

Toward greater integration of care and improved efficiency

A critical review of EHIF's payment system

World Bank Group

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Acronyms and abbreviations

ACE	Acute Care Episodes
ACO	Accountable Care Organizations
BPTs	Best Practice Tariffs
CABG	Coronary Artery Bypass Graft Surgery
COPD	Chronic Obstructive Pulmonary Disease
DRG	Diagnosis-Related Groups
EHIF	Estonian Health Insurance Fund
EMRs	Electronic Medical Records
ENMR	Experimentation of New Modes of Remuneration
FFS	Fee-For-Service
HNDP	Hospital Network Development Plan
IHTSDO	International Health Terminology Standards Development Organization
MOSA	Ministry of Social Affairs
NOMESCO	Nordic Medico-Statistical Committee
P4P	Pay-for-Performance
PBP	Population-Based Payments
PFC	Pay-for-Coordination
PLICS	Patient-level Information and Costing Systems
QBS	Quality Bonus Scheme
SNOMED-CT	Systematic Nomenclature of Medicine – Clinical Terms

Executive summary

Although Estonia's health care system performs well compared to other European countries, some fine-tuning, if not deeper reforms are necessary to tackle the rapidly growing NCD burden fueled by population ageing. The rise in NCDs combined with technological advances are also driving increases in expenditures, while the shrinking working-age population results in decreasing revenues for health care, both of which threaten the financial sustainability of Estonia's social health insurance system.

Innovations in service delivery are needed to adequately meet the changing needs of the ageing population, most importantly to improve care integration – that is, to ensure that (i) services are delivered in the appropriate care setting, and (ii) there is adequate coordination of care within and between care settings. Hence, ongoing sector reforms aim at strengthening and increasingly shifting service delivery to primary care, while improving efficiency in other parts of the health care system. Current reforms include investing in infrastructure, creating incentives to encourage the formation of group practices, developing e-health applications, and implementing a pilot for risk-stratified, enhanced care management. Complementing these reform initiatives, EHIF requested the World Bank to carry out a review of its payment system and identify options for refinement in line with sector objectives. Specifically, it requested the Bank to identify reforms that will help improve the quality of prevention and increase the scope, access and coordination role of primary care, while reducing unnecessary outpatient specialist and acute inpatient care.

This report presents the findings of the World Bank review, which assesses the two main components of EHIF's payment system. These include provider payment methods, or the ways in which resources are transferred from the payer to providers (e.g. capitation, fee-for-service, diagnosis-related groups, etc.), and key payment system functions that are necessary for the adequate design and application of payment methods (i.e. classifying counting, costing, pricing and monitoring). Reform options are specified for the both the short term (12-18 months) and medium term (18-36 months). The report also discusses emerging payment innovations for consideration in the long-term (i.e. bundled and population-based payment) and some cross-cutting issues (i.e. provider monitoring and risk adjustments).

In the short-term, the report presents options for refining payment methods in primary care, outpatient specialist care and acute inpatient and day care. In primary care, options to refine the payment methods focus on promoting improvements in the quality of prevention, and increases in the scope and geographical access of care. The specific options include: enhancing the family physician's quality bonus scheme (QBS) arrangements, strategically expanding FFS lists and enhancing compensation of care in rural areas. In outpatient specialist care, the proposed option aims to reduce unnecessary visits. The option involves refining reimbursement rates based on service volumes. In acute inpatient and day care, the options seek to reduce unnecessary admissions, while increasing the efficiency of admission-to-discharge care. They include: refining the reimbursement rates linked to service volumes and moving to a 100% DRG reimbursement rate.

In the medium term, further refinements to payment methods for primary care, outpatient specialist and acute inpatient and day care are suggested. In primary care, the suggested changes to the payment methods continue to focus on improving the scope and quality of primary care, while also strengthening primary care's coordination role with other care settings and sectors. Specific options include: enhancing the QBS indicators, creating incentives for joining and adjusting traditional payment methods for group practices, and introducing a payment for enhanced care management and coordination. In outpatient specialist and emergency care, the options focus again on reducing incentives for unnecessary visits. The options include: reducing volume caps, increasing copays for outpatient specialist visits that do not require referrals and emergency care visits during family physician office hours, and raising fees for "no shows". In acute inpatient and day care, the suggested changes continue to focus on reducing unnecessary admissions and increasing the efficiency of acute inpatient and day care episodes. The options include: reducing volume caps and improving alignment of DRG payments with clinical guidelines.

For consideration for the long term, the report summarizes the current evidence base on emerging payment methods that span across care settings to promote greater efficiency and coordination of care. These include bundled payments and population-based payments, which are currently being tested in many OECD countries. While the evidence base is still limited, EHIF should monitor progress in this area as it moves forward with other reforms. Furthermore, the report highlights two cross-cutting issues which are critical to the success of the payment method reforms recommended in this report: risk adjustment and quality monitoring. Both activities are necessary to limit any unintended consequences of the suggested modifications to the payment methods, and thus the effectiveness of their impacts on provider behaviors.

The options for strengthening the key payment system functions in the short and medium terms seek to improve the payment system's accountability for results, the accuracy and consistency of information as well as the alignment of financial incentives with sector objectives. In the short term, the review's proposed option aims to strengthen the EHIF's accountability for making progress on the achievement of health sector reform goals. This option involves strengthening EHIF's performance monitoring framework. In the medium term, the review proposes several options to increase the accuracy and consistency of information collected on health services delivered (including variations in costs) and enhance alignment of price signals with sector objectives. The options include: expanding the use of SNOMED CT as a classifying system, strengthening quality assurance of counting practices, moving to a patient-level costing approach and improving price negotiations with stakeholders. While the recommended refinements to the payment methods may be implemented independently of improvements to the payment functions, investing in these improvements will eventually help strengthen the effectiveness of the payment system in achieving health sector objectives.

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1. Introduction

This report reviews Estonia's payment system for health care and proposes options for improvement in the short and medium terms. It responds to the request of the Estonian Health Insurance Fund (EHIF) to identify options to strengthen the payment system in line with its strategic objectives and broader health sector reform goals. It is a cornerstone of the Estonia Health RAS 2.

The report draws on reviews of organizational documents, legislation and previous analyses as well as interviews conducted with key stakeholders in Estonia including EHIF staff and leaders in family medicine. In addition, it draws on the literature on strengthening payment systems primarily in OECD countries and discussions with health financing and payment system experts.

The structure of the report is as follows: Section 2 provides an overview of Estonia's health system context; section 3 outlines the analytical framework used to assess the Estonian payment system; section 4 presents the review's main findings including the current status of the payment system's key methods and functions as well as options for improvement; and section 5 concludes with a few endnotes.

2. Health system context

Before identifying options to strengthen Estonia's payment system, the following section provides a brief overview of the health system's organization and performance anticipated challenges and current reform objectives to address these challenges.

The Estonian health system has been hailed for achieving good outcomes at low costs. Estonia attains health outcomes at levels similar to EU averages (Table 1). For example, life expectancy at birth is close to the EU average (77.5 versus 80.9 years in 2014), while the under-5 child mortality rate is slightly lower (3.4 versus 4.4 per 1000 live births in 2014). Despite these similar outcome levels, Estonia spends significantly less than the EU average on health (6.4 percent versus 10.1 percent of GDP in 2014). The dominant source of health financing is public, constituting approximately 76 percent of total health expenditures in 2015 (Figure 1). The second largest remaining source of financing is out-of-pocket (OOP) expenditures, comprising approximately 23 percent of total health expenditures. While this share indicates that the financing system provides decent financial protection for households, it nevertheless exceeds the WHO's recommendation of a 20 percent OOP share. These out-of-pocket expenditures are concentrated on co-payments for medicines, especially among the poor, and dental care among the wealthy.

