list-style-type: none"> • Telemedicine algorithm that analyses biomarkers that meet international guidelines for early diagnosis and monitoring of Alzheimer's Disease. • Automated algorithms for feedback on patient's behaviour and physiological parameters.
42	Diagnostic and care pathways (PDTA)/ Houses-of-health	Lazio Region, IT	Identification of the population affected by diabetes and COPD using information of health information systems Definition of evidence based recommendations for most efficient and patient-friendly standardised case management for	<ul style="list-style-type: none"> • Focus on chronic diseases with high impact on diagnostic and therapeutic case-management • Evidence based diagnostics and treatments • Patient-friendly care delivery (spatial proximity of different disease related services) • Multidisciplinary teams • Integration between health and social services • Commitment of the regional government to reinforce quality of care and efficiency, reducing at the same time 	<p>The model is</p> <ul style="list-style-type: none"> • transferrable to other areas • expandable to other chronic conditions (heart failure and anticoagulant therapy are currently being developed)

			<p>diabetes and COPD</p> <p>Re-organisation of chronic care in the Lazio region</p> <p>Integration of care for chronic disease management in primary care facilities which integrate the essential levels of health and social services</p>	<p>operating costs of primary-care services</p> <ul style="list-style-type: none"> • Involvement of relevant partners/stakeholders 	
43	Integrated Care Model for Patients' Empowerment in the Trentino Region through the TreC Personal Health Record	Autonomous Province of Trento, IT	<p>Patients: self-management of health information and access to medical reports</p> <p>Healthcare providers: facilitates delivery of quality health applications and services to the population</p> <p>integrated care of chronic patients through an advanced PHR ecosystem</p> <p>Disease specific cross-institutions experimentation (on diabetes and cancer with other cities, e.g.</p>	<ul style="list-style-type: none"> • Implementation as a coordinated effort of local policy makers, the regional healthcare trust and the research perspectives in the Trentino Region, with the common mission of improving health and wellbeing services provided to the population in a systematic, coordinated and sustainable way • TreC has been developed following a Living Lab approach, informed by the direct involvement of groups of citizens, clinical stakeholders and public-private entities for the implementation and validation of its innovative services • 67K citizens using the platform • over 65K healthcare service reservations in 2016 • 1475 payments of medical services per year • 1077 changes of primary care physicians per year 	<ul style="list-style-type: none"> • High scalability and replicability of the TreC platform (transfer already ongoing at regional, national and international level) • easily adaptable to different social, organizational and institutional contexts • assessment of short and long term effects on deployment of innovative technologies for health

			Forli, Bergamo) Currently over 65K citizens using the platform as regular target users.		
44	Telemonitoring for Congestive Heart Failure (CHF)	Veneto Region, IT	<p>Target on population affected by Congestive Heart Failure (CHF)</p> <p>Randomised Controlled Trial: 315 patients recruited and randomized (2:1) for intervention group (followed with telemonitoring services) and control group (usual care)</p> <p>Patients equipped with a Personal Health System (wristband device, digital weight scale for clinical data collection, personal alarms device for 24/7 real time emergency detection)</p> <p>Data automatically transmitted to the Regional eHealth</p>	<ul style="list-style-type: none"> • Access to health facilities only when needed • Faster turnover of patients • Clinical benefits in terms of decrease in hospitalizations (most patents managed at home) • Service proves to be cost effective (savings per patient > 600 €) • Reengineering of the organisation of telemonitoring services for individual case management • Privacy policy guaranteed • Involvement of caregivers • Patient empowerment and training • Patient self-management 	<ul style="list-style-type: none"> • Results can be applied at national or regional level • Transferable to a larger population with the same clinical characteristics with a substantial savings estimates • Expandable to other Italian regions • Already transferred to other countries through a European project (U4H) • Implementation of the service at regional level in Veneto, with a potential coverage of about 70.000 patients per year

			center (management through contacts with ER department, the Social Services, Physicians or family)		
45	Walcheren Integrated Care Model (WICM)	Walcheren, NL	<p>Target population: frail older people living independently</p> <p>A comprehensive integrated model for the detection and assessment of needs and the assignment and evaluation of care for independently living frail older people.</p>	<ul style="list-style-type: none"> • Involvement of all parties in the development, implementation and dissemination of the model & formalisation of agreements between parties. <ul style="list-style-type: none"> ○ Broad involvement and experiences of health professionals. ○ The GPs in this project are also involved with developing the dementia care-chain. Their personal involvement in both projects will guarantee harmonisation. ○ Knowledge obtained in the region regarding instruments and collaboration that includes older people. A pilot involving older people aged 85+ years and consultations with older patients aged 65+ years. • Laying down the basis for collaboration in the formalisation of agreements on the regional policy. • A Joint Governing Board that provides the necessary provider network. • Central steering from a steering group in which all parties are represented, ensuring coherence between various projects. • A project group to guide and monitor the implementation. • Strong project leader. 	<ul style="list-style-type: none"> • Possibility for care-providers to become acquainted with the model. They can make use of the instruments and protocols and they can attend studies in order to work according to the model. • Various strategies can be used in order to transfer of knowledge and implementation: <ul style="list-style-type: none"> ○ a manual with a description of the WICM, the conditions for putting the model into practice, the instruments used, protocols and function descriptions for the new functions (in Dutch); ○ conferences and presentations on the model and evaluation of the model; ○ national and intl publications; ○ newsletters to care-providers, organizations for the older people and interested parties (in Dutch); ○ presentation of the results on the web-site; ○ personal discussions with interested parties; ○ each year the executive GPs will provide a course for their

				<ul style="list-style-type: none"> Finances to implement and work according to the model. 	<p>colleagues, with input from a nursing home doctor and a clinical geriatrist;</p> <ul style="list-style-type: none"> training of geriatric nurse practitioners.
46	Buurtzorg model	various locations, NL	<p>Nurse-led community care in collaboration with primary care. Integrating nursing, medical and social care services. Target group: older people with multiple pathologies, may have symptoms of dementia, may have been discharged from hospital recently and may be chronically or terminally ill.</p>	<ul style="list-style-type: none"> A back office to deal with admin and bureaucracy, freeing nurses to get on with their jobs. Very flat structure with benefits in: <ul style="list-style-type: none"> Trust (no hierarchy – no managers) saving overheads (only 8% compared with an average of 25% elsewhere), with cost-savings re-invested into care and innovation. IT systems to share information, problems and ideas among nurses from across the country – nurses can easily network with the back office. Training programmes with dedicated budget and nurse coaches who offer professional support. 	
47	Esther Network	Jönköping, SE	<p>Patient-centred care for chronic disease patients with complex health needs. Coordination of primary, hospital, home and social care. The system brings together doctors, nurses,</p>	<ul style="list-style-type: none"> Leadership and a new working culture leading the health system transformation. Person-centred approach. Making improvements together with partners. Communicating systems and use of transparent data to create overall understanding and possibility to learn and react. Shared responsibility. Openness and learning; “coach training 	<ul style="list-style-type: none"> The model has been replicated in Singapore and San Francisco. Kent (in England) is currently in the process of adopting elements of this model.

			pharmacists, social workers and occupational therapists.	<p>courses”.</p> <ul style="list-style-type: none"> • Trust and less hierarchy - letting go of the need to control, an ecosystem of trust. 	
48	My Plan	Norrbottn, SE	Patient empowerment in hospital discharge planning process and home care planning	<ul style="list-style-type: none"> • Development of new workflows. • Education & training for workforce. • Introduction of new supportive technology. 	<ul style="list-style-type: none"> • Staff new ways of working training programme.
49	Care process for schizophrenia and schizophrenia-like state	Norrbottn, SE	Early intervention and treatment for patients with schizophrenia or schizophrenia-like states	<ul style="list-style-type: none"> • Collaboration & improved coordination of all stakeholders involved. • Education and training for patients and relatives. • Holistic understanding of the patient and their health and wellbeing. • Co-creation of care plan and its regular evaluation. 	<ul style="list-style-type: none"> • Education & Training Programmes. • Organisation of care pathways for the patients with schizophrenia or schizophrenia-like states.
50	Distance spanning healthcare	Norrbottn, SE	Remote care for patients in rural areas	<ul style="list-style-type: none"> • Identifying the organisational change elements – new ways of working & new opportunities for both planned visits and acute assessments. • Long-term workforce education plan in place. • Providing equity of access to services. • Carrying out a cost-analysis to establish the economic case which considers the costs incurred by patients and their families in having to travel to receive care and treatment as well as costs incurred by the system if clinicians have to travel to the patient’s home. • Provision of secure VPN video solution assisted by nurse rather than just telephone. • Reliability of technology solutions. • User and patient-participation. 	<ul style="list-style-type: none"> • Knowledge of infrastructure required at baseline together with maturity and readiness of workforce to adopt technical solutions. • Workforce digital literacy competency requirements. • Digital literacy requirements of patients. • Information campaigns & marketing about the services.

