

# Project INTEGRATE

## D 8.1 Financial Models for Care Integration

Deliverable number	D8.1
Title of deliverable	Financial Models for Care Integration
Work Package	8
Version & Date	Final 16/06/2015
Lead beneficiary	SINTEF Technology and Society, Health Services Research, Trondheim
Distribution Status	Open
Author(s)	Jorid Kalseth, Frida Kasteng, Liesbeth Borgermans
Partners contributing	Yannick Marchal, Vrije Universiteit Brussel, Kadri Suija, Marje Oona, Ruth Kalda, University of Tartu, Jörn Kiselev, Romana Pawlak, Ulrike Braeter, Charité, Berlin
Project Web site	<a href="http://www.projectintegrate.eu">www.projectintegrate.eu</a>



This work has been supported by the Project INTEGRATE

Grant agreement no: 305821

Co-funded by the EC Seventh Framework Programme theme FP7-HEALTH-2012- INNOVATION

Project coordinator: Magda Rosenmöller, IESE Business School, Universidad de Navarra



# Table of contents

Executive summary .....	4
<b>1 Introduction.....</b>	<b>7</b>
1.1. Aim and objectives .....	8
<b>2 Methods.....</b>	<b>10</b>
2.1. Literature review .....	10
2.2. Project INTEGRATE case studies.....	11
2.3. Expert survey .....	12
<b>3 Financial organisation and payment mechanisms in healthcare .....</b>	<b>13</b>
3.1 Healthcare financing: funding and risk pooling .....	14
3.2 Healthcare system structure, organisation and management .....	15
3.3 Payment mechanisms in healthcare .....	18
3.3.1 From activity based to population based payment mechanism: financial integration by bundling of cost elements in provider payment .....	18
3.3.2 Performance-based payment mechanisms: Incentivising provider cooperation and aligning performance with health system objectives .....	23
3.4 Paying for integrated care: who to pay and how to pay .....	25
3.4.1 Who to pay .....	26
3.4.2 How to pay .....	26
3.5 Mechanisms to integrate resources between providers levels or sectors (payers).....	28
3.6 Payment mechanisms and financial incentives directed towards patients .....	29
3.7 Value based systems .....	30
<b>4 Financial arrangements to support care integration: current trends .....</b>	<b>33</b>
4.1 Payment mechanisms to support care integration .....	33
4.1.1. Financial incentives for care coordination .....	33
4.1.2. Payment bundling across providers for chronic care .....	36
4.1.3. Capitation and care integration .....	36
4.2 Contractual models of integrated service delivery .....	38
4.2.1 Individual providers with aligned objectives/budgets .....	38
4.2.2 Prime contractor or integrator model .....	39
4.2.3 Alliance contracts.....	39
4.2.4 Integrated providers .....	40
<b>5 Impact evidence: payment mechanisms and care integration .....</b>	<b>42</b>
5.1 The impact of payment mechanisms on obtaining healthcare goals.....	42
5.2 The impact of financial integration on care outcomes and costs .....	43
5.3 The effectiveness and cost-effectiveness of care integration approaches.....	45
<b>6 Financial arrangements to support care integration: expert survey.....</b>	<b>46</b>
6.1 Belgium: Integrated disease management pathways .....	46

6.2 Estonia: Enchasing the care coordinating role of family doctors .....	47
6.3 Norway: The 'Coordination reform' .....	49
6.4 Spain (Catalonia): Integrated Health and Social Care Plan .....	51
6.5 Switzerland: The 'Health 2020' agenda for reform .....	52
6.6 Summary – financial arrangements and integrated care.....	54
<b>7 Financial arrangements to support care integration: case studies.....</b>	<b>56</b>
7.1 Disease management and integrated care programmes in Germany and integrated geriatric care in a hospital setting in Berlin.....	57
7.2 Disease-based bundled payments and integrated care for diabetes patients in the Netherlands .....	59
7.3 Home hospitalisation and frailty program for COPD patients in Barcelona, Spain .....	62
7.4 Integrated mental healthcare in Sweden: The models of Structural and Financially Integrated Services in Norrtälje and Coordinated Mental Healthcare Service in Södertälje .....	63
7.5 Comparison of case study experiences.....	66
7.5.1 Intervention settings, payers and payment mechanisms.....	66
7.5.2 Facilitators .....	68
7.5.3 Barriers .....	69
7.5.4 Policy lessons .....	71
<b>8 Concluding comments .....</b>	<b>73</b>
<b>References .....</b>	<b>77</b>
<b>Appendix A Expert survey questionnaire on current trends in financial arrangements towards integrated care.....</b>	<b>89</b>
<b>Appendix B Financial systems for healthcare in Germany.....</b>	<b>91</b>

## Executive summary

### Introduction

Healthcare systems across the world are facing an augmenting burden of chronic disease. The need for better integration of care systems and patient pathways has been increasingly recognised in the last decades. Existing care systems in Europe have proven difficult to navigate in particular for patients with complex health issues and multi-morbidity, and such patients are also often those that have proved to be most challenging to manage in a good way within current organisational models. The financial organisation and the reimbursement system play a constituent part in the management operations of a healthcare system, together with legal frameworks, clinical guidelines, norms, forums for collaboration, information support systems and care practices. Payment reform is considered an important component of a broader set of strategies to achieve greater degrees of care integration.

### Objectives

The overall aim of this study is to bring together findings on financial arrangements to support care integration. This is done by exploring how the financial organisation and payment mechanisms in healthcare can incentivise or hamper care efficiency and integration, describing current trends in the introduction of financial arrangements aiming to support care integration, providing examples on how different financial arrangements may support care integration through examples across different healthcare settings in selected countries, with emphasis on the Project INTEGRATE case studies, and through analysis of challenges and facilitators to the alignment of financial organisation and payment mechanisms with goals of care integration. We focus on financial arrangements between payers/purchasers and providers.

### Methods

This study is based on a literature review, a survey among experts in the Project INTEGRATE partner countries and the analysis of financial flows, incentives and disincentives to care integration associated with financial arrangements in four case studies carried out by project partners in the first phase of Project INTEGRATE.

### Results

The results of the Project INTEGRATE case studies and the expert survey show that fragmented financial systems, i.e. with separate funding streams and governance structures for different types of services, or provider payment mechanisms that do not adequately reward and encourage care coordination may create barriers to care integration. Payment mechanisms to independent providers rewarding volume provide little incentive for providers to collaborate and hamper service redesign. Separate budgets may create incentives to shift patients and costs to another level/part of the care system. Without agreed care pathways and accountability lines it may be difficult to realign incentives even across providers within a single payer system.

Payment reform options span from amending existing independent provider payment systems paying for coordination activities, e.g. on a 'per member per month/year' basis, mechanisms for payment across providers such as bundled payments along disease or entire

care pathways, to population-based payments where providers assume responsibility for the health of defined populations. There are increased ambitions to move towards payment approaches that reward value instead of volume, and consider final health outcomes and patient satisfaction as well as costs.

Integrated payment mechanisms such as creating one price for the care package, are experienced to facilitate care integration. However, experiences with bundled payment show that high incidence of multi-morbidity challenges disease-based payment, and that linking payment too closely to care standards may introduce too much standardisation and give too little room for adapting to patient needs. Successful integrated care arrangements covering both health and social care can be achieved without full integration of financial flows if necessary structures to sustain and institutionalise the collaborative arrangements are in place. Providing financial support or start-up funding may help to reduce the risk of and hence ease the implementation of new integrated or coordinated service provision models.

### **Discussion and conclusion**

Health services redesign is complex and usually multidimensional. The effects of financial arrangements are often difficult to separate from other elements of service delivery. A number of financial arrangements to support care integration have been introduced in recent years and are still at early stages of implementation. This contributes to a weak scientific evidence base for the specific impact of payment mechanisms and resource integration mechanisms on care integration. Experiences from case studies such as those of Project INTEGRATE indicate that financial factors are important, however not necessarily sufficient or decisive, to successful implementation and development of integrated care. Experiences from one setting may not be readily transferable to other settings due to contextual factors.

A one-size-fits-all approach to integration may be counter-productive, since integration requires flexibility and adaptation to local contexts, patients and other stakeholders. However a challenge with adopting policies that encourage diversification and locally-based solutions may be to assure equity in care quality across populations or geographic regions.

System reform approaches is needed to change financial flows and payment models since in most countries funding and payment models are regulated and decided at 'higher levels' in the system, at central or regional level either unilaterally by government or 'third party payer' or in negotiation with interested parties. Also local initiatives may require removal of legal and structural barriers involving national or regional policy change.

Financial integration within healthcare and across health and social care may be difficult to implement in practice, even with supportive regulatory measures, unless existing underlying incentive structures are properly addressed and considered. Care integration may challenge provider autonomy and progress toward integration can be slowed without an anchored vision. The investment needed for changing systems and building competencies are often underestimated. Operating new payment systems is likely to add transaction cost and one should be realistic about the time and costs it takes to develop capabilities to manage comprehensive payment models, such as population-based payment. Thus, it is important to remain focused on how the financial reforms improve patient outcomes, so that the process

does not end up with organisational, governance, budgetary and structural changes that do not sufficiently change the patient experience.

#### Key messages

- There is a continuum of options for financial arrangements to enhance care coordination. It is important to consider and outline the (long-term) goals of a reform and its potential challenges.
- Payment mechanisms incentivising the care coordinating role of primary care has often been a first step. But without shared objectives and balanced financial incentives across providers the desired changes may not be achieved.
- Payment bundling incentivises coordination across providers, but disease-based payment tightly linked to care standards may introduce inflexibilities and unintended incentives, and may not be optimal for patients with complex needs and multiple chronic illnesses.
- There are increased ambitions to move towards value based systems taking a population perspective, emphasising population health, care quality and patient-centred outcomes. However, comprehensive payment and delivery systems may require considerable transaction costs. Time and cost to develop new financial models and capabilities to fine tune these should not be underestimated.
- Reform strategies should match system capabilities, both on part of purchasers and providers, including competence, information and technical requirements, and distribution of risk and accountability for outcomes. Otherwise, system changes may result in professional and provider resistance or adverse and unintended provider responses.
- Integrated care can be achieved without full financial integration. Financial arrangements are important, but not sufficient for change.
- The overarching goals of reform of financial models should be anchored with all stakeholders and focus kept on improving patient experiences and outcomes.

# 1 Introduction

Healthcare systems across the world are facing an augmenting burden of chronic disease. The increased prevalence of cardiovascular disease, diabetes, chronic respiratory diseases, mental disorders, disabilities and cancer is caused by a demographic shift towards increasingly elderly populations in combination with increased chronic disease prevalence also in younger age groups due to unhealthy lifestyles and/or environmental factors (Busse et al. 2010). Furthermore, technological advances in healthcare continuously expand the field of medical practice. More and more can be done to improve health conditions that previously could not be treated, allowing people to survive and live with diseases that previously resulted in rapidly deteriorating health and death. Meanwhile, with the maturation of welfare societies, patients' demands and expectations increase, not only in relation to the clinical interventions per se but to how they are delivered and what flexibility is offered by the care system. Such a diversification of expectations may be influenced by age and socioeconomic background and concurrently result in inequities in healthcare provision, also in systems with universal health coverage (Vikum et al. 2013). All these factors, together with concerns for assuring the long-term financial sustainability of tax or insurance-financed health and social care systems, in part as a consequence of the ageing populations, put increased pressure on the efficient management and organisation of healthcare, social care and disease prevention (Busse et al. 2007).

The need for better integration of care systems and patient pathways has been increasingly recognised in the last decades (Shortell et al. 1993, Leatt et al. 2000). While terms and definitions vary, a broad aim of care integration is to address fragmented care delivery to improve health outcomes, access, efficiency, and quality of care to make the patients' journey through the system of care as smooth as possible (Gröne and Garcia-Barbero 2001). The WHO lists six different, somewhat overlapping, uses of the term integrated care: 1) A package of health interventions for a particular population group, 2) Multi-purpose service delivery points – a range of services for a catchment population is provided at one location; 3) Continuity of care over time for patients with long-term conditions; 4) Vertical integration of different levels of health services, with an overall management structure and strategic vision; 5) Horizontal integration across sectors, e.g. across health and social services; 6) Integration at policymaking level and health services management (WHO 2008). The optimal level of integration and the best approach to care integration may differ for different patient populations. Existing care systems in Europe have proven difficult to navigate in particular for complex and multi-morbid patients and such patients are also often those that are proving most challenging to manage in a good way within current organisational models. There is a growing ambition to shift towards people-centred, integrated and population health oriented healthcare delivery systems (WHO 2015). This study will focus mainly on definitions 3-5 above, care integration across health professionals and providers, vertically and horizontally, for patients with complex, long-term and/or multiple illnesses.

The financial organisation and the reimbursement system play a constituent part in the management operations of a healthcare system/organisation, together with legal frameworks, clinical guidelines, norms, forums for collaboration, information support systems and care practices. There is currently a great deal of exploration into how contractual models and

payment mechanisms can serve as vehicles to achieve better quality of care and direct providers in directions that take into account broader issues in line with health policy goals (Busse et al. 2007). Healthcare payment schemes have been predominantly designed for acute care settings and may thus contribute to or create inefficiencies and barriers for chronic care or integrated care across providers (Busse and Mays 2008). Payment reform is considered as an important component of strategies to achieve greater degrees of care integration, since current funding systems in many cases are considered to be a cause of care fragmentation. In this report we will analyse the role of financial arrangements in the ambitions of moving towards more integrated care delivery models, focusing on Europe, while drawing on some international experiences and examples. We focus on financial arrangements between payers/purchasers and providers. How money is brought in to pay for health and social care (e.g. through taxes, insurances or out-of-pocket payments) will be considered mainly as contextual factors.

### **1.1. Aim and objectives**

The overall aim of this study is to bring together findings on financial arrangements to support care integration.

1. Explore how the financial organisation and payment mechanisms in healthcare can incentivise or hamper care efficiency and integration
2. Describe current trends in the introduction of financial arrangements aiming to support care integration and people-centred care
3. Illustrate how different financial arrangements may support care integration through examples across different healthcare settings in selected countries, with emphasis on the Project INTEGRATE case studies
4. Analyse challenges and facilitators to the alignment of financial organisation and payment mechanisms with goals of care integration and people-centred care

The report is organised as follow: Chapter 2 describes the methods used. Chapter 3 provides an overview of financing models and payment mechanisms in healthcare as well as of prevalent contracting or cooperation models used to foster care integration. Chapter 4 gives an overview of financial arrangements that have been explored or implemented to support care integration across providers, referring to examples identified in the literature as well as in the Project INTEGRATE case studies and expert survey. Chapter 5 provides a brief account of the evidence of the impact of payment mechanisms on quality and health outcomes, of financial integration across healthcare sectors on goals of care integration and health outcomes, as well as of the impact of different approaches to care integration on costs and effectiveness. Chapter 6 reports the results from the expert survey providing examples of policy developments towards integrated care including changes in financial arrangements (financial organisation and/or payment mechanism) in Project INTEGRATE partner countries. Chapter 7 gives an account of initiatives towards care integration in the four Project INTEGRATE case studies with analysis of the financial approach used to support care integration in each case. Barriers and facilitators to implementation and sustainability of the



case study interventions related to financial, structural and legal factors, as well as incentives and disincentives in payment mechanisms is discussed. Finally, Chapter 8 defines main conclusions of the report.

This study is part of the Project INTEGRATE – "Benchmarking Integrated Care for better Management of Chronic and Age-related Conditions in Europe", financed by the European Union's Seventh Framework Programme (project reference 305821). For more information visit the project website: <http://projectintegrate.eu/>.

## 2 Methods

This study is based on a literature review, a survey among experts in the Project INTEGRATE partner countries and an analysis of financial flows, incentives and disincentives to care integration in four case studies carried out by project partners and introduced in previous project publications.

### 2.1. Literature review

The literature review was conducted with the purpose of summarising the evidence in the scientific and grey literature on financial arrangements to facilitate care integration and people-centred care. As noted above there is not one broadly agreed definition of integrated care. We focus in this report on care continuity for patient with long-term illness and the vertical and horizontal integration across health sectors. With financial arrangements we refer to initiatives to align or pool resources across sectors, and/or the utilisation of payment mechanisms to support cooperation and care integration across providers. Financial arrangements to achieve increased levels of care integration and people-centred care span a continuum from direct financial incentives to ameliorate communication or referral between different care units, to the full integration of funding, risk-sharing and management across a spectrum of services providers. Recognising that organisational change often needs to take a step-wise approach, and that a challenge in this process may be to get a comprehensive picture of this continuum of different approaches in different settings, the literature review intended to pick-up and map out interventions across this continuum.

**Table 2.1 Literature review: Inclusion and exclusion criteria and search strategy**

<b>Inclusion criteria</b>	<ul style="list-style-type: none"> <li>▪ Publications from the last 10 years (from July 1, 2004 until August 1, 2014)</li> <li>▪ Published reviews and meta-analysis performed systematically in English language that examine the effects of payment systems and other financial mechanisms conducive to care integration in different settings (primary care, secondary care, specialist care, social care, community, home, linkages across settings)</li> <li>▪ Individual reports in English language identified as grey literature</li> <li>▪ Overviews</li> </ul>
<b>Exclusion criteria</b>	<ul style="list-style-type: none"> <li>▪ Non-English articles retrieved in official databases</li> <li>▪ Opinions</li> </ul>
<b>Databases scientific literature</b>	<ul style="list-style-type: none"> <li>▪ Medline<sup>®</sup></li> <li>▪ EMBASE</li> <li>▪ The Cochrane Library of Systematic Reviews</li> <li>▪ econLIT</li> <li>▪ CINAHL<sup>®</sup> (Cumulative Index to Nursing and Allied Health Literature) PRE CINAHL<sup>®</sup></li> <li>▪ Complemented with a reference review of key articles</li> </ul>
<b>Grey literature sources</b>	<ul style="list-style-type: none"> <li>▪ Google Scholar</li> <li>▪ Websites of major health and social care government organisations, academic institutions, NGOs and think-tanks (e.g. the WHO, OECD, The Commonwealth Fund, European Observatory on Health Systems and Policies)</li> </ul>

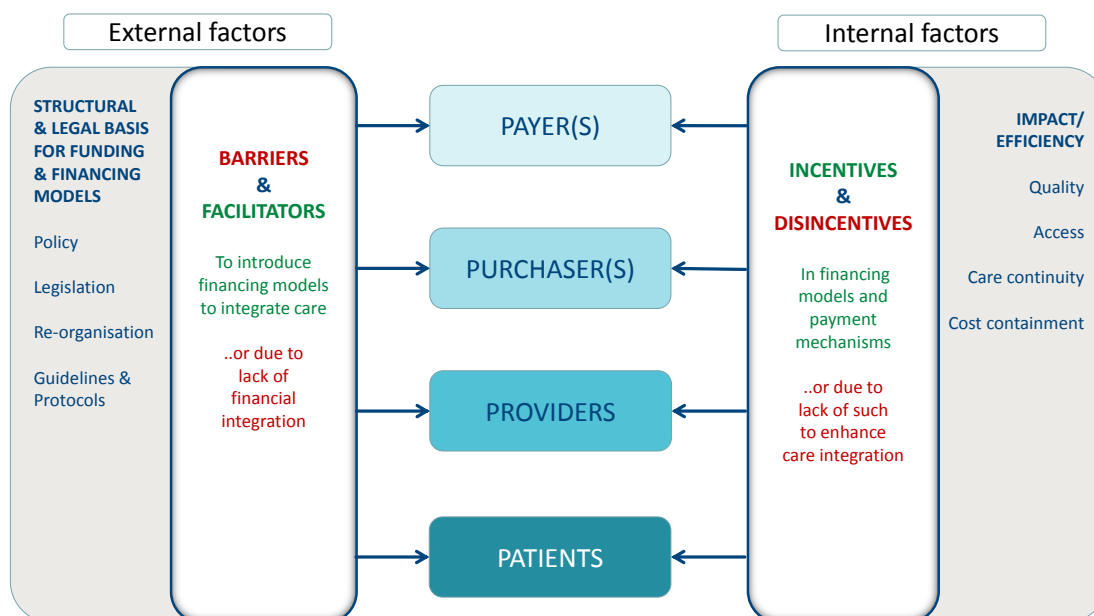
The review of the scientific literature identified one systematic review of pay-for-performance scheme in disease management of chronic care and two explorative reviews of payment mechanisms to support care integration focusing on Europe and the US respectively. The review of the grey literature returned three systematic reviews relevant for the study. Two reviewed mechanisms for funds/resources integration and one assessed the evidence on the economic impacts of integrated care. These studies are presented in chapter 5 of this report. Furthermore, both the scientific and grey literature returned a wealth of overview and case studies addressing issues related to financial arrangements and integrated care that was used as sources of information throughout this report.

## 2.2. Project INTEGRATE case studies

In the first phase of Project INTEGRATE four case studies on integrated care experiences in the management of chronic conditions in different settings across Europe was performed, with the aim to better understand the critical success factors of integrated care, and the importance of their specific local contexts. The case studies comprises two disease pathways (COPD and diabetes) and two care coordination driven settings (geriatric care and mental health) in four different countries with two different types of health systems: Spain and Sweden with a tax financed national health type of system and Germany and Netherlands with insurance based systems. Two different case sites with different type of integrated care interventions were included in the Swedish study. Additionally, the case studies aimed at gaining insights for the identified 'horizontal' elements that are studied in the second phase of the project. One of the cross-cutting themes is the role that financial arrangement plays as limiting or promoting factors for care integration.

A conceptual framework was developed as basis for the analysis of financial flows, facilitators and barriers to care integration related to financial arrangements found in the case studies presented in chapter 7 (Figure 2.1). The chapter includes both a description of the case studies on relevant topics and a comparison of case study experiences.

Figure 2.1 Conceptual framework



For a detailed description of each case study, we refer to the case study reports (Alonso et al. 2014, Busetto et al. 2014, Kiselev, J. 2014, Larsson et al. 2014, and Klinga et al. 2014). The German case study is supplemented with descriptions of the financial arrangements for integrated care in place in Germany. A review of financial systems for healthcare in Germany, with a focus on geriatric and integrated care, is provided in Appendix B.

### 2.3. Expert survey

To gather examples of recent developments in financial arrangement to support integrated care in the eight Project INTEGRATE partner countries (Belgium, Estonia, Germany, The Netherlands, Norway, Spain, Sweden, and Switzerland) and in the UK, an expert study was conducted. The survey was designed and conducted by the partners from SINTEF and University of Tartu. Three experts (one healthcare director/manager, one senior researcher in healthcare management/financing, and one government administrator) were approached in each country with support from the project partners<sup>1</sup>. The survey data collection took the form of a written questionnaire provided over email after initial phone contact. The survey was conducted in February 2015. We received answers from five of the countries, Belgium (2), Estonia (2), Norway (3), Spain (2) and Switzerland (2)<sup>2</sup>.

The survey information is supplemented with information from the Organisation for Economic Co-operation and Development (OECD) Health System Characteristics Survey 2012<sup>3</sup>, which describes the institutional structure of health systems in OECD countries, including overview over the most important features of organization and payment mechanisms for primary care, outpatient care and inpatient acute care serving as background information for the survey data. Since there may be recent changes or errors in compiling information and making the tables from OECD, we sent the document for verification to our partners. The information provided by the respondents and collected from the OECD Health System Characteristics Survey is partly elaborated by consulting other written sources such as the latest country report from Health Systems in Transition (HiT) series of the European Observatory on Health Systems and Policies and OECD Reviews of Health System in case of Switzerland.

The survey questionnaire is provided in Appendix A.

---

<sup>1</sup> Unfortunately we were not able to contact any experts in Germany. However, as mentioned above, the report includes a separate review of the financing of healthcare in Germany (Appendix B).

<sup>2</sup> The two respondents from Switzerland collaborated in answering the questions in the survey.

<sup>3</sup> <http://www.oecd.org/health/HSCsurvey2012>

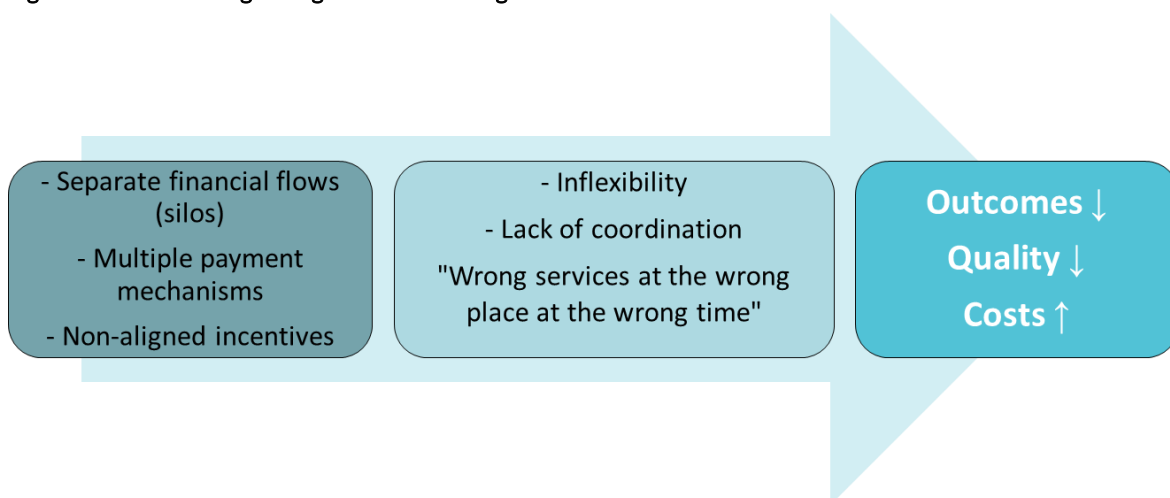
### 3 Financial organisation and payment mechanisms in healthcare

Financing systems serve several purposes including secure adequate and fair funding, provide right financial incentives for providers, and secure equitable access to health and social care services (WHO 2000). Following the WHO description of integrated care as bringing together *“inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion”* (Gröne and Garcia-Barbero 2002), we can also think of the role of the financing system in healthcare as:

- To facilitate health promotion in order to reduce the need for diagnosis, treatment and rehabilitation
- To facilitate the provision of services so that the right amount (and composition) of services are delivered on time and in the appropriate setting

A key challenge to achieving better care integration is that the core structures of established healthcare systems may act as barriers to a more integrated and people-centred approach to service delivery. Healthcare has traditionally been organised around an acute, episodic model of care – with focus on curative, hospital-based, and disease-oriented services (Ovretveit et al. 2010). Prevailing healthcare systems, with individual providers or organisations delivering discrete elements of care, may work against care integration since each unit focuses only on a portion of the care pathway and not on overall outcomes. When no single provider is accountable for overall outcomes, there are few incentives for collaboration across providers or for bottom-up innovation towards increasing final health outcomes (McClellan et al. 2013). The system of health care financing and of reimbursing providers plays a constituent part in the management of a healthcare system together with legal frameworks, clinical guidelines, norms, and care practices. Reimbursement systems can vary from relatively simple to highly complex, integrating various forms and dimensions of payment mechanisms and financial incentives, to a large degree dependent on the tradition and characteristics of the healthcare system in a country. A fragmented healthcare financing systems contributes to lower the effectiveness in healthcare service delivery (Figure 3.1) (WHO 2000, Delnoij et al. 2002).

Figure 3.1 The challenge: Fragmented financing of healthcare services



This chapter gives an overview of financing models and payment mechanisms in healthcare as well as of prevalent contracting or cooperation models used to foster care integration.

Financing of health and social care (financial flows) involves three connected steps or functions (Kutzin 2001, Mossialos et al 2002):

- (i) Raise revenue (funding),
- (ii) Pool funds (risk pooling) and
- (iii) Purchase services (paying providers).

This report concentrates mainly on the last step in the financial flow, i.e. mechanisms of paying service providers and the link to provider organisation. A brief introduction to the issues of funding and risk pooling as well as to key contextual factors of health system structure, organisation and management is provided in sections 3.1 and 3.2. Models of provider payment in health care are discussed in section 3.3. Specific models for paying for integrated care are discussed in section 3.4. The financing system may vary within and between health and social care, e.g. separate sources and mechanisms for collecting funds and hence separate payers/purchaser organisation (financial silos). Fund and resource integration mechanisms to overcome budget silos, e.g. across health and social care sectors, are described in section 3.5. The main focus in the chapter is on financial incentives used towards providers. Some examples of financial incentives and mechanisms directed towards patients are included in section 3.6. Finally, a summary and discussion of value based payment systems is provided in section 3.7.

### 3.1 Healthcare financing: funding and risk pooling

Collection of revenues involves three questions:

- from which sources funds are raised, i.e. Who pays?
- the mechanisms used to collect funds, i.e. How is payment made?
- the institution collecting funds, i.e. Who collects?

Typical funding sources are firms, employers, employees and individuals. Typical collection mechanisms are taxation, contributions to social insurance funds, voluntary purchase of private insurance and out-of-pocket payments. Typical collectors are government (national/regional/local), independent public bodies, not-for-profit insurers and for-profit insurers.

Tax funding implies that healthcare is financed through general or local taxation. The actual amount of funds allocated to healthcare is politically decided in national and/or regional/local budgetary processes. In tax-based systems basic healthcare coverage is based on citizenship (universal coverage). Countries where healthcare is mainly funded through taxes are e.g. Spain, UK and the Nordic countries. Funding healthcare through statutory (social) health insurance (SHI) does not necessarily differ much from tax-based systems regarding who pays for healthcare. In this case, funds are raised by compulsory income related employer/employee contributions. SHI is therefore sometimes also referred to as tax-based insurance (Kulesher and Forrestal 2014). However, in pure form, this system restricts the

amount of money available for healthcare to the sum of insurance premiums collected (earmarked health-taxes). Countries where healthcare is predominantly funded through statutory (social) health insurance (SHI) are e.g. Belgium and Germany. US is an example of a system where voluntary private insurance plays an important role. Other countries based on private insurance (as opposed to social insurance taxes) (e.g. the Netherlands and Switzerland) have compulsory health insurance and strongly regulated markets, and are therefore characterised as SHI-countries in the international system of health accounts (Paris et al. 2010). In practice there is a mix of different sources, mechanisms and collectors within most countries, and a convergence between system can be observed as SHI-systems increasingly use tax-based funding to manage increasing costs and to maintain universality (Stabile and Thomson 2014).

Pooling of funds means that the individual risk of healthcare expenditures is shared between contributors, i.e. pooling of financial risk across (subgroups of) the population. The collection and pooling of funds may be integrated. If there are several pools (i.e. several sickness funds), mechanisms to equalise risk between pools will generally be applied. In insurance based systems with competition between insurers, risk-adjustment mechanisms are also used to counteract incentives of risk-selection/cream-skimming (Van de Ven et al. 2003).

In systems with multiple social insurance funds and where funds are in effect pooled at the national level, or in systems with separation between the functions of funding and purchasing of healthcare, a mechanism to allocate fund to purchasers is also needed. Arrangements where a funder or purchaser is responsible for healthcare services for a geographically based or enrolled population is sometimes referred to as 'Health plans' (Rice and Smith 2002, Penno et al. 2013). The mechanisms used to allocate funds to 'health plans' can take on many forms from cost reimbursement, prospective activity based allocations, global budgets based on e.g. negotiations or historical costs, and population based (per capita) payment. The latter is commonly used in Europe (Rice and Smith 2002). Again adjusting for risk profile of population and cost of provision may be used to secure equal opportunities in access (Penno et al. 2013). The mechanisms for allocating funds to 'health plans' resemble the mechanisms to allocate funds to or paying providers described in section 3.3.