Table 1: Estonia's health outcomes compared to the EU (2011 and 2014)

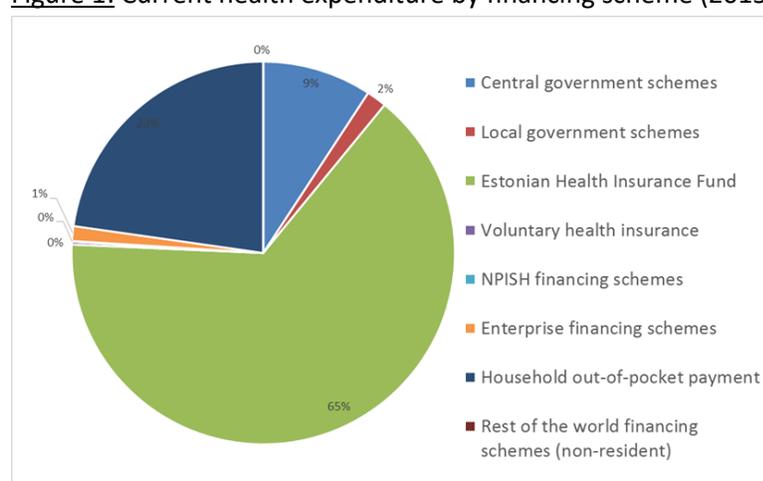
Health outcome indicator	Estonia		EU	
	2011	2014	2011	2014
Life expectancy at birth (total) / years	76.6	77.5	80.3	80.9
Life expectancy at birth (female) / years	81.4	82.1	83.2	83.6
Life expectancy at birth (male) / years	71.3	72.4	77.4	78.1
Child mortality / per 1,000 live births	3.1	3.4	4.8	4.4

Source: European Health for All Database, 2014

Despite the health system's strong performance, there is a consensus among stakeholders that some fine-tuning, if not deeper reforms are necessary to tackle the rapidly growing NCD burden fueled by population ageing. The burden of NCDs in Estonia has been growing constantly, and accounts for more than 80% of the total disability adjusted life years (DALYs) (Institute for Health Metrics and Evaluation, 2014). This trend has been largely driven by population ageing due to falling avoidable pre-mature mortality and increases in life expectancy. In 2016, approximately 19 percent of Estonia's population were aged over 65 years. This share of the elderly is expected to comprise nearly a quarter of the population by 2030, and 30 percent by 2060 (Eurostat 2016).

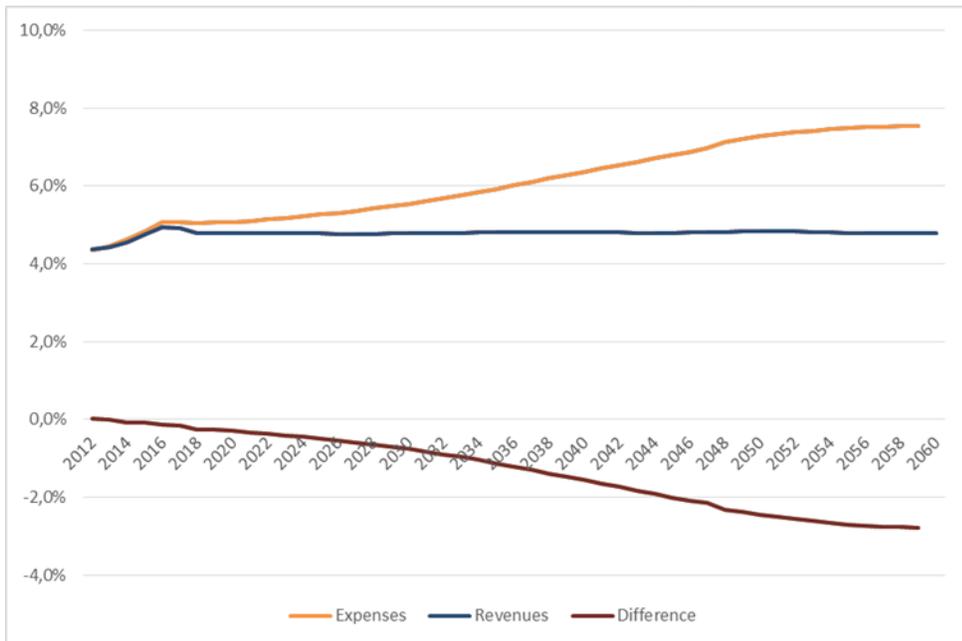
The rise in NCDs driven by population ageing, combined with factors such as technological advances in health care (e.g. the development of new procedures to identify diseases, new treatments for previously untreatable conditions, etc.), are also expected to significantly increase health care expenditures. Meanwhile, the shrinking working-age population results in decreasing revenues for the national, mandatory health insurance scheme administered by EHIF, which has historically primarily relied on earnings-based contributions (Figure 1). EHIF has been running a structural deficit of about 0.2 percent since 2012 (Figure 2) and drawing on net assets, which will run out in 2020 (Figure 3).

Figure 1: Current health expenditure by financing scheme (2015)



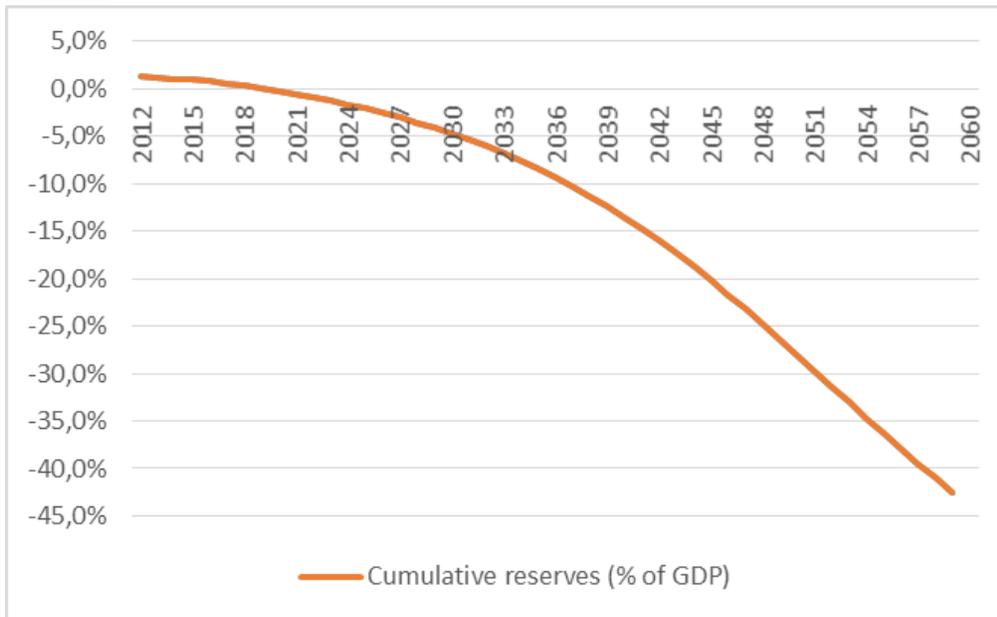
Source: Health Statistics and Health Research Database, 2015

Figure 2. Estonian Health Insurance Fund revenues and expenses on health in 2012 -2060 (% of GDP)



Source: EHIF, 2016a

Figure 3. Change of reserves of Estonian Health Insurance Fund, % of GDP



Source: EHIF, 2016a

The current model of care, particularly in primary care, is not well suited to meet the needs of an increasingly elderly population with multiple NCDs. In 1998, shortly after independence from the Soviet Union, family care was established as the first-level of contact and gatekeeper to the health care system. Family physicians operate as self-employed entrepreneurs, each providing a core package of services to the patients registered on their family physician list (Polluste and Lember 2016; Lember 2002). In 2016,

798 family physician lists covered the entire insured population with an average list size of 1672 patients. Although physician lists should generally fall between 1200 and 2400 patients, the Health Board may, with the consent of EHIF, approve a smaller list if the number of persons permanently residing in the local government of the service area of a family physician is less than 1200.

