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Abstract: The rising burden of chronic conditions has led several European countries to reform healthcare payment schemes. This paper aimed to explore the adoption and success of payment schemes that promote integration of chronic care in European countries. A literature review was used to identify European countries that employed pay-for-coordination (PFC), pay-for-performance (PFP), and bundled payment schemes. Existing evidence from the literature was supplemented with fifteen interviews with chronic care experts in these countries to obtain detailed information regarding the payment schemes, facilitators and barriers to their implementation, and their perceived success.

Austria, France, England, the Netherlands, and Germany have implemented payment schemes that were specifically designed to promote the integration of chronic care. Prominent factors facilitating implementation included stakeholder cooperation, adequate financial incentives for stakeholders, and flexible task allocation among different care provider disciplines. Common barriers to implementation included misaligned incentives across stakeholders and gaming. The implemented payment schemes targeted different stakeholders (e.g. individual caregivers, multidisciplinary organisations of caregivers, regions, insurers) in different countries depending on the structure and financing of each health care system. All payment reforms appeared to have changed the structure of chronic care delivery. PFC, as it was implemented in Austria, France and Germany, was perceived to be the most successful in increasing collaboration within and across healthcare sectors, whereas PFP, as it was implemented in England and France, was perceived most successful in improving other indicators of the quality of the care process. Interviewees stated that the impact of the payment reforms on healthcare expenditures remained questionable.

The success of a payment scheme depends on the details of the specific implementation in a particular country, but a combination of the schemes may overcome the barriers of each individual scheme.

Cover Letter

Health Policy

Editoral Office

7 June 2013

Submission of revised manuscript (HEAP-D-12-00616R2)

Dear Editor,

Thank you for giving us the opportunity to revise further our manuscript entitled ‘Exploring payment schemes used to promote integrated chronic care in Europe’. We found the review suggestions and comments very helpful to improve the focus of our paper. We would like to thank again reviewer 1 in particular for the very constructive comments and suggestions.

Enclosed, you can find a revised version of the paper, in which ‘track changes’ is used to mark the adjustments. You can also find a point-by-point reply explaining how exactly we have dealt with the comments of the editor and the reviewers.

The most important revisions include: deletion of text referring to the Global payment in Germany and the financial arrangements in Denmark (i.e. Denmark is not included in our analysis anymore as it did not introduce a provider payment scheme).

We hope that the revised paper incorporates adequately the recommendations of the reviewer and meets the expectations of the Editorial Board for publication.

Yours sincerely,

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Reply to the comments of the editor and reviewers

Ref.: Ms. No. HEAP-D-12-00616
Journal: Health Policy
Title: Exploring payment schemes used to promote integrated chronic care in Europe

Reply to the comments of the editor

Comment 1
Although you are right in pointing out that the risk-equalization mechanism takes into account whether patients are inscribed in a DMP, we believe that including this in the comparison with payment systems adds some confusion to the paper. We therefore suggest to drop this part of the paper (i.e. the entire discussion about global payment): p. 5, lines 23-30; section 4.1.4; section 4.2.4; section 4.3.4; etc.

Reply:
We have deleted all text regarding the global payment in Germany. In addition, we deleted the text related to the financial arrangements in Denmark. This is because the financial reforms towards integrated care in Denmark were not directly targeted to the remuneration of health care providers. After these deletions, the focus of the paper is solely on provider payment schemes (i.e. PFC, PFP, and bundled payment). Therefore, we think that the risk for confusion between payment schemes and financial arrangements is mitigated in the current manuscript.

Comment 2
In addition, we would suggest to drop on page 4, lines 8 to 24 (i.e. the discussion of traditional payment systems) as this content is generally known to the readership of Health Policy.
Reply:
We deleted the description of the traditional payments schemes. The first paragraph in Section 3 now reads: "Traditional healthcare payment schemes include salary, capitation, and FFS [2]. They are not specifically designed to stimulate integrated care or improve the quality of chronic care [5, 11] and therefore, they are unable to facilitate integration and high quality of chronic care [12]."

Reply to the comments of Reviewer 1.

General remarks:
The authors have put quite some effort into improving the paper. Literature is now adequately covered and structure and laguage have been improved. One major problem should be adressed. In the paper, the authors compare PROVIDER payments in integrated care to risk equalization/redistributive financial arrangements in Germany and Denmark respectively. This is a completely different matter. Either these two aspects are separated or the authors concentrate on provider payment alone, which is interesting enough in its own right.
Reply:
(same answer as before)

We have deleted all text regarding the global payment in Germany. In addition, we deleted the text related to the financial arrangements in Denmark. This is because the financial reforms towards integrated care in Denmark were not directly targeted to the remuneration of health care providers. After these deletions, the focus of the paper is solely on provider payment schemes (i.e. PFC, PFP, and bundled payment). Therefore, we think that the risk for confusion between payment schemes and financial arrangements is mitigated in the current manuscript.