				<ul style="list-style-type: none"> • Public awareness and communication activities to promote the service (money & time to conduct information campaigns). • Readiness of the environment / system for the implementation of such a practice. 	
51	Patient journey through emergency medical care	Norrbottnen, SE	Rapid access to emergency medical care for older people	<ul style="list-style-type: none"> • Person-centred, multidisciplinary, collaborative decision making. • Model which recognises and builds on the competencies and capabilities of the patient. • Identification of care transitions and ensuring information flows between them. • Availability of patient folder. • Making improvements to the whole care pathway rather than just parts of it and this has involved gaining commitment from many stakeholders from different care sectors. • Ongoing achievement-led approach to meetings and sharing good practices and improvement work. 	<ul style="list-style-type: none"> • Clinical protocols. • Redesigned care pathways and new ways of working. • Roles, responsibilities and competencies of paramedics. • Education and training programme. • Improvement work.
52	Shoulder rehabilitation via distance technology	Norrbottnen, SE	Remote rehabilitation care	<ul style="list-style-type: none"> • Existence of IT infrastructure (distance equipment) to allow distance rehabilitation at patients' homes. • Safety of the communication programme. • Incentives and motivations for the patients to use the service. • Stratification of the patients (identification of the "right" patients for the service). • IT professionals are directly connected while the service is delivered to ensure the reliability of technology. 	<ul style="list-style-type: none"> • The possibility to introduce the service as complimentary to the existing services.
53	BLMSE / Better life for the most	Skåne, SE	Target group: the most ill older people.	<ul style="list-style-type: none"> • Providing a coherent service that is satisfying from a patients' point of view. 	<ul style="list-style-type: none"> • Promoting better ways of doing things through performance-based bonuses

	sick older people		Cooperation between home care, primary care and hospital care to better coordinate care of the most ill older people.	<ul style="list-style-type: none"> • Political mobilisation. • Demonstrating positive outcomes of the project to convince all counterparts to introduced changes. • Quality registers allowing comparison between units facilitated continuous learning, quality improvement and management of services. • Benchmarking exercise facilitating allocation of performance-based financial bonuses. • Establishment of improvement leaders and leadership forums. 	<p>could be transferred to other countries in Europe especially to those, where municipalities have a role in the health and social care systems.</p> <ul style="list-style-type: none"> • The establishment of improvement leaders and leadership forums as an “informal” intervention could be easily transferred to other contexts, where the organisational culture has the absorptive capacity to embed this innovative way of engaging health professionals. • Starting at the local leadership level by arranging forums for discussions and decision-making across the organisations.
54	North West London	London, England, UK	Integrated care for the highest risk, most vulnerable patients. Involving professionals from community health, mental health, primary care, secondary care, social care, community pharmacy and specialist nursing.	<ul style="list-style-type: none"> • Joint governance through an integrated management board made up of representatives of all providers. <ul style="list-style-type: none"> ○ Shared performance and evaluation framework. ○ Agreed goals and outcomes. ○ Engagement of the local authority. • Pooled budgets for integrated commissioning, with shared risk approach and capitation payment to cover all patient care. • Service providers collaborate with lay partners (patients, users and carers) to develop the care model. <ul style="list-style-type: none"> ○ Patient, user and carer engagement in co-design through reference groups, 	

				<p>workshops and surveys.</p> <ul style="list-style-type: none"> • Track and evaluate the performance of GP surgeries and Multi-disciplinary groups to drive competition and share best practice. • Teaching and training provided; commitment to adaptive learning. • Significant investment in senior management leadership and dedicated programme support, along with the active involvement of patients. • Leaders successfully engaging with the workforce and enabling them to work together towards achieving positive programme outcomes. <ul style="list-style-type: none"> ○ Strong clinical leadership, in particular that of the GP, played a central part in ensuring effective participation and engagement of other clinicians. • Multi-disciplinary groups meet monthly as case conferences with the aim of improving the care of most complex cases. • Clinical protocols and care packages developed for each patient group, ensuring standardisation of best practice. • Single IT platform for information sharing across organisations. • IT system implementation timelines must accommodate considerable leeway for refinement and unexpected complexity. 	
55	Torbay	Torbay, England, UK	Patients with complex mix of health and social care needs, typically	<ul style="list-style-type: none"> • Governance: <ul style="list-style-type: none"> ○ Formal agreement between Torbay Council and Torbay Primary Care Trust to establish joint governance through a 	<p>Aspects that can facilitate transferability of this approach:</p> <ul style="list-style-type: none"> • A clear vision on making a positive difference for service users.

			<p>the most complex and vulnerable older people. Integrated multi-disciplinary teams, which work closely with primary care, and specialist health services to manage the care of the populations they serve.</p>	<p><u>single management structure</u> (Torbay Care Trust, a fully integrated NHS organisation) responsible for commissioning and providing community health and social care services.</p> <ul style="list-style-type: none"> ○ NHS funding was used for (new) social worker posts, at a point when no funding was available from the local council - assuaging some concerns from council staff about integration threatening investment in social care. • Establishment of integrated, co-located health and social care teams, with a strong emphasis on multi-professional leadership and development. • Integrate support services (including also intermediate care) from the bottom up around GP registration (rather than home address) to simplify access and facilitate team working and co-ordination. • Prioritise continuity of care at home, with intermediate care provision and hospital discharge processes tied in to support it. • Health and social care coordinator role introduced, with a single point of contact in each area/locality, co-ordinating health and social care. • Investment in local leadership programmes, with committed leadership team. Change relied on leadership across health and social care providers. • A large degree of continuity among senior 	<ul style="list-style-type: none"> • Start from the bottom up by bringing together frontline teams and align these teams with general practices and their registered populations. • Consider how simple and inexpensive innovations like the appointment of health and social care co-ordinators can make a major impact. • Examine evidence from elsewhere, appraise own performance, build communication and teamwork between stakeholders, manage risks.
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				<p>leaders and organisational stability.</p> <ul style="list-style-type: none"> • Stakeholder engagement and empowerment: <ul style="list-style-type: none"> ○ Staff engagement in all work streams of the integration process. ○ Empowering users & carers using focus groups, journey mapping & interviews. ○ Increasing use of personal budgets & direct payments. ○ Keeping patients and service users at the centre of the vision for improvement. • Local teams manage integrated budgets – financial risk sharing. Capitated budget for health services, and an annual agreement with Torbay Council for Social care spend. • Systematic review of the literature highlighting the organisational, cultural and professional, and contextual issues that created barriers to joint working - this awareness enabled effective action to avoid them. 	
56	Integrated Citizen Centred Health and Social Care for Older People	Northern Ireland, UK	<p>Integrated Citizen Centred Health and Social Care for Older People</p> <p>Based on the use of the Northern Ireland Single Assessment Tool (NISAT)</p>	<ul style="list-style-type: none"> • Political support: a governmental initiative for a citizen-centred approach through a care reform strategy. <ul style="list-style-type: none"> ○ The policy is built around stakeholders' engagement and based on consultations. The government worked together with the voluntary sector, which engaged directly community, statutory and voluntary organisations as well as older people. • The government allocated funding for the 	<ul style="list-style-type: none"> • Both service users and their carers were heavily involved in the development of the NISAT. • Project structure – the NISAT project office was based in and reported through health and social care structures. This ensured that the focus was on service user and carer needs with direct input from health and social care professionals.

				<p>development of the NISAT as well as a significant proportion of the funding for its implementation.</p> <ul style="list-style-type: none"> • Direct care payments were introduced to enable people to "buy their own care" and make decisions for themselves. • Clear objectives and close working relationships between key stakeholders. • Both service users and their carers were heavily involved in developing the NISAT. • User groups were established, training needs identified and a regional training strategy developed and implemented. • A dedicated, representative project team responsible for implementation, with dedicated local implementation officers to support the central implementation teams. <ul style="list-style-type: none"> ○ This has the dual purpose of maintaining momentum during a period of change and conflicting priorities and providing local and regional support through knowledgeable 'hands-on' project management. ○ Local support officers were funded in each of the Trusts with responsibility of ensuring that the system and associated processes were integrated into daily practice by local training, working alongside staff and providing frontline support. • Change management was addressed through: <ul style="list-style-type: none"> ○ agreeing strategic and operational objectives along with responsibilities; 	
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				<ul style="list-style-type: none"> ○ developing and implementing an agreed operational plan; ○ developing and executing a communications strategy and a regional training strategy. 	
57	Integrated Long Term Conditions Management for Older Citizens	Northern Ireland, UK	<p>Integrated health and social care to support people with long term conditions across all care settings.</p> <p>Management of patients with chronic conditions through more emphasis on prevention and management in the community, patient education, GP screening, monitoring, use of supportive technology and risk assessment and stratification.</p>	<ul style="list-style-type: none"> • Political decision to procure an end-to-end managed system for remote telemonitoring. • Involvement of a range of key stakeholders, including political representatives, across a range of participatory meetings and events. • A business case was developed outlining: definition of the service to be delivered; the strategy for delivery of the remote telemonitoring service; roll out plans; resources required. • For the telemonitoring contract, five Health and Social Care Trusts were closely involved in the specification and design of the service procured and in the selection of the contractor to deliver this service. • Patients and carers opinions were also sought throughout the process and they were involved in assessing the patient equipment being offered by various bidders for the contract. • Telehealth Service Managers were appointed in each Trust to engage with stakeholders, develop and lead the service; frequently meeting with clinicians to deploy and share knowledge. • Dedicated resource to manage and develop the service – the Trust Telehealth Service Managers have been instrumental in engaging 	<ul style="list-style-type: none"> • The end-to-end Managed Service model is a useful model for developing services which require innovation and flexibility (end-to-end means that the contract is for the provision of a service, including clinical triage, and not simply a purchase of patient equipment and software). <ul style="list-style-type: none"> ○ It provides for a collaborative approach with the provider. It also provides the capacity and capability to flexibly manage and grow the service be it during ad-hoc periods of increased demand or as growth develops over time.