Despite the success of this model in establishing primary care at the center of the health care system, several weaknesses persist that impact care integration (World Bank 2015). For example, there is low coverage of preventive services as recommended by clinical guidelines for diabetes and hypertension patients (e.g. annual HbA1c test, cholesterol tests, etc.). The scope of primary care also remains limited, and access to care, particularly in rural areas, is not adequate. Moreover, although family physicians are increasingly forming group practices, a large percentage continue to function as solo practitioners. Therefore, innovative models, such as multidisciplinary team-based care management, continue to be the exception.

Weaknesses also exist in the coordination of patient referrals at the interfaces between primary and outpatient specialist/emergency care settings. As mandated by law, patients are required to have a referral from their family doctor to access most specialist services; those who access specialist services without a referral must pay the full cost of care out-of-pocket (with some exceptions). However, many referrals are of poor quality (e.g. lacking a primary reason for referral, results of laboratory tests, etc.) and an adequate triage system of referrals in specialist care to prioritize urgent and necessary cases is lacking. Many family physicians also fail to receive timely notification regarding the outcome of specialist visits and further care instructions. Finally, there are some exceptions to the gatekeeping rule where patients can bypass primary care and access specialists without a referral. These specialists include psychiatrists, gynecologists, dermatovenerologists, ophthalmologists, dentists, pulmonologists (for tuberculosis treatment), infection specialists (for HIV/AIDS treatment), and surgeons or orthopedists (for traumatology). Patients can also access emergency care without a referral, even for conditions which should be treated in primary care.¹

These weaknesses in primary care and at the interfaces between primary care and outpatient specialist/emergency care impact care integration, resulting in issues such as high shares of unnecessary and avoidable care at the hospital level – where most outpatient specialist care services² and all acute inpatient care services are currently delivered, including the bulk of nursing and rehabilitation care. Indeed, outpatient specialist visits for conditions that could have been treated in primary care (e.g. uncomplicated hypertension and diabetes), and acute inpatient admissions for ambulatory care sensitive conditions (e.g. complications from diabetes, chronic heart failure or COPD) currently constitute a significant share of care in these settings (World Bank 2015). Unnecessary outpatient specialist visits contributes to increased waiting times for patients who need care in this setting. For example, due to the lack of an appropriate triage system of referrals, median waiting times in 2015 were shown to be

¹ These weaknesses in the referral system and potential options to remedy them are examined in a separate review requested by the EHIF under the current RAS.

² A small share of outpatient specialist care services is offered in outpatient centers located outside of hospitals.

comparable for both necessary and unnecessary endocrinologist visits (42 vs. 43 days) as well as for necessary and unnecessary cardiologist visits (23 vs. 24 days). This implies that waiting times for necessary visits could be considerably shortened by reducing the number of unnecessary visits.³ At the same time, EHIF estimates that approximately 10% of all appointments booked with specialists are “no shows,” further exacerbating the issue of long waiting times.⁴

Given these weaknesses, innovations in service delivery are needed to adequately meet the changing needs of the population, among others to improve care integration – that is, to ensure that (i) services are delivered in the appropriate care setting, and (ii) there is adequate coordination of care within and between care settings. Key objectives of current health sector reforms are therefore to strengthen primary care and shift specialist care to primary care settings. More specifically, these reforms aim to improve the quality of prevention and increase the service scope, access and coordination role of primary care, while reducing unnecessary care in hospital-based settings. Beyond these reform objectives, there is also a need to shift certain high volume surgeries and procedures (e.g. tonsillectomy, spinal disc operations, laparoscopic cholecystectomy, inguinal hernia repair, and colonoscopy) from acute inpatient to day care⁵, shift some admissions to nursing and social care, and reduce excess bed capacity in hospitals.

The EHIF and MOSA have already made several advances towards achieving these reform objectives. For example, in 2015 MOSA initiated plans to invest European Union structural funds in the development of primary health care centers. By supporting investments in infrastructure for these centers, MOSA aims to help encourage the growing trend from solo practices to a multidisciplinary, group practice model.⁶ Eligibility for grants from the EU structural funds to construct or refurbish primary health care centers is limited to groups of at least at least three family physicians in rural areas or at least six physicians in urban areas. Currently, however, family physicians within a primary health care center do not have to be working as a group practice (i.e. they can operate as separate entities). To promote the development of multidisciplinary teams, the centers are required to offer midwifery, home nursing and physiotherapy services.⁷ Complementarily, EHIF has refined its payment model to offer incentives to family physicians for joining primary health care centers. Multidisciplinary group practice models offer numerous benefits to both patients and family physicians. For patients, they offer a more coordinated and continuous care experience, higher quality of care with a wider range of services, and the possibility to see other physicians within the practice when their primary physician is not available. For health care providers, working in multidisciplinary group practices can offer increased professional and administrative support, more

³ Waiting times for elective surgeries, cancer care and avoidable vs. non-avoidable visits are examined in a separate review under the current RAS.

⁴ Given the long waiting times for outpatient specialist care, many patients book appointments with several specialists to increase their chances for falling in the shortest waiting list. However, once their appointment is confirmed, many patients forget to cancel their booked appointments with other specialists on time (e.g. at least 24 hours before) or simply do not show up, resulting in several “no show” appointments.

⁵ The scope for shifting surgeries and other acute inpatient procedures to day care settings is examined in a separate review under the current RAS.

⁶ Currently about 59% of family physicians work in group practices

⁷<http://www.hspm.org/countries/estonia05112013/livinghit.aspx?Section=5.3%20Primary%20/%20ambulatory%20care&Type=Section#12Modernizationinvestmentsinordertoreorganizeandstrengthenprimaryhealthcare>

flexible working arrangements, increased opportunities for peer learning, and more predictable revenues than solo practices.

The EHIF is also piloting a risk-stratified, enhanced care management program in collaboration with the World Bank to strengthen the management of patients with complex health and social conditions. These complex patients constitute a small proportion of the population, and yet account for a disproportionate burden of illness, healthcare utilization, and cost. The pilot program targets complex patients with the greatest potential to benefit from care management in terms of their health outcomes. Each patient receives an individualized care plan, including goals defined with patients. Care plans are complemented by proactive outreach, including follow-up during care transitions such as hospital discharges; tracking test results and referrals; ensuring medication reconciliation and adherence; and monitoring between scheduled visits. The pilot will assess feasibility of the approach and examine the impact on care management processes with a view to scaling up the model across the country.

Furthermore, the EHIF is encouraging greater primary care resolution capacity and quality of care by supporting the introduction of various e-health applications. For example, since 2013 the EHIF has financed an e-consultation system, through which family physicians can seek specialist advice prior to referral. This system has been shown to improve quality of care and prevent avoidable referrals, thus reducing costs and waiting times. EHIF is exploring possibilities for the implementation of a clinical decision support system as an e-service for primary and other levels of care.

To complement ongoing reforms, EHIF requested the World Bank to carry out a review of the payment system for health care and identify potential options for refinement. These options for refinement should thus be in line with current sector reform objectives of strengthening and increasingly shifting care to primary care settings, while improving efficiency in hospital-based settings.

Nevertheless, while the reforms to the current financing and service delivery systems may help contribute to significant improvements in the overall efficiency of the health care system, they are unlikely to be sufficient to ensure the health system's financial sustainability. Hence, the government must also consider diversifying and expanding EHIF's revenue base, with some steps already underway.

3. Scope of analysis and analytical framework

The following review assesses EHIF's payment system for health care, with a focus on acute inpatient, outpatient specialist and primary care. This review does not examine the implications of consolidating different vertical financing streams (e.g. for HIV, TB, ambulance services) under EHIF's budget on the payment system. Plans are underway to consolidate these financing streams, which are currently under the purview of MOSA and one of its agencies, in 2018 and 2019 to avoid misaligned and, in certain cases, duplicative purchasing of services. A future review of the payment system should hence ensure that methods are available to adequately pay for these services.