Reply to the comments of Reviewer 3.

Comment:
p. 12, l. 10, resulting papers
Reply:
The word is changed from “resulted” to “resulting” as suggested

Comment:
p. 21, l. 1, chronically ill
Reply:
The word is changed from “chronic” to “chronically” as suggested

Comment:
p. 21, l. 7, there are certainly many more DMPs in Germany than mentioned, AOK alone offers more.
Reply:
We adjusted the text which now reads: “Initially, DMPs existed for breast cancer, diabetes, coronary heart disease, asthma, and COPD and extended to more disease areas [10].”

Comment:
p. 24, l. 4, wrong codes for English interviewees
Reply:
We corrected the interviewees codes.

Exploring payment schemes used to promote integrated chronic care in Europe

Authors: Apostolos Tsiachristas[1]*, Carolien Dikkers*, Melinde R.S. Boland, Maureen P.M.H. Rutten-van Mölken

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ABSTRACT

The rising burden of chronic conditions has led several European countries to reform healthcare payment schemes. This paper aimed to explore the adoption and success of payment schemes that promote integration of chronic care in European countries. A literature review was used to identify European countries that employed pay-for-coordination (PFC), pay-for-performance (PFP), and bundled payment schemes. Existing evidence from the literature was supplemented with fifteen interviews with chronic care experts in these countries to obtain detailed information regarding the payment schemes, facilitators and barriers to their implementation, and their perceived success.

Austria, France, England, the Netherlands, and Germany have implemented payment schemes that were specifically designed to promote the integration of chronic care. Prominent factors facilitating implementation included stakeholder cooperation, adequate financial incentives for stakeholders, and flexible task allocation among different care provider disciplines. Common barriers to implementation included misaligned incentives across stakeholders and gaming. The implemented payment schemes targeted different stakeholders (e.g. individual caregivers, multidisciplinary

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organisations of caregivers, regions, insurers) in different countries depending on the structure and financing of each health care system. All payment reforms appeared to have changed the structure of chronic care delivery. PFC, as it was implemented in Austria, France and Germany, was perceived to be the most successful in increasing collaboration within and across healthcare sectors, whereas PFP, as it was implemented in England and France, was perceived most successful in improving other indicators of the quality of the care process. Interviewees stated that the impact of the payment reforms on healthcare expenditures remained questionable.

The success of a payment scheme depends on the details of the specific implementation in a particular country, but a combination of the schemes may overcome the barriers of each individual scheme.

Key Words: Payment schemes, financial incentives, integrated care, chronic disease

ABSTRACT

The rising burden of chronic conditions has led several European countries to reform healthcare payment schemes. This paper aimed to explore the adoption and success of payment schemes that promote integration of chronic care in European countries. A literature review was used to identify European countries that employed pay-for-coordination (PFC), pay-for-performance (PFP), and bundled payment schemes. Existing evidence from the literature was supplemented with fifteen interviews with chronic care experts in these countries to obtain detailed information regarding the payment schemes, facilitators and barriers to their implementation, and their perceived success.

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The success of a payment scheme depends on the details of the specific implementation in a particular country, but a combination of the schemes may overcome the barriers of each individual scheme.

1. INTRODUCTION

Chronic conditions place a largely increasing economic burden on national healthcare budgets worldwide because of their rising incidence and prevalence [1].

Traditional healthcare payment schemes are designed for predominantly acute care settings and are therefore, restricted in their ability to tackle inefficiencies present in chronic care [2]. Tackling these inefficiencies could potentially reduce the increasing economic burden of chronic conditions [3].

Integrated chronic care refers to a “range of approaches deployed to increase coordination, cooperation, continuity, collaboration, and networking across different components of health service delivery” [4]. It puts the patient and his or her individual needs in the centre and organizes care around the patient, thereby seeking to reduce redundancies and fragmentation in healthcare delivery [5]. Specifically, integrated chronic care aims to: 1) improve quality of care delivery, 2) ensure professional adherence to disease specific protocols and guidelines, 3) reduce unnecessary hospital utilization by strengthening the primary care sector, 4) share financial responsibility with other stakeholders, and in the long term, 5) contain the increasing chronic care expenditure [2].

Several countries have experimented with innovative approaches to achieve integration of chronic care [3]. Wagner’s Chronic Care Model (CCM) is one of the most influential approaches and is based on the notion that productive interactions between stakeholders results in higher quality chronic care [6]. The CCM was used in many European countries to design and implement Disease Management Programs (DMPs) to achieve integration of chronic care [7]. DMPs are defined by the Disease Management Association of America as “a system of coordinated healthcare interventions and communications for populations with conditions in which patients self-care efforts are significant”. The success of DMPs is largely dependent on the financing context and payment mechanisms relevant to the various stakeholders involved, as they are not only influenced by their intrinsic motivation to provide good quality care but also by financial motives [8].