				<p>with staff as well as looking at opportunities to embed learning for the service.</p> <ul style="list-style-type: none"> • Senior management sponsorship – Trusts that have benefitted from the service have been those who have a clear view of how they wish the service to be deployed. • Sharing of best practice and knowledge across the different Trusts. • Partnership and collaborative working between the Trusts and the provider. • Flexibility within the service to support innovative use by healthcare professionals as well as suit the needs of the different profile of patients with long term conditions who may be at different stages of their disease. 	
58	Integration of health and social care in Scotland	Scotland, UK	People with multiple complex needs	<ul style="list-style-type: none"> • Legislation which promotes cross-sectorial strategic planning to meet the needs of population/care groups, placing the patient/service user at the centre of care planning and provision. • Existence of Integrated resource framework. • Dedicated funding to support the “change” (Change Fund) & a wider integration agenda. <ul style="list-style-type: none"> ○ an accelerant in changing attitudes, cultures and behaviours; ○ an important element in helping partnerships develop joint working and implement strategic joint commissioning. 	<ul style="list-style-type: none"> • The type of analysis (which allows to see the amount of resources that is spent on the population, the balance between hospital and community settings, with data also analysed at various geographic levels, including GP practice) is easily transferable to other regions and countries.
59	SPARRA/ACP Patient-Centric Integrated Care approach	Scotland, UK	National Risk Prediction Tool to identify patients at risk of future emergency	<ul style="list-style-type: none"> • Government support and political consensus among the parties committed to health and social care issues. • Combined responsibility for planning and delivery of acute, primary and community 	<ul style="list-style-type: none"> • The challenge of predicting the risk of emergency admission is applicable to all chronic care systems. The SPARRA tool uses national datasets to provide information at a local level to support

			<p>hospital admission and readmission.</p> <p>Anticipatory Care Planning (ACP) approach that designs, implements and monitors the most suitable intervention according to the degree of hospital admission risk of the targeted patient.</p> <p>Focus on preventive care management, and in particular, on chronic disease management to avoid the risk of unplanned hospital admission.</p>	<p>services within the Community Health Partnerships.</p> <ul style="list-style-type: none"> • Strong governance mechanisms established at both national and local level. • A strong performance management culture within the NHS. • Adoption driven by a range of multimedia learning resources and good practice examples. Support for adoption levered through the Change Fund (national investment) and the GP quality contract. • Initial prototype continually refined from learning by early adopters. • Strong leadership, engagement of care professionals and a network of champions for implementation across the country. • Development of ICT solutions to exchange information across care settings (Key Information Summary). 	<p>targeting of services on a geographic and an individual basis. The anticipatory interventions can be locally contextualised.</p> <ul style="list-style-type: none"> • The most favourable contexts where the SPARRA/ACP case could more easily be transferred are those where a well-established Community Health Partnership exists. • Transferability to other EU countries may be compromised by the specificity of the approach and the need for the calibration of a risk stratification tool that supports the identification of target patients.
60	Technology Enabled Care Programme	Scotland, UK	<p>A patient-centred Integrated Care management process targeting the 65+ population in the country. It particularly addresses vulnerable subgroups of patients and patients</p>	<ul style="list-style-type: none"> • Political commitment and central funding: <ul style="list-style-type: none"> ○ A change in policy context, which required a shift from a system oriented towards hospital-based treatment to a system based on preventive care to manage long-term conditions. ○ Policy initiative from the national government, with the provision of a development fund and associated programme management. 	<ul style="list-style-type: none"> • Creating a Learning Network (or something similar) to support areas in their implementation. Learning and sharing of both what works and what doesn't work. • A resource library of freely available webcasts. <ul style="list-style-type: none"> ○ Re-useable content: several webcasts have been reused in undergraduate teaching

			<p>with complex illnesses, with the use of ICT (telecare).</p>	<ul style="list-style-type: none"> ○ Support of local politicians achieved through a series of engagement events and training sessions held by each local partnership. ○ Existence of “digital champions”. ○ Strong commitment of both the local authorities and the local health and social care actors. ○ Recognition of the need for change; from pilots & trials to a national approach of scaling-up. ● Well-established local health and social care partnerships, capable of combining primary and community services with a shared responsibility for planning and delivery of personalised home care assistance. ● Dedicated support at national & local levels, consisting of technical support, strategic planning support, service redesign support and other expertise drawn when required. ● Knowledge exchange and learning & sharing of good practice. A Telecare Learning Network was established bringing together all the leads from each local area on a regular basis to highlight any common issues, challenges and successes. ● Targeted communication strategy with a strong emphasis on embedding Technology Enabled Care into existing service redesign. ● Dedicated programme management at a local level. ● Standardisation of procurement linked to interoperability, creating the framework for 	<p>sessions, hosted on professional skills websites and used at learning events for public sector staff.</p> <ul style="list-style-type: none"> ○ Short duration makes viewing webcasts more convenient. ● Using technology as a delivery mechanism (to overcome the challenge of accessing learning, especially from remote and rural areas). ● Ring-fenced financing that is reportable to ensure full accountability and commitment is recommended. ● Robust performance monitoring and evaluation should be embedded from the start. ● Approach to large-scale mainstream adoption.
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				<p>choice to at least ensure that there was not too much variance from area to area.</p> <ul style="list-style-type: none"> • Strong performance evaluation culture. • Reward funding model: those doing well were given extra funding, whereas those who had not advanced as much as expected were provided with additional intensive support. • Application of learning from the EU projects and other European / international initiatives. • Information governance in place. 	
61	Building Capacity and Competency for Staff Using Technology Telehealthcare Education and Training Strategy	Scotland, UK		<ul style="list-style-type: none"> • Establishment of a multi-stakeholder Telehealthcare Education and Training Steering Group, which has driven change and produced resources for staff working in health, social care and housing services. The Group also oversees staff who use telehealth and telecare. • A credible platform from which to influence relevant national policy and organisational strategies impacting on the health and social care workforce. • National Telehealth and Telecare Learning Network – to promote and support knowledge transfer of good practice, service developments and innovation. • Collaboration with country-wide colleagues to develop a Skills Frameworks for staff using assistive technology to deliver services. 	<ul style="list-style-type: none"> • The approach to supporting knowledge transfer (examples of good practice via the Learning Networks) across organisational and professional boundaries.

Annex 2

Table 7: Mapping summary of success factors from integrated care experiences in Europe