The analytical framework employed for this review defines the payment system as the combination of payment methods and supporting payment functions (Figure 4). The payment system is part of the broader purchasing system for health care, which includes other components such as the design of benefits packages and provider contracting.

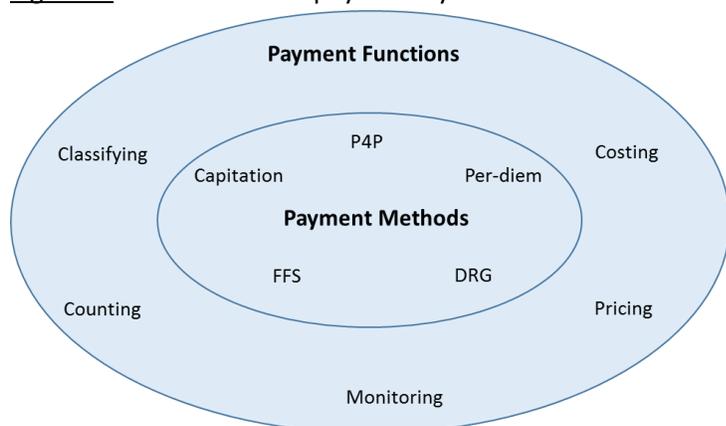
Payment methods- the ways in which resources are transferred from payers to health care providers - are at the core of payment systems. Traditional payment methods include fee-for-service (FFS), capitation, diagnosis-related groups (DRG), per-diems, pay-for-performance (P4P), and allowances. Some of these payment methods may be complemented by additional instruments, such as service volume and cost caps and patient copayments.

Payment functions are processes that are critical for the adequate design and application of payment methods, as well as for the performance of the payment system overall. These functions include:

- classifying - the process of using standardized systems to define health care products (i.e. diagnoses and procedures) for payment;
- counting - the process of coding and aggregating routinely collected information on the delivery of health care at the patient level using classification system codes;
- costing - the process of determining both direct and indirect expenditures of delivering health care services, yielding a nationally-recognized unit cost per health care product;
- pricing - the process of determining the amounts that payers reimburse providers for the delivery of health care products; and
- monitoring - the process of continuously assessing the performance of a payment system, including the implementation and impact of critical processes and strategic initiatives to improve system performance.

As the focus of this review is EHIF’s payment system, it does not examine functions that support other purchasing system components. For example, the review does not consider current methods to assess demand for health care services, which are critical for setting contracting terms such as volume caps.

Figure 4: Elements of the payment system



Source: Authors

Drawing on international good practices, the study reviews the current status of EHIF's payment methods and functions and proposes options for improvement. With respect to the payment methods, the review seeks to determine how to create incentives to better align provider behaviors with sector reform objectives, while mitigating unintended consequences. To do so, the review examines the design and blending of payment methods within and across care settings, while considering the potential gains and risks of introducing emerging payment method innovations. Regarding the payment functions, the review seeks to assess how to: (i) increase the accuracy and consistency of information used by the payment system, (ii) better align price signals with system objectives, and (iii) improve EHIF's accountability for achieving results.

The options presented in this report contribute to the sector reform objective of strengthening and increasingly shifting care to primary care settings by creating incentives for improved quality of prevention, as well as increased service scope, access and coordination role of primary care, while reducing unnecessary outpatient specialist and acute inpatient care. They also include measures that aim to improve efficiency of hospital-based care, including acute inpatient and day care episodes. Payment system reforms must be carefully phased to account for linkages between individual measures, and to ongoing service delivery reforms (e.g., enhanced care management program, shift toward multi-disciplinary group practices for primary care). The proposed options are therefore grouped into measures which can be initiated in the short-term and medium-terms. These are complemented by potential long-term options (e.g., emerging innovative payment methods) and a discussion of cross-cutting issues. The phasing of these reform options has been vetted and endorsed by EHIF. A figure depicting the logical framework of relationships between individual proposed options and their linkages to sector reform objectives is provided in Annex 1.

4. Strengthening EHIF's provider payment system

Section 4 presents options to strengthen EHIF's payment system in the short and medium-terms to help achieve health sector reform objectives. For this analysis, 'short-term' options are those which can be initiated within approximately 18 months, 'medium-term' options include those which can be initiated within 18-36 months.

Prior to discussing options to strengthen both payment methods and functions, the following section provides a description of the legal framework governing the payment system.

4.1. Legal framework of the payment system

Several key acts and regulations, described below, underpin the functioning of the payment system.

The **Health Services Organization Act**⁸ describes the requirements for the organization and provision of health care services, including the relevant management, supervision and financing responsibilities of

⁸ <https://www.riigiteataja.ee/en/eli/ee/Riigikogu/act/502022016002/consolide>

MOSA and its agencies, county and local governments, and EHIF. This Act defines the various types of health care that EHIF is responsible for financing (e.g. emergency care, primary care, specialist care, etc.). It also outlines the rights and obligations of health care providers, including: registration of professionals, licensing of facilities, assurance of accessibility and quality of health care services, and information reporting.

The **Health Insurance Act**⁹ is the main Act regulating EHIF's health insurance scheme. This act includes provisions on the types and scope of benefits covered by health insurance (e.g. benefits for health services, medicinal products and devices, temporary incapacity to work, adult dental services, etc.), fees (e.g. visit fees, inpatient fees, etc.) and cost-sharing for insured individuals. It also specifies the basic terms and conditions that must be included in the contracts between EHIF and health care providers.

Expanding on the Health Insurance Act, a **Government of the Republic regulation** outlines the framework of payment methods used for different care settings (e.g. capitation, FFS, DRG, QBS, etc.), the list of over 3000 health services financed by EHIF and their corresponding prices.¹⁰ The list of health services specifies the maximum price¹¹, rules of reimbursement (e.g. for which patient groups), and co-payment rate. A second government of the republic regulation outlines the procedure for updating the list of health services based on applications from stakeholders¹², including service prices or the addition of new services to the list.¹³

Finally, two **MOSA regulations** outline (i) the procedures for calculating the payment of providers by EHIF¹⁴, and (ii) the list of basic services covered under the capitation payment and other responsibilities of primary care practices.¹⁵

EHIF contracts with health service providers specify the precise terms for payment in each care setting (e.g. primary care, outpatient specialist care, etc.). These include: payment methods and procedures for processing payment, caps on volumes and costs of care by specialty, agreements on service quality and access (e.g. waiting times, hours of operation, requirement to participate in clinical audits, etc.), information reporting requirements, and liabilities of the respective parties if the contract terms are

⁹ <https://www.riigiteataja.ee/en/eli/520012014001/consolide>

¹⁰ <https://www.riigiteataja.ee/akt/122122015054>

¹¹ Lower prices may be negotiated between EHIF and providers.

¹² Applications for updates to the list may be submitted by: specialist associations, professional associations of health care providers, and by EHIF. A team of experts including a medical expert, a health economist from EHIF and a representative from MOSA evaluate new services based on medical efficacy, cost effectiveness, budget impact and alignment with societal needs and political priorities in the health care sector. After negotiations with the applicant, the proposal is approved by EHIF's management board, by EHIF's supervisory board, and finally by the MOSA, which makes the proposal the government to update the list. Prices of services are determined and updated using an activity-based costing approach (see section 5.2).

¹³ <https://www.riigiteataja.ee/akt/122072011010>

¹⁴ <https://www.riigiteataja.ee/akt/122122015055?leiaKehtiv>

¹⁵ <https://www.riigiteataja.ee/akt/126012016007>

violated (Lai et al. 2013). For specialist care providers (e.g. EHIF's strategic hospital partners¹⁶ and other selected providers of outpatient specialist, in-patient nursing and home nursing care), the contract period lasts up to 5 years, though the financial part of the contract (e.g. treatment costs and volumes) is negotiated annually. The contract period for primary care providers is also 5 years, however, the financial part of the contract is fixed.