Payment schemes are key-factors in influencing stakeholder behavior, and can thus be used to stimulate their collaboration and steer healthcare delivery systems towards integration [5]. Therefore, several European countries have implemented different payment schemes in order to implement integrated healthcare delivery systems with regard to chronic care. However, there remains in the literature a lack of comprehensive information regarding which and how payment schemes have been implemented as well as about how the organizational structure, quality, and efficiency of chronic care was impacted as a result.

The aim of this paper is to provide an overview of payment schemes that have been implemented in Europe to promote integration of chronic care, highlight the facilitators and barriers to their implementation, and assess how stakeholders perceived their success.

2. METHODS

A literature review was conducted to identify payment schemes introduced to improve the integration of chronic care in European countries since 1997. We searched in Google Scholar and Pubmed for relevant published papers using combinations of the following keywords: “chronic care”, “financing”, “payment”, “integrated”, “coordinated”, and “disease management”. The references of the resulting papers were then scanned to find additional publications relevant to our study. For our initial selection of countries, we searched websites of governmental organizations and research institutes as well as in conference proceedings to collect additional information. Based on this information, we made the final selection of those countries that had implemented payment schemes to improve chronic care on a national level (policies on local or regional level were excluded). Payment schemes of interest excluded traditional caregiver payment schemes (e.g. fee-for-service (FFS), capitation, salary), which are not particularly targeted at disease management, coordination of healthcare delivery and ultimately integration of chronic care [2]. From the literature we obtained information about the implemented payment scheme(s) in each country, the financial incentives provided, the barriers and facilitators for their implementation, and their impact on chronic care delivery and expenditure.

To supplement the findings from the literature, we conducted telephone interviews in the countries of interest. Potential interviewees were experts in chronic care (payment schemes) and were identified from the literature (authorship), (non-) governmental agencies (contact persons), and conference programs (presenters). Literature was also used to develop a template for the interviews. The template incorporated elements previous studies have considered while investigating similar, related topics [3,9,10]. Interviewees had broad, first-hand knowledge of the payment schemes in question, and ranged in expertise including researchers, health insurers, and patient organizations. The interview template consisted of two consecutive parts. Part one consisted of semi-open questions addressing the policy aim, details pertaining to stakeholders and policy implementation, and changes and realizations since

implementation. Questions addressed the most relevant policy, and in some cases, multiple relevant policies. Part two consisted of statements relating to the success of implementation, effect on integration of care, effect on financing scheme, and policy evaluation. Response options for these statements had a five-point likert scale ranging from for example strongly disagree to strongly agree (Appendix 1). The interviews were held in English or Dutch, were transcribed in English, and were analyzed qualitatively.

3. PAYMENT SCHEMES FOR INTEGRATED CHRONIC CARE

Traditional healthcare payment schemes include salary, capitation, and FFS [2]. They are not specifically designed to stimulate integrated care or improve the quality of chronic care [5,11,12].

Providing adequate financial incentives is a key instrument in achieving the implementation of integrated chronic care [5], as they influence stakeholder behavior [6, 12]. Several countries have implemented alternative payment schemes with financial incentives that overcome the limitations of traditional payment schemes to promote integrated chronic care [2,12]. These payment schemes include: pay-for-coordination (PFC), pay-for-performance (PFP), and bundled payment. The theoretical foundations of these payment schemes are summarized in Table 1.

[Insert Table 1]

PFC consists of payments to one or more providers to coordinate care between certain care services [13,14]. It seeks to provide an incentive for the extra effort required by stakeholders to cooperate with one another, share organized, transparent information on healthcare delivery and health outcomes, often set to predefined standards. As a result, PFC is expected to control unnecessary utilization, promote provider integration as well as encourage continuity of care. Its implementation is considered as feasible with relatively little effort.

PFP is a direct payment to a health care provider for achieving defined and measurable goals related to improvements in the process and/or outcomes of chronic care delivery [14,15]. PFP seeks to improve the quality of care by generating additional compensation for caregivers that deliver high quality of care and comply with guidelines. Its implementation may be more or less demanding, depending on the level of ICT and the number and type of quality indicators. However, it weakly promotes integration between healthcare providers.

Bundled payment is a single payment for all multidisciplinary care required by a patient for one particular chronic disease during a predefined period of time [14,16,17]. It aims to control unnecessary health care utilization, encourage high quality of care, and promote integration between health care providers. Its implementation faces the challenge of defining the content of the care bundles and determining a price per bundle. Bundled payment provides a direct incentive to health care providers to increase their profit margin by reducing inefficiencies. It may be attractive to payers because they run relatively little financial risk.

4. RESULTS

From the literature review, five countries were identified as having implemented payment schemes to promote the integration of chronic care on a national level. These included Austria, England, France, Germany, and the Netherlands. Most payment schemes implemented in these countries were adaptations and a specific operationalization of the payment schemes described in the previous section. These adaptations were necessary because several of the payment schemes for integrated care were developed originally in the United States and had to be transferred to the European context. In many cases, the payment schemes were accompanied by restructuring of chronic care financing.