### **3.2 Healthcare system structure, organisation and management**

Healthcare systems have often been grouped together based on their main source of financing: i.e. tax-based versus insurance-based systems ("Beveridge" versus "Bismarck" systems). When it comes to decisions that affect structure and performance of a healthcare system, however, the source of financing may, as briefly discussed in section 3.1, be viewed as of less importance. Instead, healthcare systems can be described in terms of how they differ with regards to regulation, financing and provision. To further facilitate comparison, along each of these dimensions, systems can be characterized as being dominated either by the state, by societal organizations or institutions or by private actors. Within this framework Böhm et al. (2013) group OECD countries into five different types of healthcare systems. They are described in Table 3.1. There is a large literature discussing the labelling of healthcare systems, however, for our purpose this particular grouping of countries may facilitate discussion of policy directions that are available in terms of integrated care and of whether policy is transferrable between countries.

Table 3.1 Type of healthcare systems<sup>4</sup>

Type of system	Regulation	Financing	Provision	OECD countries
National Health Service (NHS)	State	State	State	Denmark, Finland, Iceland, Norway, Sweden, Portugal, Spain, United Kingdom (UK)
National Health Insurance (NHI)	State	State	Private	Australia, Canada, Ireland, New Zealand, Italy
Social Health Insurance (SHI)	Societal	Societal	Private	Austria, Germany, Luxembourg, Switzerland
Etatist Social Health Insurance	State	Societal	Private	Belgium, Estonia, France, Czech Republic, Hungary, Netherlands, Poland, Slovakia, Israel, Japan, Korea
Private Health System	Private	Private	Private	United States (US)

Source: Böhm et al. (2013).

**National Health Service (NHS) systems** are characterized by a state that plays the dominant role in regulation, financing as well as provision. We note that there will be differences between the countries labelled as NHS in Table 3.1, both in the size and role of the private sector, and of the role of the central versus local governments.

**National Health Insurance (NHI) systems** differ from NHS systems when it comes to the provision of services. NHI countries will to a larger extent be based on private provision of services. This does not necessarily mean that private provision outnumbers public, but the number of private hospital beds is substantially higher than in NHS countries.

**Social Health Insurance (SHI) systems** is fundamentally different from the NHS and NHI systems as societal actors (i.e. public or private sickness funds) play a dominant role in both regulation and financing of healthcare. Furthermore, private (often for-profit) providers are more prominent in SHI countries. Again, there are differences between countries. The German healthcare system, although increasingly competition based, is still dominated by corporatist regulation, while Austria is characterized by a more prominent regulatory role for the state (Böhm et al. 2013).

**Etatist Social Health Insurance** is truly mixed with the state responsible for regulation, societal actors responsible for financing and (a substantial part) of provision in the hands of private actors.

**Private Health Systems** have as their core feature coordination by market actors, financing by private insurance and provision by private actors. The US system is frequently described as a private system, although it should be remembered that nearly 50 % of the financing in the US comes from public sources through the Medicare and Medicaid programs.

---

<sup>4</sup> State may refer to government at different levels.



There is substantial variation also within system types in the degree of reliance of private providers and market competition, which also relates to regulation of access to services and patient choice of provider. The creation of 'internal markets' to spur competition between public providers, as well as allowing private organisations to enter the market, is introduced in many countries previously relying on public provision models. Competition may be introduced both by allowing more patient choice of provider, by public tenders and market entry.

The distinguishing features of healthcare system discussed above can be linked to ideological concepts of governance and public management. Hartley (2005) describes three competing approaches (see Table 3.2); traditional public management based on a legislative, bureaucratic approach to public service provision (1); new public management applying principles and practices from private markets in the public sector based on theory of public choice (2); and networked governance describing emerging patterns of governance and service delivery with a stronger reliance on 'citizen-centred governance' linked to the economic theories on co-production (3). While each approach can be seen as associated with a particular ideology and historical period, they also often co-exist within health systems, as the older systems constitute the basis that consequent healthcare reforms may build on or possibly try to overcome.

**Table 3.2 Public management paradigms**

	<b>'Traditional' public administration</b>	<b>'New' Public Management</b>	<b>Citizen-centred/ networked governance</b>
<b>Context</b>	Stable	Competitive	Continuously changing
<b>Population</b>	Homogeneous	Atomised	Diverse
<b>Need/problems</b>	Straightforward, defined by professionals	Wants, expressed through the market	Complex, volatile and prone to risk
<b>Strategy</b>	State and producer centred	Market and customer centred	Shaped by civil society
<b>Governance through actors</b>	Hierarchies Public servants	Markets Purchasers and providers Clients and contractors	Networks and partnerships Civic leadership
<b>Key concepts</b>	Public goods	Public choice	Public value
<b>Innovation</b>	Some large-scale, national and universal innovations	Innovations in organization form more than content	Innovation at both central and local levels
<b>Improvement</b>	Large step-change improvements initially, but less capability for continuous improvement	Improvements in managerial processes and systems. Customer focus produces quality improvements in some services	Aiming for both transformational and continuous improvement in front-line services
<b>Role of policy-makers</b>	Commanders	Announcers/commissioners	Leaders and interpreters
<b>Role of public Managers</b>	'Clerks and martyrs'	Efficiency and market maximisers	'Explorers'
<b>Role of the population</b>	Clients	Customers	Co-producers

*Source: Hartley (2005).*

The shift towards network governance is apparent in the literature of integrated care (e.g. Goodwin et al. 2004, Sheaff et al. 2010, Willem and Gemmel 2013) and may be related to the fruitfulness of the approach in tackling 'wicked problems', referring to "problematic social situations where: (1) there is no obvious solution; (2) many individuals and organizations are necessarily involved; (3) there is disagreement among stakeholders; and (4) where desired behaviour changes are part of the solution" (Ferlie et al. 2011), which are characteristics of fragmented health and social care sectors.

Health system characteristics serve as contextual factors influencing how payment mechanisms work to support or hinder care integration, as well as acting as facilitators and barriers to implementation of specific payment innovations.

### 3.3 Payment mechanisms in healthcare

Provider payment models in healthcare can vary from relatively simple to highly complex, integrating various forms and dimensions of payment mechanisms. The interest in provider payment mechanisms in relation to care integration stems from the assumption that provider behaviour is influenced by the way they are rewarded for their effort and remunerated for their service delivery. Consequently, the design of payment mechanisms and their inherent incentives can be actively used to influence provider decisions (Christianson et al. 2007). Payment models differ in what incentives they directly and indirectly, and intended and unintended, send to providers, all of which may influence the effectiveness and efficiency of the healthcare system in different ways (Robinson 2001, Conrad and Christianson 2004). Since the inherent incentives of payment mechanisms may distort provider behaviour away from optimal care provision, a mixture of different payment mechanisms are often used, with the intention to try to create an optimal balance between cost containment, efficacy, quality and equitable access to care. National and local variations remain considerable, at the same time, there remains a lack of consensus and evidence of what is the optimal mix of payment mechanisms in different contexts (Robinson et al. 2005).

In this section we describe different provider payment mechanisms and how they relate to care integration, i.e. addressing fragmentation of care provision and inflexibilities in service re-design, and mechanisms for incentivising provider cooperation. In relating these payment methods to care integration we make a separation between activity- and population based mechanisms and performance based payment mechanisms.

#### 3.3.1 From activity based to population based payment mechanism: financial integration by bundling of cost elements in provider payment

We start by looking at the payment mechanisms traditionally used as the primary base for reimbursing healthcare providers. The different mechanisms can be characterised by the degree of financial integration of care provision in the 'unit of payment' used.

The total cost of care for a patient can be decomposed according to the variables contributing to the cost of care: unit cost per service, #services per case, #cases per episode, #episodes per condition, #conditions per patient (Miller 2009). At provider level the number of patients receiving care and also services that are not related to single patients but rather to groups of patients or patient population in general, also affects total costs of service provision. Cost per patient can be considered separately for individual types of services, group of service types or

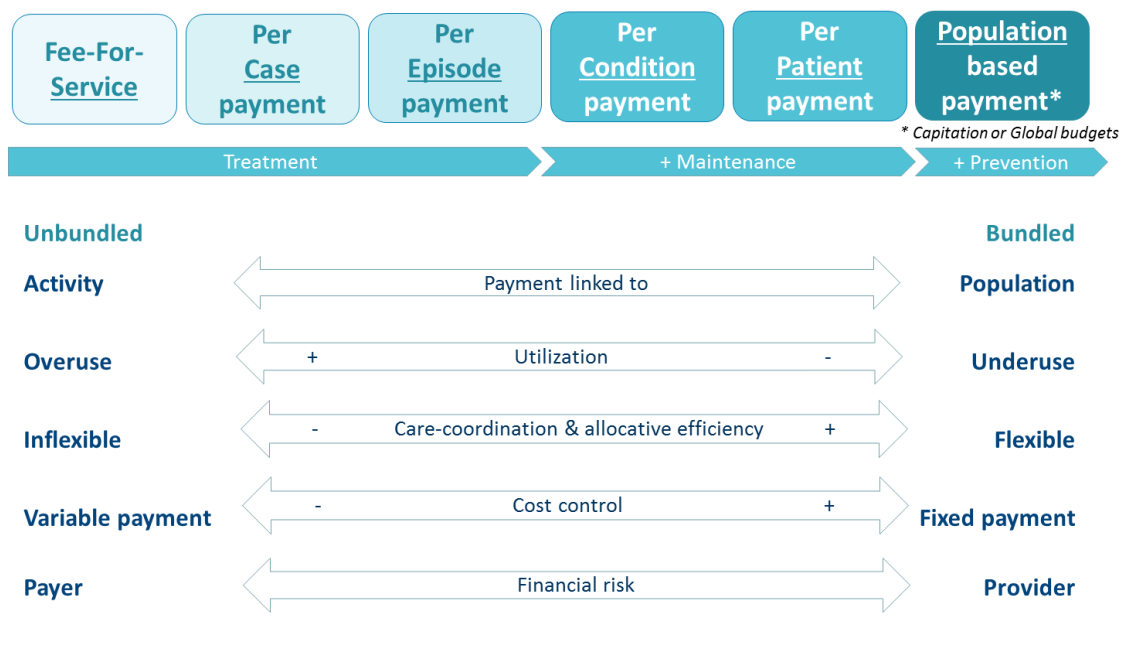
total cost of all service types. Likewise, cost per patient can be considered separately for individual providers, for group of providers or for the total cost across all providers.

The decomposition of variables contributing to patients costs can be linked to payment mechanisms characterized by differing degree of integration of costs in the unit of payment, i.e. the degree of bundling (grouping) of cost elements/services together into a single-price bundle. The more services are included in the price bundle the more financially integrated are the payment for care on part of the payer<sup>5</sup>. In practice, we see all types of bundling in payment methods, involving both single providers and single care type or covering several providers and care types. Bundling of payment can be seen as supporting care integration, especially if bundled across service setting and providers, because:

- the care provision for the bundle need to be considered simultaneously rather than separately,
- it provides flexibility in service redesign, and
- it reduces the opportunity for cost-shifting to other providers or levels in the healthcare system.

Hence, payment bundling can be seen as a means to stimulate care coordination and to ease reallocation of services to the most cost-effective and appropriate setting, while reducing or eliminating incentives for cost-shifting. In Figure 3.2, payment mechanisms are ranged according to the degree of bundling from least bundled at the left to most bundled at the right<sup>6</sup>.

Figure 3.2 Provider payment by degree of bundling of services in to one price bundle.



<sup>5</sup> Payer will hereafter refer to the organization funding the purchase of healthcare services.

<sup>6</sup> The classification of payment mechanisms, as well as names, used in the literature varies according to purpose of analysis, context etc. See e.g. Charlesworth et al. (2012) and Miller (2015).

***Fee-for-service (FFS)*** implies a fixed payment for each service provided to the patient and represents the least bundled payment mechanism. The payment is closely linked to activity and incentivises the providers to provide more of services they are paid for. There is no incentive (rather disincentive) for providers to provide services not included in the fee schedule, e.g. new type of services (service innovations). Unpaid activities take up time that otherwise could be spent on providing services which are paid for, i.e. providers lose income. As FFS typically reward medical procedures, and may not reward important components of comprehensive care of patients with multiple chronic conditions such as coordination efforts, teaching the patient self-management skills and remote monitoring, FFS does not in its traditional form support care coordination and care integration across service providers or uptake of new cost-effective and patient-centred care innovations. FFS physicians that strive to meet patients' comprehensive need may end up working against current payment incentives, and many physicians are likely to focus on what they get paid for (Berenson and Rich 2010).

***Case-based payment*** implies that payment is based on the treated patient (e.g. discharge) rather than on the number of services delivered, and hence bundles all services provided in relation to the case into one price bundle. The most common form of case-based payment is based on patient classification systems such as the diagnosis-related groups (DRG)<sup>7</sup>. Applying a tariff to each DRG results in a bundled payment, covering the treatments, services and inpatient bed days attributable to a specific admission diagnose. Various methods are used to determine DRG-prices but they are usually based on historical average costs. Consequently, DRGs can incentivise care innovation and redesign in terms of care practices during an admission but may dis-incentivise the introduction of new more costly technology, although cost-effective, due to delay in updating reimbursement tariffs. Case-based payment incentivises increase in the number of cases treated (as long as case payment covers marginal costs), and decrease in the cost per case (Geissler et al. 2011), and like FFS, does not stimulate care continuity and integrated care for patients with chronic and multiple illnesses or health problems.

***Episode-based bundled payment:*** A step further in the bundling of payment is episode-based payments – where reimbursement for medical services delivered during defined episodes of care is bundled together. Unlike case-based payments, this can include several inpatient admissions, and multiple care settings. Reimbursement for hospital, physician, post-acute, and home care can be part of the single payment. How an episode of care is defined and which services are covered can vary, e.g. including a given number of days before admission and after discharge. In any case the objective is to create incentives for efficiency and better care coordination during the specific illness episode. Episode-based payment creates incentives for discouraging unneeded services within a episodes of care, however it does not discourage unnecessary episodes (Mechanic 2011). Episode based bundled payment does not incentivise care coordination across care episodes and for patients with chronic diseases care

---

<sup>7</sup> Per diem payment was previously often used to pay for hospital care and is still in use, predominantly to pay for inpatient psychiatric care, rehabilitation and other long-term institutional care.

episodes can be difficult to define. Hence, episode based bundling are best suited for 'well-defined' treatment episodes (Korda and Eldridge 2011).

**Disease-based bundled payment** is a predefined single payment for all care required by a patient for a particular disease during a predefined period of time that may include several episodes of care, as well as follow-up and monitoring. Hence this bundling method (period) is better suited for patients with chronic conditions, than episode based bundling (Miller 2009). Typically, this will involve bundling payment across providers. A disease-based payment is paid jointly to the group of providers responsible for care provision within the specified time period. This creates incentives for providers to work together to provide preventive and quality care to mitigate acute care costs within the constraints of the payment amount. Disease-based payments are intended to encourage integration and coordination of services, and reduce the use of unnecessary services. However, disease-based payments in its current form have limitations in terms of care continuity and care integration for patients with multiple chronic conditions as approaches have generally assumed independence of often inter-related chronic conditions (Tsiachristas et al. 2013).

**Capitation payments** give providers a fixed amount of funding per patient to cover some (partial capitation) or all (full capitation) of the medical needs for a specified period of time (usually one year). Hence, capitation payment bundles services regardless of type of treatment or disease and is therefore better suited to deal with patients with multiple chronic conditions (Wranik and Durier-Copp 2011). A payment method 'in between' disease based per period payment and traditional capitation is to bundle several specific conditions which often occur in combination or for most treatments for the patient during a year, however conditional on service use, e.g. per patient per year tariffs ('**patient based capitation**'). This in contrast to traditional **population based capitation** models where payment is linked to membership of a health plan or by geographical area. Capitation payment is not linked to how much care is provided and can thus give the provider(s) the financial flexibility to redesign service delivery and to invest in personnel and technology needed to provide other care functions (thus can enhance care innovation and coordination) (Berenson and Rich 2010). Capitation payment has been used as a payment to primary care providers for the care of a fixed panel of patients, usually blended with a fee-for-service element, but capitation payments that only cover primary care may create incentives to off-load patients with complex and time-consuming needs by referring them to specialist care rather than managing them within primary care (cost-shifting) (ibid.). However, capitation approaches across both primary and secondary and even social care providers is seen as a promising model to improve care coordination, especially in chronic care, as it can promote the efficient use of resource across health and social care (Charlesworth et al. 2012).

**Global (block) budget:** Direct funding of the entire budget of a care provider on a prospective basis is referred to as global (block) budgeting<sup>8</sup>. This is, like population based capitation, a

---

<sup>8</sup> In US literature global budget typically refers to payment models with 'retrospective bundling', i.e. reconciling total insurance claims with agreed (preset) (global budget) spending limits (see e.g. Miller 2015).

prospective payment method bundling the payment for all services offered by the provider, however not (directly) linked to the number of population served.

The incentives embedded in the payment methods described above differ in several respects. Moving from left to right in Figure 3.2, from FFS to capitation, the link of payment to the level of activity decreases and eventually cease to exist. FFS creates incentives to increase the number of services provided. This may support patient access to services but may also incentivise supplier induced demand, including possible unnecessary services (van Dijk et al. 2013). On the other hand, capitation incentivises optimal combination of services as well as care efficiency, since the providers have full flexibility to allocate resources between services without financial consequences. However, since there is no link between provider behaviour and payment, capitation may also provide incentives to potentially withhold necessary services (skimping on quality) or, if the provider has the possibility to influence this, to prevent entry of patients with costly health problem or patients with increased risk of future health problems (cream-skimming). Hence, moving from activity based to population based payment the incentive changes from over-use to under-use of services. Also case-based, episode-based and disease-based payment methods raise issues of quality skimming, cream-skimming and also gaming the system by artificially increasing the units paid for, e.g. 'unbundling' cases/episodes or including 'non-eligible' patients. Thus, payment methods without or with weak links to provider activities may incentivise providers to sacrifice on quality unless also linked to performance-based measures.

Payment models also differ in the degree of cost control on part of the payer; moving from FFS towards capitation implies a move from variable (and uncontrolled) costs towards fixed costs. It also implies that financial risk is transferred from payer to providers (Berenson and Rich 2010). Since providers should bear performance risk and not insurance risk for high need/cost patients, payment rates are often risk (need) adjusted. This may also reduce the incentive for cream-skimming. Other mechanisms, such as outlier payment<sup>9</sup> or risk-corridors<sup>10</sup> can also be used to reduce the insurance risk for providers (Miller 2015).

The incentives for prioritizing health prevention also vary between payment models. Payment mechanisms bundling all care for chronic patients provides better opportunity for moving from a reactive service design treating acute illnesses to proactive service design oriented towards after care, disease monitoring and management and prevention of relapse. Disease based payment models are often linked to disease management programs, patient pathways and care standards based on best practice guidelines. Population based payment (under long term contract) can promote preventive health activities that will results in long term savings, since payment is not related to service use. As opposed to activity based payments the provider keeps any saving in treatment and care costs from preventing illness in the catchment population.

---

<sup>9</sup> Payer covers patient cost exceeding some threshold.

<sup>10</sup> Payer provides additional payment if total costs exceeds some threshold, and (if two-sided) provider return part of or all payment made beyond some threshold in total costs.

In practice, a blend of payment mechanism is used. In predominantly FFS or activity based systems relatively simple measures can be taken to amend or supplement the base model to incentivise or support care coordination.

**Amended FFS:** This approach consists of adjusting the FFS system introducing new fees in the FFS schedules to stimulate specific activities in the support of care coordination and collaboration between service providers such as fee for telephone- or e-consultations, participating in collaborative meetings etc.

**Pay for coordination (P4C):** P4C means paying providers for taking on responsibilities for coordination of patient's care along parts of or the complete care pathway. Hence, P4C is intended to provide incentive for performing activities related to care coordination and cooperation which is otherwise not paid for in the base model (Tsiachristas et al. 2013). P4C is typically in the form of a 'per patient per period' payment. Providers could alternatively be paid a lump-sum payment covering the extra cost for coordination activities.

Other innovations in payment mechanism to incentivise care coordination and to counteract incentives for cost-shifting and use of costly, unnecessarily alternatives involves letting providers take on part of the responsibility for paying for service use:

**Cross-charging/provider co-payment:** Providers at one (lower) level in the system must pay fees or co-pay for service use at a higher/more costly level to incentivise the former to take an active role in service re-design to allow patient to be treated at/cared for in less costly and more appropriate community based settings (Mason et al. 2014).

### 3.3.2 Performance-based payment mechanisms: Incentivising provider cooperation and aligning performance with health system objectives

Performance based payment mechanisms have been introduced in various healthcare setting as a means to steer focus towards outcomes rather than activity volumes. Performance based payment mechanisms explicitly address care quality, and seek to harmonise financial incentives across provides and with the objectives of the healthcare system (payer). Towards providers, such mechanism are generally used in combination with a base (activity or population-based) payment, i.e. to enhance traditional payment methods (Cashin et al. 2014). Performance-based payments have also been used to direct performance of health workers toward predefined outcomes, and have also in some cases been used to direct patient compliance or behaviour.

Performance measurement serves two goals: to improve the performance of the health system and to promote accountability. Below two performance-based approaches is presented. The first is used to incentivise care integration by linking payment to quality and outcomes, the second by linking payment to achieving savings or to meeting cost targets (or failing to do so).

**Pay-for-performance (P4P)** schemes may reward clinical quality, patient satisfaction, efficiency, responsiveness and equity measures or a combination of these. P4Ps based on clinical quality indicators and meant to encourage evidence-based practice is most common (Charlesworth et al. 2012). The payment is linked to specified performance measures using

indicators of the structure, process, or intermediate and final outcomes of care. Ideally, providers should be awarded for providing high quality care resulting in desirable health outcomes. Good indicators of final outcomes (related to mortality, morbidity, quality of life), attributable to the provider's actions, i.e. resulting from the provider's treatment and care, may be unattainable. Therefore quality is often measured by proxies including measures of structure (e.g. inputs and service infrastructure like (specific type of) staff and facilities, etc.), processes (e.g. such as adherence to clinical guidelines, referral patterns, measures of cooperation), and intermediate outcomes (e.g. glucose, cholesterol and blood pressure levels). Broadly speaking, quality of health system also relate to efficiency, equity, safety, patient centeredness, care responsiveness and continuity, measured by indicators of structure, process and patient satisfaction (e.g. service utilisation, accessibility, waiting time, information sharing, coordination etc). Components to consider in the design of P4P mechanisms include: the type of performance indicators; type and number of targets, whether the performance indicators can be appropriately measured; how to incentivise (rewards or penalties); what to reward (minimum standards, absolute improvement based on pre-determined performance threshold or relative improvement from a baseline measurement); who to reward (individual health workers, a department, or provider units); and the size of rewards (see Eijkenaar et al. 2013 for a discussion of results on important design elements). Without accurate data and adjustment of relevant factors, the P4P scheme can be 'gamed', e.g. high performance scores can potentially be achieved by avoiding sick or challenging patient, by over-use of specific services or otherwise 'cheat' to accomplish good results. It is also necessary to consider if the P4P may have adverse effects on dimensions of care provision and for patient groups not measured and included in the P4P payment scheme. Substantial heterogeneity exists in the development and implementation of P4P schemes (Eijkenaar 2012, Cashin et al. 2014). Some P4P schemes targets narrow patient groups (e.g. based on disease), other include broad general measures. Performance-based payment schemes must be designed and evaluated with care, poorly designed schemes may orient activity towards quantifiable performance rather than long-term outcomes (Benabou and Tirole 2003). Thus, efforts continue to design and evaluate performance-based reimbursement models that are well aligned with the goals of both payers and health providers, towards final health outcomes rather than proxy measures. To incentivise care integration transversal or common performance framework across different professionals and providers is needed.

**Shared savings/risks:** Another measure to stimulate care coordination across (activity-based paid or separately paid) providers, reduce unnecessary service use and incentivise cost effective care provision is to (retrospectively) link the payment of providers to total utilisation and spending. **Gain sharing** is a group incentive programme with emphasis on teamwork. Gain sharing can signify that a hospital gives physicians (and other health workers) a percentage share of any reduction in the hospital's costs for patient care attributable in part to their efforts. Gain sharing has often focused on narrowly defined saving opportunities, e.g. not overusing diagnostic test or prescribing generic instead of prescription drugs, however a broader approach to how saving can be made may have a role in stimulating care integration, e.g. cost savings that come from using outpatient services rather than inpatient services where appropriate, providing disease management services that keep chronic patients from having to be admitted to hospitals for acute episodes of illness if they can be managed in outpatient care. **Shared-savings** is a payment model developed to stimulate containment of



overall costs in activity-based paid service providers. It offers a potential financial incentive to the provider; if actual total costs (total claims) of all care received by the patients assigned to a provider is lower than budgeted costs, the provider receives a percentage of the difference between the actual and budgeted costs. However, if actual total costs exceed the budgeted costs, the provider does not incur any penalty. In **shared-risk** models the provider are also at risk for a proportional 'penalty' on spending above target (Delbanco et al. 2011). A model with both sharing of savings and losses is also referred to as two-sided shared savings model or a model with both up-side (savings) and down-side (losses) risk.

In general terms, risk-sharing arrangements also include P4P programs, where providers are at financial risk if not meeting predefined standards or targets or incur penalties for poor quality and adverse events. Risk-sharing is, as previously discussed, also an issue in (prospective) payment bundling models –case-based payment, episodic or disease-based payment and capitated payment - where the financial risk is to an increasing degree put upon providers. With capitation payment, risk-sharing involves that payer retain some of the financial (insurance) risk for excessive health expenditures. Continuing to pay providers for activity may work against incentives to change behaviour of providers. Hence, shared-savings and risk-sharing approaches linked to bundled or capitated payments can be more effective than strategies relying on activity based mechanisms as base payments (ibid.).

### 3.4 Paying for integrated care: who to pay and how to pay

Paying providers involves two key issues: who to pay and how to pay. The first issue involves the organisation of provider relations and the second concerns the design of the payment model. The two issues are related. Financial integration across providers, such as payment bundling and shared saving, typically demands a certain degree of provider integration either formal or virtual. Furthermore, the existing organisation of service delivery and market structure has implication for how feasible or easy it is to implement payment models involving financial integration across providers.

The task of planning, managing and purchasing (commissioning) of healthcare may be in the hands of very different bodies depending on the organisation of the healthcare system; public bodies at the state or local level – the latter either with delegated responsibilities or under regional/local government control, not-for-profit private bodies (e.g. public or private sickness funds) and private for-profit organisations (private insurance companies). In countries with a split between the roles of funding and purchasing, the task of purchasing may also be delegated to private intermediates such as provider-led organisations (e.g. GP-fundholding). The organisation of the purchaser role and the distribution of authority to implement or make decisions on the organisation of service delivery and choice and design of payment models are linked to the structure, organisation and management of healthcare systems discussed in section 3.2. Decisions on payment model type and design may be under national or local political control, negotiated at local/sub-national level involving interested parties (e.g. including professional associations and provider organisations), or negotiated bilaterally between purchaser and provider (Paris et al. 2010). Implementation of changes in payment models are also quite different in systems with direct public delivery, where financing and provision of care are integrated and managed by the same organisation, or in market-based system where the purchasing agency buys the services from private (and public) providers that operate in a competitive market.

### 3.4.1 Who to pay

Paying providers to support care integration may involve continuing to pay independent providers or introducing mechanisms requiring some degree of integrated provider relations. Again, this may depend on the existing market structure and existing provider relations. Provider relations and the extent of shared decision making can be described on a continuum ranging from full segregation via linkage, coordination, co-operation to full integration (Ahgren and Axelsson 2005, Valentijn et al. 2013). At one end, relations are characterised by market transactions (in market-based systems) and possibly alignment between independent providers without any formal or informal shared decision making. A move towards integration is achieved through different forms of coordination mechanisms and creation of inter-organisational network arrangements and strategic alliances. Finally, fully integrated care systems with providers operating within a single organisation are achieved by mergers and acquisitions (common ownership). Building on these types of provider relations, four principal approaches in contractual arrangements between payer/purchaser and providers in support of care coordination/integration (Rosen et al. 2011, Addicott 2014) are:

- (i) **Individual provider contract model:** Terms of contract between payer/purchaser and independent providers can be used to align objectives and change practice towards better care coordination and patient centred performance. This approach does not mandate a new governance or regulatory structure.
- (ii) **Alliance contract model:** Payer/purchaser enter into a single contract arrangement with a network of service providers. All providers within the alliance share accountability (risk and responsibility) for fulfilling the terms of the contract.
- (iii) **Prime contractor (or integrator) model:** Payer/purchaser enters into a single contract arrangement with a prime contractor (single organisation or consortium). The prime contractor serves the role as an integrator and assumes full accountability (risk and responsibility) for fulfilling the terms of the contract. The prime contractor subcontracts with individual service providers. A version of this model is where the prime contractor also provides some of the services.
- (iv) **Integrated provider system model:** Payer/purchaser enters into a contract arrangement with a single integrated provider organisation.

The main difference between the prime contractor model and the integrated provider organisation model is that all contracted services are provided by a single organisation without use of subcontracting with independent service providers in the latter model, i.e. the integrated provider organisation model is a special case of the prime contractor model.

In practice, there is a multitude of hybrids of these approaches, each with their own distinctive characteristics. The different contractual arrangement aimed at care coordination/integration can be supported by different approaches towards financial integration and use of financial incentives. They can be characterised by the mechanism used to pay providers and mechanism for joint clinical and financial accountability and risk/gain-sharing.

### 3.4.2 How to pay

How to pay involves both the type of payment mechanism and for which services and patient groups the payment mechanism applies, i.e. including all or a selection of services and

providers; and including particular disease group(s), population sub-groups or total population covered by the 'health plan' (based on membership or place of residence). Here we concentrate on type of payment mechanism. Of course, the type of services included, and for which patient groups, have implication both for the complexity of the payment mechanisms in operation for involved providers, and the impact of payment models on care coordination and the incentives to cost-shifting, cream-skimming etc.

***Aligning financial incentives for independent providers:*** Use of payment mechanisms to align financial incentives for independent providers in order to change practice towards better care coordination and patient centred performance. This can be done through refining existing (typically volume based) payment mechanisms by amending payment tariffs or supplementing the dominant payment mechanism by up-front funding of coordination activities (pay for coordination) or moving towards blended, bundled or capitated systems, and/or by supplementing current payment system with performance related payment. A system based on individual contracts may incentivise providers to collaborate or coordinate services but is still based on individual provider objectives and decision-making, separate performance evaluation and does not impose joint provider accountabilities.

***Retrospective bundling:*** Contracts involving several service providers or integrated service systems may involve continuing to reimburse individual partners based on existing provider specific (typically volume based) mechanisms, however introducing new financial incentives to stimulate care coordination. This can be done by retrospective or virtual bundling reconciling total payment with pre-established total (across providers) expenditure targets (budgets) stipulated in the contract. The contract may be one or two-sided, i.e. shared saving contract or contract where providers share both savings and risk sharing for excessive spending compared to targets/budgets. The retrospective bundling models are also characterised by the mechanism of allocation of patients and corresponding cost that providers take responsibility for, i.e. the method for identifying the accountable provider; prospective designation of patients or retrospective attribution of costs based on predefined mechanism (Miller 2015).