4.2. Strengthening EHIF's provider payment methods

Section 4.2 presents options to strengthen EHIF's provider payment methods in the short- and medium terms. It also summarizes current evidence on emerging payment methods which may be relevant for EHIF in the long-term. Furthermore, two cross-cutting issues relevant for the successful functioning of different payment methods are discussed.

Prior to discussing these options, the report presents a general introduction (sub-section 4.2.1) and a detailed description (sub-section 4.2.2) of the payment methods currently employed by EHIF.

4.2.1. General introduction to EHIF's current payment methods

EHIF draws on many of the traditional payment methods commonly used in OECD countries, including fee-for-service (FFS), capitation, per diem, diagnosis-related groups (DRG), allowances and quality bonuses. EHIF blends these payment methods to create a mix of incentives that aligns with sector objectives while mitigating adverse effects, combining them as needed with cost and volume caps. EHIF also aligns payment methods across types of providers to incent service delivery in the right care setting, complemented by co-payments to induce commensurate care-seeking behaviors.

Brief descriptions of these and other payment methods are provided below, including a discussion of the challenges of blending them to foster sector objectives. Informed readers may skip to sub-section 4.2.2, which describes the current EHIF payment system in more detail.

FFS payments reimburse providers for every unit of care delivered (e.g. visits, treatments, lab tests) according to a fixed price schedule. With FFS payments, the financial risk of providing care is primarily borne by the payer. In general, FFS payments encourage providers to increase service volumes and productivity, thus they tend to be associated with cost increases. Indeed, FFS may encourage the delivery of services beyond what is clinically necessary (Ellis and McGuire, 1986). Under FFS payments, providers do not face incentives to prioritize preventive activities, as a healthier population would reduce future demand for services, nor to coordinate care, but provide services themselves. Because of the high number of billing transactions needed, FFS payments can result in high administrative costs (Berenson et al. 2016).

¹⁶ EHIF's strategic partners include 19 acute care hospitals which were originally part of the Hospital Network Development Plan (HNDP). This plan was developed in 2003 to list investment needs of these hospitals. These hospitals account for 90% of spending on specialized medical care in Estonia.

Capitation payments consist of fixed sums paid to providers to deliver a defined set of services for a person over a specified period. With capitation payments providers bear the financial risk of providing care, incentivizing the provision of preventive services and reduction of unnecessary services. However, to reduce costs and improve profits, capitation payments may also induce providers to underprovide clinically necessary, costly care, to refer patients and/or to avoid accepting patients with high levels of costly needs (Ellis and McGuire, 1986; Ellis and McGuire, 1990; Blomqvist, 1991; Newhouse, 1996; Barros, 2003; Allard et al., 2011; Blomqvist and Leger, 2005). To avoid these adverse behaviors, capitated payments are commonly risk-adjusted to account for differences in service needs due to age, sex and sometimes also the health status across patient pools of different providers.

Per-diem payments are fixed payments for a day in inpatient and day care. Tariffs typically cover the costs of basic services associated with inpatient and day care, including examinations, laboratory tests, medicines, meals and nursing. The payments commonly vary by clinical discipline. Per diem payments partially shift the financial risk for providing adequate care to the provider and create incentives to reduce unnecessary care, but also to underprovide necessary care, and to refer patients and/or avoid patients with high levels of costly needs. At the same time, they encourage increases in the length of stays. Per-diem payments have the benefit of straightforward administration and contracting.

DRG payments are fixed payments for episodes of care. DRGs combine clinically similar patient cases (based on diagnoses, procedures age, sex, discharge status and presence of complications and comorbidities) of similar levels of resource intensity. Ideally, DRG tariffs reflect recommended rather than historical treatment practices. As providers receive the same level of payment regardless of the provided services, they however bear the financial risk for each episode of care and thus have the incentive to deliver services in the least costly manner, including reductions in the length of stay. DRGs incent admissions and provider productivity, potentially to the extent of admitting patients for unnecessary services and splitting care episodes into multiple admissions. Moreover, DRGs induce “skimping” (the under provision of clinically necessary care, particularly for high cost patients); “dumping” (the avoidance of high cost patients) “cream-skimming” (the selection of low-cost patients), and up-coding (the classification of patients in a group with a higher tariff) (Ellis 1998, Berta et al. 2009). DRGs encourage reductions in the lengths of hospital stays, but they may also encourage premature discharges, the placing patients at risk of readmission, or the transfer of patients to other hospitals or post-acute care facilities. DRGs are administratively complex, requiring data systems, coding expertise and coding oversight by payers (Berenson et al. 2016).

Allowances are payments to providers to cover specific expenses (e.g. of infrastructure or utility) or to compensate for certain adversities (e.g., service in rural areas). In principle, allowances have no effect on the attention to care needs; however, they may ensure access to services. There is little evidence of any unintended consequences.

Quality Bonuses are payments made upon the achievement of specific quality targets. Quality targets may include improvements in processes, for example, processes of care in line with clinical guidelines and/or outcomes, for example, treatment outcomes in patients with chronic conditions such as diabetes

and hypertension (Langenbrunner and Wiley 2002; Langenbrunner and Somanathan, 2011). Quality bonuses and performance payments more generally may result in the neglect of areas of care that are not financially rewarded and, with a focus on outcomes, may induce the avoidance of high-risk patients. Behavioral economics suggests that pay-for-performance may “crowd out” intrinsic motivation by undermining a sense of autonomy and competence. This effect is particularly apparent for cognitively complex tasks since these are inherently interesting and challenging. Pay-for-performance payments may thus be overly controlling and encourage a focus on narrow performance goals (Ryan and Werner 2013; Kao et al. 2015)

Payers **blend** different payment methods to create the mix of incentives that aligns provider behaviors with sector objectives while mitigating potentially adverse effects (Belli and Hammer 1999; Dranove and Satterthwaite 2000). For example, capitation and FFS payments are often combined to pay primary care providers. While the capitation component encourages providers to limit service volumes and contain costs, FFS payments are used to promote the provision of priority services (e.g. vaccinations), services and procedures which require costly supplies (e.g. injectable medicines) to avoid their under-provision, and services which lie on the border between primary and specialist care (e.g. wound care, drainage of abscesses, removal of benign lesions) to avoid referrals to specialists (Robinson 2001, Langenbrunner and Wiley 2002; Langenbrunner and Somanathan, 2011). The blend of payment methods however should not become unnecessarily complex, as this has been shown to weaken the incentives for desired behaviors (Robinson 2001).

To mitigate the effects of FFS and DRG payments on service volume and costs, payers commonly stipulate **caps** for a business cycle. Caps are commonly determined based on estimated service needs, historical service use, waiting times, and provider performance, as well as negotiations between the payer and providers. Caps create incentives for providers to provide care only until these thresholds are reached. Recognizing volatility in demand, payers may allow for some flexibility (e.g. paying for services provided above the caps up to a specified limit). While caps allow payers to control service volumes and spending levels, they run the risk of under-provision or denial of care to patients who do not have life-threatening conditions as caps are being approached.

Payers **align** payment methods across care settings to incent the delivery of services in the right care setting. For example, if payers aim to shift services into primary care settings, they may combine payment methods that encourage primary care providers to increase the scope and volume of services provided with methods that discourage outpatient specialists from providing the same type of care. Complementarily, payers may use **co-payments** to deter excess demand for specific services (e.g. outpatient specialist visits). When rates are set too high, however, co-payments can have the unintended consequence of being unnecessarily prohibitive, particularly for lower income individuals, and may discourage patients from seeking care that is medically necessary.