Success factor	Location of integrated care experience
Governance (new entity for management/coordination, joint management, joint governing board, legal framework, top-down & bottom-up combination, management structure)	Autonomous Province of Trento, Badalona, Basque Country, Belgium, Buurtzorg, Kinzigtal, Lombardy, London, NW Torbay, Olomouc, Pardubice, Puglia, Scotland, Southern Denmark, Walcheren.
Stakeholder engagement (regular engagement: in policy formulation; solution specifications, design, development, implementation and dissemination; opinions from patients and clinicians; commitments; feedback; communications strategy)	Autonomous Province of Trento, Badalona, Basque Country, Belgium, Catalonia, Emilia-Romagna, Ile-de-France, Kinzigtal, Lazio, Lombardy, Norrbotten Getafe, N. Ireland, NW London, Olomouc, Pardubice, Puglia, Saxony, Scotland, Southern Denmark, Torbay, Trikala, Valencia, Veneto, Walcheren.
Patient focus/empowerment (incl. population health, stratification, healthy lifestyle literacy, personal budgets, incentives to use the services, co-creation of care plans, access to data/results, training facilities, educational games, social networks)	Autonomous Province of Trento, Basque Country, Belgium, Emilia-Romagna, Jönköping, Kinzigtal, Lombardy, N. Ireland, Norrbotten, NW London, Olomouc, Puglia, Scotland, Southern Denmark, Torbay, Valencia, Veneto.
Organisational change (re-organisation/re-engineering, new structures, dedicated team to implement the change, dedicated support (technical support, for strategic planning, for service redesign), partnerships, integrated primary care centres, co-located care teams, shared responsibilities, objectives and plan setting, standards, pathways, workflows, clinical and technical protocols, new roles/extended roles (e.g., case manager, care coordinators, continuity nurses), business process notation, flexible implementation, incremental pace)	Autonomous Province of Trento, Badalona, Basque Country, Belgium, Campania, Catalonia, Emilia-Romagna, Jönköping, Kinzigtal, Languedoc-Roussillon, Lazio, Lombardy, London, N. Ireland, Norrbotten, NW Torbay, Olomouc, Puglia, Scotland, Skåne, Southern Denmark, Saxony, Trikala, Valencia, Veneto, Walcheren.
Collaboration and Trust (in design and specifications, among stakeholders [incl. care professionals, patients and voluntary sector], among agencies/authorities, using evidence and learning from other practices and EU projects)	Autonomous Province of Trento, Badalona, Belgium, Buurtzorg, Campania, Catalonia, Emilia-Romagna, Ireland, Jönköping, Kinzigtal, Languedoc-Roussillon, Lazio, Lombardy, N. Scotland, Norrbotten, Olomouc, Pardubice, Piemonte, Puglia, Saxony, Southern Denmark, Valencia, Veneto.
Financing and incentives options (investments, business case, reward schemes (e.g., performance-based financial bonuses), pooled budget, shared risk and revenue/profits, bundled payment, capitated payment, long-term contract, end-end Managed Service)	Badalona, Basque Country, Belgium, Catalonia, Emilia-Romagna, Kinzigtal, Lombardy, London, TK, N. Ireland, NW Torbay, Olomouc, Scotland, Skåne, Southern Denmark, Valencia, Veneto.

ICT infrastructure and solutions (unique patient ID, broadband availability, health information systems, quality registers, software platforms, data sharing, [shared] Electronic Health Records, algorithms, devices for use by patients, data from patients, telemedicine/telehealth/home telemonitoring, interoperability, standards, procurement, modular and scalable system, information governance – privacy and security policies, reliability of IT solutions)	Autonomous Province of Trento, Badalona, Belgium, Brescia, Buurtzorg, Campania, Catalonia, Emilia-Romagna, Getafe, Jönköping, Kinzigtal, Lazio, Lombardy, Norrbotten, N. Ireland, NW London, Olomouc, Puglia, Scotland, Skåne, Southern Denmark, Trikala, Valencia, Veneto.
Political support and commitment (national/regional policy, legislation, agreements, funding, strategy, vision)	Autonomous Province of Trento, Basque Country, Belgium, Brescia, Catalonia, Emilia-Romagna, Getafe, Ile-de-France, Kinzigtal, Lazio, Lombardy, N. Ireland, Olomouc, Pardubice, Scotland, Skåne, Southern Denmark, Trikala, Valencia, Veneto, Walcheren.
Monitoring/Evaluation system (performance management, performance evaluation, benchmarking)	Autonomous Province of Trento, Basque Country, Belgium, Emilia-Romagna, Kinzigtal, Lazio, Lombardy, NW London, Scotland, Skåne, Torbay, Valencia, Veneto.
Workforce education and training (learning networks, user groups, training strategy – long term education plans, skills framework, training on new/extended roles, sharing good practices and knowledge, webcasts, prototype refinement, nurse coaches)	Autonomous Province of Trento, Belgium, Brescia, Buurtzorg, Catalonia, Emilia-Romagna, Jönköping, Kinzigtal, Lombardy, Norrbotten, N. Ireland, NW London, Olomouc, Pardubice, Piemonte, Puglia, Saxony, Scotland, Skåne, Southern Denmark, Valencia.
Leadership (senior management leadership, clinical leadership, local leaders/champions, digital champions, leadership programmes, improvement leaders)	Autonomous Province of Trento, Catalonia, Getafe, Jönköping, Lombardy, N. Ireland, Scotland, NW London, Olomouc, Pardubice, Skåne, Torbay, Walcheren.

Annex 3

Maturity Model for integrated care

This Annex provides a simple description of the Maturity Model and its dimensions, along with guidance on how to measure maturity, so that an assessment can be quickly carried out.

The Maturity Model has been derived from interviews with stakeholders from 12 European countries, or regions within a country, responsible for healthcare delivery. The many activities that need to be managed in order to deliver integrated care have been grouped into 12 “dimensions”, each of which addresses a part of the overall effort (Table A3).

Table 8: The 12 maturity dimensions for delivering integrated care

Dimension	Indicators for assessment of maturity to adopt integrated care
1. Readiness to Change	Evidence of recognition of compelling need to change. Evidence of public consultation and stakeholder engagement. Evidence of vision or strategic plan embedded in policy. Evidence of leaders and champions of change. Evidence of broad political and public support.
2. Structure and Governance	Evidence of effective planning and management of change, including stakeholder involvement. Evidence of collective decision-making. Evidence of regular communication of progress and successes. Evidence of multi-year transformation / integrated programmes with funding and a clear mandate. Evidence of eHealth competence centres or other organisations to select, develop and deliver eHealth services.
3. Information and eHealth Services	Evidence of policy to enable digital services. Evidence of infrastructure to enable information-sharing and eHealth / eServices. Evidence of effective sharing of information and care plans. Evidence of universal, at-scale regional / national information and eHealth services used by all integrated care stakeholders.
4. Standardisation and Simplification	Evidence of clear strategy for regional /national procurement. Evidence of unified and mandated set of agreed standards to be used for system implementations. Evidence of consolidation of data centres. Evidence of simplification of infrastructure. Evidence of ability to view and exchange medical data from different systems across diverse care settings.
5. Finance and Funding	Evidence of investment and stimulus funds to support the move towards integrated care. Evidence of regional / national funding for scaling-up and on-going operations. Evidence of innovative procurement approaches (e.g., PPP, risk-sharing, multi-year contracts for IT service provision). Evidence of sustainability of finance and funding for integrated care.

6. Removal of Inhibitors	<p>Evidence of awareness of the effects of inhibitors on integrated care.</p> <p>Evidence of strategy to remove inhibitors in integrated care.</p> <p>Evidence of actions to remove barriers: legal, organisational, financial and skills.</p> <p>Evidence of existence of the laws to enable data-sharing.</p> <p>Evidence of creation of new organisations or collaborations to encourage cross-boundary working.</p> <p>Evidence of changes to reimbursement to support behavioural and process change.</p> <p>Evidence of education and training programmes to speed up solution delivery.</p> <p>Evidence of high completion rate of projects and programmes in integrated care.</p>
7. Population Approach	<p>Evidence of use of risk stratification tools to predict future demands.</p> <p>Evidence of using existing data on public health, health risks and service utilisation.</p> <p>Evidence of a range of care pathways available for different groups of citizens.</p>
8. Citizen Empowerment	<p>Evidence of policy to support citizen empowerment.</p> <p>Evidence of co-creation and co-production of integrated care services.</p> <p>Evidence of incentives and tools to motivate and support citizens to co-create integrated care.</p> <p>Evidence of participation of citizens in decision-making processes.</p> <p>Evidence of citizens' access to information and healthcare data.</p>
9. Evaluation Methods	<p>Evidence of establishing baselines (on cost, quality, access, etc.) in advance of new service introduction.</p> <p>Evidence of systematic measuring of the impact of new services and pathways using appropriate methods.</p> <p>Evidence of generating evidence.</p> <p>Evidence of a systematic approach to evaluation, responsiveness to the evaluation outcomes and evaluation of the desired impact on service redesign.</p>
10. Breadth of Ambition	<p>Evidence of integration within the same level of care (e.g. primary care).</p> <p>Evidence of integration between care levels (e.g. between primary and secondary care).</p> <p>Evidence of fully integrated health and social care services.</p>
11. Innovation Management	<p>Evidence of plan / strategy to encourage innovation.</p> <p>Evidence of mechanisms / governance to capture innovations.</p> <p>Evidence of enabling an atmosphere of innovation from top to bottom, with collection and diffusion of best practice.</p> <p>Evidence of learning from inside the system, as well as from other regions, to expand thinking and speed up change.</p> <p>Evidence of involving universities and private sector companies in the innovation process.</p> <p>Evidence of using innovative procurement approaches (Personal Contract Purchase, Public Private Partnership, , etc.)</p> <p>Evidence of using European projects.</p>
12. Capacity Building	<p>Evidence of systematic approaches to capacity building for integrated care.</p> <p>Evidence of tools, processes and platforms to allow organisations to build their own capacity.</p> <p>Evidence of continuous evaluation of service improvements.</p> <p>Evidence of systematic learning about integrated care, ICT, change management and others.</p> <p>Evidence of cooperation on capacity building.</p>

	Evidence of knowledge sharing. Evidence of skills being retained.
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By considering each dimension, assessing the current situation, and allocating a measure of maturity within that domain (on a 0-5 scale), it is possible for a national or regional care authority to develop a “radar diagram” which reveals areas of strength, and also gaps, in capability that require attention.