The next sections explore the implementation of various policies using PFC, PFP, and bundled payment schemes as a means to promote the integration of chronic care, including a description of the policies, when and by whom they were implemented, as well as which incentives they provide for various stakeholders (where applicable), their barriers and facilitators, and their perceived impact. The findings from literature and interviews are presented below together. The citation to each interview is given with the anonymous codes in brackets. A list of interviewees, their anonymous codes, and their profession is provided in Appendix 2.

4.1 *Introduced Payment Schemes*

PFC schemes were evident in Austria, France, and Germany, PFP in England and France, and bundled payment in the Netherlands. A summary of the financial incentives provided per payment scheme can be found in Table 2.

[Insert Table 2]

4.1.1 Pay-for-coordination

In Austria, the Health Reform Act of 2005 was implemented by the Ministry of Health to promote integration and coordination of care, improve efficiency, resource allocation and funding by pooling financial resources and promoting DMPs [18-19]. This reform created financial pools at state level by combining 1-2% of the budget of social health insurers with that of regional governments. These pooled funds were available for integrated care projects between primary and secondary care [20]. This was expected to overcome segmentation between the social health insurance scheme to fund outpatient care and the provincial health funds in inpatient care and to be economically beneficial for both schemes (A.B.). The 2005 health reform act also promoted DMPs, funded by social health insurance, targeting general practitioners (GPs) and promoting their engagement in the coordination of integrated care efforts. On a national level, a DMP has only been implemented for diabetes, incorporating guidelines for cardiovascular risk assessment [21]. This was accompanied by a PFC payment scheme as physicians received an initial premium (€53) upon patient enrolment in DMP and a quarterly payment (€25) to supplement the traditional FFS. GPs qualified for providing DMPs if they participated in a basic training regarding care coordination, and attended refreshment courses. Additional courses on patient education were optional, for which physicians would receive an additional remuneration (A.B.). In Austria, there is no choice of insurer or competition among health insurance funds, as insurance is mandatory and contingent on place of residence or employer [19].

In France, the Health Insurance Reform Act (2004) was an initiative targeting the primary care sector, promoting the expanded use of DMPs for 30 chronic diseases including diabetes, COPD, cardiovascular diseases, muscoskeletal diseases and certain cancers [10] (F.C.). Initiated as a negotiation between the social health insurance and the association of GPs (F.A.), the aim of this program was to improve quality of care, patient monitoring, promote continuous medical education to communicate common guidelines to care providers, alleviate financial burden associated with unnecessary procedures, and strengthen the role of the GP [4]. It was accompanied by a PFC payment scheme as GPs received supplemental €40 for care coordination [10] (F.A.). Patients benefited from waived co-payments, reduced waiting times as well as self-education and training programs. GPs were not obligated to engage in DMPs. While patients were free to supplement social health insurance with private health insurance, they are not free to choose the insurer within the social health insurance scheme (F.A.).

In Germany, the Risk Structure Compensation Reform Act was introduced in 2002. Under this scheme, health insurers received a fixed fee per patient per year for costs in primary and secondary care [22]. This compensation aimed on one hand to avoid cream-skimming from the insurers at the expense of chronically ill patients (G.B.) and on the other hand to promote DMPs, which were believed to improve quality of chronic care [20,23,24]. Initially, DMPs existed for breast cancer, diabetes, coronary heart disease, asthma, and COPD and these were extended to more disease areas [10]. Health care providers negotiated collectively for which conditions to provide DMPs and had uniform documentation forms for all patients independent of health insurer [23]. To recruit DMP participants, the insurer could reduce or waive patients' co-payments [24,25]. The remuneration was contingent on whether the services provided were in line with the disease specific DMP guidelines (G.C.) [26]. Concerning the PFC payment, the reform introduced financial incentives for health insurers and health care providers. Health insurers who enrolled chronically ill patients in DMPs were provided with €85 per patient per year and coordinating physicians received €75 per patient per year for coordination costs, including necessary documentation [10,25]. Providers also received additional payment for disease-specific education programs for registered patients. In 2009, when the participation in a DMP was no longer used as adjustor in the risk-equalization formula, health insurers received €180 per patient per year for coordination costs which was decreased by 2012 to €153 [27] (G.A.). In addition, health insurers could retain 1% of the ambulatory budget and 1% from the hospital budget and make them available for integrated care projects. As a result, health care providers had a strong incentive to develop integrated care projects (extending to primary and secondary care) because they risked losing a share of their budgets to competitors [28]. The Social Health Insurance-Competition Strengthening Act was implemented in 2007 to further strengthen and promote care integration [20,29]. It extended the one-percent start-up provision for integrated care contracts until 2008, moved to include long-term care in integrated care contracts, and allowed non-medical healthcare professionals to contract with insurers. Long term integrated care contracts shared the aim of DMPs, but differed in that they were funded partially by the aforementioned start-up provision. Furthermore, integrated care contracts focused on coordination between hospitals and rehabilitation practices, most often addressing orthopedic indications (i.e. hip and knee surgery) [29] (G.C.).