***Prospective bundling:*** Contracts involving several service providers or integrated service systems may alternatively be paid a lump-sum (bundled) payment (e.g. per episode rates, per year rates or capitation depending on the targeted services, patient groups, etc.) to cover total costs of (package of) service provision. Any savings in spending compared to the payment is kept and any losses must be covered by the contractor. The single payment is distributed among all involved providers based on an internally agreed/negotiated method.

***Insurance risk reduction mechanisms:*** In prospective bundling models and retrospective bundling models where providers take financial accountability for excess spending the financial risk is shifted from payers to providers. The insurance risk related to patient/population needs can be reduced by use of risk-adjusted payment rates. The payer

can also retain some of the (insurance) risk by use of different risk management mechanisms<sup>11</sup>.

***Common quality performance framework:*** In multi-provider or whole system contracts, joint accountability for performance can also be imposed by using one common quality performance evaluation framework with harmonised objectives and shared risks to support a move from volume to value driven care delivery and whole system efficiency.

The degree of provider coordination, joint management and joint decision-making, flexibility in service re-design and provider accountability will vary depending on the particularities of combination of payment, risk and service delivery models. The ease of service redesign is linked to flexibility in provider payment mechanism and governance structures. Retrospective bundling with full reconciliation to agreed spending targets resembles prospective bundling. However, retrospective bundling is bundling for accountability, e.g. control of spending and utilisation, while prospective bundling is bundling for flexibility (and accountability). Prospective bundling reduces the need for spending targets to control costs but increases the risk for underuse, and hence increases the need for quality accountability mechanisms. Increased acceptance of accountability for costs and quality increases the need for risk management mechanisms however depending on the size of the targeted patient population (Miller 2015). In models with one accountable contractor the contractor can take on a role as integrator responsible for service redesign and be rewarded (paid) for achieving good results but also assuming accountability for financial losses and performance failure. Models where the contractor assumes responsibility for healthcare for a defined population de facto means that the commissioning function (planning, managing and, possibly, purchasing) to a large extent is delegated to the contractor. Hence, some of the challenges faced by the payer are also 'delegated'. Payment bundling (retrospective and prospective) across service providers raises the question of how the payment and risks are distributed among individual service provider(organisation)s, i.e. which payment and accountability mechanisms is used 'below' the main contractor towards independent service providers or to partners within network. This also relates to whether and how risk/gains and performance related payment is distributed. Is the internal compensation based on volume or value? Do internal mechanisms correspond to payment mechanism used towards contractor/network? This will ultimately influence the effect of payment change on provider behaviour.

### **3.5 Mechanisms to integrate resources between providers levels or sectors (payers)**

The payment mechanisms discussed above describe options for payment reform to support care integration across services financed within one particular pool of funds, i.e. pay for services under the responsibility of one payer/purchaser. A major barrier to care integration is that services are paid for by different payers/purchaser from separate 'siloes' funds. Pooling of funds and resources across provider levels or sectors is one way to address the fragmentation and silo structure of the health and social care system<sup>12</sup>. Resource integration

---

<sup>11</sup> E.g. such as outlier payments or risk-corridors (see section 3.3.1) .

<sup>12</sup> The payment mechanisms and purchasing strategies described above may be used towards providers across sectors based on joint strategies described in this section.

mechanisms are often adapted to the local situations and may take many forms. Different types of network arrangements between service providers may also be driven by non-financial incentives or independent of contractual arrangements with payer/purchaser. Resource integration mechanisms includes aligning budgets to common vision and objectives, co-ordinate commissioning based on common strategy, pooling funds, integrating managements, and crating one integrated organization (Mason et al. 2014).

***Aligned budgets:*** Partners aligns resources to the same objectives with joint monitoring of spending and performance, while the management and accountability remain with each provider. Collaboration is often relatively informal as aligned budgets usually have relatively few associated administrative requirements. It may be used as a first step toward budget pooling, allow greater flexibility to include private sector partners, or when it is not possible on legal grounds to pool funds. It is less bureaucratic than pooled funds in the short term but may be the opposite in the long term as it requires separate decision-making processes (UKGovernment 2010).

***Lead/joint commissioning:*** Lead commissioning is when one partner leads commissioning of services based on jointly agreed strategies. Joint commissioning is when two or more commissioning agents act together to co-ordinate their commissioning, taking joint responsibility for the translation of strategy to make best use of available resources into action. It may also result in joint purchasing, where one or more agents co-ordinate the buying of services (UKGovernment 2010).

***Pooled funds without integrated management:*** Each partner makes contributions to a common fund for spending as agreed, while the management structures remain separate.

***Integrated management without pooled funds:*** Partners creates arrangement for joint management, while funding remains separate.

***Integrated management with pooled funds:*** Partners pool resources, staff and management structures, with one partner acting as host.

***Structural integration:*** When different provider functions that are usually managed separately are combined under one organisation, e.g. health and social care.

### 3.6 Payment mechanisms and financial incentives directed towards patients

Coordinated or patient-centred care can also be supported by use of financial – and non-financial - incentives directed towards patients.

***Incentivising patients to use preferred integrated care arrangements:*** In systems without a gatekeeping role of primary care physicians, where patients do not have to or is not expected to sign up with a preferred primary care physician (patient list) and where patient are free to choose provider, patients need to be encouraged to choose to enter into provider arrangement directed towards care coordination and care integration. This can be done using financial incentives, e.g. reducing or eliminating patient co-payment if they choose to sign up with a preferred primary care physician or preferred provider group or network accepting

gatekeeping and perhaps restricting choice of providers. In insurance based systems, with competition and without insurance tax contributions, lowering of insurance premium is also a way to incentivise patients to choose to enter such arrangements.

**Value-based cost sharing:** Insurance premiums or patient co-payment can also be used strategically to influence patients choice of (efficient/evidence based) treatment options and stimulate healthy behaviour and own health maintenance (Robinson 2010).

**Personal health budget:** A patient-centred alternative to care coordination is the use of personal health budget giving the population greater autonomy in managing their care and greater choice and control over services they receive (Curry and Ham 2010).

### 3.7 Value based systems

There are a multiple of options available for payers and purchasers of health and social care in using provider payment mechanisms to incentives care coordination or resource integration mechanisms to overcome barriers to care integration created by funding silos (Figure 3.3). Payment change spans from amending existing independent provider payment systems to mechanisms for payment across providers such as bundled or capitated payment and performance based payment.

Figure 3.3 Continuum of options for financial integration<sup>13</sup>.



Financial models should promote quality and efficiency, but also match the capabilities of an organization’s structure (Miller 2015). The payment mechanisms used should be aligned with the providers' capabilities to assume accountability for performance (results/outcomes and

<sup>13</sup> The figure is inspired by Commonwealth Fund (2009) (Exhibit 18, p. 35), Crawford and Houston (2015) (Exhibit 2, p. 9), and Miller (2009) (Exhibit 4, p. 1426) and Miller (2015).

costs) and for handling risks, and be restricted to factors under providers' control. Different health system characteristics and other contextual factor may influence the feasibility of payment methods. The viability and robustness of payment/purchasing strategies is also linked to characteristics of provider relations like previous experiences with collaboration and cooperation.

There are increased ambitions to move towards payment approaches that reward value instead of volume, and consider final health outcomes and patient satisfaction as well as costs. This is an approach that resonates well with care integration and people-centred care (Porter 2010, Charlesworth et al. 2012). Such reform strategies relates to the concept of **Value based payment** originated from the US context and used for initiatives to reform provider payment mechanism in implementation of the Affordable Care Act ('Obama Care'), however also describing ambitions to system change in other countries (e.g. Value based (or outcomes-based) commissioning strategies within the English NHS<sup>14</sup>). More than a specific payment mechanism, value-based payment or value-based purchasing is an approach for strategic purchasing to support a move towards improved healthcare quality, health outcomes, patient experiences and care efficiency. This can be seen as a strategy towards a sustainable and affordable health system that strives to achieve cost reductions (or reducing the growth in healthcare spending) and at the same time improved population health outcomes and patient experiences, i.e. achieve the triple aim (Berwick et al. 2008). Delivery system redesign within health and care services is seen as a key strategy to achieve the triple aim by adjusting service delivery to patient needs, avoid unnecessary use of high cost specialist services and service duplication arising from a fragmented and uncoordinated care system. Prevention of illness and maintaining healthy lives is also a key strategy to curb the growth in healthcare expenditures. This requires a fundamental rethinking not only of the healthcare system but also the interdependencies with other sectors in society.

To stimulate effectiveness over time a value-based payment model should include a number of components: patient-centeredness; health outcomes relevant to the patients; reimbursement along care pathways: all agents that may be able to affect care outcomes need to be part of the payment model; cost of low quality cannot be transferred to other actors, the care provider is compensated proportionally in relation the specific care needs of patients. Hence, a central part of a value based purchasing strategy is payment innovation that considers the entire care continuum for a patient, not each intervention separately. This involves moving in the direction of payment bundling across the care continuum (across episodes and care settings) and use of performance evaluation framework that align provider incentives (Porter 2009, VanLare 2012). The outcome measures for value-based payments thereby need to be rigorous, which hinders implementation. Value-based payment may be based on the overall health outcomes in a population through a value-based capitation model (Porter 2009). A challenge in the development of value-based payment approaches is the extent to which current information systems supply accurate and comprehensive enough data for valid value measurements (rather than proxy measures). The only way to accurately

---

<sup>14</sup>See e.g. <http://www.haringeyccg.nhs.uk/Downloads/Board%20Papers/20131128/Item%203.3b%20-%20Value-Based%20Commissioning%20presentation.pdf>

measure value for patients is to track individual patient outcomes and costs longitudinally (Porter 2010). This approach has to date remained hampered by a lack of comprehensive value-based measurements. The complex origins and long time span is a challenge in measures based on health outcomes (Garett 2015).

The label value-based payment is used in many different ways describing very different payment models or purchasing strategies ranging from introducing P4P in a specific setting to whole system approaches, i.e. also used on P4P payment not measured in terms of final health outcomes. As seen by Berwick et al. (2008) a precondition for moving in the direction of the Triple Aim is the existence of an 'integrator' organisation that accepts responsibility for a defined population and is accountable for delivering on all three aims. The role of the integrator can be taken by the payer or purchaser organisation, a 'health plan' or by an accountable provider network.



## 4 Financial arrangements to support care integration: current trends

Financial arrangements to support integrated care may span from financial incentives to prompt cooperation across different providers, to capitation-based models with full structural integration, when the management and financing of different sectors are merged. In the middle-group, alignment of budgets and objectives between providers, and different types of contracting between providers with sharing of financial risk and gains are explored to steer and enable providers from different healthcare sectors to work together towards common goals (Struijs 2013). What financial arrangements are most appropriate will depend on whether the focus is on achieving structural integration and pooling of resources, creating alliances with joint accountability with focus on shared values and common goals in combination with payment mechanisms that do not create barriers for cooperation, or establishing contractual agreements outlining gains and risk across providers. The approach taken will thus depend both on the type of integration and on organisational and contextual factors such as previous approaches and traditions in the healthcare setting.

This chapter provides some examples of financial arrangements that have been explored or implemented to support care integration across providers. We are referring to examples identified in the literature as well as in the Project INTEGRATE case studies and the expert survey. The issues of financing and organisation of service delivery, including contractual arrangements, are tightly linked. In section 4.1 we focus on different payment mechanisms used and in section 4.2 we provide examples of different (contractual) models of integrated care delivery across providers. Many financial approaches to promote care integration have not been carefully evaluated and/or may be difficult to evaluate due to complexity; there may only be anecdotal or non-controlled evidence of impact. This chapter will therefore focus on describing different approaches taken without discussing impact, while the next chapter presents an overview of the generally limited evidence-base for what works or not and brings up some of the evaluation challenges.

### 4.1 Payment mechanisms to support care integration

#### 4.1.1. Financial incentives for care coordination

Many countries have introduced financial incentives on top of or by amending pre-existing payment mechanisms as an attempt to enhance care coordination, often for patients with chronic diseases in particular.

##### **Patient directed financial incentives**

Following a series of pilot projects personal health budgets was introduced by the NHS in England in 2012. The individual is given an *"amount of money to support the identified healthcare and wellbeing needs of an individual, which is planned and agreed between the individual, or their representative, and the local clinical commissioning group (CCG). It isn't new money, but a different way of spending health funding to meet the needs of a*

*individual*<sup>15</sup>. Personal/individual budgets have been used in several countries e.g. US, Germany, Austria and the Netherlands (Curry and Ham 2010). The experience from the Netherlands points to challenges related to sustainability of such arrangements if the eligibility criteria are broad and the target group is increasing rapidly (Grasser et al. 2013).

Reduction or exemption of patient co-payment can be used as an incentive for patient to choose integrated care arrangements. Waived co-payments is used e.g. in Belgium to incentivise patient to participate in integrated disease management pathways for treatment and follow-up of specified chronic diseases introduced in 2009 (chapter 6). Reduced or waived co-payment is also used to incentivise enrolment in disease management programmes (DMPs) in Germany (Hernández-Quevedo et al. 2013). In France exemption from user charges is used for e.g. people with mental health needs for accessing ambulatory care centres responsible for coordinating care, providing patients with individualised care plans, and also for prevention and screening (Refinement project 2013). In Switzerland the health insurance system allows insurers to offer health plans with lower premiums for using designated providers with reduced choice and more case management (chapter 6).

### **Amending FFS**

Amendment of existing FFS schedules by adding new fees for activities in support of care coordination is one way of incentivising providers. In the US fee-for-service landscape so called 'payment for non-visit functions' to doctor and/or hospitals have been introduced in some settings as a fee that can be charged for e.g. care coordination (Delbanco 2014). In Estonia, GPs can consult with specialists through the health information system and claim a fee for this if certain requirements are fulfilled. This e-consultation approach aims to support family doctors in taking a bigger role over patient care and to improve cross-disciplinary cooperation (chapter 6). In Norway the FFS for GPs include fees for participating in multi-disciplinary cooperation meetings (Refinement project 2013).

### **Payment of care integration within DRG-systems**

An approach taken in a locally implemented programme in Spain in the late 2000s has been to pay 33% of the standard hospital DRG charge for patients with chronic obstructive pulmonary disease for 'home-hospitalisation' under the responsibility of hospital personnel. In Germany, the DRG system used for hospitals includes DRGs for incorporating requirements for multi-disciplinary team work for complex geriatric care. These cases are further described in Chapter 7.

### **Pay for coordination**

A relatively straightforward measure is to pay the provider a lump sum per patient for doing activities that support care coordination. This has been explored in settings where primary care physicians are paid by fee-for-service. In Austria, France and Germany, 'pay-for-coordination' schemes were applied as part of the introduction of disease management programmes (DMPs) for selected chronic diseases in the early 2000s (Tsiachristas et al. 2013), in Denmark in 2007 (Hernandes-Quevedo 2013) and in Belgium in 2009 (chapter 6). The

---

<sup>15</sup> <http://www.england.nhs.uk/healthbudgets/understanding/>

healthcare systems in these countries, except Denmark, are based on statutory insurance models. In Germany, capitation models used towards insurers were adjusted as part of the DMPs with additional pay for enrolling selected groups of chronic care patients to conquer previous incentives for cream-skimming. This was followed by 'per patient per year' payment toward both insurers and coordinating providers. In Austria, Belgium and Denmark primary care physicians receive payment upon patient enrolment in a DMP. In all countries, physicians receive quarterly or annual supplements for care and care-coordination to supplement the base fee-for-service payment. Physician involvement in the DMPs has been voluntary in all countries. In Belgium capitation fees is also used for prevention management. Pay for coordination on a 'per patient per month' is also used in the Medical Home-type models in US supplementing FFS in primary care setting to encourage improvements in care coordination, access, and quality for chronically ill patients (Schneider et al. 2011, Taroon et al. 2010).

### **Cross-charging and provider co-payment**

Approaches to reduce delayed discharges from acute hospital to social care promptly, in cases where social care is responsible for the patient, were introduced in Canada, Denmark, Sweden and the UK (national insurance or tax-bases systems) in the form of so called cross-charging – penalties/cash transfers between social and health services for each day of delay in the 1990s to early 2000s (Styrborn and Thorslund 1993, Mason et al. 2014). Norway took several steps in the same domain in the early 2010s, enhancing the system of cross-charging in relation to delayed hospital discharge, introducing municipal co-payment (20% of DRG-fee) for non-surgical hospital treatments that, in theory, could have been prevented or handled under primary and nursing care (in the municipalities), and introducing a pilot scheme where municipalities receive grants to establish acute beds to alleviate hospitals from admissions that can be dealt with in the community. These were the financial instrument of the 'Coordination reform' implemented in 2012, prescribing a more profound role of the municipalities in support of the goal of 'proper services at the right time and place'. Municipal co-payment was abandoned by the new government from January 1st 2015, mainly due to challenges in handling the financial risk that followed with this payment reform in the smaller municipalities<sup>16</sup> (chapter 6). Municipal co-payment for hospital services was also introduced as part of the structural reform in Denmark in 2007 giving municipalities a more important role in the healthcare sector, assuming full responsibility for prevention, health promotion and rehabilitation outside of hospitals (Olejaz et al. 2012).

### **Pay for performance**

Several countries have introduced performance-related payment (P4P) initiatives including targets related to preventive care, management of chronic diseases and/or patient satisfaction<sup>17</sup>, among others Estonia, the Netherlands, Spain and the UK. Targets for chronic care management may include measures to incentivise care coordination. The Outcome Framework introduced in Catalonia, Spain, includes transversal objectives for health and social services (chapter 6). In the Girona area transversal targets related to special procedure to coordinate care between inpatient care and primary care (follow-up visits) after hospital

---

<sup>16</sup> More than half of the municipalities in Norway have less than 5000 inhabitants. Some have less than 1000 inhabitants.

<sup>17</sup> OECD Health System Characteristics Survey. <http://www.oecd.org/els/health-systems/paying-providers.htm>.

discharge in mental health are used (Refinement project 2013). This objective is included in the target payment for both hospital and primary care. The National Quality Indicators in Contracts in England also includes measures related to follow-up after discharge within mental health (ibid.). Performance related payments and contracts stipulating care standards and quality measures, based on common outcome frameworks, are often used in models for care integration across providers discussed below.

#### **4.1.2. Payment bundling across providers for chronic care**

Steps towards integration in systems based on fee-for service or case-mix payments by means of bundling by episode and disease have been taken in e.g. the US, Sweden and the Netherlands (Appleby et al. 2012). Payment bundling by episode has been done for e.g. complex operative procedures to include also the rehabilitation and readmission (Mukherji and Fockler 2014), thus not directly applicable to comprehensive chronic care management (Schneider et al. 2011). Although there is an increasing interest in bundled payment for chronic medical conditions in the US, condition specific 'per patient per year' bundling are still relatively uncommon (Painter 2012). A bundled payment model by disease across different primary care providers has been implemented in The Netherlands. Initially for diabetes in 2007 under a pilot scheme and later expanded to encompass COPD and cardiovascular disease in 2010 (Elissen et al. 2012). This form of disease based bundled payment is seen as a way to stimulate primary care providers, predominantly GPs, to engage in multidisciplinary cooperation and deliver integrated, evidence-based disease management, thus limiting the need for specialist care. The Dutch bundled payment model for diabetes is further described as a case study in Chapter 7.

#### **4.1.3. Capitation and care integration**

Care integration may be facilitated by capitation models, at the same time capitation payments can be difficult to manage in a setting of non-integrated providers, in particular when the providers have underlying disparate financial objectives. Hence, the ultimate success of capitation may hinge on the level of provider integration (Nam 2014). In the US, capitation models were explored in the 1980s and 1990s under the concept of 'managed care'. Many failed, arguably because of a lacking systems perspective with difficulties of balancing the interests of partners, and escalating cost in healthcare resulting in the participating providers suffering substantial financial losses. At that time, performance measuring was scarce and there were largely no formal quality incentives in the capitation contracts. With no link of payment, either to quality or to activity, there also was persistent concern that quality was suffering under the capitation model (Chernew et al. 2011). In addition the 'managed care backlash' (Mechanic 2001) stemming from public dissatisfaction and consumers resistance against managed care constraints on access and provider choice contributed to loss of popularity of the global capitation payment model. Experiences from those that are in place today show that to operate successfully capitation models need to be well-organised and transparency is important if payers are not integrated with the care providers – payers/commissioners need to understand the details of the expenditure base for the capitation payment and its quality and health outcomes, to judge its performance and negotiate appropriate capitation payments over time (Delbanco 2014, Nam 2014).

Two long-term systems with provider groups/networks operating under capitation in the US are the Veterans Health Administration (VHA) and Kaiser Permanente. The VHA is the largest

(predominantly) tax-funded integrated provider in the US since its restructuring in 1995-1999 serving nearly 9 million veterans. Care is provided by geographical networks with resources dedicated to each network based on a capitation formula that takes into account historical distribution of basic and complex care and input costs (Mason et al. 2014). Kaiser Permanente was founded in 1945 and is the largest non-profit integrated healthcare delivery system in the US with over 9 million members. It targets a defined enrolled population, offering a defined basket of service. Chronic patients are stratified by three levels according to needs. Affiliated medical groups are paid on capitation basis. Kaiser integrates commissioning and provision within the same organisation and is not very transparent in terms of the details of the capitation model (Delbanco 2014). It has been noted that systems like Kaiser Permanente are not over-reliant on payment methods and financial incentives within the organisation to achieve integrated service provision (Ham et al. 2011).

The establishment of Accountable Care Organisations (ACOs) in the US, a reform initiated by the Affordable Care Act 2010, has spurred an interest in capitation models in the US as a means to provide 'accountable care'. ACOs are broadly defined as a group of providers (primary care providers, hospitals, etc.) that voluntarily have come together to provide and coordinate care for a specified patient population (Delbanco et al. 2011). ACOs are payer-provider alliances meant to deliver care via payment models that rewards efficacy rather than activity and where the provider members of the ACO collectively take accountability for providing and coordinating care for their patients across the care continuum. ACOs are often complemented by Patient-Centred Medical Homes where each patient is provided with a primary care provider to facilitate seamless care across service settings. Payment incentivising integrated care delivery and 'value' are encouraged within ACOs. ACOs operating under capitation models have been explored within the Pioneer Accountable Care Organisations (ACO) programme (Pham et al. 2014). However, this trend is still in early phases in Medicare. In the beginning of 2015 there were 744 ACOs covering in total 23.5 million individuals in the US (Muhlestein 2015). An assessment of the payment reform in the US reported the proportion of Medicare healthcare payment under capitation to be 1.9%. However, the proportion of total payment under full capitation in the commercial sector increased exponentially in 2014 to 15% from 1.6% in 2013 (CPR 2015). Most ACO operates under shared savings contracts (see next section).

The Alternative Quality Contract used by the Blue Cross Blue Shield of Massachusetts provides an example of a retrospective global capitation payment model (Chernew et al. 2011). The model is used to contract groups of provider that accept a risk-adjusted capitated global budget to cover all healthcare services delivered to Blue Cross HMO (health maintenance organization) and POS (point of service plan) patients. The global budget covers all costs whether or not the care is provided by the provider group (i.e. also cost to unaffiliated providers). The providers are paid FFS and the total claim payments are reconciled with the agreed global budget at the end of each year. Since FFS-rates vary across providers, the system creates strong incentives to refer to low-cost providers (paid lower FFS rates). Provider groups can choose the degree of risk they assume including full-risk arrangement (100% reconciliation with the global budget), where the provider group are paid all surpluses and must cover any losses, or risk sharing arrangement where the risk of the group is less than 100 %. All participating groups must have separate insurance arrangement (re-insurance) to protect against extraordinary costs related to high-cost patients (outliers). The

Alternative Quality Contract also includes performance related payment and the duration of the contract is five years, which is longer than typical contracts (one to three years).

In England, the 211 clinical commissioning groups (CCGs) introduced in 2012 to manage care commissioning for geographical defined areas, are encouraged to promote integrated care. Some CCGs in the UK are in the process of developing and implementing integrated care models for frail and elderly and/or people with long term conditions (Monitor 2014). NHS recommends capitation for a target population (such as patients with multiple long term conditions) as a good starting point. This allows for organisational capacity building in terms of the development of patient-level datasets, financial incentives and sharing factors before rolling out a capitation model for a large population (Monitor 2014, NWL\_WSIC 2015). An recently introduced example in the UK is the provision of musculoskeletal care in Bedfordshire, England since 2014 under a capitation-based funding formula, incorporating risk/gain-share and additional financial incentives for delivering improved patient and clinical outcomes (Addicott 2014).

Population based capitation models within geographically defined catchment areas have long been used to allocate funds within public delivery systems (Penno et al. 2013), and are increasingly being used in setting with purchaser-provider split, e.g. in provinces within Catalonia (Chapter 6). There are also examples in Spain on indirect management models with administrative concession to a corporation or a temporary union of enterprises for the provision of care to an entire basic health area (García-Armesto et al. 2010). One such example – the Alzira model - is described below.

## **4.2 Contractual models of integrated service delivery**

### **4.2.1 Individual providers with aligned objectives/budgets**

In North West London, an integrated care pilot has been ongoing since 2011 focusing on elderly and patients with diabetes, two populations that together accounted from 28% of healthcare spending in the area. The integrated care pilot was set-up as an individual provider contract model with aligned objectives. In order to maintain their independence, the local providers opted for a formal agreement to co-ordinate patient care, rather than merging into a single structurally integrated delivery system (McClellan et al. 2013). The pilot brings together organisations from the acute, primary care, community care and social care sectors across five boroughs in London. A shared-savings approach to support integration are used; the multidisciplinary teams created gained access to resources aimed at improving care delivery (Mason et al. 2014).

The Community Health Partnerships/Community health and care partnerships in Scotland covers, in principle, the whole population but often targeted at older people. Established in the 1990s, primary healthcare and social services work to integrate care with aligned budgets (Mason et al. 2014).

In Canada, the Program of Research to Integrate the Services for the Maintenance of Autonomy (PRISMA), an Integrated Service Delivery model of care delivery for “frail older people”, was structured through voluntary coordination, without new infrastructure or new financing mechanisms (Beland and Hollander 2011).

#### 4.2.2 Prime contractor or integrator model

The bundled payment model in The Netherlands is an example of a model where the payer/purchaser (the insurer) enters into a single contract with a prime contractor – in this case a care group, consisting of multiple healthcare providers, though dominated and often owned by general practitioners. The care groups then subcontract e.g. dieticians, ophthalmologists and laboratories. The care groups assume full accountability (risk and responsibility) for fulfilling the terms of the contract, however they have also come to enjoy a powerful bargaining position (de Bakker et al. 2012).

Gesundes Kinzigtal is one of few population-based integrated care approaches in Germany, covering approximately 30,000 individuals. It is run by a regional health management company, founded in 2005, owned by the regional physicians' network and a healthcare management company and operates under shared-savings contract with two statutory health insurers (Hildebrandt et al. 2010). Healthcare providers in Kinzigtal are directly reimbursed by the sickness funds for their services, but Gesundes Kinzigtal holds accountability for the healthcare budget for this population group (Alderwick et al. 2015). Savings are shared between the management company and the sickness funds, but Gesundes Kinzigtal is liable for any loss. There are no direct financial incentives offered to patients. Providers are reimbursed for services not normally covered but considered important for care quality and receive a share of gains based on individual performance (Llano 2013).

Other German example is the Knappschaft's Prosper programme initiated in 1999, following legislative changes in Germany that allowed for integrated care contracts between insurers like Knappschaft and providers from different sectors. German sickness funds receive an individualised capitation-based payment for each patient (based on age, gender and morbidity). Knappschaft has developed eight integrated care networks, comprising hospitals, GPs, rehab facilities and social-medical services. They operate a gain sharing model involving the insurer, the provider networks and the patients (through a bonus scheme). Additional incentives for patients include certain co-payment exemptions (Monitor 2014).

Other examples of programmes under a prime contractors model are The Program of All-inclusive Care of the Elderly (PACE) in the US and the System of integrated care for older persons with disabilities (SIPA) in Canada (Beland and Hollander 2011). The PACE model focuses on elderly people attending day centres and integrates primary and specialist medical care. IT is funded on capitation basis and responsible for purchasing all needed services for elderly clients. SIPA operates within a community health centre but with its own budget and governance structure, with local agencies responsible for the full range and coordination of community and institutional (acute and long-term) health and social services.

#### 4.2.3 Alliance contracts

Alliance contracts are based on clearly agreed principles, with emphasis of transparency and joint accountability (McGough and Dunbar-Rees 2013). All parts have a say in collective decisions. Risks and gains are shared, between the alliance members as well as the 'commissioner'; there is not one party that allocates rewards or penalties. Alliance contracts tend to be longer-term; otherwise it will not allow the flexibility to strategic change across organisations. Alignment of values and drives and proactive relationship management is critical. An alliance contract is often based on a pooled budget arrangement but not always.

In New Zealand's national insurance-based system, 21 district health boards are responsible for the funding, planning and provision of health and social services, funded on a weighted-capitation basis by the central government, after the purchaser-provider split introduced in New Zealand in the 1990s was abolished in the early 2000s. The boards may act both as providers and purchasers, provide some services themselves or commission some from other providers (WHO 2004). Within this structure, starting in the mid-2000s, the Canterbury Health Board has established alliance contracts with pre-agreed gain and losses dependent on the overall performance of involved service providers, replacing previous input-defined and often fee-for-item-of-service contracts with penalties for under-performance. The new system involved open book accounting and all the contractors have agreed margins, and gains go back into the system in ways the alliance partners agree to improve services (Timmins and Ham 2013). The idea is to create a 'high trust, low bureaucracy' approach to contracting that encourages innovation over the means of delivery. A core part of the vision was to provide staff and contractors with the skills and support to be innovative, to foster continuous improvement in the redesign of services and of enablers that allow the separate providers to work together as a single integrated health and social care system. Canterbury is working on a collaborative care management system aimed at allowing the management of patients with long-term conditions to be set out more clearly. The additional initiatives such as the 'HealthPathways' and the change process have been substantial investments yet balanced by saving from for example the removal of fee-for-service contracts and increased home-based care.

The ACOs in the US are to some degree based on principles of alliance contracting. ACO contract implies that a group of providers collectively take responsibility for both total costs and quality of care for a defined population (Lewis et al. 2014). The model aims to offer financial incentives to providers to redesign services from the prevalent fee-for-service model in the US. Shared savings as a consequence of increased effectiveness and outcomes are increasingly intended to be balanced with risk, however to date only around 5 out of more than 400 ACOs have financial risk-sharing agreements with Medicare, and 19 operate under capitation models which also involved provider risk, the others are on a shared savings contract, e.g. with potential rewards but without risk (CMS 2015, Rapple 2015). Overall 2% of Medicare payments were under shared risk contracts, 12% under shared savings in 2013 (CPR 2015). Typically, shared savings payment is made contingent upon quality performance. It is less common to have contracts with additional performance bonus payments (Lewis et al. 2014). While downside risk contracts have been rare in the Medicare Shared Savings Program, they are frequent in private payer ACO-contracts either through capitation, global budgets (retrospective bundling), or shared savings models that included shared losses. Furthermore, most private payer contracts involve up-front payment, e.g. care management payment (ibid.).