1. Readiness to Change

Assessment scale:

- 0 – No acknowledgement of compelling need to change
- 1 – Compelling need is recognised, but no clear vision or strategic plan
- 2 – Dialogue and consensus-building underway; plan being developed
- 3 – Vision or plan embedded in policy; leaders and champions emerging
- 4 – Leadership, vision and plan clear to the general public; pressure for change
- 5 – Political consensus; public support; visible stakeholder engagement.

2. Structure & Governance

Assessment scale:

- 0 – Fragmented structure and governance in place
- 1 – Recognition of the need for structural and governance change
- 2 – Formation of task forces, alliances and other informal ways of collaborating
- 3 – Governance established at a regional or national level
- 4 – Roadmap for a change programme defined and broadly accepted
- 5 – Full, integrated programme established, with funding and a clear mandate.

3. Information & eHealth Services

Assessment scale:

- 0 – Information systems are not designed to support integrated care
- 1 – Information and eHealth services to support integrated care are being piloted
- 2 – Information and eHealth services to support integrated care are deployed but there is not yet region wide coverage
- 3 – Information and eHealth services to support integrated care are available via a region-wide service but use of these services is not mandated
- 4 – Mandated or funded use of regional/national eHealth infrastructure across the healthcare system
- 5 – Universal, at-scale regional/national eHealth services used by all integrated care stakeholders.

4. Standardisation & Simplification

Assessment scale:

- 0 – No standards in place or planned that support integrated care services
- 1 – Discussion of the necessity of ICT to support integrated care and of any standards associated with that ICT
- 2 – An ICT infrastructure to support integrated care has been agreed together with a recommended set of information standards – there may still be local variations

3 – A recommended set of agreed information standards at regional/national level; some shared procurements of new systems at regional/national level; some large-scale consolidations of ICT underway

4 – A unified set of agreed standards to be used for system implementations specified in procurement documents; many shared procurements of new systems; consolidated data centres and shared services widely deployed

5 – A unified and mandated set of agreed standards to be used for system implementations fully incorporated into procurement processes; clear strategy for regional/national procurement of new systems; consolidated datacentres and shared services (including the cloud) is normal practice.

5. Finance & Funding

Assessment scale:

0 – No additional funding is available to support the move towards integrated care

1 – Funding is available but mainly for the pilot projects and small scale implementation

2 – Consolidated innovation funding available through competitions/grants for individual care providers

3 – Regional/national (or European) funding or PPP for testing and for scaling-up

4 – Regional/national funding for scaling-up and on-going operations

5 – Secure multi-year budget, accessible to all stakeholders, to enable further service development.

6. Removal of Inhibitors

Assessment scale:

0 – No awareness of the effects of inhibitors on integrated care

1 – Awareness of inhibitors but no systematic approach to their management is in place

2 – Strategy for tackling inhibitors is agreed at a high level

3 – Strategy for removing inhibitors agreed at a high level

4 – Solutions for removal of inhibitors developed and commonly used

5 – High completion rate of projects & programmes; inhibitors no longer an issue for service development

7. Population Approach

Assessment scale:

0 – Population health approach is not applied to the provision of integrated care services

1 – A population risk approach is applied to integrated care services but not yet systematically or to the full population

2 – Risk stratification is used systematically for certain parts of the population (e.g. high-use categories)

3 – Group risk stratification for those who are at risk of becoming frequent service users

4 – Population-wide risk stratification started but not fully acted on

5 – Whole population stratification deployed and fully implemented.

8. Citizen Empowerment

Assessment scale:

0 – Citizen empowerment is not considered as part of integrated care provision

- 1 –Citizens are consulted on integrated care services but are not involved in co-creation and coproduction of services
- 2 – Citizen empowerment is recognised as important but effective policies to support citizen empowerment are still in development
- 3 –Incentives and tools to motivate and support citizens to co-create health and participate in decision-making processes
- 4 – Citizens are supported and involved in decision-making processes, and have access to information and health data
- 5 – Citizens are involved in decision-making processes, and their needs are frequently monitored and reflected in service delivery and policy-making.

9. Evaluation Methods

Assessment scale:

- 0 – No evaluation of integrated care services is in place or in development.
- 1 – Integrated care services evaluation is not seen as distinct from standard evaluation approaches.
- 2 – Evaluation established as part of a systematic approach
- 3 – Some initiatives and services are evaluated as part of a systematic approach
- 4 – Most initiatives are subject to a systematic approach to evaluation; published results
- 5 – A systematic approach to evaluation, responsiveness to the evaluation outcomes, and evaluation of the desired impact on service redesign (i.e., a closed loop process).

10. Breadth of Ambition

Assessment scale:

- 0 – Integrated services arise but not as a result of planning or the implementation of a strategy
- 1 – The citizen or their family may need to act as the integrator of service in an unpredictable way
- 2 – Integration within the same level of care (e.g., primary care)
- 3 – Integration between care levels (e.g., between primary and secondary care)
- 4 – Integration includes both social care service and health care service needs
- 5 – Fully integrated health & social care services.

11. Innovation Management

Assessment scale:

- 0 – No innovation management in place
- 1 – Innovation is encouraged but there is no overall plan
- 2 – Innovations are captured and there are some mechanisms in place to encourage knowledge transfer
- 3 – Innovation is governed and encouraged at a region/country level
- 4 – Formalised innovation management process in place
- 5 – Extensive open innovation combined with supporting procurement & the diffusion of good practice.

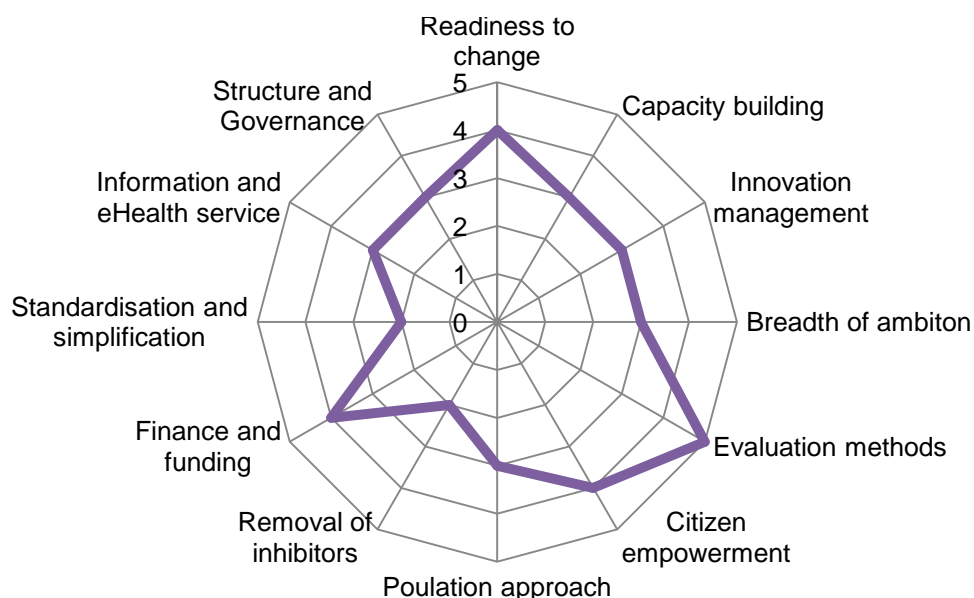
12. Capacity Building

Assessment scale:

- 0 – Integrated care services are not included in capacity building

- 1 – Some systematic approaches to capacity building for integrated care services are in place
- 2 – Cooperation on capacity building for integrated care is growing across the region
- 3 – Systematic learning about IT; integrated care and change management
- 4 – Knowledge shared, skills retained and lower turnover of experienced staff
- 5 – A 'learning healthcare system' involving reflection and continuous improvement.

Figure 8: Application of Maturity Model in Gesundes Kinzigtal



Source: SmartCare project <http://pilotsmartcare.eu/home.html>

Using these insights, and comparing the radar diagram with those of other regions/countries that have conducted the same exercise, it should be possible for a care authority to seek expertise from elsewhere to fill the gaps in its capability, but also to offer to others its own knowledge and experience from its areas of strength. As such, the Maturity Model can provide opportunities for sharing good practices and mutual learning.