4.1.2 Pay-for-performance

In France, Contrats d'amelioration des pratiques individuelles[1] (CAPI) was launched as a voluntary pilot in 2009 and expanded in 2012 [30] (F.B.). CAPI were signed by GPs on voluntary basis for three years and provided addition remuneration on top of their FFS income. These contracts set a PFP payment scheme in which GPs were rewarded financially, not for specific disease treatments but rather for adequately registered patient records and for following evidence based guidelines. The number of performance indicators started at 16 and increased to 29 (F.C). GPs could possibly earn an additional €6,000 annually (30% of their base salary) when they achieved over 85% of the targets and treated more than 1200 patients [30].

In England, the Quality and Outcomes Framework (QOF) was introduced in 2004 [31]. The QOF offered PFP contracts to GPs, by which GPs were rewarded additionally based on 146 performance indicators within four domains; clinical standards, organizational standards, patient experience, and additional services [32,33,34]. This aimed to enhance the quality of primary care provided according to national guidelines, and its implementation was justified by the success of various quality-improvement initiatives that had been introduced since 1991 [31]. In 2006, adjustments were made to the system, altering minimum and maximum payment thresholds, dropping, modifying, and introducing new indicators [34]. In 2009/10, further adjustments were made, adding new indicators for heart failure, chronic kidney disease, depression, and diabetes, removing two indicators from the patient experience domain, and adjusting the point values of several indicators [33]. Initially, £1.8 billion was designated to reward GPs by a possible 25% salary increase, which was later increased to 30% [34]. Exception reports, through which GPs can decide to exclude patients from the calculation of certain irrelevant performance indicators, ensured a focus on relevant and appropriate targets [33-35]. Patients can use information, published by the NHS information center, to compare and choose a GP practice in which to enroll [34].

4.1.3 Bundled Payment

In the Netherlands, a bundled payment was piloted in 2007 with diabetes and expanded in 2010 to include COPD and cardiovascular disease management [35-38].

[1] Translated to Contracts for the Improvement of Individual Practice

The aim of these payment reforms was to improve coordination between providers, promote the use of DMPs, strengthen adherence to medical guidelines, and increase quality of patient records [38]. Under the new payment scheme, chronic care is coordinated by groups of providers (called care groups) that implement DMPs organized in integrated centers in primary care or in groups of cooperating general practices, paramedical care givers and/or hospitals [37]. Insurers negotiated with care groups a predefined fee (bundled payment) that covered all care needed by a patient with a particular chronic disease for a year (excluding inpatient care, medication, medical devices, and diagnostics). Then care groups negotiate with and subcontract individual care providers for the care delivery [38] (N.B.; N.A.). Negotiations generate significant price variations between care groups for a particular group of patients i.e. different prices for different diabetes DMPs, serving to promote competition-induced quality improvements, on the basis of, but not limited to, performance measures, which are described in national care standards [37,39] (N.B.). Insurers are free to choose whether they contract care groups based on the bundled payment system, or instead provide care groups only with an additional payment for the organization, coordination, and transparency of care, while continuing to reimburse individual providers on a FFS basis. Patients are free to choose their GP and can change insurance company annually, choosing the most relevant, but least costly package to suit their medical needs [38] (N.A., N.B.).

4.2 *Facilitators & Barriers, per payment scheme*

While each payment scheme was unique, they often experienced similar facilitators and barriers to their adoption and implementation. The most frequent facilitators were adequate financial incentives, flexible work roles (i.e. enabling nurses and GPs to share duties and responsibilities), and stakeholder cooperation, while the most frequent barriers were misaligned incentives across stakeholders (e.g. the FFS of a dietician is higher than the share of the bundled payment that they receive) and gaming (e.g. enrolling pre-diabetic patients in diabetes DMP). Table 3 provides an overview of facilitators and barriers per payment scheme, which are explained in the following sections.

[Insert Table 3]

4.2.1 Pay-for-coordination

The PFC scheme was facilitated by the: a) cooperation between health insurers and healthcare providers (Austria) (A.A.), b) cooperation between insurers and government (Germany) (G.B.), c) patient demand for integrated care services, as a result of the increased awareness about its benefits (Austria, France) (A.A.;F.C.) and d) adequate financial incentives for GPs to engage patients in DMPs (France) (F.C.).

However, the implementation of PFC initiatives experienced the following barriers. GP opposition in the implementation of PFC was evident because GPs a) feared restrictions in their medical autonomy due to evidence-based guidelines (Austria, Germany, France) (A.A.;A.B.;G.A.;F.C.;F.A.), b) rejected the notion of an education requirement to establish eligibility for DMP participation (Austria) (A.A.;A.B.), c) considered PFC less financially attractive than FFS as they could earn more from the latter payment scheme in the same consultation time per patient (Austria) [20] (A.A.; A.B.), and d) were not enthusiastic due to the additional administrative requirements associated with PFC (France) (F.A.). Moreover, misaligned incentives between health insurers and provinces in Austria (A.B.; A.A.) jeopardized the implementation of PFC.