4.2.2. Detailed description of EHIF's current provider payment methods

The EHIF currently operates a sophisticated system of provider payment methods with robust incentives for efficiency, cost-containment and quality of care. The report provides an assessment these methods and their combinations by health care setting.

Primary care

In primary care, the EHIF uses a blended payment model that is commendable in its basic outlines and advanced relative to many other OECD countries. The blend consists of four types of payment methods: capitation, FFS, a quality bonus scheme (QBS), and allowances. The capitation component is at the core of the payment system. FFS payments have been introduced to encourage family physicians to provide a wider scope of services. The QBS element has been introduced in 2006 to further motivate family physicians to widen their scope of services, but also to reduce morbidity from vaccine-preventable diseases and encourage provision of preventive services and the management of patients with chronic conditions to avoid high expenditures, reduce hospitalization and incapacity to work (EHIF, 2016b). Allowances cover the costs of practice infrastructure, utilities, transportation costs and health information system and provide incentives for providing care in rural areas and outside of normal working hours.

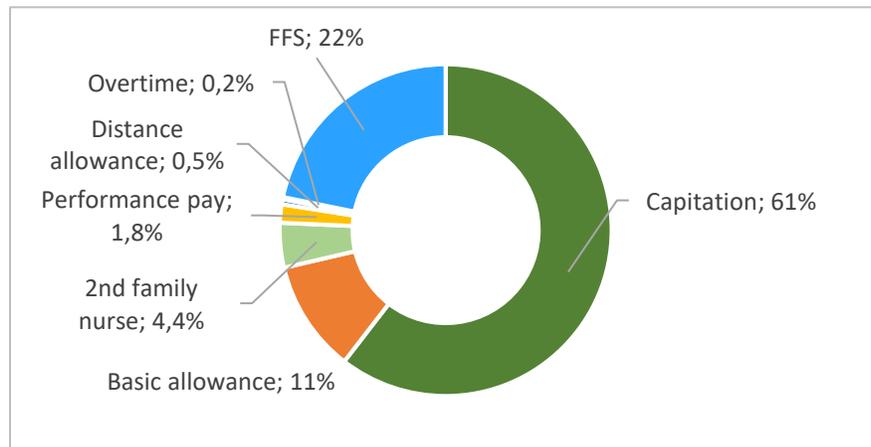
Capitation payments make up around two-thirds of family physician's total revenue (Figure 5). MOSA regulation specifies the activities, procedures, and tests covered through capitation (Box 1). Rates reflect the costs of labour, single-use medical supplies devices and medication, multiple-use medical supplies and equipment and other costs such as office expenses (e.g. phone costs, office furniture, computers, etc.) and insurance. The capitation rates differ by age group (five groups: <3, 3-6, 7-49, 50-69 and 70+). Capitation payments are prospectively made on the 5th of every month based on the number of patients on a family physician's practice list. Practice lists are typically required to have between 1200 and 2400 patients, though smaller lists are allowed in rural municipalities with smaller populations. The monthly payment is recalculated quarterly to account for any changes in the size and composition of the practice list.¹⁷

Most physicians are granted capitation amounts that are commensurate with their list sizes. If there is one physician covering a whole rural municipality singlehandedly, they may qualify for a capitation payment for 1200 patients, even if their list is smaller than that. If there is more than one physician practicing in a municipality with list sizes of less than 1200 patients, all receive capitation amounts that are commensurate with their list sizes. This practice of differentiating capitation amounts for physicians

¹⁷ The adjustment is based on proportion of visits per person in a specific age group per year (based on claims data of the reference year) and proportion of persons in a specific age group in all lists updated annually. The weights are used in allocating the work time of the physician and the nurse per person in specific age group. Other inputs (disposable and reusable material, equipment and devices, subsidiary costs, etc.) are added without weights in equal shares (cost per person) but according to the proportion of persons in the list.

in rural municipalities was intended to reward physicians for ensuring service coverage in rural, low population density municipalities.

Figure 5. Average revenue of family physicians in 2015 (9500 euros per list)



Source: EHIF, 2016c

Box 1. Categories of activities covered by the capitation package

- Carrying out outpatient consultations and home visits;
- Performing assessments of the state of health and capacity to work;
- Monitoring and counseling in the areas of child development, chronic conditions and uncomplicated pregnancies;
- Monitoring of risk factors, vaccination, carrying out screenings, health education sessions and providing medical advice;
- Providing diagnostic, treatment and referral services, including treatment of minor injuries, referral to specialist care and arranging transport to the hospital if necessary;
- Recommending and prescribing drugs; and
- Maintaining patient records.

Source: EHIF, 2016c

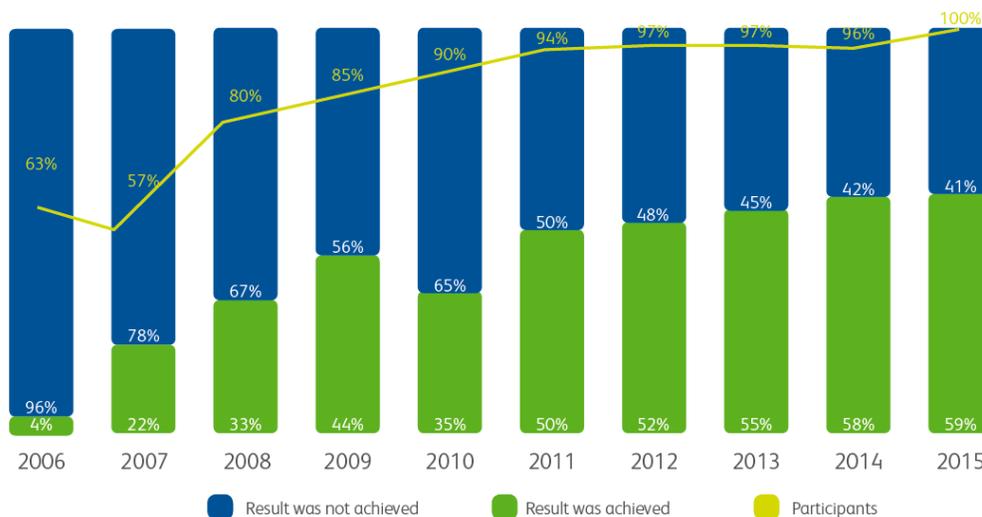
FFS payments account on average for approximately 22% of total family physician revenue. FFS payments flow from three different funds. A 'diagnostic fund' covers a list of nearly 200 diagnostic procedures (e.g. laboratory tests, x-rays, etc.). Most of these services constitute a prerequisite for issuing an e-consultation requests, thus helping to streamline communication and visits with specialists. A 'therapeutic fund' covers 12 therapeutic interventions in 3 specialties: clinical psychology, speech therapy and physiotherapy. The use of these two funds is capped for each family physician. For the diagnostic fund, the cap stands at 39% to 42% of the capitation payment, dependent on the family physicians performance in the QBS (see below). For the therapeutic fund, spending is capped for solo practices at 3% of the capitation payment. To encourage the development of multidisciplinary teams, the cap on the therapeutic fund has been raised to 10% in 2017 for physicians practicing in primary health care centers with additional specialists (e.g. midwives, home nurses, physiotherapists). For both the diagnostic and therapeutic fund, family

physicians have the choice of providing or contracting out services. The diagnostic and therapeutic funds are complemented by a 'procedure fund' which covers a defined list of 28 services including minor surgical and gynecological procedures. There is currently no explicit cap limiting the use of the procedure fund.

The service prices for all three funds are the same as those paid in outpatient specialist care. Payments are made retrospectively according to submitted bills. Claims for services that family physicians provide or contract out (for the diagnostic or therapeutic fund) are submitted to EHIF by the 5th day of every month (for services provided during the preceding month). EHIF then conducts compliance and eligibility checks, typically lasting about 5 business days, before issuing a payment order (processed within 1 business day). If the family physician contracted out the delivery of services, (s)he has a maximum of 14 business days after the processing of the payment to pay the contracted provider.