Figure 9: Application of Maturity Model in Valencia Region, Spain

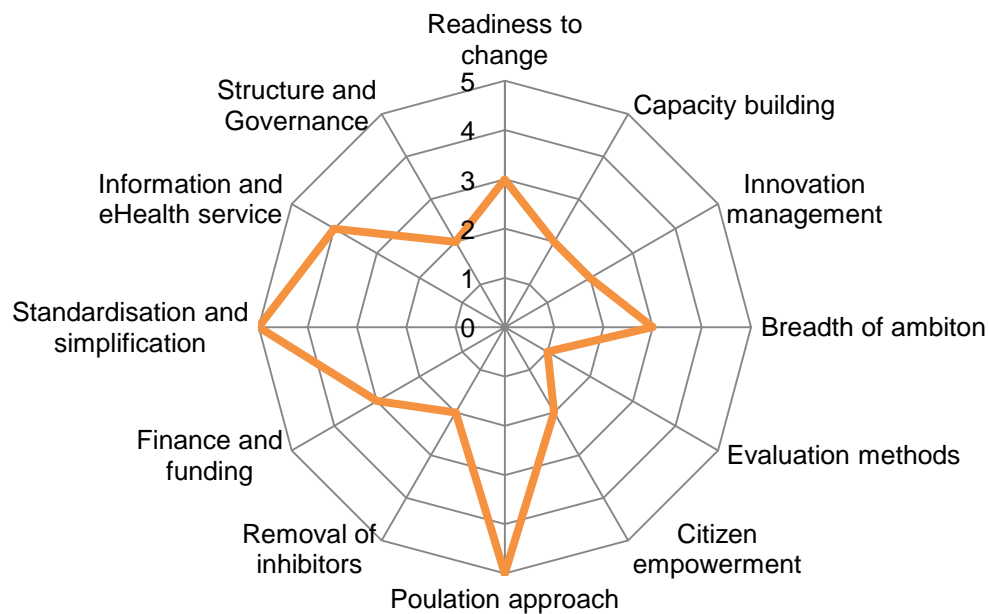
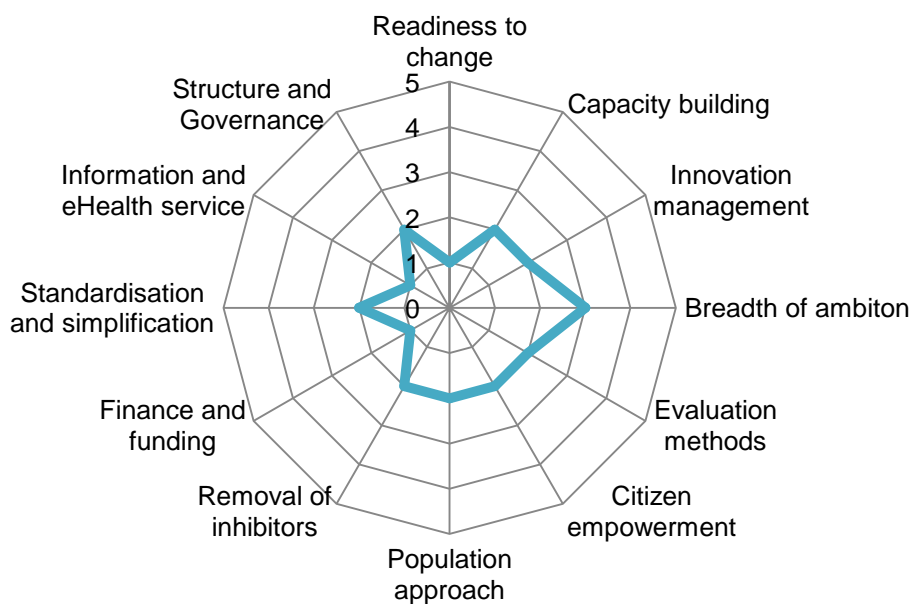


Figure 10: Application of Maturity Model in Olomouc Region, Czech Republic



Source: SmartCare project <http://pilotsmartcare.eu/home.html>

Annex 4

Results from the survey on integrated care

In the Summer of 2016 a survey was circulated to the members of the Expert Group to obtain general information on experiences on integrated care across Europe. In the questionnaire, integrated care was defined to include initiatives seeking to improve outcomes of care by overcoming issues of fragmentation through linkage or co-ordination of services of providers along the continuum of care.

The survey was composed of 11 questions (see Appendix of this report) addressing aspects of present challenges and recent initiatives and strategies used to assess integration of care. 22 Member States responded to the survey.

In brief

Despite large variation in health systems design, countries participating in the survey reported a number of similar dimensions and challenges related to integrated care. These include primarily coordination and integration of primary and specialist care, and the coordination of health care and social care.

Reported barriers to achieve more integrated and coordinated care included lack of effective information structures, organisational differences and resistance from health professionals.

Several countries reported that they have no formally designated systematic approach for assessing different aspects of integration of care. However, many reported that systematic approaches are currently being developed or planned for. Four countries responding to the survey provided concrete examples of indicators used for assessing aspects of integrated care.

Survey responses confirmed that integrated care is a complex concept that includes a number of organisational tasks and different organisational levels. The concept touches on issues such as lack of fragmentation within contemporary healthcare systems and of patient (person) centeredness.

Countries outlined the challenges involved with regard to the development of simple and understandable measures at national and regional level in order to measure the range of complex processes involved in integrated care systems. The survey responses suggest that these processes should primarily be addressed and continuously developed at the micro level, i.e. the patient-health care professional interface, with the national and regional levels providing different ways to support this development.

Aspects of integrated care discussed in countries

The most often discussed areas related to integrated care were:

- Co-ordination between primary and specialist care (secondary and tertiary care) (12 countries)
- Co-ordination between health care and social care (11 countries)

Other dimensions of integrated care mentioned were:

- Co-ordination between ambulatory and inpatient health care
- Co-ordination between providers of different forms of specialist care
- Co-ordination between somatic and mental health care
- Co-ordination among private and public health care providers

Through enhancing the integration of care, countries hope to more successfully achieve a number of health system aims, including:

- Improve the quality of health care (mentioned by 14 countries)
- Improve the efficiency of health care and reduce costs (mentioned by 13 countries)
- Improve access to health care services (mentioned by 10 countries)

Croatia, Czech Republic and Malta also mentioned improved patient safety.

Other, more overriding aims mentioned by some countries were:

- Improving the health status of the population (through e.g. increasing health promotion)
- Improving professionals' and providers' satisfaction
- Improvement of the long-term efficiency of the health system

Challenges related to implementing integrated care

Countries reported several challenges related to implementing more *integrated and coordinated* care for patients:

- Limitations of ICT and information structures (mentioned by 12 countries)
- Lack of financial mechanisms supporting such systems (mentioned by 10 countries)
- Organisational structures (related to the division of roles between departments and between health care professional) (mentioned by 10 countries)

Some countries also mentioned organisational, political and communicative challenges related to the different political levels in the countries. For instance, the Czech Republic reported that the most important challenge was to convince the representatives of regional governments that change was necessary. Greece reported that the main challenge was posed by a lack of a "gate keeping culture" in its health system.

Regarding other aspects of *patient-centred care*, the most common challenges mentioned were:

- ICT and information structures;
- Resistance from health professionals to change work practices and to cooperate;

- Health literacy and patient participation;
- Questions about how to organise new governance arrangements, which need to include elements of accountability, oversight and distributed leadership, while at the same time considering the national, regional and local context.

There appeared to be a general call for compatible ICT solutions and enhanced possibilities (also legally) to link patient data in order to set up effective integrated care systems. Several countries also considered change of management schemes, introducing new clinical guidelines and new patient's pathways as conditions needed to set up effective integrated care systems. Belgium and Croatia further mentioned education and training of health professionals in integrated care and multidisciplinary collaboration.

National or regional initiatives addressing integration of care

Most countries reported working continuously with several initiatives in parallel to strengthen integration and coordination of care. Many countries have taken initiatives on legislation, reorganisation and reimbursement systems. Several countries reported having carried out pilot-projects, implemented targeted programmes and strategies and adopted methods for cooperation.

Some examples include:

- **Austria** aims to strengthen primary care through the establishment of primary care networks and centres. These newly established health care structures are intended to enhance the integration and coordination of care. A similar initiative has been taken in **Malta**, where polyclinics in the public primary health care system and a number of specialised clinics that serve to interface directly with hospital services while providing care in the extramural setting, have been developed.
- **Belgium** has concluded "Conventions" (agreement) for functional rehabilitation to finance the holistic care of patients with chronic diseases that has an impact on their psychological health, social or work (or school) functioning.
- **France** introduced a regional intervention fund that made possible the gathering of financing from different sources. It also introduced a pilot bundled-payment project for chronic kidney disease, whose results are expected in 2017.
- **Finland** prepared a health and social care legislative reform that includes a framework for initiatives to strengthen the integration of care.
- **Germany** has implemented disease management programmes, i.e. structured care programmes for chronically ill persons.
- **Italy** has approved a national plan on chronic diseases identifying the different steps from risk stratification of the population to active medical enrolment within specific pathways of care.
- **Luxembourg** has introduced a "médecin référent", a primary care doctor whose role is to coordinate care for their patients.
- **Malta** highlighted its diabetes shared-care programme to be among the most advanced initiatives; the programme involves training general practitioners and delivering diabetes clinics in line with a shared care protocol developed with the diabetes department of a hospital.