Other barriers to PFC included the mislabeling of standard care procedures as integrated care to receive wrongly the PFC fee (Germany) (G.C.). Virtual budgets were a barrier in Austria because the decision to reallocate and merge a percentage of the GP and hospital budgets was left to the respective parties without providing a concrete incentive for them to do so (A.B.). Furthermore, inflexible task allocation between different providers (Austria) (A.B.) has also obscured the implementation of PFC schemes.

4.2.2 Pay-for-performance

The facilitation of PFP in England and France was attributed primarily to the strong financial incentives for GPs as they could increase their income by 30% (E.B.; F.C.). In England, the pre-existing strong collaborations in the primary sector facilitated administrative and documentation demands of the QOF [28,33] (E.B.). There is speculation in England as to whether physicians optimized their financial rewards by labeling failed targets as exception reports, but gaming in this sense is expected to be minimal, if evident at all [32] (E.B.). In addition, the definition of performance indicators was troublesome in England [32]. In France, there were no barriers identified in the

implementation and actual uptake of the recently introduced CAPI program [30] (F.A.; F.C.), probably because it was introduced only recently.

4.2.3 Bundled Payment

In the Netherlands, the bundled payment scheme was facilitated by a high level of commitment by policy makers, care providers, and health insurers as well as a flexible responsibility allocation and task delegation from GPs and specialists to nurse practitioners and GP assistants [38,39] (N.A.;N.B.). Barriers to the success of this scheme included: a) care groups referred costly patients unnecessarily to hospitals in order to protect their budget [39] (N.B.), b) lack of transparency in cost-pricing of bundled payments, stemming from underdeveloped IT systems and resulting in distrust between insurers and care groups, as insurers are sceptical about double payments (e.g. FFS and bundled payment) for the same care provision [36,39,40], and c) absence of a systematic way of addressing a patient with multi-morbidities [20,39].

4.3 *Perceived Impacts of Integrated Chronic Care Payment Schemes*

Table 4 provides an overview of the impact of integrated chronic care payment schemes implemented in Austria, France, England, the Netherlands, and Germany as perceived by the interviewees and supplemented with literature. In most cases, interviewees stated that the implementation of a payment scheme had a structural impact on the financing and process delivery of chronic care, while the perceived impact on decreasing the growth of chronic care expenditure was negative or sceptical at best. All but the PFC payment scheme in Germany were perceived as having introduced new budgetary constraints in the healthcare system. This implied that additional money was required by the healthcare system (without regarding or considering the possible return to investment) as a result of the payment scheme implementation. Detailed information regarding the perceived impacts of the various payment schemes is provided below.

[Insert Table 4]

4.3.1 Pay-for-coordination

The implementation of PFC was perceived by the interviewees as successful with relatively high uptake in Germany and France while in Austria, it was perceived more troublesome, as actors did not respond to the incentives with which they were provided. In Austria, the uptake of the DMP implementation was low because GPs considered the

imposed administrative burden high [20] as well as because care groups that applied for funding integrated programs between primary and secondary care were established prior to, and independently of, financial pools reform (A.A).

Moreover, as the interviewees stated, PFC resulted in change towards enabling an improved financing structure for chronic care (Germany, France) (G.A.; G.B.; G.C.; F.C.), increased provider cooperation (Austria, France) (A.A.:F.B), introduced new collaboration agreements between care sectors (Austria,) (A.A.), promoted integrated financing of different care sectors (Austria) (A.A.; A.B.), and introduced budgetary constraints (A.A.:F.B). In Germany, interviewees stated that PFC did not promote provider cooperation, collaboration agreements between care sectors, and integrated financing of different care sectors (G.A.; G.B.; G.C.). These failures were also reported in the literature [28,41]. The perceived impact of PFC on the growth of chronic care expenditure was doubtful in France and Germany while, it was considered to be negative in Austria (A.A.).

4.3.2 Pay-for-performance

The uptake of PFP was 100% in England [34], 30% during its infant stage in France (F.A.; F.C.), which climbed to 90% within 3 years (F.A.; F.B.; F.C.) [32]. According to the interviewees, PFP led to positive structural changes in chronic care financing and chronic care delivery (England, France), and increased provider cooperation within primary care (France). However, in both countries it was not designed to lead to new collaboration agreements or promote integrated financing between primary and secondary care (E.A.; E.B; F.A.;F.B.; F.C.).