#### **4.2.4 Integrated providers**

In Alzira, Spain, a private company, Ribera Salud, is responsible for the provision of all primary and secondary care in a geographic population of 250,000 since 2003, under a long-term (15 year) contract with the Valencia health region (NHS\_European\_Office 2011). The government of Valencia, pays Ribera Salud, the private company that runs the integrated system, through a geographically defined, non-risk-adjusted, population-based capitation model



(NHS\_European\_Office 2011). Through the capitation model, the financial risk is transferred to the private company, though the Government of Valencia ultimately remains accountable for population health in its region. The payment model includes a risk corridor where Ribera Salud can keep some but not all savings above a threshold and is however accountable for any cost above the capitated payment. The Alzira model is built on public-private partnership, and the government continue to own the facilities. Ribera Salud has subsequently taken over healthcare provision in a few other areas in Spain. In two of these municipalities Ribera Salud has implemented Complex Care Plans focusing specifically at elderly patients with two or more chronic diseases (McClellan and Ginés 2015).

In Norrtälje, Sweden, the council (responsible for funding and provision of primary and secondary care) and the municipality (responsible for funding and provision of long-term care) formed a jointly owned company to deliver integrated care across the range, thus established a, both vertically and horizontally, integrated provider system with pooled budgets including the payer/purchaser. From 2009, care management and financing are organised according to population subgroups (by age 0-17, 18-65, over 65) rather than functions or professions (Robertson 2011, Mason et al. 2014).

Care trusts in the UK were established as partnerships between the English National Health Service (NHS) and the local council in which local authorities delegate some social care functions to the care trust. In 2013, care trusts were replaced with clinical commissioning groups and care trusts are now only responsible for provision. Several care trusts, such as the Somerset, Torbay, and Wye Valley Care Trusts set up integrated provider system with aligned or pooled budgets across health and social care including the payer/purchaser. In Torbay, funds were pooled. The population in Torbay on the south coast of England has a large proportion of older people, and the care integration focuses mainly on older people with complex co-morbidities. (Robertson 2011, Mason et al. 2014).

The integrated care organisations established in Norrtälje and Torbay assume both financial risk and accountability. These organisational changes at the regional level were facilitated by changes in the legislative framework but not part of a national reorganisation. Subsequent changes in national policy in relation to choice and competition – e.g. the introduction of clinical commissioning groups in the UK and funding models where 'the money follow the patient' in Sweden – have challenged their organisational models; as fully integrated geographical population-based organisations may become monopolistic and reduce patient choice (Goodwin et al. 2014).

## 5 Impact evidence: payment mechanisms and care integration

This chapter provides a brief account of the evidence of the impact of payment mechanisms on quality and health outcomes, of financial integration across healthcare sectors on goals of care integration and health outcomes, with basis in the findings of our systematic review. Financial arrangements are often difficult to separate from other care integration initiatives since health services redesign is often multidimensional. To give a broader understanding of the evidence of care integration interventions a brief account of the impact of different approaches to care integration on costs and effectiveness from the Cochrane database of systematic reviews was added.

### 5.1 The impact of payment mechanisms on obtaining healthcare goals

Disentangling the benefits or side effects of payment mechanisms per se within the complexity of a healthcare restructuring intervention is difficult. Evaluations are further complicated by contextual factors (Struijs 2013). A Cochrane review of the impact of different payment mechanisms - fee-for-service, salary and capitation respectively - on primary care physician behaviour concluded that there is some evidence that fee-for-service increases the quantity services compared with capitation and salary. There was no evidence on patient health outcomes and few studies meet the inclusion criteria of the systematic review (Gosden et al. 2011).

In our review of the scientific literature, we identified one systematic review of the impact of payment mechanisms to support care integration - a review of P4P schemes intending to improve delivery of chronic care through disease management. Eight schemes were included in the review, six in the US, one in Australia and one in Germany. The study concluded that the number of P4P schemes to encourage disease management is limited and that information is scarce about their effects on healthcare quality and costs (De Bruin et al. 2011). We identified two reviews of payment mechanisms to support care integration that took a more explorative approach. A literature review to identify payment schemes (pay-for-coordination, P4P and bundled payment) to promote integrated care in Europe identified such schemes in Austria, France, Germany, England and The Netherlands. The study followed-up the literature review with stakeholder interviews and reported on barriers (misaligned incentives across stakeholders and gaming were mentioned) and facilitators (e.g. stakeholder cooperation) to implementation of the scheme (Tsiachristas et al. 2013). It suggested that all payment reforms appeared to have changed the structure of chronic care delivery; evidence of impact on health outcomes or expenditures could not be drawn from the analyses. A review of 'value-based purchasing approaches' (including service integration, payment methods, and value-based insurance) in the US setting concluded that many value-based approaches are new to healthcare and that impact evidence is often inconclusive (Eldridge and Korda 2011).

The use of performance-based payment in healthcare is growing rapidly, more often used with the intention of achieving healthcare goals other than integration, such as improving the quality of primary healthcare services (Scott et al. 2011) or changing healthcare practices more broadly (Flodgren et al. 2011) - despite the lack of clear-cut evidence of the effects of performance-based payment approaches. A considerable number of studies have sought to

assess the impact of P4P (Van Herck et al. 2010), however strong conclusions cannot be drawn due to a limited number of studies with robust evaluation designs (Eijkenaar et al. 2013). In a recent systematic review of 128 P4P programmes only 9 were randomised trials (Van Herck et al. 2010), the great majority were before-after studies, a study design which do not allow for properly adjustment of potential confounding factors. However an issues with P4P, which calls for careful consideration in implementation decisions and in the design of schemes is not only whether it has an effect on what is measures but whether it may change behaviour and performance that is not measured and rewarded. Adverse effects of P4P schemes may be difficult to capture and have often not been adequately considered in evaluations (Benabou and Tirole 2003, Kalk et al. 2010, Magrath and Nichter 2012). A study undertaking a qualitative assessment of the 'net-effect' of 12, several national-scale, P4P programmes based on available data sources and stakeholder perceptions observed that while some of the programmes (Primary Healthcare Quality Bonus System in Estonia, Primary Health Organisation Performance Programme in New Zealand) had contributed to increased coverage of preventive services and improvement in chronic disease management (Practice Incentives Programme in Australia, Disease Management Programmes in Germany), overall programmes had generally failed to demonstrate an impact on health outcomes (Cashin et al. 2014). Programme effects had in most countries been explored through comparison between programme participants and non-participants, before/after comparison or through quasi-experimental difference-in-difference analysis. The study concluded that financial incentives linked to specific performance metrics may be a costly way to achieve small improvements in coverage of the priority services and processes of care rewarded. It was suggested that the improved generation and use of data to feed performance back to provider was possibly the most important outcome associated with the programmes; and that comprehensive approaches to strategic performance improvement were indicators and incentives play a more supportive rather than central role may be the way forward towards more sophisticated systems for provider accountability for care processes and outcomes (ibid.).

## 5.2 The impact of financial integration on care outcomes and costs

Two systematic reviews on the financial integration across health and social care were identified in our grey literature review (Weatherly et al. 2010, Mason et al. 2014). A total of 38 schemes set in 5 countries (Australia, Canada, Sweden, the UK and the US) were included in the 2014 review, which was an update on the one published in 2010. Sixteen percent of the schemes were evaluated by means of a randomised controlled trial, while 32% used quasi experimental (non-randomised matched controls) for evaluation. The other evaluation approaches were categorised as analysis of routine data, qualitative or uncontrolled (e.g. before-after design). The resources integration mechanisms were heterogeneous, tailored to the local situation. In 82% of the schemes reviewed, the financial integration approach was pooled funds, whereof 70% in combination with integrated management. Financial integration was often part of a broader integrated care programme therefore the specific impact of the resources integration mechanisms could not be disentangled from the overall change to the care model.

Health impact was assessed in 60% of the schemes, 57% of the 60% did not report any significant improvement due to the integration approach, 22% reported mixed outcomes, 17% reported positive outcomes and 3% (one study) reported negative outcomes. Two schemes that reported positive outcomes were an evaluation of co-ordinated care trials in

Australia conducted in the mid-1990s and early 2000s and the 'On Lok' trial in San Francisco in the 1990s. Both used integrated management with pooled funds. The Australian co-ordinated care trials focused on broad integration across primary and social care. Six separate evaluations of the trials were included in the systematic review. One of these reported significantly positive quality of life outcomes. The San Francisco trial evaluated the expansion of adult day care (case management by a multi-disciplinary in-house team) in response to shortage of skilled nursing beds for local community. It was later expanded into PACE (program of all-inclusive care for the elderly), a permanent Medicare programme since 1997. However enrolment into the programme has remained poor and evaluations of PACE, also captured in the systematic review (Mason et al. 2014), have not demonstrated any significant effect on health outcomes.

Eight percent of schemes (three schemes) evaluated found a significant reduction in care utilisation and costs. An evaluation of the Veterans Health Administration (VHA) in the US reported significant reductions in hospital admissions, bed days and patients costs after restructuring in the late 1990s. The Torbay and Wye Valley Care Trusts in the UK, where health and social care responsibilities have been combined within a single organisation with pooled budgets, were the other two schemes that reported reductions in secondary care costs, however the evaluations lacked properly match controls or adjustment for potential confounders (ibid.). One study showed a significantly higher admission rate in the intervention group while evaluations of the other schemes lacked evidence on utilisation and costs or showed mixed results or no significant change. A difference-in-difference analysis of 15 of the 16 English Integrated Care Pilots (ICPs) found that the integrated care approaches explored in these pilots, which were a setting-specific range of care integration activities, predominantly encompassing horizontal integration between health and social care, did not result in significant reductions in emergency admission rates, but lower rates of elective admissions and outpatient visits (Nolte 2012).

Quality of care measures, including the views of staff, patients and carers, collected via surveys or sometimes anecdotally, reported mixed outcomes. The Australian trials and some of the UK Integrated care pilots reported improved access to services. The VHA scheme reported significant improvements in the quality of care after restructuring from a system focusing mainly on acute inpatient care towards a focus on ambulatory and primary care and the introduction of a capitation payment model.

The authors of the systematic review concluded that the mixed evidence did not make it possible to conclude whether integrated resource mechanisms were effective; the overall impact on health outcomes and costs was neutral or, at best, modest. Measures of satisfaction and quality were however largely positive. Care integration for people with health and social care needs is complex and the review suggests one should be careful in assuming that the integration of resources is in itself a panacea to care integration (Mason et al. 2014). Likewise, the 2010 review concluded that there is little evidence that structural integration is either necessary or sufficient for achieving integration of care and successful partnership working. It suggested that a network approach may be better able to deal with complex and intractable policy challenges and that it may be important to enable organisations to select the model most appropriate for local needs (Weatherly et al. 2010).

### 5.3 The effectiveness and cost-effectiveness of care integration approaches

It has been suggested that in order for integrated care agenda to proceed, robustly evaluated examples in real-world conditions are needed to examine effectiveness, justify investment and consider their potential for implementation on a large-scale (Greaves et al. 2013). Care integration is complex and context-dependent, and the outcomes are not always immediate, thus the experience and results from one setting are not necessarily transferrable. Getting integrated care right, and then demonstrating its effectiveness, is a clinical and organisational challenge.

A number of systematic Cochrane reviews of integrated, collaborative or patient-centred care initiatives published lately have reported both positive and inconclusive benefits with care integration and patient-centred approaches (Renders et al. 2011, Archer et al. 2012, Kruis et al. 2013, Smith et al. 2007, Aubin et al. 2012, Dwamena et al. 2012, Hayes et al. 2012, Smith et al. 2012, Reilly et al. 2015, Jackson et al. 2013).

The evidence on whether integrated care is cost-effective is weak. A summary of reviews on the economic impact of integrated care approaches to link or coordinate services of different providers for patients with (complex) chronic health problems concluded that reporting of measures was inconsistent and the quality of the evidence often low (Nolte and Pitchforth 2014). The study included 19 reviews and considered three economic outcomes, utilisation, costs, and cost-effectiveness. Care approaches included in the 19 reviews were often heterogeneous. Eight of the studies reported on cost-effectiveness. The authors found the evidence difficult to interpret. While interventions to integrate care are often driven by the joint ambitions to improve care and to contain cost, the authors question whether integrated care can and shall be considered an intervention that, by implication, ought to be cost-effective to be justified, or should be regarded as a complex strategy to innovate and implement step-wise changes toward sustainable service delivery, something that would require continuous evaluation over extended periods of time (Nolte and Pitchforth 2014). Integrated care interventions may provide value for money even if cost savings are missing since *"there is a good chance that co-ordinated care "reveals rather than resolves" unmet need"* (Mason et al. 2015).

## 6 Financial arrangements to support care integration: expert survey

In this chapter examples of policy developments towards integrated care including changes in financial arrangements (financial organisation and/or payment mechanism) in five European countries – three insurance based and two tax-based systems- is described based on the answers from the respondents of the expert survey. We do not aim to provide a complete description of the situation in the countries involved, but give some examples on integrated care initiatives and financial arrangements, as well as obstacles in developing integrated care within and/or across health and social care providers and the role of financial arrangements in hampering or supporting care integration, in the organisational or geographical setting the respondent is most familiar with. Hence the results cover situations both at national and local level, and may fail to include important initiatives or factors not mentioned by the respondents. First we provide results by country (sections 6.1 to 6.5). Then some commonalities in challenges of integrated care related to financial arrangements are highlighted in section 6.6.

### 6.1 Belgium: Integrated disease management pathways

**Brief background information on healthcare system** The main source of basic healthcare coverage is through compulsory health insurance, with multiple insurers and automatic affiliation. The federal state of Belgium encompasses three communities: the Flemish, the French and the German-speaking community. Since 1980 part of the responsibilities for health policy has gradually been moved from the federal government to these sub-national authorities. The predominant form of services provision for primary care and outpatient specialist care is private solo practice with predominantly fee-for-service (FFS) payment, with fees negotiated at the central level. Also, inpatient specialists are typically self-employed with FFS remuneration. Acute inpatient care are mainly provided by public and non-for-profit hospitals paid by prospective global budgets based on case-mix (DRGs) and nationally set average prices. There is free choice of physician, i.e. no gate keeping (patient does not need referral from primary care physician to access secondary care) or requirement to register with a primary care physician, but patients are incentivised. Patients have to pay full price for outpatient services and are reimbursed afterwards. There is also patient co-payment for inpatient care. The answers from the Belgian experts mainly apply to the situation in the Flemish Community.

**Integrated care policy** The respondents reported on a growing number of policy documents indicating awareness and ambition about the need for a more integrated care. Many authoritative organizations and key persons within the health and social care sectors have formulated essential reasons and building blocks for a paradigm shift towards integrated care. One important development was the first nationwide implementation (by Royal Decree of 21. January 2009) of integrated disease management pathways for treatment and follow-up of chronic diseases starting with chronic renal failure and type 2 diabetes. The collaboration between caregivers (the GP, the specialist and others) is formulated in 'care pathway' contracts. The implementation of the care pathways are supported by financial incentives towards the physicians (yearly lump sum per patient) and to the patient (not having to co-pay, better access to services, personal care plan, etc.). The care pathways are enhanced by local multidisciplinary networks. In the Flemish region active cooperative networks, recognised and possibly financed by the Flemish or the Federal authorities, can also be found involving first line healthcare, disability care, psychiatric care, youth care etc. Other initiatives mentioned are stimulation and rewarding new field projects on integrated care.

**Obstacles to IC** Important obstacles to care integration as viewed by the respondents are highly fragmented and specialised care organisation resulting in functional silos also within organisations. Different care sectors have been developing important initiatives to improve integration of care, but since these have largely been developed separately, the result is a sometimes not so coherent patchwork. Private solo practice combined with the cultural and quasi-'ideological' positions of a large number of doctors, stuck to the 'liberal' medicine is part of this picture.

**Financial arrangements** Current financial arrangements are not seen to support care integration. An almost exclusive fee for service system for rewarding doctors (without link to quality of care and rewarding first hand contacts, not collaborative and proactive care) does not encourage doctors to collaborate in order to manage chronic diseases. There is also a lack of incentives to stimulate the coordination of care between the first and the second line workers in home care nursing. Some changes in financial arrangements toward integrated care have been made in recent years including:

- A fixed annual fee for capitation (30€ per patient), but it had to be actively demanded each year and per patient in a consultation.
- A fixed fee for inclusion of a patient in a care trajectory (80€ for the GP and 80€ for the specialist physician) whereas only 5 to 10 patients per GP could be included.
- A fixed annual fee of 10€ per patient between 45 and 75 years to manage prevention

**Impact** The changes have, from the point of view of one of the respondents, not the intended effect in supporting care integration. They are seen as too marginal to change general practitioner's habits; there was no compulsory system; and they did not change other necessary conditions such as a working team, making appeal on a secretary, task delegation etc.

**Further plans** There have been discussions on further changes in financing arrangements to foster care integration that are currently in the preliminary phase.

## 6.2 Estonia: Enchasing the care coordinating role of family doctors

**Brief background information on healthcare system** The main source of basic healthcare coverage is through a single payer health insurance system (EHIF). The predominant form of services provision for primary care is private solo practice with capitation (average 67% in 2011) and fee-for-service (FFS) payment with fees negotiated at the central level. Primary care physicians also receive a monthly basic allowance and performance related payments. Specialist services are provided in public hospitals, with employed specialist physicians on salary. The hospitals are mainly paid by DRGs (70%), FFS and per diem. Psychiatric care, rehabilitation and follow-up care are not included in the DRG-payment. A referral from primary care physician is required for access to most specialists and patients are also required to register with a primary care physician. There is no co-payment from patients for (office-based) visits to family doctors. Patients co-pay for ambulatory specialists and inpatient care.

**Integrated care policy** No particular policy at national level towards integrated care seems to be in place in Estonia. However the Estonian Health Insurance Fund (EHIF) (single payer system) has integrated care and patient centred care as guiding objectives, but no specific program to promote care integration.

One important strategy related to care integration is however the Estonian E-Health Foundation Strategy for 2014-2016. This strategy stipulates several targets and tasks that are crucial for integrated care (data usability, exchange, standardisation, etc.) but the idea

of integrated care is not used in the document. Two well-working e-services are developed; the systems of e-epicrisis and e-prescription. Standardised epicrisis and prescriptions are stored in central database accessible to every doctor. Several initiatives are also under development including E-Lab – makes lab results accessible throughout care levels; E-Immunisation passport; and E-Certificate – the system that allows issuing different health certificates electronically.

**Obstacles to IC** The main obstacle to care integration as viewed by the respondents is that the need for integrated care is not recognized. The concept of integrated care is not widely used. As far as all problems arise in different sectors (e.g. long waiting lists for hospital services), they are discussed and addressed separately. Coordination between hospitals or other institutions is very weak. There is a lack of agreed patient care pathways/protocols and expected health outcomes that cover all levels of care (primary, secondary, nursing) that would enable to define the roles and to monitor the performance against defined pathways.

**Financial arrangements** The national system of health service financing is very rigid and mostly aimed at 'cost containment'. Hospitals (providing most of inpatient as well outpatient specialist care) face substantial financial incentives to admit and keep patients in acute inpatient care. While the EHIF-contracts set annual cost- and bi-annually negotiated volume caps on acute inpatient care services, hospitals still have the incentive to increase volumes until these caps are reached in order to maximize revenues. Shifting pre- and post-acute care from inpatient to primary care may be problematic because of the financial incentives facing family physicians. Namely, for services such as laboratory diagnostic tests and imaging, family physicians are reimbursed on a capped fee for service fund. Without agreed protocols and accountability lines, it is difficult to redesign the payment incentives. Having these pathways would enable to modify funding principles inside the health sector as most of public funds go through the EHIF.

The development of family physician (FP) payment system has however been aiming to support primary care centred care provision and to enhance better care coordination. The FPs payment system has partial fundholding elements and quality bonus system (QBS) which both support FP's to take more prominent role over patient's care coordination. Since 2013 FPs can consult with specialists through the health information system by using e-consultation (development of e-referral letter) and to claim the fee from EHIF if certain requirements are fulfilled. The objective of the e-consultation is to support family doctors to take a bigger role over patient care and to improve cooperation between specialists and family doctors. Moreover, this is expected to decrease the need to have a specialist appointment making the full care episode faster and to provide relief for long waiting times in some specialties. The e-consultation has to follow a standardised format (by specialty) which increases the quality of information provided by the family doctor to enable specialist to give adequate advice. In 2013, an additional allowance for family doctors employing a second nurse was also introduced. The aim of this additional allowance is to support the nurse's increasing role in monitoring patients with chronic diseases and acute health disorders as well as in counselling and prevention, and to foster better care coordination inside healthcare system. In 2015, a separate 'therapeutic fund' is introduced. The therapeutic fund can cover services provided by psychologists and speech therapists and is capped at 3% of the total capitation budget.

Patient care integration over health and social sector would be more difficult to achieve as these sectors have different institutional arrangements and the financing schemes are separate where social care is largely organized and financed by local municipalities. There are not any financial incentives to promote care integration at a system level.

**Impact** There is no solid evidence on the impact of these recent developments on patient care outcomes. There exists local and/or project based initiatives for care integration across



health and social care but their system level impact and sustainability is uncertain.

**Further plans** The plan is to develop primary care funding model to support extension of services provided at the primary care level, e.g. including services by physiotherapists in the therapeutic fund is planned.

### 6.3 Norway: The 'Coordination reform'

**Brief background information on healthcare system** Norway has a tax funded healthcare system. The responsibility for healthcare is divided by the state, decentralized to four regional health authorities, in charge of specialist (including hospital) services and municipalities in charge of primary and long-term care as well as social services. The predominant form of services provision for primary care is self-employed physicians in group practice with fee-for-service (FFS) and capitation payment (about 30%) with fees negotiated at the central level. The capitation fee is paid by the municipalities while FFS is paid by the state. Specialist services are mostly provided in public hospitals, with employed specialist physicians on salary. The hospitals are paid a combination of global budgets and DRG (40%) for (somatic) inpatient services. Psychiatric services are paid partly by FFS for outpatient services and else global budgets. In 2014, performance based payment was introduced for specialist somatic healthcare. A referral from primary care physician is required for access to specialists and patients are encouraged to register (and almost all do) with a primary care physician. Patients pay user charges for outpatient care, with an annual ceiling, while inpatient care is free of charge.

**Integrated care policy** There have been several important policy changes supporting the political ambition toward integrated care in recent years. In 2009, a White Paper called "The Coordination Reform" was put forward to the Norwegian parliament. The paper identified three major challenges: (1) Insufficient coordination of care for patients who require both health and care services; (2) Too little emphasis was placed on prevention in the overall health system; and (3) Cost containment and efficiency mechanisms in the delivery of services were weak. To achieve the goals of better public health and better coordinated healthcare, the government adopted legal, financial, professional and organizational means.

The 'Coordination Reform' was implemented in 2012 and coordinated services were central both as means and goals. The reform aims at increasing the effectiveness and quality of healthcare services by strengthening primary healthcare, strengthening the patient role, a new role for specialized healthcare services and through better cooperation. The reform comprised two key legislative acts (the Municipal Health and Care Act of 2011 and the Public Health Act of 2011), plus the National Health and Care Plan (White Paper no. 16, 2010–2011). In addition to the legislative work, the reform also relies on mandatory cooperation agreements between the municipalities and hospitals, as well as organisational and financial instruments to support cooperation and coordination. In the white paper National health and care plan 2011 - 2015 the government also describes the goal of better integrated services. The government adopted in 2013 a strategy that supports the goal of coordinated services for people with such needs.

**Obstacles to IC** The respondents point to several obstacles to care integration such as economy, leadership, two levels of healthcare, many welfare sectors and professional cultural barriers. Economically, the challenges are related to the municipalities and the specialist services having separate budgets. Often it is economically profitable to 'push' patients to the 'counterpart'. Organizationally, the challenge is related to separate organisation of primary care and specialist services, with different management regimes. Primary healthcare is part of the municipal responsibility while the specialist care is state owned. Within primary care the GPs are self-employed, i.e. not municipal employees, and provide private services on contract with the municipalities. Professional cultural barriers are also seen as one major problem in failing to provide well-integrated and coordinated services.

Primary and specialist health services have different professional perspectives. The primary healthcare put high value on focusing on function and broad competence while the specialist puts diagnoses and top expertise in focus.

### Financial

#### arrangements

Two levels of financing may hamper coordination between levels. As a rule, in the current economic regime it will be economically profitable if the patient receives their services from the 'counterpart'; the municipalities save money if the patient is treated in hospital and for the hospital it is profitable that the patient is quickly discharged to the municipality. There are few incentives to work together. Patient experienced satisfaction regarding integration/coordination does not count when it comes to financing. On the other hand, municipal comprehensive single budget responsibility for all welfare state sectors including primary health and care services and social care support care integration at the local level. There are also different centrally financed grants for cooperation projects and for out-reach teams such as assertive community treatment (ACT)-teams aimed at stimulating cooperation and coordination between municipal and specialised healthcare.

An important part of the Coordination reform was the use of financial incentives directed at the municipal level to support the goals of the reform of 'proper services at the right time and right place', including

- Municipal per day payments for patients' staying in hospital after a defined discharge date;
- Municipal co-payment of 20% (of DRG-price) for non-surgical hospital treatment, which in theory can be prevented or handled in municipal health services.
- A pilot scheme where municipalities receive grants to establish acute beds to alleviate the pressure on hospital admissions.

The municipalities got a per capita grant (mainly taken from the specialised healthcare budget) to cover their co-financing of residents' use of hospital services.

### Impact

The financial incentives have contributed to stimulate changes in service provision to support better healthcare services and better coordination of these. Regulatory requirements for what should have happened at the hospital before the patient can be defined as ready to be discharged and municipalities' obligation to pay the hospital if the patient remains after the person is ready to be discharged are powerful incentives for better coordination of the work with these patients and has reduced the length of stays, in particular for elderly patients. The first results of the evaluation of the reform show strong effect on number of patients declared in need of municipal services after hospital stay and as ready for discharge, and strong effect on admitting them to municipal level, the two first years after the reform was introduced, but not the third year. There are however indications that increased demand for municipal services, in particular long-term and short-term places in nursing homes has crowded out patients living at home from these services. The readmission rates to hospitals have not changed significantly.

The co-financing led to an awareness of municipalities regarding how much specialist services residents of the municipality use and of differences in consumption between municipalities. Hence, there has been a strong effect on political interest in hospital costs, but not on spending on preventive measures, mostly due to short term effect, because the scheme was ended by the new government by January 1st 2015<sup>18</sup>. The scheme was discontinued before it could give the desired effect on consumption of specialist services.

---

<sup>18</sup> The bourgeois parties in the Parliament (now the government parties) were against the scheme when the parliament handled the national health and care plan. They believed that many small municipalities were

**Further plans** The Norwegian Directorate of Health is currently looking into new financial schemes to support the desired changes in healthcare delivery on behalf of the ministry. A committee of experts who assessed the municipal structure and new municipal tasks also considered the Finnish model with 100% financing responsibility for both primary and specialist care in specific tasks as a possible experiment.

## 6.4 Spain (Catalonia): Integrated Health and Social Care Plan

**Brief background information on healthcare system** Spain has a tax funded healthcare system. In Spain, the responsibility of financing, organisation and delivery of healthcare is devolved to 17 autonomous regions. The predominant form of services provision for primary care is public clinics with employed physicians. The clinics are paid by capitation and performance related payment negotiated between purchasers and provider associations, while the physicians receive salary and a capitation fee (about 15%). Specialist services are mostly provided in (public and private) hospitals, with employed specialist physicians on salary. The hospitals are typically paid by global budgets, sometimes based on DRG case mix system as contract metric, and performance related payment. A referral from primary care physician is required for access to specialists and patients are also required to register with a primary care physician. Services are free at the point of care. The respondents from Spain mainly described the situation of the region of Catalonia.

**Integrated care policy** In Catalonia, an Integrated Health and Social Care Plan accountable to Department of Presidency involving both Department of Health and Department of Welfare in Catalonia have been launched. Among the most important initiatives the respondents mentioned are; Integrated Care Pathways, especially related to Complex Chronic Care; Integrated health and social care implementation involving primary healthcare and social services; and risk-stratification of the Catalan population.

The Program for Prevention and Care of Chronicity (PPAC) provide a new model of health and social care for the Catalan people with long-term conditions like heart failure (HF), COPD and diabetes mellitus (DM). It should be capable to respond to the chronicity and independent aging challenge by enhancing health promotion and reducing risk factors for the incidence of these long-term medical conditions. The program includes: Boosting an active, autonomous and healthy lifestyle; Integrating primary and acute healthcare with social care, for instance, by allowing follow-up chronic patients through primary care; Recognizing the role of social care provider and family; Responding appropriately to health and social needs of people with a long-term medical condition; Evaluating the delivered healthcare service in terms of indicators. Integrated electronic health record within health sectors encouraging health providers to publish and upload a Minimum dataset of information also support care integration.

**Obstacles to IC** Insufficient funding and established organisational structures (primary and specialised care) are mentioned as obstacles in developing integrated care, including that information systems are not interoperable between health and social sector and that there is commissioning dynamic in the health sector and no commissioning approach in social

vulnerable in relation to such an instrument because of annual fluctuations in consumption. They also believed that a reform of the municipality structure (towards bigger and more "robust" municipalities) should be in place before the municipalities was given increased responsibility. And after the election victory of the bourgeois parties the removal of municipal co-payment was embodied in the Declaration of the new Government and the Settlement with the two support parties in parliament. That the municipal co-financing scheme disappeared so quickly is thus the result of politics and that there was no broad agreement on this instrument in Parliament.

services.

**Financial arrangements** In the view of the expert respondents, current financial arrangements, with different financing scheme, no integrated outcome framework and no joint commissioning between health and social services, are not yet supporting the integration of social and healthcare. However, some new steps have been made in integrating the social and healthcare.

When the Chronic Care Program was launched at the end of 2011, a new transversal Outcome Framework evaluation between different provision lines (Primary Healthcare, hospital, long-term care facilities, mental health) was introduced. A new variable part of hospital budget (up to 5%) related to expected performance according the Outcome Framework including transversal objectives was introduced. It has also been contracted less emergency admissions related to chronic care admissions. Per capita financing within health sector as a way to assign budgets covering healthcare services (acute hospital, primary care centres, long term care facility and local network of mental health) within a local area with an attached population from 100.000 till 400.000 has been implemented in some territories to support collaborative work between primary care and hospital care. It has been difficult getting especially public statutory providers to play in this way sharing risk and getting incentives after good performance achievement. Furthermore, most organisations in Catalonia have introduced bonus or variable payments in salaries of health professionals comparing with other regions in Spain. It has been a very good strategy to align professionals. This is not the situation in the social care services.

**Impact** The preliminary results on the PPAC programme show a good start. In some way, common objectives have encouraged all providers (primary care, hospital, etc.) to agree to work together in Integrated Care Pathways.

**Further plans** The plan is to increase the proportion of hospital budget related to expected performance. New total or global per capita financing would be welcome, including social services. It could be expected to introduce the strategy of bonus payment to be introduced also in social services.