EHIF's **quality bonus** payments made up approximately 1.8% of average total revenue of family physicians in 2015. For family physicians qualifying for the full bonus amount, this share can reach up to approximately 3.84% of average revenue. The proportion of family physicians participating in the scheme and attaining a quality bonus has increased steadily since its introduction in 2006 (Figure 6). The scheme became mandatory for all family physicians in 2016.

Figure 6. The proportions of participants in the quality bonus scheme who achieved bonuses for the years 2006-2015.



Source: EHIF, 2016d.

The QBS includes 19 indicators agreed upon by EHIF and the Family Physician's Association. These indicators capture primarily processes and fall under three domains: Domain 1 targets children (vaccinations and health checks), Domain 2 targets people with chronic conditions (chronic disease management such as monitoring and medication prescriptions), and Domain 3 targets pregnant women (monitoring of pregnancy) and monitors other miscellaneous activities (performing gynecological examinations, performing gynecological and minor surgical procedures paid for through the therapeutic

fund, ensuring family doctor's and family nurse's professional competence, and participation in the Estonian Family Physician Association's quality management audit).

The QBS uses a points-based system to determine performance. The point system gives greater weight to indicators that have been considered more important at the time of the design of the QBS. These weights have not been revised since. For indicators in Domains 1 and 2, family physicians must meet a coverage threshold for the relevant target group to obtain points. In 2016, the threshold for indicators in domain 1 was 90% of the target (child vaccinations and health checks). For indicators in Domain 2 (chronic disease prevention and management), thresholds are revised annually based on the average performance of all practices participating in the scheme in the previous year, ensuring a stepwise increase in coverage. In 2016, the threshold consisted of the previous year's average coverage among all participating family physician practices for each indicator + 10% but no more than 90%.¹⁸ In both domains, if an indicator threshold is missed, no points are awarded for that indicator. For indicators in Domain 3 (additional activities) family physicians must deliver specific services (e.g. monitoring of pregnancy, performing gynecological examinations, carrying out certain surgical interventions, etc.) and participate in the quality management accreditation program for family physician practices. For all indicators, service bills must be submitted as evidence to support claims of achieving indicator thresholds.

At the end of each year, EHIF awards bonuses to family physicians based on the total number of points achieved. To receive a bonus, family physicians must achieve at least 512 out of 640 points. Family physicians meeting this threshold, but not attaining 90% of the maximum point yield (or 576 points) receive a bonus of 0.8 percent of the total value. If family physicians achieve at least 90% or 576 points, they are awarded the full bonus of EUR 4300 (2016). For those family physicians achieving the full bonus and employing a second family nurse, EHIF pays an additional EUR 1000 (2016).

Family physician receives electronic performance feedback three times a year: mid-year results in the third quarter, full-year preliminary results in April and final results in June. Performance results for each family physician are published on the EHIF's website. In 2016, 471 family physicians (59% of all family physicians) were paid the maximum bonus for performance on Domains 1 and 2, while 244 (30%) family physicians received bonuses for Domain 3.

Several improvements have been made to the QBS scheme in recent years, in part due to recommendations from the World Bank's 2015 study of care integration in Estonia. Most importantly, in Domain 2, the focus has shifted from awarding points for individual services, to requiring a full range of services for a condition and patient (i.e. full range of tests for a diabetes patient). Thus, several indicators that were once separate have been combined to form fewer indicators, each covering several services. In addition, EHIF together with the Family Physicians Association are currently planning a program to review

¹⁸ If a family physician's list includes at least two times the average number of patients with the relevant chronic disease, points for the relevant chronic disease are calculated at a coefficient of 1.5.

the activities and provide guidance to family physicians who have failed to achieve a specified level of QBS points.

The earlier World Bank study, however, pointed to some additional weaknesses. One major downside of Domain 2 is that EHIF does not monitor whether recommended services for chronic disease patients are provided by family physicians or by other providers. Thus, if a chronic disease patient receives a service from a specialist (e.g. HbA1c test), the family physician still receives the corresponding points. Moreover, while new QBS indicators are added in line with international standards, some national clinical guidelines have yet to be updated accordingly.

Allowances account on average for approximately 16% of a family physician's revenue and they may receive up to four allowances. The basic allowance (on average approximately 11% of a family physician's revenue) covers the cost of premises, IT systems, medical devices, equipment with more than one year of use, transportation and training. Family physicians with offices in multiple locations receive 1.5 times the basic allowance. From 2017, the size of the basic allowance has also been raised for primary health care centers to cover additional costs due to bigger premises, more equipment, and additional administrative requirements (e.g. salary of an administrative manager), among others. A family nurse allowance (on average approximately 4.4% of a family physician's revenue) covers the salary, premises and equipment for a second family physician nurse¹⁹. A distance allowance (on average approximately 0.5% of a family physician's revenue) for family physicians practicing in remote areas covers additional transportation costs (e.g. for home visits, transportation of laboratory samples, and training-related transportation). Payments for the basic and family nurse allowance are made together with the capitation payment on the 5th of every month, whereas the distance allowance is paid quarterly.

Family physicians may also receive a fourth allowance for overtime work by the family physician and nurse(s) (approximately 0.2% of average family physician revenue), including appointments outside of working hours (before 8 am or after 6 pm). The overtime allowance is hourly-based and covers costs of labor, premises and equipment. The family physician submits quarterly coded claims for the overtime hours on behalf of themselves and the nursing staff. After conducting necessary eligibility and compliance checks, EHIF issues the payment.

Co-payments for home visits are not mandatory but the family physician practice has the discretion to charge a maximum fee of €5.00 (except for visits by children under 2 years of age and pregnant women from the 12th week of pregnancy onwards).

Outpatient specialist care

Outpatient specialist care, including emergency care, is reimbursed through fee-for-service payments. Rates are specified in the government regulation containing the list of health services reimbursed by EHIF.

¹⁹ The cost of the first nurse is covered under the capitation payment.

Claims are submitted to EHIF before the 7th of each month, after which EHIF processes payments for all services delivered during the preceding month.

Every year during contract negotiations, EHIF agrees with providers on the average cost per case, as well as case volume and cost caps for outpatient specialist care based on estimates of expected demand. If a provider surpasses the total contract volume cap, the reimbursement rate drops to seventy percent of the full price. If a provider exceeds the cap by more than 5%, the reimbursement rate drops to thirty percent of the full price. In cases where the provider does not meet the agreed volume of cases but has reached the cost cap, EHIF reimburses services with a coefficient of 0 until the agreed amount of cases has been met. There is some flexibility within case volumes; providers may reallocate up to 10% of total contract volume amongst different specialties provided they remain below the total cost cap. Hospitals receive also a financial reserve to be used for services at their discretion during a business cycle under EHIF supervision.

Patients are required to pay a €5.00 **co-payment** for outpatient specialist and emergency care visits. However, if a specialist refers a patient to (i) a professional in another specialty within the same facility, or (ii) a professional in the same specialty but in another facility, the patient is not required to pay the co-payment. Co-payments also cannot be charged for visits by pregnant women or children under the age of two. In cases where a patient cancels an appointment less than 24 hours before the appointment time, or fails to appear for the appointment, the provider has the right to charge the patient double the copayment fee (€10).

Acute inpatient care and day care involving surgical procedures

EHIF uses a blend of DRGs and FFS payments to remunerate most acute inpatient and surgical day care episodes. It introduced Nordic DRGs in 2004 to replace a mix of per-diem and FFS payments to increase productivity while controlling the oversupply of services per episode of care. To allow providers sufficient time to respond to the change in the payment methods and manage the associated financial risks, the reimbursement rate of the DRG tariff was gradually increased from 10% to 70%, but never to 100%. As such, the DRG payment remains complemented by FFS payments for services rendered during the care episode at a rate of 30% of the national tariffs. This 30% share has been maintained to ensure the provision detailed activity information that are important for monitoring and costing purposes.