4.3.3 Bundled Payment

In the Netherlands, the bundled payment scheme was perceived as having a positive structural impact on financing and process delivery of chronic care, increased provider cooperation within the primary care sector, and promoted the integration of financing of different care sectors (N.A.; N.B.). However, the interviewees stated that the bundled payment introduced new financial constraints in the health care system and failed to decrease the growth of health care expenditure up till now. It was also believed that it improved protocol adherence and record keeping, and promoted competition between care health care providers, [38,40] (N.A.; N.B.). According to the interviewees,

the impact on new collaboration agreements between care sectors remained inconclusive.

5. DISCUSSION

After providing an overview of payment schemes introduced in Austria, France, Germany, England, and the Netherlands, several discussion points come to light. First and foremost is that is some countries, the payment reforms were accompanied by financial arrangements targeting different stakeholders. PFC was introduced together with the financial pooling in Austria and the risk structure compensation in Germany, provided financial incentives and means to financial poolers and payers. On the other hand, the implementation of PFP in France and England targeted the financial reward of primary care physicians only. In the Netherlands however, the implementation of bundled payment provided financial incentives to health insurers and health care providers. These differences imply that reforming payment schemes in chronic care depends strongly on the structure of a health care system. Therefore, financial incentives targeted to key stakeholders may enable the successful implementation of payment reforms.

Furthermore, amongst the countries explored, with the exception of England, PFC was originally implemented as the primary mechanism to achieve integration. Explicit integrated care programs, most commonly DMPs, are particularly appealing as they are specifically outlining and incentivizing responsibilities per stakeholder. GP opposition was a barrier to implementing PFC in Austria and France. This opposition was largely attributable to concerns about reduced medical autonomy, and increased educational and administrative requirements rather than the means of financing. Eventually, a clear-cut link between responsibility and reward appeared to mobilize stakeholders towards implementation. As a result, collaboration was stimulated between providers and across care sectors. This collaboration is necessary in achieving integrated chronic care delivery systems [10]. Considering that PFC was limited to increased collaboration, it becomes apparent that the addition or combination with other payment schemes would be more successful in attaining additional policy goals, such as reduced growth of chronic care expenditure.

Other combinations of payment schemes could include PFP with bundled payment, such that the amount of the case-mix payment fluctuates partially according to performance indicators. This combination might enhance quality of care by providing

strong financial incentives to payers and/or health care providers. In the Netherlands, there is such an implicit combination, as performance indicators are taken into account when health insurers and care groups negotiate about the prices of the bundled care packages [34]. However, the use of performance indicators is limited without a concrete agreement on how exactly they determine the bundled payment [37,40].

The introduction of performance indicators in payment schemes must be encouraged cautiously because they might reduce the intrinsic motivation of health care providers to provide the utmost quality of care. Shortcuts and pitfalls of the PFP system are continuously being evaluated in England, and the indicators reconsidered to optimize desired results [42,43]. This reconsideration is currently manifesting itself as a gradual shift from process indicators to including and expanding relevant outcome indicators.

The suspicion of gaming and evidence of misaligned incentives in all payment schemes suggests a vulnerability of the healthcare system. As healthcare budgets become rigid and stakeholders are increasingly responsible for their individual budget, it is inevitable that gaming might occur to secure and protect these budgets. Therefore, it is interesting to consider shared-savings schemes for aligning stakeholders to enhance integration of chronic care. There are many examples of shared-savings programs in the U.S. [14] to provide European decision makers with inspiration and experience towards experimenting with such schemes. In the Netherlands, there are currently pilots of payment schemes that incorporate shared-savings set-up by health insurers and health care providers in primary and secondary care [40]. However, they are still in an infant phase and no evidence about their impact is available.

The strengths of this study include the combination of literature and expert opinion to provide an overview of payment schemes implemented in European countries, explore the facilitators and barriers to their implementation, and discuss their perceived impact. However, it has several limitations. First, it includes a limited number of interviewees that precludes the generalizability of the findings regarding the perceived impact of each payment scheme. However, the interviewees were predominantly well-known researchers with hands-on experience with DMPs on European level. This could mitigate any biases in their perceptions about the impact of the payment schemes. Second, it discusses only the payment schemes strictly related to integrated chronic care, as other policies or the wider health care system in each country are not investigated. We acknowledge the relevance of these aspects to fully understand a payment scheme but such complicated issues cannot be addressed in the scope of this

explorative paper. Our overview can be the base for further in-depth investigation of each payment scheme in each country. Third, all interviewees stated that the payment schemes had a structural impact on chronic care financing but their opinions did not converge about the decrease of healthcare expenditure growth after implementation. Therefore, we cannot draw a consistent conclusion on this issue from our results presenting a limitation of the qualitative character of this study. We are currently conducting quantitative research that focuses on the impact of the introduced payment schemes on health care expenditure.

6. CONCLUSIONS

Payment schemes are valuable tools in stimulating the integration of chronic care delivery. The development of such payment schemes in Europe targeted those stakeholders who were expected to adjust their behavior, and provided them with adequate financial incentives. All payment reforms appeared to have changed the structure of chronic care delivery. PFC, as it was implemented in Austria, France and Germany, was perceived to be the most successful in increasing collaboration within and across healthcare sectors, whereas PFP, as it was implemented in England and France, was perceived most successful in improving other indicators of the quality of the care process. Interviewees stated that the impact of the payment reforms on healthcare expenditures remained questionable.