## 6.5 Switzerland: The 'Health 2020' agenda for reform

**Brief background information on healthcare system** The main source of basic healthcare coverage is through compulsory health insurance, with multiple independent insurers, and patient choice of insurer. The individual purchase healthcare insurance based on community-rated premiums, i.e. insurance companies compete on price. The basic coverage is however strongly regulated at the federal level and insurers are not allowed to make profit off this basic insurance. In Switzerland, the responsibility for healthcare mainly falls on the 26 Cantons, with the federal government's role restricted by constitution primarily to public health and regulation and to social insurance provision. The federal and cantonal government subsidises health insurance coverage (means-tested). The cantons are the main providers and co-funders of inpatient care. The predominant form of services provision for primary care and outpatient specialist care is private solo practice with predominantly fee-for-service (FFS) payment with fees for services covered by compulsory insurance set on a resource-based relative value scale with fees negotiated at cantonal level, or fixed by the authorities. Primary care can also be provided by managed care organisation receiving risk-adjusted capitation payment negotiated between purchasers and providers. Acute inpatient care are provided by public, private not-for-profit and private for-profit hospitals paid by a case-mix based funding model (DRGs) with point value negotiated at the regional level. Inpatient specialists are hospital employees and paid salary. Psychiatric hospitals and rehabilitation clinics are paid per diem. Even though most individuals have a regular doctor there is free choice of physician, i.e. no gate-keeping (patient does not need referral from primary care physician to access secondary care) or requirement to register

with a primary care physician, but patients are incentivised by use of premium reductions (see below). Insurers also offers bonus insurance plans with premium reductions (after a higher premium in the first year) if no health insurance claim was submitted the previous year.

### **Integrated care policy**

National policies promoting integrated care are in place for outpatient healthcare delivery. These policies are implemented through alternative insurances models within the mandatory basic healthcare insurance. Since 1996, year of the Health Insurance Act, all citizens are obliged to subscribe a health insurance that guarantees access to healthcare. The health insurance system allows insurers to offer health plans with lower premiums for using designated providers with reduced choice and more case management. Three types of alternative models are in place: 1) the family doctor, 2) the physician networks<sup>19</sup>, and 3) the Call center. All three models are based on a gatekeeping principle. Beside this, in order to improve vertical integration, several national strategies are addressed to specific chronic diseases or care for patient (i.e. national strategy for dementia and national strategy for palliative care).

On the 23rd of January 2013, the Federal Council adopted the report 'Health 2020'<sup>20</sup> agenda for reform, which comprises four priority areas for policy action (Ensure quality of life, Reinforce equality of opportunity and individual responsibility, Consolidate and increase the quality of healthcare delivery, and Create transparency, better control and coordination). The report includes 36 measures that aim to prepare the Swiss healthcare system to better address current and future challenges. Among these is the development of integrated care through measures to improve better coordination in the health sector, especially for certain types of patients (elderly, chronically ill patients and psychiatric patients).

### **Obstacles to IC**

In the outpatient setting, there are different obstacles in developing integrated care, even if in 2010 there were approximately 90 physicians' networks and HMOs. Many of these are the result of a risk-sharing strategy between physicians, more than the outcome of a specific policy. The development of vertical integration between doctors, hospitals and other healthcare organizations is complex due to the different financial setting for each healthcare provider. Implementation of national strategies (vertical integration) is also a complex issue due to the characteristics of the federal system: the approval process of a national strategy by the 26 cantons is a very articulated one.

### **Financial arrangements**

As viewed by the respondents, the Swiss health financing system does not hinder the development of integrated care but, at the same time, it does not ease it. Each healthcare setting (outpatient, hospital, long-stay) is held by different legal basis and financial arrangements. Even within the same setting (in-house) important funding differences are in place depending on whether the care is delivered in an acute, rehabilitation or psychiatric hospital. The heterogeneity of financing, characterized by different financial systems and tariff rates, certainly does not facilitate the implementation of integrated care (vertical integration).

Besides the introduction of the DRGs reimbursement system for the acute healthcare sector and the tariff structure named "Tarmed"<sup>21</sup> for the outpatient settings, which are

---

<sup>19</sup> Health maintenance organizations (HMOs), independent practice associations (IPAs), preferred provider organisations (PPOs) (OECD Review of Health Systems Switzerland 2011).

<sup>20</sup> <http://www.bag.admin.ch/gesundheits2020/index.html?lang=en>

<sup>21</sup> TARMED is a standard tariff that applies for all medical and paramedical services provided in medical practices and hospitals in every canton and which was developed together and in cooperation with the service providers

two different payment mechanisms, there have been no significant changes in the financing arrangements in recent years. The only law change that has facilitated, in some way, an integrated care setting is the 1996 Health Insurance Act, which introduced alternative forms of insurance within the compulsory insurance, to tempt -by choosing these forms of insurance- the citizen to benefit of an economic saving. At the beginning less than 10% of the Swiss adhered to one of the three forms of managed care insurance plans described above, but over the years there has been a strong increase: in 2013 more than 60% of the health insured had signed up for an alternative model, mainly for the family doctor arrangement. The global economic crisis has not spared Switzerland; people are more attentive to the “out of the pocket” costs. Probably, those who choose the HMO model do it for reasons of saving rather than qualitative benefits.

**Further plans** 'Health 2020' reform agenda includes several objectives and measures for improvement in financial and payment mechanisms, among others: to reduce incentives for risk-selection by insurers and support competition on quality by refining the risk-compensation mechanism used towards insurers, by introducing re-insurance for very high costs and by better separation of basic and supplementary insurance; limit incentives for increasing volume inherent in the fee schedules by increased weight on flat-rate remuneration mechanism and revising existing fee schedules; introduce new way of managing the system and to counteract the cost shift from tax-funding to insurance premiums and co-payments following increasing share of service provision in outpatient care (which is not partly tax-funded as the inpatient care).

## 6.6 Summary – financial arrangements and integrated care

A common observation for all five countries participating in our expert survey is the need for substantial incentives to stimulate the coordination of care across financial boundaries, both within healthcare and, none the least, between healthcare and social care. Separate funding and responsibilities of care provision, with different institutional arrangement, payment mechanisms and managerial regimes creates barriers to care integration. Separate funding and governance structures results in lack of common objectives and agreed patient care pathways, and non-aligned incentives across care providers. A system based on solo practice and reliance on payment mechanisms promoting volume does not encourage care collaboration or proactive services and creates care fragmentation. Separate budgets may create incentives to shift patients and costs to another level/part of the care system. Without agreed care pathways and accountability lines, it still may be difficult to redesign the payment incentives even across providers within a single payer system.

Several initiatives to change financial arrangements towards integrated care are reported by the respondents (Table 6.1). Recent changes in payment mechanism to support care integration spans from fairly simple measures of amending and supplementing FFS payments to population based capitation, reflecting the strategies and stage of reform process towards systems conducive of integrated care, as well as country specific contexts of health care systems.

---

and insurance providers. For more information see <http://www.concordia.ch/en/private/service/faq/tarmed.html>.

Table 6.1 Overview of examples of payment mechanism introduced to support integrated care mentioned by survey respondents

Supplementary funding	Refining FFS	Pay for performance	Payment integration or financial incentives across providers	Patient incentives
<p><b>Project grants</b></p> <p>Providing financial support to local projects on integrated care (BE, NO).</p> <p>A pilot scheme where municipalities receive grants to establish acute beds to alleviate the pressure on hospital admissions (NO).</p> <p><b>Additional allowances</b></p> <p>Additional allowance for family doctors employing a second nurse to support the nurse's increasing role in monitoring patients with chronic diseases and acute health disorders as well as in counselling and prevention, and to foster better care coordination inside healthcare system (EE).</p>	<p><b>Amending existing FFS-payment system</b></p> <p>Fee (paid to GPs) for consulting with specialists through the health information system by using e-consultation (EE).</p> <p><b>Supplementing existing FFS with capitation fees for care coordination and prevention</b></p> <p>A fixed annual capitation fee (BE).</p> <p>A fixed fee for inclusion of a patient in a care trajectory (for the GP and the specialist physician) (BE).</p> <p>A fixed annual fee per patient between 45 and 75 years to manage prevention (BE).</p>	<p><b>Enhancing existing payment system with performance related payment</b></p> <p>Quality bonus system which support GPs to take greater role over patient's care coordination (EE).</p> <p>A new variable part of hospital budget related to expected performance according to Outcome Framework including transversal objectives (ES).</p> <p><b>Bonus payment to employees</b></p> <p>Bonus or variable payments in salaries of health professionals to incentivise and align professionals (ES).</p>	<p><b>Cross-charging</b></p> <p>Municipal per day payments for patients' staying in hospital after a defined discharge date (NO).</p> <p><b>Co-financing</b></p> <p>Municipal co-financing for hospital treatment limited to admissions that in theory can be prevented or handled in municipal health services (NO).</p> <p><b>Partial fundholding</b></p> <p>Separate 'therapeutic fund' for primary care physicians covering services provided by psychologists and speech therapists (EE).</p> <p><b>Population based payment</b></p> <p>Per capita payment for health services within a defined catchment area (ES).</p>	<p><b>Exemption of co-payment</b></p> <p>Exemption of co-payment for patients participating in integrated disease management pathways (BE).</p> <p><b>Premium reductions</b></p> <p>Premium reductions in health insurance premiums if agreeing to use preferred managed care arrangements (CHE).</p>

BE=Belgium, CHE=Switzerland, EE=Estonia, ES=Spain, NO=Norway.

## 7 Financial arrangements to support care integration: case studies

Methods or models that create and support connectivity, alignment, coordination and collaboration within and between different levels/providers in the health and social care system (secondary, primary and/or social care) are currently explored in different healthcare settings to achieve care integration. In Phase I of Project INTEGRATE a series of case studies on integrated care experiences in the management of chronic conditions in different settings across Europe was performed. This chapter gives an account of initiatives towards care integration in the four case study countries - Germany, The Netherlands, Spain and Sweden - with analysis of the financial approach used to support care integration in each case study. The cases encompass two (sometimes overlapping) descriptions of integrated care: national-level approaches to care coordination or integration for patients with chronic disease (The Netherlands); locally developed models for horizontal and/or vertical care integration for selected patient groups (Germany, Spain, Sweden). The case studies comprised two disease pathways (Chronic obstructive pulmonary disease (COPD) and diabetes) and two care coordination driven settings (geriatric care and mental health):

### **Geriatric: Evangelical Geriatric Centre Berlin (DE)**

- IC-intervention: Multi-disciplinary integration of care for geriatric patients in hospital setting

### **Diabetes: Care groups in Region A&B (NL)**

- IC-intervention: The Dutch bundled payment system

### **COPD: Integrated care unit, Hospital Clinic Barcelona (ES)**

- IC-intervention: (a) Home Hospitalisation and Early Discharge in COPD patients
- IC-intervention: (b) Prevention of Exacerbations in COPD patients (also known as Frailty programme for COPD patients)

### **Mental health: Norrtälje (a) & (b) Södertälje local areas (SE)**

- IC-intervention: (a) Integration of purchasing, management and provider organisation of health (county responsibility) and social care services (municipal responsibility).
- IC-intervention: (b) Coordinated Mental healthcare Service; creation of a one health and social care 'consortium' combining county psychiatric clinic and municipal social services.

Sections 7.1 to 7.4 provide a description on background and policy context, financial arrangements, organisational and patient and health impact for each case. A graphical description of each case study, based on data extracted from the case study reports, is also included. For a full description of the case study analyses, see the case study reports (Alonso et al. 2014, Busetto et al. 2014, Kiselev 2014, Larsson et al. 2014 and Klinga et al. 2014). The German case study is supplemented with a description of approaches to integrated care in the financing system of healthcare in Germany (see Appendix B for details). Section 7.5 provides a comparison of experiences across the case studies. Barriers and facilitators to implementation and sustainability of the case study interventions related to financial, structural and legal factors, as well as incentives and disincentives in payment mechanisms is discussed. Finally, the key policy lessons related to financial, structural and legal factors emphasized in the case study reports are highlighted.



## 7.1 Disease management and integrated care programmes in Germany and integrated geriatric care in a hospital setting in Berlin

### Background and intervention

Healthcare in Germany is provided through a universal, mandatory insurance scheme with shared responsibility between (central and state) governments and private actors (Nolte 2012). Nursing services are financed by a separate government-based insurance. Up until the early 2000s the German Statutory Health system paid insurers (sickness funds) through a capitation model, risk-adjusted solely on basis of age and sex (Chi 2014). This created clear incentives for sickness funds to avoid costly patients with chronic diseases. In 2002, disease management programmes (DMPs) were introduced, a top-down decision through regulation to ensure national implementation. DMPs in Germany encompass diabetes (type I and II), asthma, chronic obstructive pulmonary disease, coronary heart disease and breast cancer. In addition to the introduction of DMPs in 2002, the 2000 Health Reform Act introduced a provision to encourage sickness funds and healthcare providers to implement 'integrated care projects' - innovative project aiming at overcoming the rigid separation between primary and hospital care (Greb et al. 2006). The Evangelical Geriatric Centre (EGZB) in Berlin, the Project Integrate case study on geriatric care, is a multidisciplinary integrated care centre (including a hospital unit, a day centre and a nursing home) for age-related conditions. The centre was set up in 1999 with financial support of both the Berlin and German government, thus before the law stipulating integrated care, but is now operating within the frameworks outlined above.

### Financial arrangements

With the introduction of DMPs, six risk compensation groups added to the capitation payments in 2002, to compensate sickness funds for primary and secondary care expenditure for the selected chronic care indications. In 2009, the capitation payment was re-adjusted, reducing the (overly) strong financial incentive for sickness funds to enrol patients in DMPs, to instead consist of 80 morbidity-related risk factors for chronic conditions, in addition to the basic age and sex adjustment. Primary care physicians participate in DMPs on a voluntary basis, but are incentivised to participate through additional payment for services provided within the DMPs (the base payment for primary care physicians is capped fee-for-service payments). Incentives for patients to enrol in DMPs are offered by some insurers, through waived practice fees and co-payments. Patients are free to choose their insurer, thus the quality of care packages may also function as an incentive for enrolment. In 2003, to further stimulate integration projects 1% of sectorial budgets were earmarked for integrated care projects. The payment had to be negotiated between insurer and provider for each contract. Hospital reimbursement is (since 2003) case-based (Diagnosis Related Groups (DRG) supplemented with 'operational and procedure keys' (OPS)). Different categories of complex geriatric care are defined in the OPS keys. A total of 17 DRG for geriatric care were listed in 2014. Minimum requirements related to need assessment, care planning and organisation of care processes, are defined which have to be fulfilled in order to be paid according to the appendant DRG. The concept of complex geriatric care, as defined in the DRGs and OPS keys, aims to integrate early rehabilitation of older people into acute hospital care. Two additional geriatric DRGs are covering day clinic interventions for geriatric patients. These DRGs are not part of the standard payment system and have to be negotiated with the insurance companies on an individual basis. The health

insurance companies (HICs) holds a strong position in the financial system for geriatric rehabilitation. HICs influence both the negotiated market price for rehabilitation and, due to restrictions on claiming the daily pay for geriatric rehabilitation<sup>22</sup>, also the bed occupancy rate of the cooperating centres.

**Organisational impact**

DMS in Germany have not challenged existing structures or contributed to task shifting as they are mainly focused on the primary care physicians, who act as care coordinators (Nolte 2012), and have been reported not to promote provider cooperation, collaboration agreements or integrated financing across care sectors (Tsiachristas et al. 2013). The implementation of integrated care in Germany was not so much driven by the desire of improving the quality of health care but more by the expectation of a more cost-effective way to deliver health care. The implementation and operation of DMPs in Germany has come with a heavy administrative and bureaucratic system – at the same time DMPs are highly standardised to keep transaction costs as low as possible. It has been questioned whether German DMPs are optimal for patients with complex need which often involve multiple illnesses (Nolte et al. 2012, Chi 2014). Integrated care (IC) arrangements are most often initiated by hospitals than by primary care providers, possibly since hospitals perceived financial losses if not using the earmarked budget share (Greb et al. 2006, Nolte et al. 2012). In 2010, 37.1% of all hospitals took part in some sort of IC-contract, with larger hospitals more often than smaller. Many IC arrangements have focused on the interface between acute hospital and rehabilitative care. In 2011 68% of IC-contacts involved Inter-sectorial care, and less than one percent involved nursing care. In the beginning the implementation of the integrated care policy was supported by a financial assistance model and the number of contracts was rising constantly. However since the end of the financial assistance program for IC, the development has been stagnant. Reasons given by the HICs and hospitals for ceasing IC-contracts were mostly financial (end of financial assistance, high costs, and long timeframe for amortization, increasing patient numbers, financial insecurity and high administrative burdens) as well as perceived 'low interest' and participation by the patients. Hence, long-term benefits were not attractive enough to overcome the required short-term financial commitments in order to successfully implement an IC-program. Similar to the DMPs, the experience from the case study was that the framework of the DRGs and the OPS for complex geriatric care is strict and gives health professions little room to adapt the requirements to the special need of the patient.

**Patient and health impact**

Patient satisfaction with DMS in Germany has been reported as high; health outcome improvements modest, mainly assessed for diabetes patients (Chi 2014). The impact of the integrated care program at the EGZB has not been evaluated.

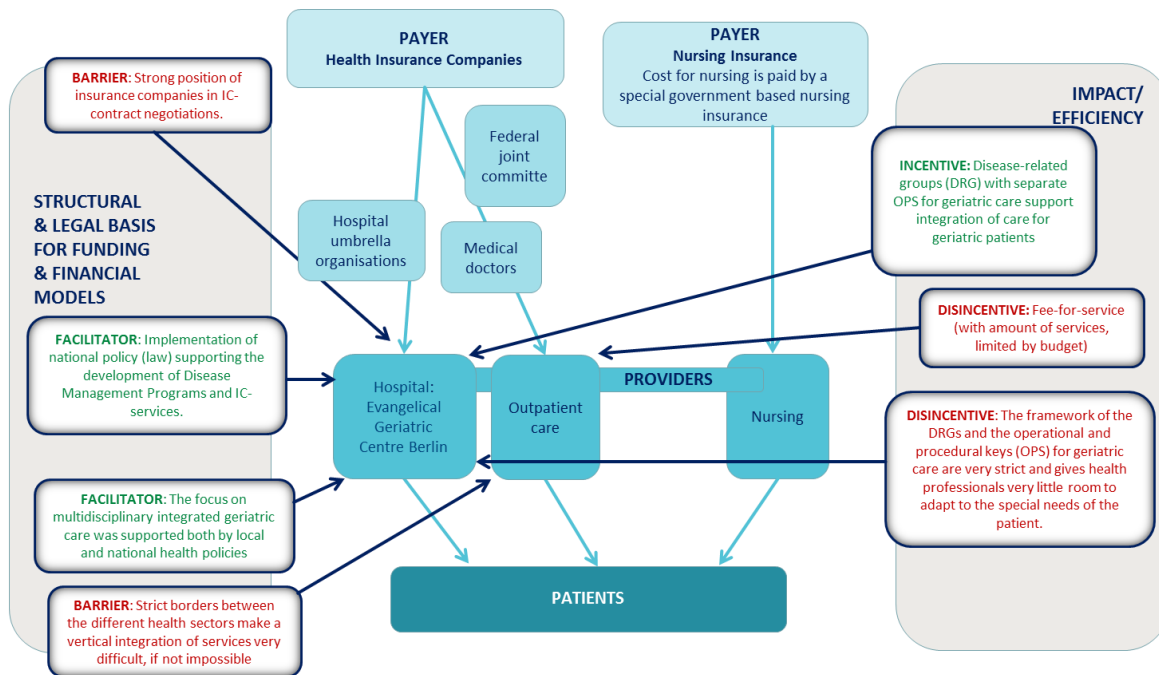
Appendix B provides an overview of the financial system and implementation of integrated care in Germany.

---

<sup>22</sup> In order to be able to distinguish between complex geriatric care and standard rehabilitative care, the requirement of the complex intervention – defined by the DRG given to each patient – has to be verified for each day of the stay of a geriatric patient.

Figure 7.1 Case Geriatric care

## Case study: Germany – Comprehensive, multidisciplinary geriatric care



## 7.2 Disease-based bundled payments and integrated care for diabetes patients in the Netherlands

### Background and intervention

In the Netherlands, healthcare is provided through statutory insurance, with medical care and nursing care covered by separate insurance forms. Residents are, in principle, automatically insured for nursing care (funded by earmarked taxation) and obliged to take out basic medical insurance. The public may choose between multiple health insurers under a competition-based system. The health insurance company must however offer a fix price for the basic care packages they offer. Hence, premium for basic care packages may vary between insurers, but not for persons with the same insurer. The system is supported by income-related contributions (payroll taxes) and some government funding, accompanied by mechanisms to redistribute funds between insurers to adjust for financial risk resulting from the health profiles of insured persons.

The Dutch case study relates to implementation of integrated care for people with type 2 diabetes in the Netherlands. There has been a policy move towards chronic care management and integrated care over several decades in the Netherlands, including the increased focus on chronic conditions in the 1980s, introduction of disease management programs in the 1990s, publication of the first national care standards describing the norm of good chronic care for type 2 diabetes in early 2000s, and the development of care groups throughout the country in the mid-2000s. With the aim of enhancing care coordination for patients with chronic conditions, a bundled care payment model for diabetes was introduced in the Netherlands in 2007 on an experimental basis. In 2010 the

Dutch parliament decided to implement the bundled payment system on a structural basis for diabetes, Chronic Obstructive Pulmonary Disease and vascular risk management. At that point about 100 care groups operated diabetes management programmes in the country (Struijs et al. 2012). Bundled payments are administered by care groups, i.e. provider networks based in primary care that serve as prime contractor for the insurers. The care groups may be set up as foundations, cooperatives or limited liability companies. In 2010, the number of general practitioner (GP) practices associated with each care group varied between 35 and 130. The bundled payment is linked to the use of national and regional diabetes care standards. The Dutch integrated care for type 2 diabetes incorporates elements such as evidence-based care, use of protocols, multidisciplinary cooperation, self-management support, and a clinical information system.

**Financial arrangements**

The health insurance companies contracts with care groups for the delivery of diabetes care package. Both content and price of care packages are subject to negotiation. All components needed for the long-term management of diabetes within a defined period (usually one year) are purchased as a single product (bundled payment) by the insurers. The national bundled payment system does not however include specialist or hospital care. In the pilot phase payment diverged initially across care groups but became converged over time. The care groups sub-contracts with service providers (chain partners), e.g. dieticians, ophthalmologists and laboratories, what services are to be provided by whom and at what price. These may be paid in the form of fee-for-service, fixed-rate or salary. The bundled payment contracts and the sub-contracts include performance agreements that are assumed to stimulate healthcare providers to deliver high quality and cost-efficient care.

**Organisational impact**

The bundled payment model involves complex negotiation processes: In a given region, several care groups negotiate with several health insurers and several healthcare providers. And vice versa, health insurers negotiate with several care groups, and healthcare providers also usually cooperate with several care groups at the same time. This makes negotiations complicated and the bundled payment system comes with high administrative costs. The bundled payment contracts have led to a change in power-relations and in distribution of risk. Health insurers are believed to play a dominating role in negotiations and to tend to focus on costs at the expense of quality. It has been shown that the care groups have acquired a strong negotiating position over individual care providers. All the ten care groups during the experimental phase were co-owned by GP physicians, in only two cases were health practitioners from other disciplines co-owners. This hampered collaboration across healthcare providers on equal terms.

The Dutch integrated care policy is based on the assumption of substitution of professional roles and tasks (from secondary to primary care and from general practitioner to practice nurse) will lead to more cost-efficient care. Already in the pilot phase, effects in terms of task reallocation were noted; nurses played a key role in the diabetes care within the GP practices. The delegation of tasks to nurses may have been an response to containing costs with the bundled payment contract, but had in some practices been in place already before. Following the introduction of bundled payments, diabetes patients without complications were more often treated with the GP clinic rather than referred to specialist care. One reason that allowed for this shift was the provision of diabetes competence development to GP practice staff. There was some worry within the care groups that the quality of care could deteriorate as a consequence of the task reallocation. Quality checks were introduced to monitor this. Some insurance companies noted increased costs, due to

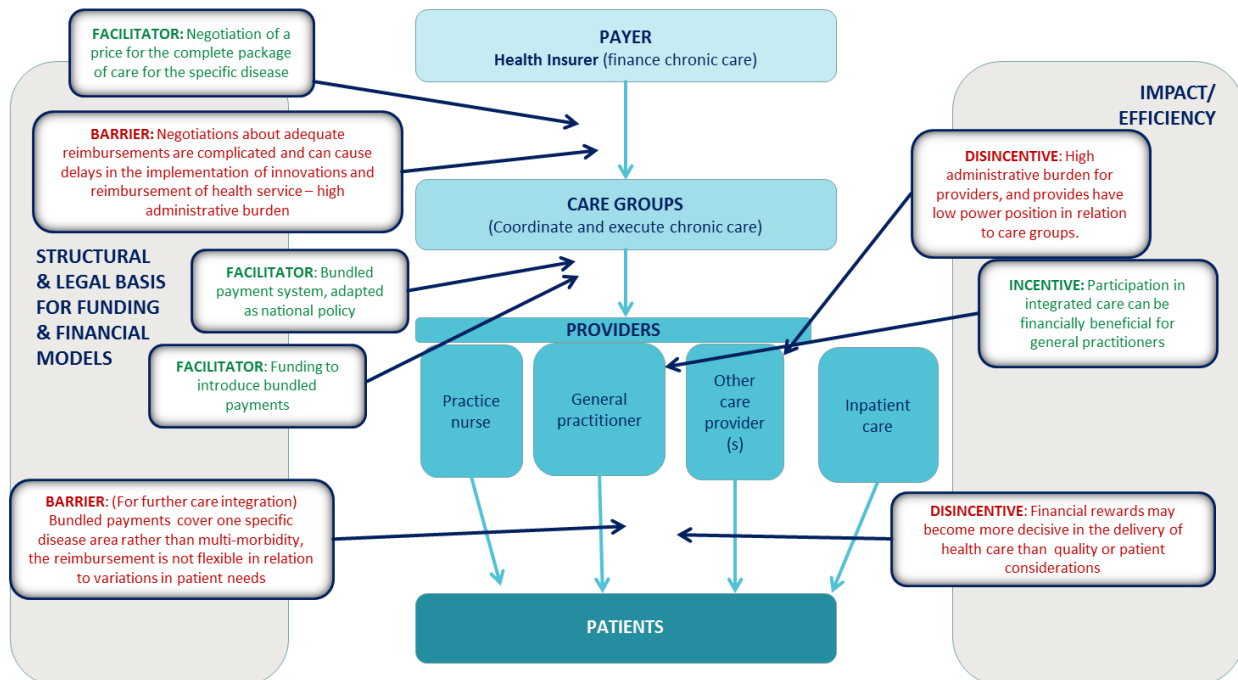
the additional transaction costs caused by introducing care groups (Struijs et al. 2012). The experiences reported in the PI-case study were that the desired reduction in secondary care is not achieved, mostly due to overcompensation with other types of activity. There were also concerns about too much substitution of care from the GP to the practice nurse, with possible negative impact on care quality. Patients were experienced to receive fewer services and the bundled payment contracts were perceived to lead to too much standardisations of care not taking into account variation in patient needs.

**Patient and health impact**

An early evaluation of the bundled payment model for diabetes reported some improvement on most process indicators or proxy outcome indicators, however these were modest and it was uncertain whether these were clinically relevant (Struijs et al. 2012). Improvements in the patient care processes were reported both by providers and health insurance companies. Improved care process such as increased patient centeredness, better cooperation, and communication were also reported in the PI-case study. From the patient perspective there could be constraints in terms of patient freedom of choice of providers. Patients would also often not know they were part of a care group. An issue with the bundled payment model as designed in the Netherlands is that the disease-specific organisation of care programmes may work against care integration for patients with multiple illnesses. High incidence of multi-morbidity is seen as challenging the model of disease based payment also due to system implementation issues such as overlapping disease specific protocols and double billing.

Figure 7.2 Case Type two diabetes

**Case study: The Netherlands – Bundled payments for diabetes**



### 7.3 Home hospitalisation and frailty program for COPD patients in Barcelona, Spain

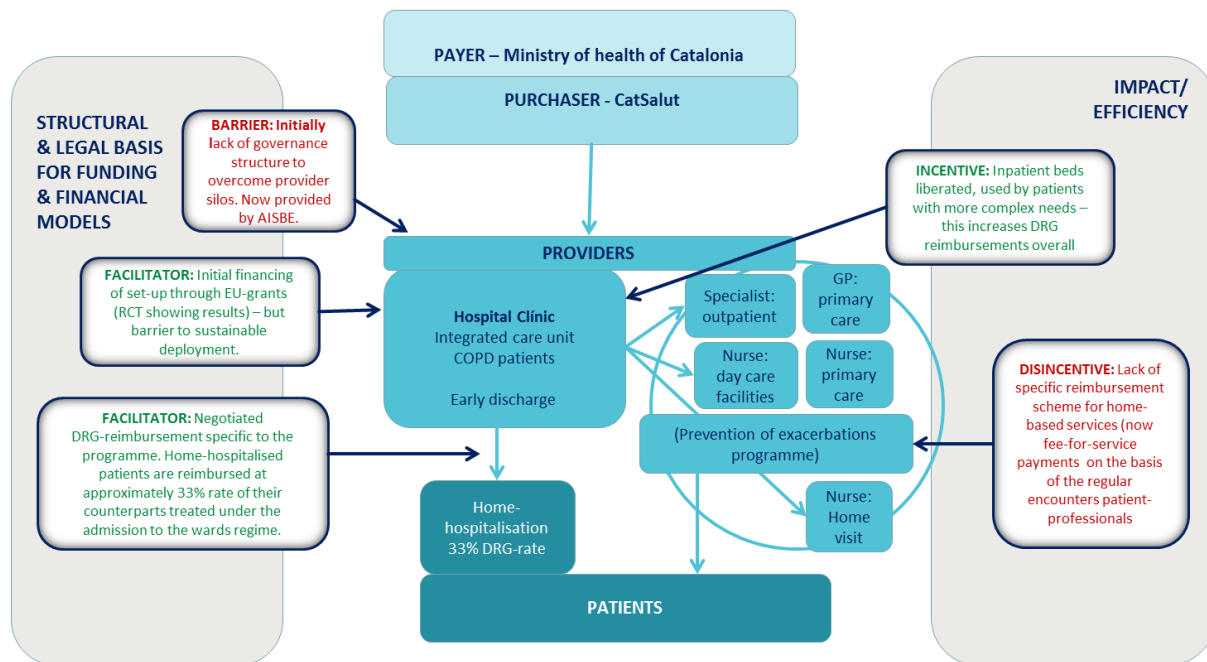
<b>Background and intervention</b>	Spain has a tax funded healthcare system. In Spain, the responsibility of financing, organisation and delivery of healthcare is devolved to 17 autonomous regions. The Health Plan launched at the end of 2011 by the Catalan government presents a comprehensive framework for restructuring of the healthcare system towards a new model of integrated health and social care, and a system more oriented to the needs of patients with chronic condition and complex health and social needs <sup>23</sup> (see chapter 6.4). Barcelona is one of four provinces in Catalonia. In 2006 four Integral Healthcare Areas was created, one of them “Barcelona Esquerra” (AISBE) is the area Hospital Clínic belongs to. AISBE provides a governance structure for care integration and promotes the redesign of care processes among all the providers involved. The development of integrated care services at Hospital Clínic Barcelona started in 2000 with the development of the Chronic Project and has been developed further through several projects resulting in the creation of the Integrated Care Unit in 2006. The Home Hospitalisation and Early Discharge in COPD patients program and Prevention of Exacerbations in COPD patients program (also known as Frailty program for COPD patients) are hospital led care integration approached that cooperates with other ambulatory services in providing care for the target patient groups.
<b>Financial arrangements</b>	The payment for hospital inpatient care at the Hospital Clínic Barcelona is activity-based using a DRG case-mix system. In the beginning, there was no financing of home hospitalisation services. The local development was made possible by EU project grants co-funding. A negotiated DRG-reimbursement has been introduced for home hospitalisation interventions (1/3 of the money the hospital would get for a patient with the same DRG if admitted at the hospital). The Frailty programme for COPD is paid by traditional fee for service for outpatient care. Lack of adequate and stable reimbursement scheme for the Frailty programme poses a threat to sustainability and larger deployment of the service. Lack of formal payment model should in theory make collaboration and coordination among providers less likely. However, clinical arguments as well as marginal impact on budgets seem to justify the need for maintaining the program.
<b>Organisational impact</b>	Integrated Care Service (ICS), in different modalities and for different conditions, are now considered mainstream at the hospital. The agreement about a reimbursement scheme to specifically cover the home hospitalisation service modality was supported by positive evaluation results (see below).
<b>Patient and health impact</b>	The interventions at the Integrated Care Unit have been positively evaluated (in Randomised Control Trial evaluation) on clinical outcomes, patient's self-managements skills and health related quality of life, as well as decrease in costs.