- **The Netherlands** reported the development of new health care standards (i.e. on diabetes, dementia, obesity, COPD, etc.), and of the programme of national care for elderly. It is also implementing bundled payment models for chronic diseases (e.g. diabetes, COPD) and for pregnancy and childbirth.
- **Portugal** has implemented a national hotline supported by nurses.

To strengthen other aspects of patient-centred care countries reported various initiatives, for example:

- Reorganisation and reimbursement systems (Bulgaria)
- Implementation of territorial local support platform (France)
- Different pilot projects (Germany, the Netherlands)
- Introduction of an electronic health card (Germany)
- Decentralisation of health, LTC and support services to local authorities (The Netherlands)
- Introduction of law on Patient's Rights (Luxembourg) and a Patient law (Sweden)
- Workshops and conferences (Poland)

Approaches to assessing performance of care integration

Most countries reported that they do not have, at present, a systematic approach in place that is explicitly designed to assess and evaluate the development of coordination and integration of care. However, many reported that such systematic approaches are currently being developed or planned for. Examples of existing approaches that were reported to be of potential applicability in the context of assessing the performance of integration of care:

- An outcomes framework related to a specific health care reform which includes certain indicators (Austria)
- A cancer registry (in relation to integrated cancer care) (Luxembourg)
- Indicators developed in the context of the innovation fund (Germany)
- Organisation developing integrated information systems to allow monitoring integrated care: EKSOTE in the South Karelia Social and Health Care District in Finland.

Four countries that responded to the survey (Austria, Belgium, Sweden and the United Kingdom) provided concrete examples of indicators that can be seen to reflect aspects of integration. Reported indicators are typically currently included in countries' general frameworks for HSPA rather than forming part of an explicit assessment framework for integrated care (e.g. Belgium, Sweden, Italy, the Netherlands). Examples: patient-reported problems with care coordination, such as not having a recommended medical test, receiving conflicting information from different doctors, or experiencing a lack of communication between a primary care doctor and a specialist (question from the Commonwealth fund Health Policy survey)

A number of countries reported that they currently are planning to develop relevant indicators. More examples of experiences at national and local level are provided in the countries' replies presented in the Appendix.

Annex 5

Table 9: Examples of potential measures of people-centred and integrated health services as compiled by WHO (2015)

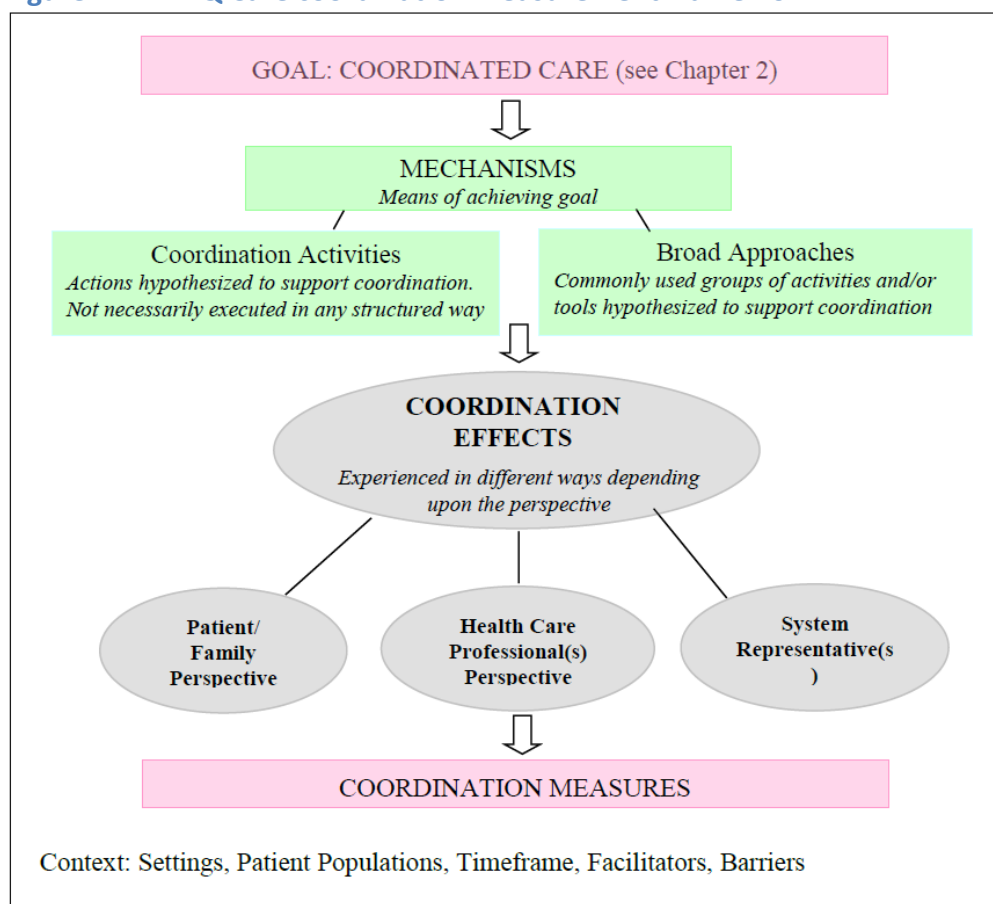
<i>Domain</i>	<i>Examples of potential indicators</i>
1. System-level measures of community well-being and population health	
Amenable mortality	Deaths considered avoidable through health care [1]; excess winter deaths [2]; excess mortality for people with severe mental illness and schizophrenia [3]
Healthy lifestyles	smoking rates [1]; levels of obesity [1]; % population experiencing positive mental health/engaged in responsible sexual behaviour/engaged in substance misuse/engaged in healthy behaviours/experience injuries (incl. self-harm) [1]
Population health	Mortality from chronic disease; low birthweight births [1]; vaccination coverage (influenza older people [1,3]; measles and pertussis in children [3])
2. Service proxies for population health outcomes	
Hospital admissions	# emergency admissions (by age and risk group) [2]; avoidable admissions/ambulatory care sensitive admissions (ACS) [2] in children and older people (asthma, COPD, heart failure, angina, diabetes, bacterial pneumonia, urinary tract infection) [1, 3]; risk-adjusted acute care hospitalisation rates [4] (incl. for ACS [5]); average length of stay [1]; occupied bed days [1]
Hospital readmissions	People with multiple admissions per year by age and prior condition [2]; readmissions for selected groups [2] (diabetes, heart failure, mental health) [1]; unplanned readmission [1]; overall # readmissions [3]
Community-based care	Persons discharged from hospital for rehabilitation [2]; death after discharge from suicide among people with severe mental disorders [3]; quality of family planning services (e.g. contraceptive methods mix offered in care facilities) [5]
Patient safety	Reduction in adverse events [1]; unintended harm from medications in people aged >65 dispensed with 5+ long-term medications [1]; NSAID use in older people [1]
3. Personal health outcomes	
Quality of life	Self-reported quality of life [2]; carer reported quality of life [2]; improved mental health status and mood
Independent living	% older people (>65) who remain in own home after 91 days of discharge from hospital into rehabilitation [2]; injuries due to falls in older people (>65) [2]; % people with fragility fractures recovering to their previous levels of mobility [2]; improved mobility and independence (EQ5D)
Self-management	% people feeling supported to manage their (long-term) condition [2]; people aged >65 with >8 long-term conditions [1]; management of risk factors in chronic disease (e.g. blood glucose and cholesterol in people with diabetes; blood pressure control in people with stroke, TIA, heart disease, chronic kidney disease, hypertension; diet, nutrition and weight management in under/overweight) [QOF]
4. Resource utilisation	
Hospital utilisation	Bed days for selected patient types [2]; hospital use in last 6 months/100 days of life [1,2]
Residential and long-term care utilisation	Gross residential and nursing care expenditure per # older population [2]; # receiving long-term community-based care as % of all people receiving long-term care [2]; # receiving social care as % of (# receiving emergency hospital care + # receiving long-term social care) [2]; # receiving long-term community-based social care/population [2]
Primary care utilisation	Enrolment in general practice/primary care practice (incl. for infants in first 4 weeks of life) [1]
Health care costs	Per capita health care costs [1]; rational use of finite resources/value for money and effectiveness [1]; GP referred pharmaceutical expenditure [1]; alignment of resources to population needs [3]
Balance of care	Ratio of primary care professionals (e.g. GPs) to specialists; relative spend on primary, community, secondary and tertiary care
5. Organisational process and system characteristics	
Access to care	Improved access to primary care services/GPs [2]; access to health care [1] (incl. % in general practice, screening, time to access GP or community services, timely initiation of care [4], waiting times for urgent treatment esp. cancer, severe mental health access, waiting time for elective treatment)
Hospital use	Attendances in accident and emergency [2], attendances at A&E without hospitalisation [4], acute care hospitalisations [4]
Care transitions	Delayed transfers of care from hospital [2], transition record with specified