Our findings suggest that initiating collaborations in chronic care can be stimulated with PFC payments and further integration of care can be facilitated by adding other payment schemes such as bundled payments. Elements of performance based payments are definitely important for stimulating competition and improving quality of care. Other payment agreements, such as shared savings, should also be considered to overcome gaming and misaligned incentives between stakeholders. All this information can help decision makers to further improve the (re)design of payment schemes in Europe towards a blended payment scheme that facilitates integration of chronic care.

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Table

Table 1: Theoretical foundations of payment schemes that facilitate integration of care

	Increasing aggregation of services into a unit of payment		
	Pay-for-coordination	**Pay-for-performance (physician)**	**Bundled Payment**
Description	Payments to providers providing care coordination services that integrate care between providers	Physicians receive differential payments for meeting or missing performance benchmarks	A single "bundled" payment, which may include multiple providers in multiple care settings, is made for services delivered during an episode of care related to medical condition or procedure.
Attributes			
Population			
Episode of care		√	√
Multiple types of delivery organizations			√
Fee for newly specified services	√		
Objectives			
Control unnecessary utilization	√√		√√
Encourage high quality	√	√√	√√
Promote provider integration	√√	√	√√
Operational feasibility	√√	√√	√√
Financial Incentives			
Patient level			
Provider Level	Payment for support services not covered under a FFS or capitation	Higher payment when goals are achieved	Increase profit margin by reducing inefficiencies
Payer Level	Avoidance of unnecessary and/or inefficient care (e.g. double payment for same treatment)		Limits financial exposure

Based on: Mechanic and Altman 2009; Schneider et al., 2011; adjusted by the authors; Note: PFC and PFP have the same aggregation level of services into a unit of payment

Table

Table 2: Financial incentives for integrating chronic care in each country

	Patient Level	Provider Level	Pooler/Payer Level
Austria		• €53 initial + €25 quarterly per patient enrolled in DMP	• 1-2% of the combined existing budgets across sectors to be designated for integrated chronic care projects
France	• Reduced copayment if patient enrols in DMP	• €40 annual per patient enrolled in DMP (PFC) • 0% to 30% annual bonus (PFP)	
England		• 0% to 30% annual bonus (PFP)	
The Netherlands		• Price negotiated between insurer and care group (bundled); Performance is a factor in price negotiations	
Germany	• Reduced copayment if patient enrols in DMP • Additional services (e.g. self-management education) only reimbursable if patients participate in DMPs	• €75 per patient per year for coordination costs (PFC) • Additional remuneration for disease specific education programs provided within a DMP • 1% of ambulatory budget and 1% of hospital budget was earmarked for integrated care projects	• €153 annual per patient enrolled in DMP for coordination costs (PFC) • Remuneration for enrolling chronically ill based on morbidity and mortality indicators

PFC: pay-for-coordination; PFP: pay-for-performance; DMP: disease management program

Table

Table 3: Overview of facilitators and barriers per payment scheme

	Facilitators	Barriers
Pay-for-coordination	• Stakeholder cooperation (AUS, GER) • Patient Demand (AUS, FRA) • Adequate financial incentive for GPs (FRA)	• Gaming (GER) • Misaligned incentives between stakeholders (AUS) • GP Opposition (AUS,GER, FRA) • Virtual budget (AUS) • Inflexible task allocation (AUS)
Pay-for-performance	• Adequate financial incentive for GPs (ENG, FR)	• Gaming (ENG) • Defining performance indicators (ENG)
Bundled Payment	• Stakeholder cooperation (NL) • Flexible task allocation (NL)	• Gaming (NL) • Lack of transparency (NL) • Lack of comprehensive means to address multi-morbidity (NL)

AUS=Austria; ENG=England, FR=France; GER=Germany; NL=the Netherlands

Table

Table 4: Perceived effects of integrated chronic care payment schemes

	PFC			PFP		Bundled
	AUS	FR	GER	ENG	FR	NL
Structural impact on financing and process delivery of chronic care	-	+	++	+	+	++
Increased provider cooperation within a care sector	+	+	-	?	+	+
New collaboration agreements between care sectors	+	?	-	-	-	?
Promotes integrated financing of different care sectors	+	?	-	-	-	+
Introduced new budgetary constraints on healthcare system	+	+	-	++	?	+
Decreased growth of chronic care expenditure	-	?	?	?	?	-

PFC= pay-for-coordination, PFP=pay-for-performance, AUS=Austria, ENG = England, FR =France, GER=Germany, NL=the Netherlands; A composite of interview responses was formed to characterise each payment scheme, per country, as follows: ++ =strongly agree; +=agree; ?=N/A or unknown; - = disagree; -- = strongly disagree

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