---

<sup>23</sup> <http://www.ticsalut.cat/media/upload//imatges/innovacio/internacional/proiecte%20casa/Joan%20Carles%20Contel.pdf>

Figure 7.3 Case COPD

### Case study: Spain – home-hospitalisation and early discharge COPD\*



\*Chronic Obstructive Pulmonary Disease

## 7.4 Integrated mental healthcare in Sweden: The models of Structural and Financially Integrated Services in Norrtälje and Coordinated Mental Healthcare Service in Södertälje

### Background and intervention

Sweden has a tax funded healthcare system with public responsibilities for financing and organisation of service delivery decentralised in a three-tier system with county councils responsible for healthcare and municipalities responsible for social care (incl. social psychiatry). Healthcare services (e.g. specialist care at hospitals and primary care) are mainly regulated by the Swedish Healthcare Act and social services (e.g. supported housing) are mainly regulated by the Swedish Social Services Act. Under these laws, the counties and municipalities are both politically and economically very independent, with only few regulations from the central government of Sweden. The 1990 'Ädel reform' transferred responsibilities for social services, nursing care (e.g. for elderly) and other non-medical healthcare provision from the county councils to the municipalities. In 1995, a mental healthcare reform was introduced, clarifying the responsibilities of social services in mental health with the purpose to improve conditions for persons with psychiatric and chronic mental health disabilities. Responsibilities and financing for social care for mental health was transferred from counties to municipalities. The mental health reform was a catalyser for the creation of the Coordinated Mental Healthcare Service of Södertälje, a health and social care consortium bringing together county psychiatric services and municipal social services. The integrated care arrangement includes joint decision making processes at political, management and clinical level, as well as service co-location for

some services in community mental health centres. The implementation of the mental health reform was supported with government grants. After a trial period (1994-2003), a new legislation came into force in the beginning of 2004 allowing, on a voluntary basis, different health and social services to collaborate through pooled budgets and joint political management (Hultberg et al. 2005). This new legal regulation made possible the creation of a new structurally and financially integrated care organisation in the town of Norrtälje in 2005. The Norrtälje model integrates governance (through a Joint Governing Board), purchasing (through a Local Purchasing Agency), and management and service provision (through the provider organisation TioHundra AB) of health (County) and social care services (Municipality). TioHundra AB is a not-for-profit business (limited company). The Norrtälje model is not restricted to mental health but is a model comprising local healthcare and social services in general.

**Financial arrangements**

In the Södertälje model, Stockholm County Council and Södertälje municipality pays for their separate services with no pooling of funds. Hence there is separate hiring and payment of service personnel. There are some shared financing for some budget items e.g. rent, reception personnel etc. These costs are shared in accordance to separate agreements for each location/team. In the Norrtälje model, the Local Purchasing Agency pools county and municipality funds and purchases services from TioHundra AB as well other providers. All mental health inpatient care is purchased from other provider organisations (hospitals). New healthcare policy regulations introduced at the national level to increase patient/client choice and provider competition requires the municipalities' own organizations to compete with private providers. A new item based payment system for healthcare is introduced by the Stockholm County Council. These recent 'market-oriented' policy changes are seen as a threat to the sustainability of the two integrated care models creating more fragmented, 'production driven' services challenging the need-driven psychiatry and care process management necessary to maintain a comprehensive view on the patients' needs.

**Organisational impact**

The two models involved service redesign and partly co-location of services. The joint decision making process in the Södertälje model meant that clinical level coordination became easier. The model is associated with a slow decision making process since decisions need to be made in agreement of the parties at all, including political, levels. The Norrtälje model put a lot of effort in shared training for professionals from health and social services creating a platform for joint objectives and building the new organisation on equal terms. The new service also made it a more attractive place of work for psychiatrists. The TioHundra AB was established as a 'project' and is still a project ten year after, hence illustrating that the political barriers to establish integrated care models across health and social services are high. None of the models have spread to other areas in Sweden, even though some elements may be found elsewhere such as co-location.

**Patient and health impact**

Both care models have been evaluated with positive results both on patient relevant quality measures and changes in service delivery towards more community based delivery. The models have gained reputation for good care models in Sweden. Political satisfaction with the models can be seen as expressed by the continued political support.



Figure 7.4 Case Mental health (a)

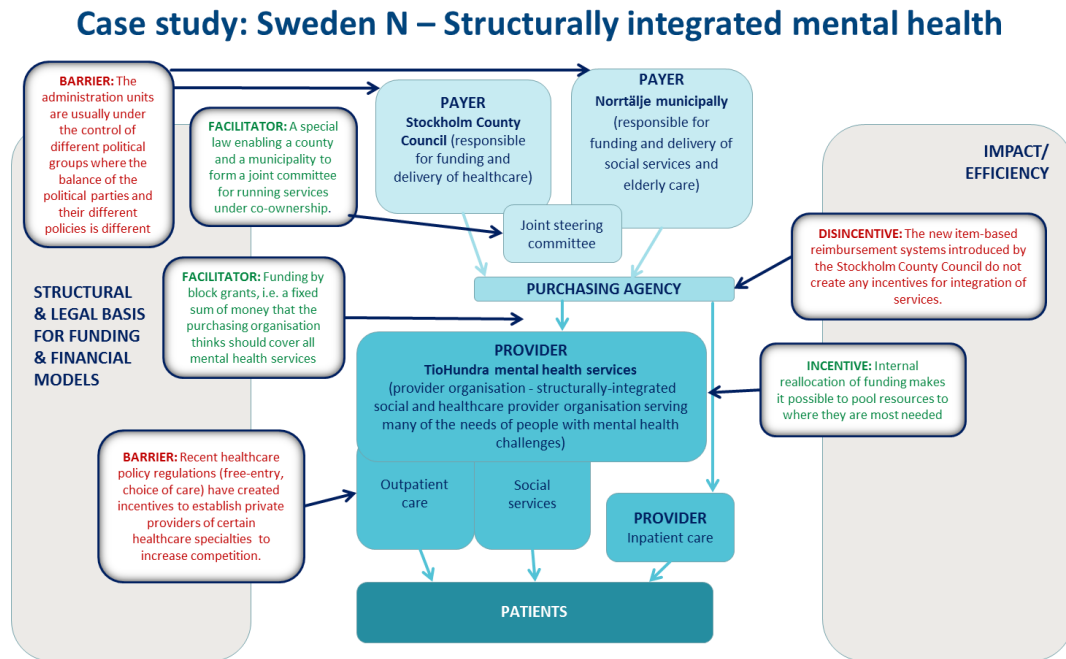
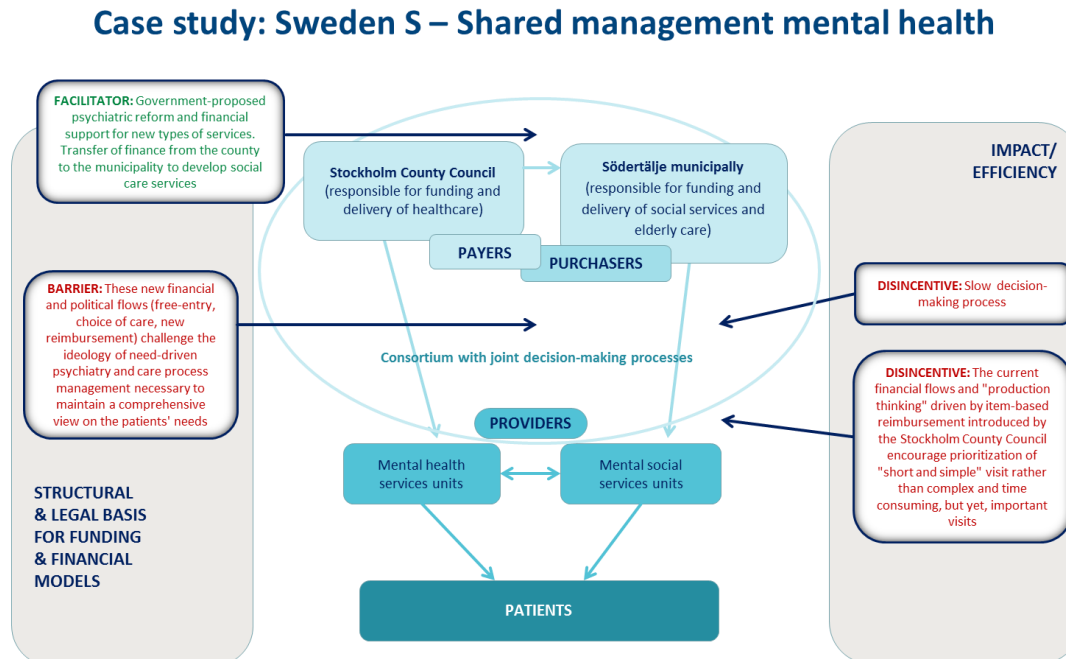


Figure 7.5 Case Mental health (b)



## 7.5 Comparison of case study experiences

### 7.5.1 Intervention settings, payers and payment mechanisms

The four case studies are different in several aspects. Firstly, the cases are very different not only regarding patient group (condition), but also the type of intervention and which provider setting and services are involved, see Table 7.1. The COPD interventions are hospital led but extending out of hospital to home setting and involving outpatient care setting with the IC-unit at the hospital collaborating with different outpatient services. The geriatric case is hospital based focusing on horizontal multidisciplinary team care integration. The diabetes case involves care coordination among different independent mainly primary healthcare providers, since secondary healthcare is not covered by the bundled payment. The diabetes case also differs from the other cases by being part of a national reform extending beyond the two case study settings. The mental health cases integrates both health and social care services that are governed by separate political bodies and paid from separate pools of funds in two local settings. They differ in terms of the degree of structural and financial integration.

**Table 7.1 Case studies. Setting, payer(s) and payment mechanisms.**

Case Characteristics	COPD (ES)	Geriatric condition (DE)	Type 2 Diabetes (NL)	Mental health (SE)
<b>Setting</b>	(a) Hospital at home (b) Outpatient care	Hospital	Primary care	Health and social care
<b>Main payer(s)</b>	Regional health authority	Insurance companies	Insurance companies	County council (health) and municipality (social)
<b>Payment mechanism / Resource integration mechanism</b>	(a) DRG for hospital at home (b) FFS	DRGs for complex geriatric care	Bundled payment, paid to care groups. Subcontracting towards care providers	(a) Pooled budgets (b) Separate budgets

Secondly, the payment mechanism or resource integration mechanism used varies. The outpatient services involved in the Frailty program for COPD are paid by FFS, while hospital at home services are paid by DRG. In the geriatric care case hospital services, which was the main focus in the German case study, is also paid by DRG with several minimum requirements for care standards which have to be fulfilled in order to be paid by the appendant DRG. In the Dutch case, a single per patient payment covering all primary care services for diabetes care is paid to a separate legal entity (the care group) which contracts with the payer and then subcontracts with independent providers services that the care group does not provide 'in house'. Since the mental health cases from Sweden differ from the rest in that they integrate health and social services, we focus here on the type of resource integration mechanism used. In one case budgets are pooled and services are structurally integrated, while in the second one there is no pooling of budgets and the services are not integrated into one organisation but instead there is a consortium-model with shared decision making.

All cases are implemented in systems where the relation between payer and providers of healthcare services are regulated by use of contracts. In the tax-based funding systems of Spain and Sweden, the payer is the regional health authority and the regional and local governments respectively, and in both cases separate purchasing functions are in operation. The geriatric case and the diabetes case are implemented in the context of insurance based healthcare funding with choice of insurer. While in Germany, the population choice of health insurance is based on common rates and provider payment is negotiated at the regional level based on national DRG-system, in the Netherlands health insurance coverage is an individual mandate with prices and benefit packages varying by insurer and the payment and content of care packages negotiated at the provider level.

Important facilitator and barriers to the implementation and further development of the IC-interventions related to policy, governance and financial factors identified in the case study reports are shown in Even though the financial flows and payment mechanisms differ, similarities in the payment mechanism as facilitator can be found. Changes in financial flows/payment mechanisms either as part of the intervention or introduced later are in most cases important facilitators in supporting the development of care integration. Furthermore, these new payment mechanisms or resource integration mechanisms introduced one price for complete packages of care or pooled budgets within the specific setting (hospital at home, geriatric hospital, primary care, local mental health services) allowing flexibility in service provision.

Expectations of cost reductions also seem to be an important factor in creating support for or stimulating policy changes in favour of implementing the studied interventions.

Table 7.2 and Table 7.3 respectively.

### 7.5.2 Facilitators

Changes in national policy or legislation were key facilitators for the integrated care interventions in the Dutch and Swedish cases. In the Netherlands bundled payment was adopted as a national payment reform, introduced for a selection of conditions: diabetes, COPD and vascular risk management. In the Swedish case of Norrtälje local area, a new law enabling a county and a municipality to form a joint political board for running services under co-ownership had been recently passed, and was a prerequisite for the IC-arrangement chosen. The development of the mental health consortium in Södertälje local area was instigated by the national mental health reform. The establishment of the Geriatric Centre Berlin was also supported by local and national politics manifested in the financial support granted both from the Berlin and German government. Also in the other cases financial support is mentioned as facilitators to the development of the IC-interventions.

Even though the financial flows and payment mechanisms differ, similarities in the payment mechanism as facilitator can be found. Changes in financial flows/payment mechanisms either as part of the intervention or introduced later are in most cases important facilitators in supporting the development of care integration. Furthermore, these new payment mechanisms or resource integration mechanisms introduced one price for complete packages of care or pooled budgets within the specific setting (hospital at home, geriatric hospital, primary care, local mental health services) allowing flexibility in service provision.

Expectations of cost reductions also seem to be an important factor in creating support for or stimulating policy changes in favour of implementing the studied interventions.

Table 7.2 Case studies. Facilitators/Incentives related to policy, governance and financial factors.

Case Characteristics	COPD (ES)	Geriatric condition (DE)	Type 2 Diabetes (NL)	Mental health (SE)
<b>Policy</b>	Progressive convergence with local IC policy development	The creation of the geriatric centre was supported both by local and national politics	Bundled payment adopted as national policy	Enabled/supported by policy reform: (a) law allowing new organisation, (b) mental health reform
<b>Financial flows/governance structure</b>	Negotiated DRG-reimbursement for home hospitalisation secured funding and supports integrated care (a)	DRG based payment for complex geriatric care for hospital services supports multidisciplinary integrated care	Introduction of bundled payment integrates payment across providers and supports care coordination	Pooled resources support care integration and allows for reallocation of resources (a). Joint management support care integration (b)
<b>Payment mechanisms</b>	One price for the complete package of (hospital at home) care (a) – flexibility in service provision within intervention	One price for the complete package of (hospital) care – flexibility in service within hospital	One price for the complete package of (primary) care – flexibility in service provision	Pooled budgets – flexibility in service provision
<b>Other financial</b>	Supported by EU project financing  Expectation of cost reductions (+RCT evaluation)  Formulation of business case	Supported by special grants/project financing	Supported by special project financing (research and evaluation)  Expectation of cost reductions	Supported by special Mental Health Reform grants (b)  Expectation of cost reductions

### 7.5.3 Barriers

Barriers related to financial flows and governance structures were mentioned in all cases. In the cases where the financial integration (payment mechanism) did not include all relevant services, provider silos, separate funding and governance structures act as barriers to achieve the full potential for care integration/coordination across providers or care sectors. In the cases where the interventions were designed to overcome sector barriers, i.e. integrating health and social services (the Swedish cases), having two funding sources representing different governance regimes and under shifting political leadership can be demanding in terms of political support and may lead to slow decision making processes.

Barriers related to market structures are also mentioned. Both cases operating in insurance based system with high degree of reliance on market mechanisms in service provision (Germany and the Netherlands) pointed to the uneven power relations with the insurance companies having the upper hand in the negotiation process of prices and care packages, with an overemphasis on care integration as a means to cost reductions. In the Netherlands the policy of individual purchase of health insurance and benefit packages being renegotiated each year makes the negotiation process complicated involving a complex pattern of contract relationships and creating uncertainties both

on the part of the care groups and the independent providers subcontracting services. In the Swedish case, the recent competition oriented policy to support cost efficiency and patient choice was experienced to lead to care fragmentation.

**Table 7.3 Case studies. Barriers/Disincentives related to policy, governance and financial factors.**

Case	COPD (ES)	Geriatric condition (DE)	Type 2 Diabetes (NL)	Mental health (SE)
<b>Characteristics</b>				
<b>Policy</b>				Recent competition oriented policy (patient choice, free entry-new reimbursement system) leads to care fragmentation
<b>Financial flows/governance structure</b>	At the beginning: Lack of government structures to overcome provider silos (barrier to collaboration with other services). Now provided by the AISBE model	Most barriers identified were external, e.g. between sectors (constitutional/policy/legal framework/regulations)  Insurer the upper hand in negotiations	Secondary care not included (overcompensation in secondary care in response to task substitution-too costly)  Negotiation complicated  Insurer has the upper hand in negotiations (towards care group). Weak negotiation position of subcontractors (toward care groups)	Payers representing different governance regimes. Vulnerable to shifting political constellations and priorities. Slow decision-making process
<b>Payment mechanism</b>	Lack of separate reimbursement scheme for the Frailty program	The DRGs are too rigid, gives little room to adapt to variation in patient needs	High administrative burdens/costs  Rigidity in payment for care packages, gives little room to adapt to variation in patient needs  High incidence of multi-morbidity challenges disease based payment (overlapping disease specific protocols, double billing)	New item based reimbursement system for healthcare does not create any incentive for care integration

In the Frailty program for COPD providers was paid by FFS. The lack of a separate reimbursement scheme was seen as a potential barrier for larger deployment or maintenance of the service. However, clinical arguments as well as marginal budget impact, justified collaboration and coordination around the program despite the lack of financial incentives. Also, the new item-based reimbursement introduced for healthcare in Stockholm County was seen to discourage collaboration and care coordination.

Challenges related to the current payment mechanism could also be found in the cases where the payment mechanism was designed to support care integration. The implementation of payment mechanism both in the DRG payment for complex geriatric care supporting multidisciplinary team work and the bundled payment for diabetes care integrating payment for all primary healthcare, linking payment to care standards, was seen to be too rigid to adopt to variation in patient needs. The bundled payment in Netherlands was also experienced to come with high administrative burdens both related to negotiation and in everyday practice. Another challenge identified with the condition specific bundle payment is the high degree of multi-morbidity in patients creating the need to coordinate payment and service provision for handling several conditions. This was seen as questioning the sustainability of the bundle payment system. The same issue has been raised regarding the adequacy of DMPs in Germany for patients with complex needs and multiple illnesses.

#### **7.5.4 Policy lessons**

Some key policy lessons related to financial model and governance structure identified in each of the four case studies are shown in Table 7.4, and can be summarized as follows:

Governance structures to overcome provider and sector barriers and financial incentives to align provider goals and actions towards collaboration, coordination and care integration are needed. The Swedish case study showed that successful integrated care arrangements covering both health and social care can be achieved without full integration of financial flows if necessary structures to sustain and institutionalise the collaborative arrangements are in place. However, there may be high barriers to integrate services across separate governance structures as evidenced by the lack of spread of both models despite the good reputation they have achieved in Sweden. Providing financial support or start-up funding may help to reduce the risk of and hence ease the implementation of new integrated or coordinated service provision models. Using extra funding in a forward-looking manner, investing in measures to develop shared visions and joint working and decision-making capabilities may make the new organisation more stable and independent of outside funding support in the longer run.

Finally, the comparative analysis indicates that financial factors are important, but not necessarily sufficient or decisive, to successful implementation and development of integrated care interventions. Integrated payment mechanisms, creating one price for the care package, are experienced to facilitate care integration. However, linking payment too closely to care standards may introduce too much standardisation. Payment mechanism should allow for more tailored care while adhering to best practice and should be designed towards generic chronic care.

**Table 7.4 Case studies. Key policy lessons related to governance and financial factors.**

COPD (ES)	Geriatric condition (DE)	Type 2 Diabetes (NL)	Mental health (SE)
<p>Governance structures must overcome traditional single provider silos</p> <p>Novel reimbursement policies should be explored to make sure that they are seen by most providers as an incentive to shift towards integrated care</p>	<p>More tailored (flexibility) care while adhering to best practice</p> <p>Need policy to overcome sector barriers</p>	<p>Move towards generic chronic care, and tailored care</p> <p>The separate payment systems of primary and secondary care work against realisation of the potential for whole system costs savings</p>	<p>IC arrangement with positive results may be achieved without full integration of financial flows</p> <p>Government grants could serve to reduce the risk of implementing a local integration model</p> <p>Establish structures to sustain and institutionalise after instigators leave</p> <p>No spread of models indicates high barriers to implementation</p>



## 8 Concluding comments

Financing systems that are fragmented, i.e. with separate funding streams for different types of services, or provider payment mechanisms that do not adequately reward and encourage care coordination may create barriers to care integration. This calls for a rethinking of the way we fund health care, but also highlights the need for governance structures that can overcome provider and sector barriers. In this report, we provide an overview of financial arrangements to support care integration. We describe a continuum of options available for payers and purchasers of health and social care in using provider payment mechanisms to incentivise care coordination or resource integration mechanisms to overcome barriers to care integration created by funding silos. Payment reform options spans from amending existing independent provider payment systems to mechanisms for payment across providers such as bundled or capitated payment and performance-based payment. The scientific evidence base for the effectiveness of specific payment and resource integration mechanisms, such as pooling of funds or integrated provider structures designed to promote integrated care is weak. Care integration has a wide definition and this, together with contextual factors such as the overall health system design in a country, influence what financial arrangements are opted for in different settings. It is broadly considered that payment reforms aiming to align payments across traditional funding streams may support care integration processes. However, the route towards developing suitable financial arrangements has different starting points, and the final vision and priorities will differ from country to country. Healthcare systems vary in their existing capabilities, on part of both purchasers and providers, to adopt specific payment reform strategies. Recent changes in payment mechanism to support care integration reported in the expert survey spans from fairly simple measures of amending and supplementing FFS payments to population based capitation, reflecting the strategies and stage of reform process towards systems conducive of integrated care, as well as country specific contexts of health care systems.

We have seen that many countries have initially focused on the role of the primary care providers as coordinators for patients with long-term or chronic diseases. In countries where primary care practices are paid by fee-for-services, financial arrangements have included introducing services fees for care coordination, management and disease monitoring of chronically ill patients. This has been the case in e.g. Austria, Belgium, Germany, France, and the US. In systems that are predominantly insurance-based, governments are not the payers and have limited direct control, but may lead by example or foster change through regulation. Integrated care initiatives have often been voluntary, and there is a need to make them attractive, financially or by other means. Subsequent steps observed have been to gradually try to shift payments away from fee-for-service models which incentivise medical procedures and volume rather than coordination and preventive care - towards payments where the primary care practice becomes jointly accountable (through shared savings or shared risk models) with other providers for providing continuous care for chronically ill patients, such as the bundled payment models in The Netherlands and ACOs in the US.

In public, tax-funded, systems the government also fills the role as purchaser and payer in addition to that of the policy maker. Financial incentives to physicians have traditionally been less of an issue with more emphasis on non-financial incentives, such as care protocols, clinical guidelines, and

performance monitoring, but performance-based financial incentives have received increased attention in recent years also in tax-funded systems (Vårdanalys 2013, Cashin et al. 2014). Yet the evidence of the direct effects of P4P mechanisms to support different goals in healthcare remains weak (Eijkenaar et al. 2013), and broad evaluations of P4P in healthcare suggest that the monitoring and use of data to feed performance back to providers may play a more prominent role than the financial incentives per se (Cashin et al. 2014). P4P may direct health worker focus towards what is rewarded while other, likewise important, measures that are not rewarded may receive less attention (Glasziou et al. 2012). The rewarding of proxy measures for quality or health outcomes may undermine the effects of P4Ps, if health workers feel what is paid is not the most legitimate measure for (all) patients (Vårdanalys 2013).

Capitation payments are seen as facilitator towards care integration. Sector-wide capitation payments are explored in a few settings in Europe. However, there are some issues to consider in relation to how to establish capitation models. Capitated budgets will need to be based on up-to-date information about the populations served, and include appropriate risk adjustment for the individual patients. One should be realistic about the time it takes to develop sufficient experience to manage capitation budgets over time – in the implementation phase operating new payment systems and a new set of metrics and information systems that span across sectors is likely to add transaction cost and be a challenge both for the purchaser and providers. Governance processes need to be established to manage risks and allow the reallocation of funds across sectors when needed - an issue here may be that risk and accountability is unevenly distributed between payer/purchaser and providers when commissioning care under a capitation budget due to difficulties of effectively measuring and monitoring (Conrad et al. 2014, Nam 2014). Capitation can incentivise for under-provision of care unless paired with holistic outcomes measures (Delbanco 2014), however capitation models that include primary, secondary, social and/or preventive services do offer the opportunity to facilitate the allocation of resources to where they can best be used, sometimes away from the hospital and clinical setting toward the community, in way that might have been more difficult to achieve with 'siloes' payments.

The systematic review of resource integration across health and social care, presented in Chapter 5, reports on challenges of implementing financial integration in practice, even with supportive regulatory measures. This is partly due to underlying incentive structures in existing payment mechanisms (Mason et al. 2014), such as models where e.g. primary care is paid by capitation budget and secondary care with case-based payments (which can create incentives towards augmented hospital admissions). Bureaucracy in large organisations, where care integration is encouraged at the same time as slow decisions about resource distribution and financial regulations may prevent the merging of budgets across sectors can hamper initiatives (Ling et al. 2012). It has been proposed that integration may be difficult to achieve through a top-down approach, but that what may be necessary is flexibility in the organisation and administrative system to allow bottom-up initiatives, as well as giving these time to develop (Alltimes and Varnam 2012). This seems to be supported by accounts from the literature since many of the cases identified have been locally adjusted initiatives. In several cases of integration where budgets have been pooled across sectors, reports however indicate that this did challenge provider autonomy, including SIPA in Canada, PACE in the US, and the integrated care pilot in Torbay, England (Mason et al. 2014). A way to deal with

this may be through alliance contracts across providers rather than structural integration – an approach explored in Canterbury, New Zealand, together with alignment of objectives across providers. This was combined with the discard of payment mechanisms that created incentives to keep activity levels up in e.g. hospitals to preserve future budget allocations (Timmins and Ham 2013). Integration requires some flexibility and adaptation to the views of stakeholders and allowing for the creation of the local 'vision', though within the framework of national guidance. However a challenge with adopting policies that encourage diversification and locally-based solutions may be to assure allocative efficiency in terms of equity in care quality across geographic regions (Weatherly et al. 2010).

Scale-up of successful model may not be straightforward, as experiences from one setting may not be transferable to other settings since cultural and organisational contexts vary across systems (Hernández-Quevedo et al. 2013) and it is in general difficult to separate the analysis of financial incentives from the context of the health care (financing) system (Greß et al. 2005). Hence, learning from experiences must be based on careful consideration and understanding of system context factors.

Yet experiences with different approaches in different local settings and countries can provide guidance and insights. The analysis of experiences from the Project INTEGRATE case studies indicates that financial factors are important, though not necessarily sufficient to successful implementation and development of integrated care interventions. Bundled payment mechanisms, creating one price for the whole care package, have in some settings been shown to facilitate care integration. However, linking payment too closely to care standards may introduce too much standardisation. Experiences with bundled payment show that high incidence of multi-morbidity challenges disease-based payment and points to payment approaches directed towards generic chronic care.

Integrated care interventions may be 'small scale' local initiatives as in the Project INTEGRATE case studies from Germany, Spain and Sweden. However, system reform approaches are needed to change financial flows and payment models since in most countries funding and payment models are regulated and decided at 'higher levels' in the system. Design of payment models are typically decided at central or regional level either unilaterally by government or 'third party payer' or in negotiation with interested parties, including e.g. professional and provider organisations (Paris et al. 2010). The Dutch case study was a national reform initiative implementing a bundled payment system on a structural basis for diabetes, Chronic Obstructive Pulmonary Disease and vascular risk management. Also, local initiatives may require removal of legal and structural barriers involving national or regional policy change. The implementation of the structural integrated model in Norrtälje was made possible by a new legislation allowing different health and social services to collaborate through pooled budgets and joint political management. The degree of independence at local level from central level interference in management and operational matters varies (Bankauskaite and Saltman 2006), and so does the need for involvement of central government to implement local integrated care initiatives.

With ambitions of increasing efficiency, the public sector has increasingly imported values from the private sector in the last two decades with increased focus on customers rather than users, outputs rather than inputs and more effective and efficient performance (Kattel et al. 2014). Yet, success can often only be shown through long-term outcomes. Public sector efficiency is measured, in theory, as the value it provides the citizens, however it, is hard to quantify (Tangen 2005). Governments have traditionally often taken responsibility for services with public good (or quasi-public good depending on perspective) characteristics such as healthcare provision (Karsten 1995). *“Many activities are in the public sector precisely because of measurement problem: If everything was crystal clear and every benefit so easily attributable, those activities would have been in the private sector long ago”* (Mintzberg 1996). This is important to bear in mind in the endeavour to align financial incentives to goals of care integration and value for patients. Since the measuring of quantity, quality and cost of integrated care 'services' may be challenging, the transaction cost of contracting for integrated care can be substantial. A study from the UK reported that the process of contracting for new forms of integrated care was prohibitively costly in some of the cases examined and with transaction costs falling on both providers and commissioners (Ham et al. 2011). It is a concern if physicians or other health workers end up spending an increasing amount of time on administration, on service specification, tendering, contracting and performance review. This may dampen the enthusiasm from health workers to integrated care initiatives, and hamper their implementation. Physician opposition was initially a barrier to implementing pay-for-coordination in Austria and France due to concerns about reduced medical autonomy and increased administrative requirements (Tsiachristas et al. 2013). Hence, the establishment of long-term relationships across providers characterised by trust, with weaker incentives, the approach taken in Canterbury as well as in the North West London care pilot, may be an option in settings where provider relations and contextual factors allow for such an approach.