Domain	Examples of potential indicators
Care planning	element received (hospital to home or other site of care) [4], timelines of transition (hospital to home or other site of care) [4]
Medications management	Holistic needs assessment; personalised care plans; advanced care plan [4] Medication review in older adults [4]; medications reconciliation [4]; medications conciliation post-discharge [4]
Care coordination	Primary health care organisations currently coordinating patient care with other health care organisations using protocols [5]; quality of care processes based on best practice guidelines (incl. integration of care across settings as assessed through chart reviews, medical records) [3, 7]; quality of clinical integration or coordination in multi-professional teams as assessed by surveys [7]; administrative communication (incl. % patients transferred to other health care facility whose medical documentation indicated communication of administrative information prior to transfer) [4]; presence of coordination activities [3] (e.g. clarity of responsibilities, facilitate transfers across settings, assess needs and goals, proactive care plans, support for self-management, monitor & follow-up, home care support, multidisciplinary teams in primary and community care, case management, disease management, ICT enabled communication)
6. User and carer experience	
Experiences	Improved people's experiences of car [1,2]; patient-reported satisfaction with coordination/integrated care [2,3]; % service users who said that services received made them feel safe and secure [2]
Continuity of care	% service users which report that they have as much social contact as they would like [2]; person/family report confusion or hassle [4]
Supporting holistic goals and outcomes	% people dying at home/their place of choosing [2]; % people with long-term conditions reporting they had enough support to manage their conditions [2]; % people who feel confident in managing their own health [2]; people reporting that all their needs were taken into account [8]; people reporting that they were supported to achieve their own goals [8]; people reporting that the care they received helped them to live their life to the best of their ability [8]; carers and family members needs taken into account [8]
Communication and information	Ability and knowledge on who to contact for care (esp. out of hours) [7]; doctor spending enough time with patient [6]; doctor giving easy to understand explanations [6]; doctor giving time to raise concerns [6]; people reporting that they were always kept informed about next steps in their care [8]/the professionals involved talked to each other and worked as a team [8]/knew who was the main person in charge of their care [8]/had one first point of contact [8] who understood the person and their conditions [8]/could go to the care professional with questions at any time [8]/had the information and support needed to remain as independent as possible [7,8]/access personal health and care records at any time (incl. ability to decide who to share with and correct mistakes in information) [8]/information given at the right time and appropriate to person's condition and needs and easy to understand and up to date [8]/told about their services available (incl. support organisations) [8]/not left alone to make sense of information [8]/ability to meet (phone/email) professional when needed to ask more questions or discuss options [8]
Shared decision making	Doctor/nurse involving patients in decisions about care and treatment [6]; people reporting they could choose kind of care and support needed and how to receive it [8]
Care planning	Family or home situation taken into account when planning discharge [2]; participation in care planning [6,7] incl. knowing what is in the care plan [8], care plan entered onto patient record [8], regular reviews of care plan [8], comprehensive reviews of medicine [8], care plan known in advance by professionals when using a new service and respected [8]
Care delivery and transitions	Patients' reports of unnecessary care (e.g. tests, procedures, emergency room visits, hospitalisations) [3]; patient-reported gaps in scheduled care (e.g. missed consultations, medical test or prescribed medications) [6]; clear plan when moving from one service to another [8]; transitions undertaken without delays [8#]; advance knowledge of care transitions and next steps in care [8]; new service providers knowing details of person and their preferences and circumstances [8]; protection of entitlements to care when moving from one jurisdiction to another [8]
Emergencies	People reporting that they could plan ahead and could stay in control in emergencies [8]; people reporting they had systems in place so they could get help at an early stage to avoid a crisis (or crisis escalation) [8]

Note: [1] New Zealand Integrated Performance and Incentive Framework; [2] Raleigh et al. (2014); [3] McDonald et al. (2014); [4] NQF (2014); [5] WHO (2014); [6] OECD (2015); [7] Strandberg-Larsen and Krasnik (2009)³³; [8] National Voices (2013)³²

Source: adapted from WHO (2015)²³

Figure 11: AHRQ Care coordination measurement framework



Source: McDonald et al. (2014)⁴

Annex 6

Members lists

A. Members of the Expert Group on HSPA

Chair persons

Belgium: Daniel Reynders

DG SANTE: Andrzej Ryś

Members

Austria: Herwig Ostermann, Florian Bachner, Patrizia Theurer

Belgium: Pascal Meeus, Lieven De Raedt

Bulgaria: Ivelina Georgieva, Petko Salchev, Ivian Benishev

Croatia: Dijana Cimera, Sanjica Dolovski, Jasna Mesarić

Cyprus: Pavlos Pavlou, Anna Demetriou

Czech Republic: Martin Doležal, Petra Votavova

Denmark: Mads Bager Hoffmann, Charlotte Hougaard Clifford

Estonia: Eleri Lapp

Finland: Ilmo Keskimäki, Liisa-Maria Voipio-Pulkki

France: Félix Faucon, Eric Trottman, Adrien Dozol

Germany: Stefan Paulsen

Greece: Georgios-Filippos Tarantilis

Hungary: Péter Gyenes

Ireland: Rhona Gaynor, Muirís O'Connor

Italy: Marina Davoli

Latvia: Laura Boltāne, Kristīne Klavina

Lithuania: Rima Vaitkienė, Justina Januševičienė, Edita Bishop

Luxembourg: Françoise Berthet, Anne Calteux

Malta: Kenneth Grech

Norway: Beate Margrethe Huseby

Poland: Kamila Malinowska, Artur Girdwoyń

Portugal: Andreia Jorge Silva, Eva Falcão

Romania: Alexandru Rotocol

Slovakia: Martin Smatana

Slovenia: Dušan Jošar

Spain: Maria Angeles Gogorcena Aoiz

Sweden: Mona Meurgren, Birgitta Lindelius, Maria State

The Netherlands: Michael van den Berg, Patrick Jeurissen

United Kingdom: Tongtong Qian

The OECD: Gaetan Lafortune, Niek Klazinga, Ian Forde

The WHO/Euro Hans Kluge, Elke Jakubowski

The European Observatory on Health Systems and Policies: Josep Figueras, Ellen Nolte

DG SANTE: Sylvain Giraud, Federico Paoli, Filip Domański, Loukianos Gatzoulis,
Giulio Gallo

DG ECFIN: Santiago Alvaro Calvos Ramos, Benedetta Martinelli

DG EMPL: Boriana Goranova

DG RTD: Julia Schmitz, Katarina Krepelkova

B. Members of the sub-group on integrated care

Austria:	Georg Ziniel, Herwig Ostermann, Florian Bachner
Belgium:	Pascal Meeus, Lieven De Raedt
Finland:	Ilmo Keskimäki, Liisa-Maria Voipo-Pulkki
France:	Felix Faucon
Greece:	Emmanouil Fotinos, Sofia Salacha
Lithuania:	Rima Vaitkienė, Justina Januševičienė, Edita Bishop
Poland:	Tomasz Pawlega
The Netherlands:	Caroline Baan
The OECD:	Gaetan Lafortune, Ian Forde
The WHO/Euro	Hans Kluge, Juan Tello, Elke Jakubowski
The European Observatory on Health Systems and Policies: Ellen Nolte	
DG SANTE:	Filip Domański, Federico Paoli

C. Members of the policy focus group on integrated care performance assessment

Belgium:	Annabelle Bossaert, Pascal Meeus, Lieven De Raedt
Croatia:	Jasna Mesarić
Czech Republic:	Martin Doležal
Finland:	Ilmo Keskimäki, Paso Pohjola
France:	Félix Faucon
Greece:	Georgios-Filippos Tarantilis
Hungary:	Péter Gyenes
Ireland:	Rhona Gaynor
Italy:	Marina Davoli
Latvia:	Kristine Klavina
Malta:	Kenneth Grech
The Netherlands:	Michael van den Berg
Norway:	Beate M. Huseby
Romania:	Alexandra Cucu
Slovakia:	David Balla
Slovenia:	Dušan Jošar, Vesna Zupančič
Spain:	Maria Angeles Gogorcena Aoiz, Ester Sarquella Casellas
Sweden:	Birgitta Lindelius, Ingrid Schmidt
United Kingdom:	Francis Dickinson, Fiona Hodgkiss
The OECD:	Ane Auraen
The WHO/Euro	Erica Stukato Barbazza
The European Observatory on Health Systems and Policies: Ellen Nolte	
DG SANTE:	Federico Paoli, Loukianos Gatzoulis, Filip Domański
DG EMPL:	Boriana Goranova

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