Developing or adjusting financial arrangements in healthcare towards goals of care integration is a complex endeavour technically, at the same time a number of dimensions, stakeholders and effects need to be taken into account which may seem overwhelming. Thus two key recommendations from the literature to support the process of aligning financial arrangements to care integration are: Anchor the overarching goals of a reform to foster integration with all stakeholders and mitigate different perspectives on issues such as financial constraints, risk sharing and accountability so that they are considered fair and appropriate. (Weatherly et al. 2010, Korda and Eldridge 2011, McClellan et al. 2013, Chung et al. 2012); Keep in mind that complex service delivery models that look good on paper can cause inflexibilities that create waste and inefficiency. It is important to remain focused on how the financial reforms improve patients outcomes, so that the process does not end up with organisational, governance, budgetary and structural changes that do not sufficiently change the patient experience (Hopson 2012).

## References

- Addicott, R. (2014). Commissioning and contracting for integrated care. The Kings Fund.
- Ahgren, B. and R. Axelsson (2005). "Evaluating integrated healthcare: a model for measurement." International Journal of Integrated Care **5**: e01.
- Alderwick, H., C. Ham and D. Buck (2015). Population health systems Going beyond integrated care. The Kings Fund, London.
- Alltimes, G. and R. Varnam (2012). Integration: A report from the NHS Future Forum.
- Alonso, A. and L. Sampietro-Colom (2014). D 2.1 Final Case Report COPD. FCRB, Spain.
- Appleby, J.T. Harrison, L. Hawkins and A. Dixon (2012). Payment by results. How can payment systems help to deliver better care. The Kings Fund, London.
- Archer, J., P. Bower, S. Gilbody, K. Lovell, D. Richards, L. Gask, C. Dickens and P. Coventry (2012). "Collaborative care for depression and anxiety problems." Cochrane Database Syst Rev **10**: CD006525.
- Aubin, M., A. Giguere, M. Martin, R. Verreault, M. I. Fitch, A. Kazanjian and P. H. Carmichael (2012). "Interventions to improve continuity of care in the follow-up of patients with cancer." Cochrane Database Syst Rev **7**: CD007672.
- Bankauskaite, V. and R. B. Saltman (2006). Central issues in the decentralization debate. Decentralization in healthcare: strategies and outcomes, Saltman, R., V. Bankauskaite, et al. McGraw-Hill International.
- Beland, F. and M. J. Hollander (2011). "Integrated models of care delivery for the frail elderly: international perspectives." Gac Sanit **25 Suppl 2**: 138-146.
- Benabou, R. and J. Tirole (2003). "Intrinsic and Extrinsic Motivation." Review of Economic Studies **70**: 489-520.
- Berenson, R. A. and E. C. Rich (2010). "US approaches to physician payment: the deconstruction of primary care." J Gen Intern Med **25(6)**: 613-618.
- Berwick, D. M., T. W. Nolan and J. Whittington (2008). "The triple aim: care, health, and cost." Health Affairs **27(3)**: 759-769.

Böhm, K., et al. (2013). "Five types of OECD healthcare systems: Empirical results of a deductive classification." Health Policy **113**(3): 258-269.

Busetto, L., K.G. Luijkx and H.J.M. Vrijhoef (2014). D 3.1 Case study report WP3 Diabetes. Tilburg University, The Netherlands.

Busse, R., M. Blümel, D. Scheller-Kreinsen and A. Zenter (2010). Tackling Chronic Disease in Europe: Strategies, interventions and challenges. The European Observatory on Health Systems and Policies.

Busse, R., J. Figueras, R. Robinson and E. Jakubowski (2007). "Strategic purchasing to improve health system performance: key issues and international trends." Healthc Pap **8 Spec No**: 62-76.

Busse, R. and N. Mays (2008). Paying for chronic disease care. Caring for people with chronic conditions: a health system perspective. European Observatory on Health Systems and Policies. E. Nolte and M. McKee.

Cashin, C., Y.-L. Chi and M. Borowitz (2014). Lessons from the case study P4P programmes. Paying for Performance in Healthcare: Implications for health system performance and accountability. C. Cashin, Y.-L. Chi, S. P.C., M. Borowitz and S. Thomson. Maidenhead, England, Open University Press.

Charlesworth, A., A. Davies and J. Dixon (2012). Reforming payment for healthcare in Europe to achieve better value, Nuffield Trust.

Chernew, M. E., et al. (2011). "Private-payer innovation in Massachusetts: the 'alternative quality contract'." Health Affairs **30**(1): 51-61.

Chi, Y.-L. (2014). Germany: Disease management programmes. Paying for Performance in Healthcare: Implications for health system performance and accountability. C. Cashin, Y.-L. Chi, S. P.C., M. Borowitz and S. Thomson. Maidenhead, England, Open University Press.

Christianson, J., S. Leatherman, et al. Financial Incentives, Healthcare Providers and Quality Improvements: A Review of the Evidence, 2007. The Health Foundation: London.

Chung, V. C., P. H. Ma, L. C. Hong and S. M. Griffiths (2012). "Organizational determinants of interprofessional collaboration in integrative health care: systematic review of qualitative studies." PLoS One **7**(11): e50022.

CMS. (2015). "Next Generation ACO Model: Frequently Asked Questions." from <http://innovation.cms.gov/Files/x/nextgenacofaq.pdf>.

Commonwealth Fund (2009). The Path to a High Performance U.S. Health System: A 2020 vision and the policies to pave the way. New York: The Commonwealth Fund Commission on a High Performance Health System.

Conrad, D. A. and J. B. Christianson (2004). "Penetrating the "black box": financial incentives for enhancing the quality of physician services." Med Care Res Rev **61**(3 Suppl): 37S-68S.

Conrad, D. A., D. Grembowski, S. E. Hernandez, B. Lau and M. Marcus-Smith (2014). "Emerging lessons from regional and state innovation in value-based payment reform: balancing collaboration and disruptive innovation." Milbank Q **92**(3): 568-623.

Crawford M. and R. Houston(2015). State Payment and Financing Models to Promote Health and Social Service Integration. Brief. Center for Health Care Strategies (CHCS).

CPR (2015). 2013/2014 National Scorecards on Payment Reform. Catalyst for Payment Reform.

CPR (2015). Scorecard on Medicare Payment Reform 2013. Catalyst for Payment Reform.

Curry, N. and C. Ham (2010). Clinical and service integration. The route to improve outcomes. The Kings Fund, London.

de Bakker, D. H., J. N. Struijs, C. B. Baan, J. Raams, J. E. de Wildt, H. J. Vrijhoef and F. T. Schut (2012). "Early results from adoption of bundled payment for diabetes care in the Netherlands show improvement in care coordination." Health Aff (Millwood) **31**(2): 426-433.

De Bruin, S. R., C. A. Baan and J. N. Struijs (2011). "Pay-for-performance in disease management: a systematic review of the literature." BMC Health Services Research **11**(1): 272.

Delbanco, S. (2014). The Payment Reform Landscape: Capitation With Quality. Health Affairs Blog.

Delbanco, S. (2014). The Payment Reform Landscape: Payment For Non-Visit Functions And The Medical Home. Health Affairs Blog.

Delbanco, S., K. M. Anderson, C. E. Major, M. B. Kiser, B. W. Toner and B. A. Hamilton (2011). Promising Payment Reform: Risk-sharing with Accountable Care Organizations. The Commonwealth Fund.

Delnoij, D., et al. (2002). "Integrated care in an international perspective." International Journal of Integrated Care ISSN 1568-4156

Dwamena, F., M. Holmes-Rovner, C. M. Gaulden, S. Jorgenson, G. Sadigh, A. Sikorskii, S. Lewin, R. C. Smith, J. Coffey and A. Olomu (2012). "Interventions for providers to promote a patient-centred approach in clinical consultations." Cochrane Database Syst Rev **12**: CD003267.

Eijkenaar, F., M. Emmert, M. Scheppach and O. Schoffski (2013). "Effects of pay for performance in healthcare: a systematic review of systematic reviews." Health Policy **110**(2-3): 115-130.

Eijkenaar, F. (2012). "Pay for performance in healthcare: an international overview of initiatives." Medical Care Research and Review: 1077558711432891.

Eijkenaar, F. (2013). "Key issues in the design of pay for performance programs." The European Journal of Health Economics **14**(1): 117-131.

Eldridge, G. N. and H. Korda (2011). "Value-based purchasing: the evidence." Am J Manag Care **17**(8): e310-313.

Elissen, A. M., I. G. Duimel-Peeters, C. Spreeuwenberg, M. Spreeuwenberg and H. J. Vrijhoef (2012). "Toward tailored disease management for type 2 diabetes." Am J Manag Care **18**(10): 619-630.

Ferlie, E., L. Fitzgerald, et al. (2011). "Public policy networks and 'wicked problems': a nascent solution?" Public Administration **89**(2): 307-324.

Flodgren, G., M. P. Eccles, S. Shepperd, A. Scott, E. Parmelli and F. R. Beyer (2011). "An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes." Cochrane Database Syst Rev(7): CD009255.

García-Armesto S, Abadía-Taira MB, Durán A, Hernández-Quevedo C, Bernal-Delgado E. Spain: Health system review. Health Systems in Transition, 2010, 12(4):1–295.

Garrett, K. E. (2015). Bridging health care and population health: payment and financing models. The New York Academy of Medicine, New York.

Geissler, A., et al. (2011). "Introduction to DRGs in Europe: Common objectives across different hospital systems." Diagnosis Related Groups in Europe: Moving Towards Transparency, Efficiency and Quality in Hospitals: 9-21.

Glasziou, P. P., H. Buchan, C. Del Mar, J. Doust, M. Harris, R. Knight, A. Scott, I. A. Scott and A. Stockwell (2012). "When financial incentives do more good than harm: a checklist." BMJ **345**: e5047.

Goodwin, N., et al. (2004). Managing across diverse networks of care: lessons from other sectors. Report to the NHS SDO R&D Programme. Birmingham: Health Services Management Centre, University of Birmingham.

Goodwin, N., A. Dixon, G. Anderson and W. Wodchis (2014). Providing integrated care for older people with complex needs: Lessons from seven international case studies. The Kings Fund, London.

Gosden, T., F. Forland, I. Kristiansen, M. Sutton, B. Leese, A. Giuffrida, M. Sergison, and L. Pedersen (2011). "Some evidence to suggest that the way in which primary care physicians are paid may affect their clinical behaviour." Cochrane Database Syst Rev.



Grasser, G., R. Young, and L. Rosenkrantz Woskie (2013). "Personal health budgets in the Netherlands and England". Eurohealth 19(2): 21-23.

Greaves, F., Y. Pappas, M. Bardsley, M. Harris, N. Curry, H. Holder, I. Blunt, M. Soljak, L. Gunn, A. Majeed and J. Car (2013). "Evaluation of complex integrated care programmes: the approach in North West London." Int J Integr Care 13: e006.

Greb, S., A. Focke, F. Hessel and J. Wasem (2006). "Financial incentives for disease management programmes and integrated care in German social health insurance." Health Policy 78(2-3): 295-305.

Greß, S., D.M.J Delnoij, and P.P. Groenewegen (2005). Managing primary care behaviour through payment systems and financial incentives. Primary care in the driver's seat?: Organizational reform in European primary care. Saltman, R., et al., McGraw-Hill International.

Gröne, O. and M. Garcia-Barbero (2001). "Integrated care: a position paper of the WHO European Office for Integrated Healthcare Services." Int J Integr Care 1: e21.

Gröne, O. and M. Garcia-Barbero (2002). Trends in integrated care: Reflections on conceptual issues. World Health Organization, Copenhagen.

Ham, C., J. E. Smith and E. Eastmure (2011). Commissioning integrated care in a liberated NHS. Research Report, Nuffield Trust.

Hartley, J. (2005). "Innovation in governance and public services: Past and present." Public Money & Management 25(1): 27-34.

Hayes, S. L., M. K. Mann, F. M. Morgan, M. J. Kelly and A. L. Weightman (2012). "Collaboration between local health and local government agencies for health improvement." Cochrane Database Syst Rev 10: CD007825.

Hernandes-Quevedo, C. (2013). "Enhancing Chronic Care Management in Denmark." Eurohealth 19(2): 17-18.

Hernández-Quevedo, C., et al. (2013). "Paying for integrated care: an overview." Eurohealth 19(2): 3-6.

Hildebrandt, H., C. Hermann, R. Knittel, M. Richter-Reichhelm, A. Siegel and W. Witzentrath (2010). "Gesundes Kinzigtal Integrated Care: improving population health by a shared health gain approach and a shared savings contract." International Journal of Integrated Care. [S.l.], jun. 2010. ISSN 1568-4156. Available at: <<http://www.ijic.org/index.php/ijic/article/view/539/1050>>

Hopson, C. (2012). Health and social care integration: how do we make it work? The Guardian.

Hultberg, E. L., C. Glendinning, et al. (2005). "Using pooled budgets to integrate health and welfare services: a comparison of experiments in England and Sweden." Health & social care in the community **13**(6): 531-541.

Jackson, G. L., B. J. Powers, R. Chatterjee, J. P. Bettger, A. R. Kemper, V. Hasselblad, R. J. Dolor, R. J. Irvine, B. L. Heidenfelder, A. S. Kendrick, R. Gray and J. W. Williams (2013). "Improving patient care. The patient centered medical home. A Systematic Review." Ann Intern Med **158**(3): 169-178.

Kalk, A., F. A. Paul and E. Grabosch (2010). "'Paying for performance' in Rwanda: does it pay off?" Trop Med Int Health **15**(2): 182-190.

Karsten, S. G. (1995). "Health-Care - Private Good Vs Public Good." American Journal of Economics and Sociology **54**(2): 129-144.

Kattel, R., A. Cepilovs, W. Drechsler, T. Kalvet, V. Lember and P. Tõnurist (2014). Can we measure public sector innovation? A literature review. LIPSE Project paper. Ragnar Nurkse School of Innovation and Governance, Tallinn, Estonia.

Kiselev, J. (2014). D 4.1 Case study report Geriatric Condition Geriatric Centre Berlin, Germany. Charité, Germany

Klinga, C., J. Hansson, J. Øvretveit and M. Brommels (2014). D 5.1b Case study report. Södertälje Integrated Mental Healthcare, Sweden. Karolinska Institutet Medical Management Centre, Sweden.

Korda, H. and G. N. Eldridge (2011). "Payment incentives and integrated care delivery: levers for health system reform and cost containment." Inquiry **48**(4): 277-287.

Kruis, A. L., N. Smidt, W. J. Assendelft, J. Gussekloo, M. R. Boland, M. Rutten-van Molken and N. H. Chavannes (2013). "Integrated disease management interventions for patients with chronic obstructive pulmonary disease." Cochrane Database Syst Rev **10**: CD009437.

Kulesher, R. R. and E. E. Forrestal (2014). "International models of health systems financing." Journal of Hospital Administration **3**(4): p127.

Kutzin, J. (2001). "A descriptive framework for country-level analysis of healthcare financing arrangements." Health Policy **56**(3): 171-204.

Larsson, H., M. Andreen-Sachs, J. Øvretveit and M. Brommels (2014). D 5.1a Case study report. Norrtälje Integrated Mental Healthcare, Sweden. Karolinska Institutet Medical Management Centre, Sweden.

Leatt, P., G. H. Pink and M. Guerriere (2000). "Towards a Canadian model of integrated healthcare." Healthc Pap **1**(2): 13-35.

Lewis, V. A., C. H. Colla, et al. (2014). "ACO contracting with private and public payers: a baseline comparative analysis." The American journal of managed care **20**(12): 1008-1014.

Ling, T., L. Brereton, A. Conklin, J. Newbould and M. Roland (2012). "Barriers and facilitators to integrating care: experiences from the English Integrated Care Pilots." Int J Integr Care **12**: e129.

Llano, R. (2013) The 'Gesundes Kinzigtal' integrated care initiative in Germany. Eurohealth **19**(2): 7-8.

Magrath, P. and M. Nichter (2012). "Paying for performance and the social relations of healthcare provision: an anthropological perspective." Soc Sci Med **75**(10): 1778-1785.

Mason, A., M. K. Goddard and H. L. A. Weatherly (2014). "Financial mechanisms for integrating funds for health and social care: an evidence review." CHE Research Paper 97. Centre for Health Economics, University of York, UK.

Mason, A., M. Goddard, et al. (2015). "Integrating funds for health and social care: an evidence review." Journal of health services research & policy: 1355819614566832.

McClellan, M. and E. T. Ginés (2015). Reinventing Chronic Care Management for the Elderly: Ribera Salud Hospital System, Valencia, Spain. Center for Health Policy at Brookings.

McClellan, M., J. Kent, S. Beales, M. Macdonnell, A. Thoumi, B. Shuttleworth and S. Cohen (2013). Focusing Accountability on the Outcomes that Matter: Report of the Accountable Care Working Group. WISH World Innovation Summit for Health DOHA.

McGough, R. and R. Dunbar-Rees (2013). Team effort: Commissioning through alliance contracts. Health Service Journal.

Mechanic, D. (2001). "The managed care backlash: perceptions and rhetoric in healthcare policy and the potential for healthcare reform." Milbank Quarterly **79**(1): 35-54.

Mechanic, R. E. (2011). "Opportunities and challenges for episode-based payment." N Engl J Med **365**(9): 777-779.

Miller, H. D. (2009). "From volume to value: better ways to pay for healthcare." Health Affairs **28**(5): 1418-1428.

Miller, H. D. (2015). "The Building Blocks of Successful Payment Reform: Designing Payment Systems that Support Higher-Value Healthcare". Payment Reform Series 3. Network for Regional Healthcare Improvement, Center for Healthcare Quality and Payment Reform, and Robert Wood Johnson Foundation.

Mintzberg, H. (1996). "Managing government - Governing management." Harvard Business Review **74**(3): 75-&.

Monitor (2014). Capitation: a potential new payment model to enable integrated care: A supporting document of '2015/16 National Tariff Payment System: A consultation notice', NHS England.

Mossialos, E., A. Dixon, et al., Eds. (2002). Funding health care: options for Europe, Open University Press Maidenhead.

Muhlestein, D. (2015). Growth And Dispersion Of Accountable Care Organizations In 2015. HealthAffairs Blog.

Mukherji, S. K. and T. Fockler (2014). "Bundled payment." Journal of the American College of Radiology : JACR **11**(6): 566-571.

Nam, S. (2014). Capitation Anyone – Can Incentive-based Capitation Work? - See more at: <http://www.christenseninstitute.org/capitation-anyone-can-incentive-based-capitation-work/#sthash.BndtxQ7p.dpuf>, Clayton Christensen Institute of Disruptive Innovation

NHS\_European\_Office (2011). The search for low-cost integrated healthcare: The Alzira model – from the region of Valencia. The NHS European Office.

Nolte, E. (2012). National Evaluation of the Department of Health's Integrated Care Pilots, RAND.

Nolte, E., C. Knai, M. Hofmarcher, A. Conklin, A. Erler, A. Elissen, M. Flamm, B. Fullerton, A. Sonnichsen and H. J. Vrijhoef (2012). "Overcoming fragmentation in healthcare: chronic care in Austria, Germany and The Netherlands." Health Econ Policy Law **7**(1): 125-146.

Nolte, E. and E. Pitchforth (2014). What is the evidence on the economic impacts of integrated care?. The European Observatory on Health Systems and Policies.

NWL\_WSIC. (2015). "What is capitation and what are its alternatives?", from <http://integration.healthiernorthwestlondon.nhs.uk/section/what-is-capitation-and-what-are-its-alternatives->.

Olejaz M, Juul Nielsen A, Rudkjøbing A, Okkels Birk H, Krasnik A, Hernández-Quevedo C. Denmark: Health system review. Health Systems in Transition, 2012, 14(2):1 – 192.

Ovretveit, J., J. Hansson and M. Brommels (2010). "An integrated health and social care organisation in Sweden: creation and structure of a unique local public health and social care system." Health Policy **97**(2-3): 113-121.

Painter, M. W. (2012). Bundled payment across the US today: status of implementations and operational findings. Issue brief. Healthcare Incentives Improvement Institute, Newtown, Conn.

Paris, V., M. Devaux, et al. (2010). "Health systems institutional characteristics: A survey of 29 OECD Countries." OECD Health Working papers. **No 50**.

Penno, E., R. Gauld, et al. (2013). "How are population-based funding formulae for healthcare composed? A comparative analysis of seven models." BMC health services research **13**(1): 470.

Pham, H. H., M. Cohen and P. H. Conway (2014). "The Pioneer accountable care organization model: improving quality and lowering costs." JAMA **312**(16): 1635-1636.

Porter, M. E. (2009). "A strategy for healthcare reform--toward a value-based system." N Engl J Med **361**(2): 109-112.

Porter, M. E. (2010). "What is value in healthcare?" N Engl J Med **363**(26): 2477-2481.

Rapplee, E. (2015). The Next Generation ACO: Why CMS is offering higher risks, higher rewards. Becker's Hospital Review.

Refinement project (2013). The REFINEMENT Decision Support Toolkit Manual. APPENDIX.  
<http://www.refinementproject.eu/>

Reilly, S., C. Miranda-Castillo, R. Malouf, J. Hoe, S. Toot, D. Challis and M. Orrell (2015). "Case management approaches to home support for people with dementia." Cochrane Database Syst Rev **1**: CD008345.

Renders, C., G. Valk, S. Griffin, E. Wagner, J. van Eijk and W. Assendelft (2011). "Diabetes management in primary care, outpatient and community settings can be improved by interventions targeting health professionals, and organisational interventions that increase continuity of care." Cochrane Database Syst Rev.

Rice and Smith (2002). Strategic resource allocation and funding decisions. Funding healthcare: options for Europe. Mossialos, E., A. Dixon, et al. Open University Press Maidenhead.

Robertson, H. (2011). Integration of health and social care: A review of literature and models - Implications for Scotland. Royal College of Nursing, Scotland.

Robinson, J. C. (2001). "Theory and practice in the design of physician payment incentives." Milbank Q **79**(2): 149-177, III.

Robinson, J. C. (2010). "Applying value-based insurance design to high-cost health services." Health Affairs **29**(11): 2009-2016.

Robinson, R., E. Jakubowski and J. Figueras (2005). Purchasing to improve health systems performance. Maidenhead, England, Open University Press.

Rosen, R., et al. (2011). *Integration in action: four international case studies*. The Nuffield Trust, London.

Schneider, E. C., et al. (2011). *Payment reform: analysis of models and performance measurement implications*. Rand Corporation.

Scott, A., P. Sivey, D. Ait Ouakrim, L. Willenberg, L. Naccarella, J. Furler and D. Young (2011). "The effect of financial incentives on the quality of healthcare provided by primary care physicians." Cochrane Database Syst Rev(9): CD008451.

Sheaff, R., et al. (2010). "Network resilience in the face of health system reform." Social Science & Medicine **70**(5): 779-786.

Shortell, S. M., D. A. Anderson, R. R. Gillies, J. B. Mitchell and K. L. Morgan (1993). "Building integrated systems--the holographic organization." Healthc Forum J **36**(2): 20-26.

Smith, S. M., S. Allwright and T. O'Dowd (2007). "Effectiveness of shared care across the interface between primary and specialty care in chronic disease management." Cochrane Database Syst Rev(3): CD004910.

Smith, S. M., H. Soubhi, M. Fortin, C. Hudon and T. O'Dowd (2012). "Interventions for improving outcomes in patients with multimorbidity in primary care and community settings." Cochrane Database Syst Rev **4**: CD006560.

Stabile, M. and S. Thomson (2014). "The Changing Role of Government in Financing Healthcare: An International Perspective." Journal of Economic Literature **52**(2): 480-518.

Struijs, J. N. (2013). "Payment reform and integrated care: the need for evaluation." Int J Integr Care **13**: e056.

Styrborn, K. and M. Thorslund (1993). "'Bed-blockers': delayed discharge of hospital patients in a nationwide perspective in Sweden." Health Policy **26**(2): 155-170.

Tangen, S. (2005). "Demystifying productivity and performance." International Journal of Productivity and Performance Management **54**(1): 34-46.

Taroon, A., et al. (2010). *Payment reform. Policy brief*. The Heller School for Social Policy And Management, Brandeis University.

Timmins, N. and C. Ham (2013). *The quest for integrated health and social care: A case study in Canterbury, New Zealand*. The Kings Fund, London.

Tsiachristas, A., C. Dijkers, M. R. Boland and M. P. Rutten-van Mölken (2013). "Exploring payment schemes used to promote integrated chronic care in Europe." Health Policy **113**(3): 296-304.

UK Government (2010). Guidance to local areas in England on pooling and aligning budgets. Department for Communities and Local Government, London.

Valentijn, P. P., et al. (2013). "Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care." Int J Integr Care **13**.

Van de Ven, W. P., K. Beck, et al. (2003). "Risk adjustment and risk selection on the sickness fund insurance market in five European countries." Health Policy **65**(1): 75-98.

van Dijk, C. E., et al. (2013). "Moral Hazard And Supplier-Induced Demand: Empirical Evidence In General Practice." Health economics **22**(3): 340-352.

Van Herck, P., D. De Smedt, L. Annemans, R. Remmen, M. B. Rosenthal and W. Sermeus (2010). "Systematic review: effects, design choices, and context of pay-for-performance in healthcare." BMC Health Services Research **10**(1): 247.

VanLare, J. M. and P. H. Conway (2012). "Value-based purchasing—national programs to move from volume to value." New England Journal of Medicine **367**(4): 292-295.

Vikum, E., R. Johnsen and S. Krokstad (2013). "Social inequalities in patient experiences with general practice and in access to specialists: the population-based HUNT Study." BMC Health Serv Res **13**: 240.

Vårdanalys (2013). Statens styrning av vården och omsorgen med prestationsbaserad ersättning. Rapport 2013:8. Vårdanalys, Stockholm.

Weatherly, H., A. Mason, K. Wright and M. Goddard (2010). Financial integration across health and social care: evidence review. Centre for Health Economics and Centre for Reviews & Dissemination, University of York on behalf of the Scottish Government.

WHO (2000). The World health report: 2000: Health systems: improving performance, World Health Organization.

WHO (2004). Contracting for Health Services: Lessons from New Zealand. World Health Organization, Regional Office For The Western Pacific.

WHO (2008). Integrated health services - what and why? Technical Brief No.1.

WHO (2015). WHO global strategy on people-centred and integrated health services: interim report, World Health Organization.

Willem, A. and P. Gemmel (2013). "Do governance choices matter in health care networks?: an exploratory configuration study of health care networks." BMC Health Services Research **13**(1): 229.

Wranik, D. and M. Durier-Copp (2011). "Framework for the design of physician remuneration methods in primary health care." Social work in public health **26**(3): 231-259.



## Appendix A Expert survey questionnaire on current trends in financial arrangements towards integrated care

1a. Are there a policy or political ambition in your country towards developing integrated care models, whether nationally or in some specific settings?

1a. Response:

1b. if yes please describe the most important/major initiatives taken towards integrated care within and/or across health (and social) care providers:

1b. Response:

1c. Please describe which are the main obstacles, if any, in developing integrated care within and/or across health (and social) care providers in your country:

1c. Response:

2. To your experience do current financial arrangements in the health and social care system in your country hamper care integration in any way? If yes, please describe how and why, give examples:

2. Response:

3. To your experience do current financial arrangements in the health and social care system in your country support care integration in any way? If yes, please describe how and why, give examples:

3. Response:

4a. Have there been any changes to the financing arrangements (the financial organisation and/or payment mechanisms) in the healthcare system in your country overall, or in some settings, with the specific purpose of support integrated care during the last few years?

4a. Response:

4b. If yes, please describe:

4b. Response:

*(If no to question 4, go to question 6)*

5a. To your experience have the changes in financial arrangements described in question 4a had the intended effect in supporting care integration?

5a. Response:

5b. If yes, please describe how:

5b. Response:

5c. If no, please describe why not:

5c. Response:

6a. Have there been other changes in financial arrangement that to your experience have had an impact on care integration?

6a. Response:

6b. If yes, please describe:

6b. Response:

7a. To your knowledge, are there plans to implement any (further) changes to the financing arrangements (the financial organisation and/or payment mechanisms) in the healthcare system to foster integrated care in the next few years?

7a. Response:

7b. if yes please list and describe:

7b. Response:

## Appendix B Financial systems for healthcare in Germany

by Jörn Kiselev, Romana Pawlak and Ulrike Braeter

### Introduction

The financial system for healthcare in Germany is very complicated and fragmented. Hospital care, rehabilitation and ambulatory sector have each their own legal basis and accompanied financial system. One of the reasons for this is the federal structure of Germany in which federal states have both the right to pass own laws concerning healthcare as well as interpret and execute healthcare laws passed on by the federal government (1).

The national advisory council for the development in healthcare (Sachverständigenrat zur Begutachtung der Entwicklung im Gesundheitswesen, SVR), the largest and most interdisciplinary council for questions concerning the organization of healthcare, repeatedly demanded the integration of care systems in Germany (2,3). However, as can be seen, a full integration of health services has not been established up to now. Several process changes has been established in the healthcare system in Germany which aim at a better integration of health services, including models for chronic care, disease management programs, managed care and integrated care. However, most of these models were built to supplement the current healthcare system, not to replace or change it. Therefore, the aim of this report was first to look at the standard care system and its financial incentives; in a second step we looked at differences between the financial flows between standard care and integrated care. In this, we aimed at identifying factors from a financial perspective that had a positive or negative influence on the implementation and continuation of integrated care programs in Germany. These factors were finally compared to those identified to those found in a more general analysis in the different approaches in financing healthcare systems.

### Methods

We developed a search strategy based on three columns representing different research questions of our work (see Table B1). These were the organizational level of the healthcare (Healthcare in Germany in general), the healthcare form (hospital, rehabilitation or integrated care) as well as the different relevant aspects of our research. For each column, relevant search phrases in English and German language were built and combined to reflect different aspects of the German healthcare system and subsequently answer the research questions.

**Table B1 Development of search strategy**

Healthcare organizational level	Healthcare form	aspects
<ul style="list-style-type: none"> <li>• Healthcare Germany</li> <li>• Healthcare System Germany</li> </ul>	<ul style="list-style-type: none"> <li>• Hospital care Germany</li> <li>• Rehabilitation care Germany</li> <li>• Integrated Care Germany</li> </ul>	<ul style="list-style-type: none"> <li>• Legal basis</li> <li>• financing</li> <li>• Development</li> <li>• Geriatrics</li> <li>• OPS</li> <li>• DRG</li> <li>• Success factors</li> </ul>

In order to adequately analyse the healthcare system of Germany and its accompanying financial structure, we conducted a review of relevant publications, grey literature and web-based information resources. As the goal of this analysis was to generate an overview on different aspects of the financing system for healthcare and because of the diversity of the healthcare structures on the legal, organizational and financial level, we did not confine ourselves to scientific (“white paper”) literature, but included all kinds of findings based on our research strategy. Therefore, we used the following search engines for our search strategy: Google, Google Scholar, PubMed, Embase and SOWIPORT as well as data bases of the bpp (Bundeszentrale für politische Bildung, German Federal Agency for Civic Education) (4) and the National Health Report of the Robert Koch Institut (5).

## Results

### *Legal basis*

Healthcare in Germany is part of the so-called „Social Security System“. Other aspects of this system are retirement, unemployment, accidental and nursing care insurance. These insurances are obligate in Germany for most people; exceptions are children, whose healthcare costs are covered by the healthcare insurance of its parents, students, and some other exceptions, whose healthcare costs are covered by the health insurance companies (HIC) as well. Additionally, all self-employed persons and those with an income above a certain threshold can decide to be self-insured in private insurance companies. However, especially for self-employers and freelancers this can lead to being not insured at all. In 2011, 137.000 persons in Germany had no health insurance (6). The legal basis for this social security system are the 5<sup>th</sup> German Code of Social Law, especially §5 and 6 (7,8). This includes healthcare in hospitals, which are covered if no outpatient facility can provide the necessary treatment.

### *Hospital care*

Since 2003, hospital costs are covered by *Diagnosis Related Groups* (DRG). DRGs are encoding the main diagnosis of a patient based on the ICD-10 (9) based on a procedural key (Operationen- und Prozedurenschlüssel, OPS) (10). DRG provide payment as a fixed sum based on an assumed mean stay time of a patient with a certain main diagnosis, this payment can be further modified if specific additional diagnoses are present or in case of complications with an own DRG or OPS key. This payment system was developed to motivate hospitals to reduce the length of stay of patients.

In principle, hospital-based geriatric care is organized and paid the same way; however, some restrictions and deviations from the standard protocol do occur as certain minimum requirements have to be fulfilled in order to be paid according to the appendant DRG:

- All interventions have to be organized by a team under the leadership of a medical doctor with special knowledge in geriatrics.
- Comprehensive geriatric assessment during admission in at least 4 categories (mobility, independence, cognition, emotion)
- Reassessment before discharge in at least two of those categories
- Assessment of social aspects of the patient

- Regular team meetings of all health professions involved in the care of the patient
- Proper documentation of all interventions and team meetings
- All treatment options have to be derived from these documents.

As in 2014, 17 geriatric DRGs were listed. They include neurologic, pulmonary, cardiovascular and gastrointestinal diseases as well as problems of the joints and skeletal system, skin diseases, metabolic diseases, infections and psychic problems (11). Two additional geriatric DRGs are covering day clinic interventions for geriatric patients. These DRGs are not part of the standard payment system and have to be negotiated with the insurance companies on an individual basis.

OPS keys for geriatric care define the minimum length of stay of a geriatric patient (in contrast to the principle of mean stay time for all other DRGs and OPS procedures):

- 8-550.0
  - At least 7 days of treatment und 10 therapeutic sessions
- 8-550.1
  - At least 14 days of treatment und 20 therapeutic sessions
- 8-550.2
  - At least 21 days of treatment und 30 therapeutic sessions

All therapeutic sessions have to be at least 30 minutes and a maximum of 10% can be organized as group sessions.

The concept of complex geriatric care, as defined in the DRGs and OPS keys, aims to integrate early rehabilitation of older people into acute hospital care. In this, components of acute intervention should be held as low as possible in order to be able to prevent or lower care dependence through an intensive early rehabilitative intervention (12).

In order to be able to distinguish between complex geriatric care and standard rehabilitative care, the requirement of the complex intervention – defined by the DRG given to each patient – has to be verified for each day of the stay time of a geriatric patient. This can lead to specific problems. For example, a patient who is slightly over the required minimal stay time for a complex geriatric care OPS key can have discarded a few days where the need of the complex geriatric care cannot be clearly verified. For the hospital, this would lead to not being able to account for the complex geriatric care OPS and subsequently to an underpayment for this specific patient (12).

### ***Rehabilitative Care***

In contrast to the DRG-based payment system for hospitals, there is no special financial system for geriatric rehabilitation which differs from other rehabilitation financing concepts. So, the payment system is the same irrespective of the diagnosis or the condition of the patient.

The financial system for geriatric rehabilitation is dominated by the health insurance companies. Rehabilitation is requested by the rehabilitation center and approved by the discretion of the HIC for

a maximum of 20 days. The rehabilitation center will be paid for each day the patient stays. Additionally, the amount of money paid for each day is based on negotiations, mostly for one year. In this financing system, HICs can exercise pressure because they can both influence the market price for rehabilitation and the bed occupancy rate of the cooperating centres (13). Because of this, most payment rates are below the cost rate for rehabilitation services with an approximate rate of 75% (13). As a result, investments have to be delayed amounting to lower rehabilitation standards and higher economical pressure, leading possibly to a breakdown of the rehabilitation system in Germany despite its central and growing role in the overall healthcare system in Germany (13).

### ***Integrated Care***

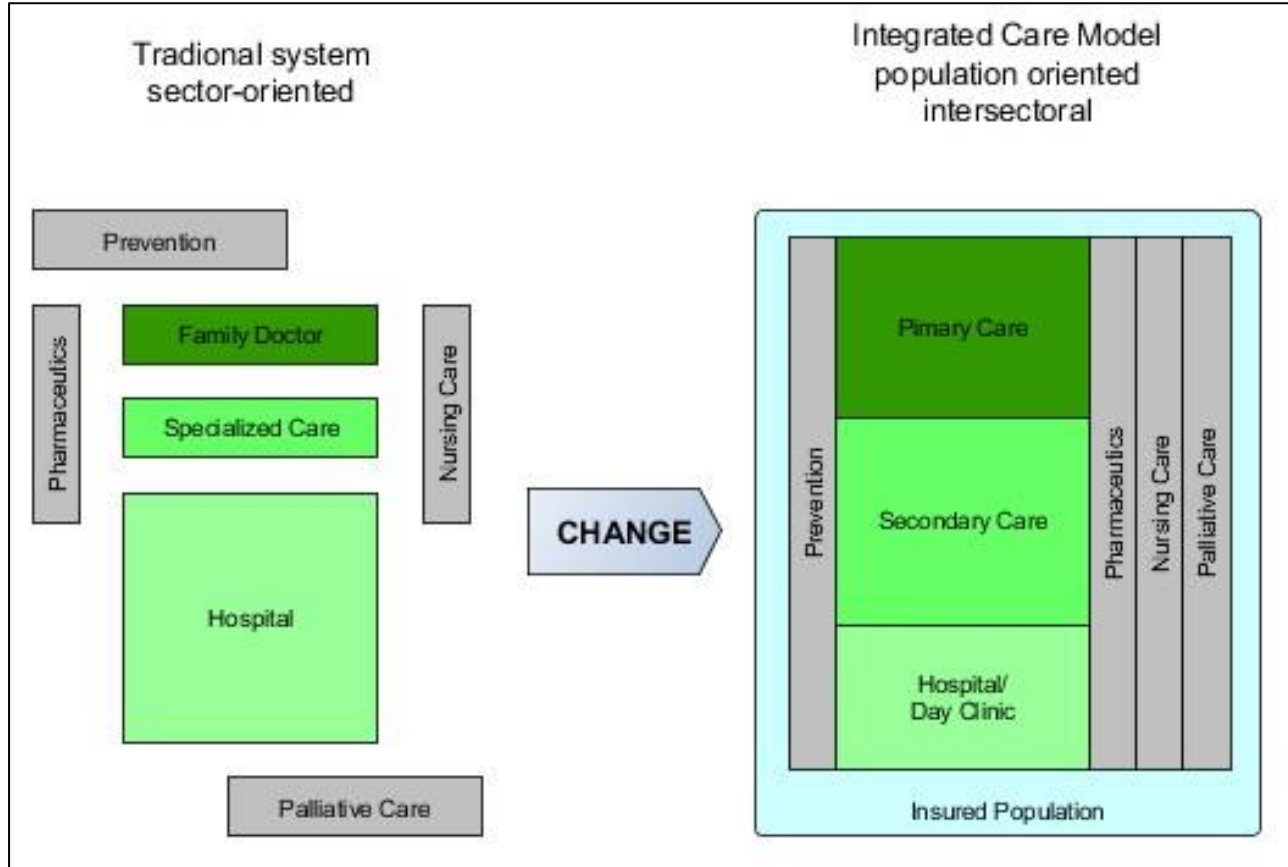
In Germany, healthcare is based on strong dividing lines between hospital, rehabilitation and ambulatory sectors. The location of the service provider is principally based on legal jurisdiction, leading to deficiencies in care coordination and continuity of care (14,15). As a consequence, since 1993 several legal changes have been established to enable the integration of care services (14).

The legal basis for integrated care in Germany is again the 5<sup>th</sup> German Code of Social Law. In §140a, contracts for intersectoral or interdisciplinary healthcare services are regulated, §140b specifies which service providers are eligible for contracting (16,17). These are medical doctors, hospital and nursing care providers as well as pharmaceutical and medical technology companies. Therapeutic professions are therefore eligible only as part of the aforementioned parties. Contracts are concluded between service providers and health insurance companies. Additionally, insured persons have to opt in into integrated care services via their respective HIC.

Often times, the term “integrated care” is used synonymously with other new forms of healthcare such as structured care programs, chronic care or disease management programs, although per definition, these programs are not integrated *per se*.

In a survey of the SVR in 2009, the council members concluded that healthcare should integrate family and specialized medicine, nursing and pharmaceutical care on an interdisciplinary and intersectoral basis and should be able to provide and coordinate services with preventive measures as well as with social services and patient organizations. A future model of healthcare is drawn as follows:

Figure B1 Transition from traditional too integrated healthcare.



Source: translated from SVR 2009 (18)

The situation in Germany is therefore confusing at best, with discussions centering on legal issues, organizational forms and financing. Findings on the effect of integrated care on different aspects of healthcare are limited to 2004 to 2008. In this time, a central register was evaluating all IC-contracts in Germany. In a final report, it could be shown that the number of contracts were rising constantly, from 1477 in 2005 to 6407 in 2008. However, in this period of time a financial assistance model were in effect to increase the number of participants and to compensate for the lack of experience for all partners which led to a higher financial risk. In an analysis of new contracts in 2007 and 2008, 60% of the contracts were providing an intersectoral healthcare and 62% an interdisciplinary healthcare. The percentage of nursing care providers accounted for 2%, data for the inclusion of therapeutic professions were not available (19). For the time since then, no central register for integrated care contracts or organizations do exist, as there is no general or comparative evaluation on its effectiveness. This includes any evaluation of contract forms and included health professions into the respective concept of integrated care.

In a survey in 2012, the SVR interviewed hospitals and health insurance companies on contracts based on the §140a-d. This survey showed that since the end of the financial assistance program for IC, the development was stagnant. In 2011, 6339 contracts were counted with 68% of them

providing intersectoral healthcare. Contracts involving nursing care were below 1%. Reasons given by the HICs for ceasing IC-contracts were mostly financial (end of financial assistance, high costs, long timeframe for amortization, increasing patient numbers) as well as perceived “low interest” and participation by the patients. At the same time, based on the answers given by the HICs, results on patient satisfaction were higher than expected in contrast to economic factors (19).

In 2010, 37.1% of all hospitals took part in some sort of IC with larger hospitals more often than smaller houses, mainly because of the financial insecurity associated with IC-contracting, administrative burdens, and no interest by the HICs to participate as partners. Ceasing existing contracts were mostly motivated by low numbers of participants and low payment (19). Additionally, while health insurance companies saw an improvement in quality of care (71.6%), most hospitals saw both standard and integrated care as equally well (69.2%). Fulfilled expectations were seen in only half of the participating hospitals (19).

Based on this analysis, the question remains, how integrated care can be organized in Germany in order to be successful on a broad basis. This includes further questions on patient expectations, patient satisfaction and quality of care, both from an organizational point of view and gaining the patients’ trust as participation in integrated care is a very important factor.

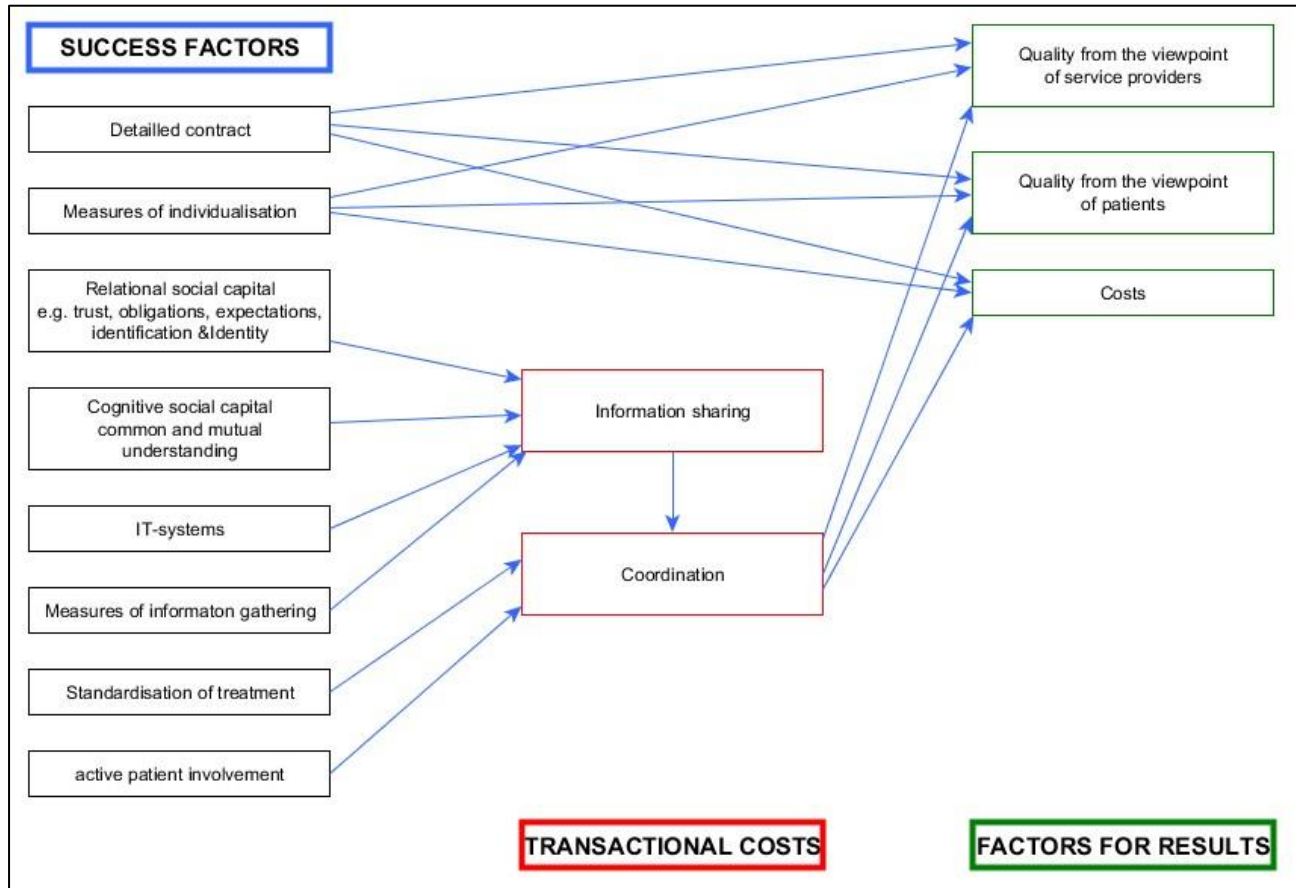
In a work by Franz (2009), important factors for successful implementation of integrated care were drawn<sup>24</sup>:

---

<sup>24</sup> Note that these factors are based on the German model of integrated care and its’ accompanied financing model. Therefore, this model cannot be assumed to be transferable to other healthcare settings within the EU.



Figure B2 Success factors for integrated care in Germany.



Source: Translated from Franz (2009) (20)

### ***Integrated Care and Geriatrics***

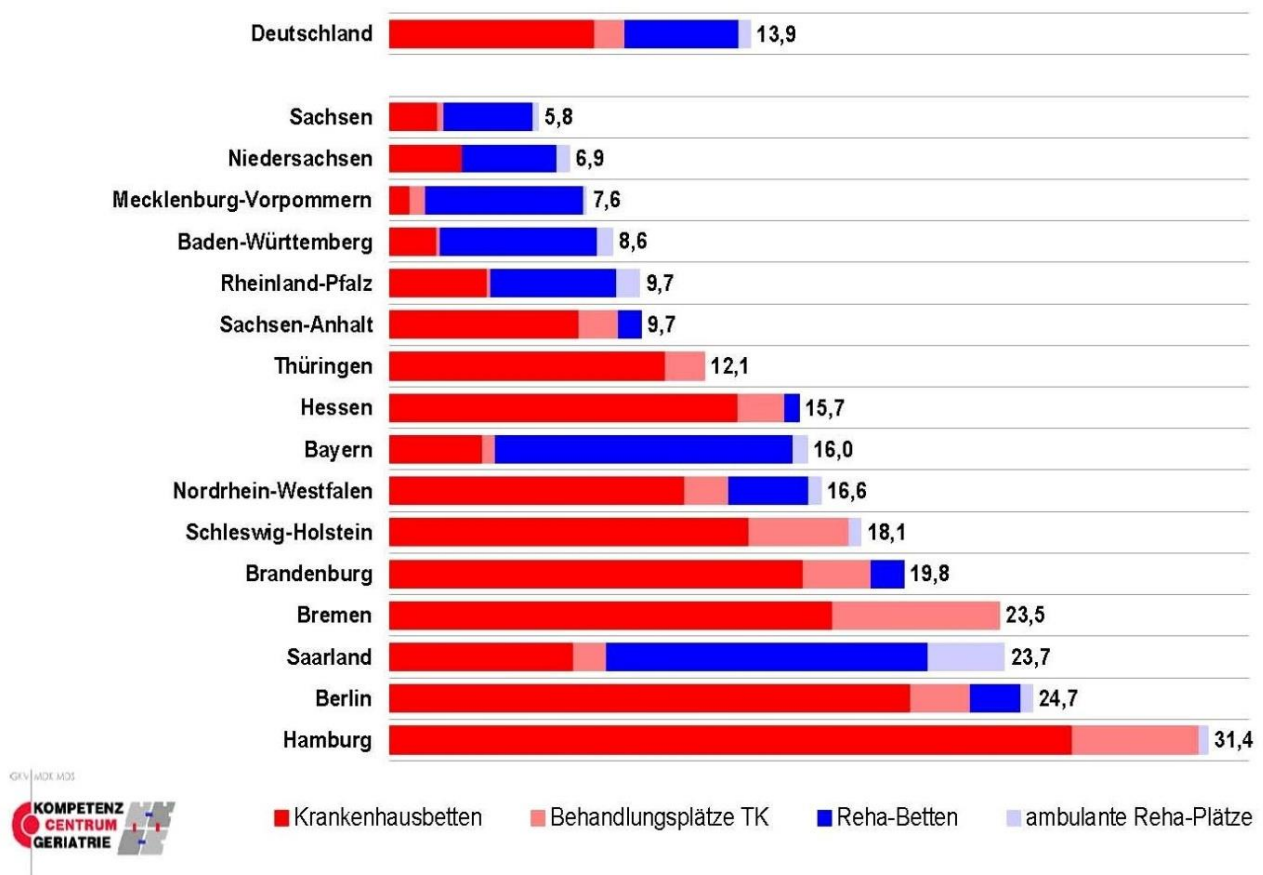
In contrast to geriatric care in hospitals, integrated care for geriatrics has no specific financial basis different from other integrated care models. In principle, care providers and HICs build a contract that specifies care provision and payment. Unfortunately, in existing publications geriatric care was not mentioned specifically, so an analysis of geriatric integrated care is not possible.

### ***Differences between federal states in Germany***

Different federal states within Germany have different strategies to implement geriatric care in their respective healthcare and hospital plan. Some federal states emphasize on the concept of rehabilitation while others have their focus on geriatric hospitals. Still others prefer a mixed model.

The distribution of rehabilitation, hospitals-based geriatric care and outpatient care are shown in the following graphic:

Figure B3 Geriatric Care places sorted by federal states of Germany (numbers per 10.000 inhabitants).



Red line shows hospital beds, pink line shows day clinic beds, blue line shows rehabilitation capacity in beds, grey shows outpatient capacity (13).

## Discussion

Our findings highlight the system of integrated care as it is implemented in Germany and its financial system. Additionally, we analysed the financing system of geriatric care in Germany, as it differs at least partly from the standard financing model for healthcare.

The system of integrated care in Germany is only partially successful. Based on our literature review, several reasons for this could be found which were identified as barriers for successful implantation of IC at least in Germany.

### Barrier 1:

The legal basis for the integration of care provided a framework on how IC could be arranged. This basis was built on two premises that resulted in two factors negatively influencing the effectiveness of IC. First, IC was defined as providing either multidisciplinary or intersectoral structures. While the phrasing of these laws left open the possibility to have a fully integrated care program, most existing programs did not. While it is not known if the consequences of this phrasing were deliberately accepted, it certainly opened the door for IC programs like those found in the majority of cases;

integrating only a very limited pathway of health service within a limited diagnostic spectrum. Second, the defined health professions who were able to initiate an IC program were limited and exclusive. For this reason, even within IC programs with a multidisciplinary approach were not incorporating all relevant health professions but were, for the most part, limited to integrating several MD-specialists. In contrary, nursing services and physical or occupational therapy were not explicitly mentioned in most of these programs.

These two premises resulted in a framework where a “true” integrated care (as defined in Project INTEGRATE) was not fostered; instead, it resulted in a new opportunity for the major players in the German healthcare system to strengthen their role while at the same time strengthening the role of health insurance companies.

#### *Barrier 2:*

The direct-contracting model for health insurance companies in Germany was introduced to enable HICs to organize healthcare in a more cost-effective way. The reason for this were the exploding costs in healthcare, regardless of sector (18). However, as can both be seen in the rehabilitation sector and in the development of integrated care in Germany, this constellation led to a double role for health insurance companies; both dictating contract matters and providing patients in existing contracts to the rehabilitation centres or the integrated care providers; respectively. Because of this total dependency from HICs, both healthcare providers had to accept non-profitable contracts (13). At least for integrated care, this led to a decline in contracts directly after an initial phase of financial assistance was ceased (19), while for the rehabilitation sector, this development has to be expected.

#### *Barrier 3:*

As could be seen, the implementation of integrated care in Germany was not so much driven by the desire of improving the quality of healthcare but more by the expectation of a more cost-effective way to deliver healthcare. This led to both HICs and IC providers to expect less costs and more economic efficiency. The survey conducted by the SCR in 2010 demonstrated that neither partner of the IC contracts were able to fulfil this expectation (19). At the same time, patient satisfaction in the participating hospitals was improved. The survey, however, revealed no data on the improvement of the quality of care, readmission rates, complication rates, mean time of stay and other relevant factors for the evaluation of the quality of care.

In any case, the assumption can be made that the developed legal framework for integrated care as well as the political and economic debate centred on the implementation of IC in Germany led to the conclusion that IC could be used as an instrument to reduce costs. Consequently, many IC-programs were stopped when this assumption was not fulfilled. Several studies from other European countries demonstrate that cost effectiveness in integrated care is both difficult to measure (21) and difficult to achieve (22–24). Therefore, setting economic values at the core centre of goals in implementing integrated care has to be questioned.

#### *Consequences and conclusion:*

While the identified barriers highlight the necessary prerequisites for a successful implementation of IC in general, the most important consequence from a financial standpoint is that, based on our experience and the evidence of published reports, IC is not primarily suited to reduce costs in a

hospital setting. While it is clearly possible that the implementation of IC lead to a more effective way of delivering healthcare, the additional effort necessary to integrate and coordinate health services are cost factors in itself, leading to – in a best case scenario – a more effective way to deliver healthcare while *not* spending more money. As IC is clearly able to improve the quality of care (15), it should be in the interest of the healthcare *system* to establish IC in order to improve quality of care and patient satisfaction, and to reduce hospitals stay days, readmission rates, complication rates and, as a consequence of these factors, costs.

As could be seen in the IC-programs in Germany, long-term benefits were not attractive enough to overcome the required short-term financial commitments in order to successfully implement an IC-program. Consequently, stakeholder and decision-maker on all levels should take both the organizational effort necessary and the financial obligations to successfully implement IC into account. At least in Germany, the failure to provide a long-term attractiveness resulted in a steep decline in IC-programs when initial financial assistance stopped. Depending on the financing system of the healthcare sector, this barrier can potentially unsurmountable for healthcare providers.

Because of this, the following recommendations for a successful implementation of IC in the healthcare system were derived from this analysis of the German healthcare sector and its' accompanied financing system:

1. IC has to be economically attractive. Therefore, financing systems in the healthcare sector should take into account not only direct costs for providing IC, but also additional costs deriving from the necessary process of change on the way from standard care to IC.
2. While economic effectiveness is a realistic long-term goal as a motivation for implementing IC, using IC as a tool to reduce costs is not. Because of this, incentive systems should a) not assume a cost reduction effect as a potential measure for success and b) should integrate factors like complication / readmission rates and other measurable related to quality of care in their incentive / financing system.

## References to Appendix B

1. TITRE - Gesundheitswesen-Deutschland und Frankreich.pdf [Internet]. [zitiert 1. April 2015]. Verfügbar unter: <http://www.euroinstitut.org/pdf/Download-Unterlagen/2007-Gesundheit-ohne-Grenzen/Gesundheitswesen-D-u-F.pdf>
2. Gutachten 2005 des Sachverständigenrates zur Begutachtung der Entwicklung im Gesundheitswesen. Koordination und Qualität im Gesundheitswesen.pdf [Internet]. [zitiert 7. April 2015]. Verfügbar unter: <http://dip21.bundestag.de/dip21/btd/15/056/1505670.pdf>
3. Gutachten 2007 des Sachverständigenrates zur Begutachtung der Entwicklung im Gesundheitswesen. Kooperation und Verantwortung – Voraussetzungen einer zielorientierten Gesundheitsversorgung .pdf [Internet]. [zitiert 7. April 2015]. Verfügbar unter: <http://dipbt.bundestag.de/dip21/btd/16/063/1606339.pdf>
4. Federal Agency for Civic Education | bpb [Internet]. [zitiert 23. April 2015]. Verfügbar unter: <http://www.bpb.de/die-bpb/138852/federal-agency-for-civic-education>
5. Ausgaben und Finanzierung des Gesundheitswesens [Internet]. [zitiert 23. April 2015]. Verfügbar unter: [https://www.gbe-bund.de/gbe10/abrechnung.prc\\_abr\\_test\\_logon?p\\_uid=gast&p\\_aid=0&p\\_knoten=FID&p\\_sprache=D&p\\_suchstring=12012](https://www.gbe-bund.de/gbe10/abrechnung.prc_abr_test_logon?p_uid=gast&p_aid=0&p_knoten=FID&p_sprache=D&p_suchstring=12012)
6. Weniger Menschen ohne Krankenversicherungsschutz [Internet]. [zitiert 6. März 2015]. Verfügbar unter: [https://www.destatis.de/DE/PresseService/Presse/Pressemitteilungen/2012/08/PD12\\_285\\_122pdf.pdf;jsessionid=B0BF2A3C43A64C83FE278965C77EF4A4.cae1?\\_\\_blob=publicationFile](https://www.destatis.de/DE/PresseService/Presse/Pressemitteilungen/2012/08/PD12_285_122pdf.pdf;jsessionid=B0BF2A3C43A64C83FE278965C77EF4A4.cae1?__blob=publicationFile)
7. SGB 5 - §5 Versicherungspflicht [Internet]. [zitiert 6. März 2015]. Verfügbar unter: [http://www.gesetze-im-internet.de/sgb\\_5/\\_5.html](http://www.gesetze-im-internet.de/sgb_5/_5.html)
8. SGB 5 - §6 Versicherungsfreiheit [Internet]. [zitiert 6. März 2015]. Verfügbar unter: [http://www.gesetze-im-internet.de/sgb\\_5/\\_6.html](http://www.gesetze-im-internet.de/sgb_5/_6.html)
9. ICD-10-GM-2015 ICD-10-GM-2015 ICD10 [Internet]. [zitiert 6. März 2015]. Verfügbar unter: <http://www.icd-code.de/icd/code/ICD-10-GM-2015.html>
10. DIMDI - OPS Operationen- und Prozedurenschlüssel [Internet]. [zitiert 6. März 2015]. Verfügbar unter: <https://www.dimdi.de/static/de/klassi/ops/index.htm>
11. Borchelt M. Online-Kodierleitfaden 2010: Geriatrie-DRG [Internet]. [zitiert 8. April 2015]. Verfügbar unter: <http://www.geriatrie-drg.de/dkger/main/geriatrie-drg-2010.html#tab4d2>
12. Geriatriekonzept Berlin 2010 - Arbeitskreis Klinische Geriatrie der Ärztekammer Berlin.pdf [Internet]. [zitiert 8. April 2015]. Verfügbar unter: [http://www.kcgeriatrie.de/downloads/gk\\_berlin.pdf](http://www.kcgeriatrie.de/downloads/gk_berlin.pdf)
13. Bundesverband Geriatrie e.V. Weißbuch Geriatrie; Die Versorgung geriatrischer Patienten: Strukturen und Bedarf - Status Quo und Weiterentwicklung Eine Analyse durch die GEBERA Gesellschaft für betriebswirtschaftliche Beratung mbH. 2., durchges. Aufl. Stuttgart: Kohlhammer; 2010. 324 p.
14. Rosenbrock R, Gerlinger T. Gesundheitspolitik: Eine systematische Einführung. Auflage: 3., vollst. überarb. Aufl. Bern: Verlag Hans Huber; 2014.
15. Wagner K, Lenz I. Erfolgreiche Wege in die Integrierte Versorgung: Eine betriebswirtschaftliche Analyse. Stuttgart: Kohlhammer; 2007. 344 p.

16. SGB 5 - §140a [Internet]. [zitiert 6. März 2015]. Verfügbar unter: [http://www.gesetze-im-internet.de/sgb\\_5/\\_140a.html](http://www.gesetze-im-internet.de/sgb_5/_140a.html)
17. SGB 5 - 140b [Internet]. [zitiert 6. März 2015]. Verfügbar unter: [http://www.gesetze-im-internet.de/sgb\\_5/\\_140b.html](http://www.gesetze-im-internet.de/sgb_5/_140b.html)
18. Sachverständigenrat zur Begutachtung der Entwicklung im Gesundheitswesen. Koordination und Integration - Gesundheitsversorgung in einer Gesellschaft des längeren Lebens: Sondergutachten 2009 des Sachverständigenrates zur Begutachtung der Entwicklung im Gesundheitswesen. 1. Aufl. Nomos; 2010. 530 p.
19. Entwicklung der integrierten Versorgung in der Bundesrepublik Deutschland 2004 - 2008 - bericht-140d.pdf [Internet]. [zitiert 9. März 2015]. Verfügbar unter: <http://www.bqs-register140d.de/dokumente/bericht-140d.pdf>
20. Franz S. Erfolgsfaktoren der Zusammenarbeit in der Integrierten Versorgung im Gesundheitswesen: Eine empirische Analyse. Auflage: 1., Aufl. Aachen: Shaker; 2008. 357 p.
21. Makai P, Looman W, Adang E, Melis R, Stolk E, Fabbricotti I. Cost-effectiveness of integrated care in frail elderly using the ICECAP-O and EQ-5D: does choice of instrument matter? *Eur J Health Econ HEPAC Health Econ Prev Care*. 24. April 2014;
22. Tummers JFMM, Schrijvers AJP, Visser-Meily JMA. Economic evidence on integrated care for stroke patients; a systematic review. *Int J Integr Care*. Oktober 2012;12:e193.
23. Van Gils RF, Bosmans JE, Boot CRL, Rustemeyer T, van Mechelen W, van der Valk PGM, u. a. Economic evaluation of an integrated care programme for patients with hand dermatitis. *Contact Dermatitis*. September 2013;69(3):144–52.
24. Pfeifer M, Hinz C, Lazarescu AD, Minne HW. [Evaluation and socio-economic relevance of an integrated osteoporosis healthcare network]. *Versicherungsmedizin Hrsg Von Verband Lebensversicher-Unternehm EV Verband Priv Krankenversicher EV*. 1. Dezember 2014;66(4):198–201.