As in many other OECD countries, EHIF adopts different payment mechanisms for high cost services and some specific specialties. High cost services such as chemotherapy and organ transplantation are reimbursed with FFS payments, while in some specialties, in particular those serving patients with mental health disorders or inpatient nursing care needs, per-diem payments constitute a larger share of payment.

EHIF agrees on average cost per case, case volumes and cost caps for acute inpatient and day care with each hospital. If the contract volume for acute inpatient care is exceeded, EHIF reimburses only 30% percent of the DRG and FFS tariffs. There is no threshold at which reimbursements are suspended. Similar to outpatient specialist care, EHIF reimburses day care cases exceeding the volume cap at 70% of the full

DRG and FFS tariff up to 5% of the volume cap. If the cap is exceeded by more than 5%, the reimbursement rate drops to 30% of the full price. Ten percent of the total contract volume can be reallocated amongst specialties, so long as providers remain below the total cost cap.

4.2.3. Options for strengthening provider payment methods in the short-term

To achieve the sector's primary reform objectives of strengthening and increasingly shifting services to primary care, short-term options refine incentives to help increase the quality, scope and geographical access of primary care, and reduce unnecessary outpatient specialist visits and acute inpatient admissions. In addition, options are proposed to improve the efficiency of acute inpatient and day care episodes.

Primary care

In primary care, options include: (i) enhancing QBS arrangements, (ii) strategically expanding the FFS list, and (iii) streamlining the compensation for care provision in rural areas. Strengthening the design of the QBS will help improve incentives for adherence to quality standards (i.e. clinical guidelines). Strategically expanding FFS lists will help to broaden the scope of primary care services. Finally, streamlining the compensation for physicians in rural areas will strengthen the incentives and thus improve geographical access to primary care in remote places.

Enhance QBS arrangements

Several design features of the QBS dampen the incentives to attain quality targets and objectives. First, the complex, point-based scoring system lacks the simplicity and clarity to provide a strong performance incentive (described in section 4.2.2). The tiered bonus system further dilutes the strength of the stimulus for the provision of high quality care, since providers do not have to achieve the full range of quality targets to be rewarded. The bonus size used by Estonia's QBS may also be too low. While the evidence on the most effective size of quality bonuses is inconclusive, Estonia's QBS is at the lower end of the range used across OECD countries, varying from below 5% up to 15% of average revenues (Srivastava et al. 2016). In addition, behavioral economics studies suggest that using a bonus as an add-on to the family physician's capitation may not encourage behavior change as strongly as "withholding" a certain percentage from the capitation rate (i.e. taking a portion out of the physician's payment for a certain time period and released only if quality targets have been achieved), or "clawing back" a quality bonus payment (i.e. taking back the payment at the end of the defined period if quality targets are not achieved). In other words, gain-seeking has a lower incentive power than loss aversion (Conrad 2016).

In addition to these design features, some of the indicators and targets are inconsistent with national clinical guidelines, many of which require updating in alignment with international good practices (WHO 2011). For example, the national clinical guideline for acute myocardial infarction (AMI) was last updated in 2004 and diabetes in 2008. And for some diseases and conditions included in the QBS, such as hypothyroidism, national guidelines have yet to be developed.

Given these issues, actions should be taken to strengthen the QBS design to encourage better compliance with good clinical practice. First, the QBS should transition from the current point-based system to a simpler indicator-based system to ensure clarity on how to achieve the performance incentive. Second, the tiered-bonus scheme should be dropped and an all-or-nothing rule instated with a high threshold (e.g., 18 out of 19 indicators) so that only providers achieving the highest level of performance are rewarded. Increasing the size of the bonus should further enhance the incentive for compliance with quality standards. Introducing a “withhold” or “claw back” mechanism for the QBS payment would enhance the strength of the QBS’s financial incentives. Complementarily, EHIF should ensure that guidelines are available for all diseases and conditions included in the QBS and that indicators and guidelines are regularly updated in line with international good practice.

Strategically expand FFS service list

In the current blend of payment methods, FFS payments aim to encourage the expansion of service provision in primary care; however, current arrangements are not fully aligned with this objective, moreover, they impede the effectiveness of the entire family physician payment system. Since the introduction of the FFS component, the scope of covered services has been continuously increasing. The cap on the diagnostic fund as a share of total capitation grew from 18% in 1999 (Koppel et al. 2008) to 39-42%²⁰ in 2016. In recent years, new FFS funds have been added (therapeutic and procedure funds). Expansions have focused on adding services without eliminating those that had been widely adopted; furthermore, expansion resulted in overlaps with other payment mechanisms: some services covered by FFS funds are also rewarded by the QBS (e.g. minor surgical and gynecological procedures). Combined, the growth in the FFS component and overlaps with the QBS increase the risk of overprovision of services as well as the administrative burden and costs.

The situation could be rectified by using FFS more strategically to expand the scope of services while reducing inefficiencies. This would involve adding services to the FFS lists that substantially increase the scope and service delivery capacity of primary care (e.g. ordering MRI tests). In addition to recent steps to raise the caps on certain FFS funds for primary health care centers, the scope of FFS lists for group practices should also be expanded, given their greater potential to provide a wider range of services.

Complementing the addition of new services covered by the FFS funds, an effort could also be made to reduce any overlaps with other payment methods such as the QBS. In addition, EHIF may want to consider periodically “pulling in” services that have become part of routine work into the capitation payment. For example, strategically selected, new interventions could be introduced with a “sunset clause”, which would automate integration into the capitation payment after a specific time period (e.g. 3 years) , reflecting the growth in the service delivery capacity of family physicians. This will, however, need to be supported by improvements in costing and risk-adjustment of the capitation payment to ensure that payments reflect the growth in the package of services covered, and that providers who treat more

²⁰ The level of the cap depends on the physicians’ performance on the QBS.

complex patient populations are adequately compensated. Moreover, utilization of “pulled in” services should be carefully monitored via routine EHIF audits and examining patient complaints to ensure that providers do not skimp on care.

Streamline compensation for service in rural areas

Since the total compensation for practicing in rural areas is fragmented for some physicians across different payment methods, the size of the additional financial benefit may not be sufficiently clear. Currently, the incentive includes a distance allowance (approximately 0.5% of average family physician revenue) to cover additional transportation costs (e.g., for home visits, transportation of laboratory samples, and training-related transportation) and, for family physicians covering an entire rural municipality, a minimum capitation payment commensurate with a list size of 1200 patients. This fragmentation of the bonus across both the distance allowance and capitation payment, may mask the full benefit of practicing in rural areas, thus weakening the incentive for providers.

The transparency and precision of the incentive for practicing in rural areas could be strengthened by adjusting the distance allowance based on the degree of rurality and contribution to service coverage, and removing the floor on the capitation payment. In effect, the full bonus for practicing in rural areas would be fully captured by the distance allowance, thus strengthening the incentive signal for family physicians. The combination of the allowance and the capitation should, however, be sufficiently high to cover the minimum salary of both the family physician and nurse.

Outpatient specialist care

Options to improve the payment method for outpatient specialist care include the refinement of FFS reimbursement rates based on service volumes to start reducing the significant share of unnecessary visits.

Refine FFS reimbursement rates based on service volumes

Current FFS reimbursement rates may be insufficient to deter outpatient specialists from providing services above and beyond volume caps. Currently, EHIF pays 70% of the full rate if a provider surpasses volume caps up to 5% and, beyond this threshold, continues to pay 30% without any further restrictions. EHIF may want assess whether the drop in the reimbursement rate is sufficient to deter service delivery above and beyond the volume cap. If this is not a sufficient deterrent, EHIF could further reduce the reimbursement rate or completely cease to pay providers above a certain threshold.

Acute inpatient and day care

Options to improve payment methods in acute inpatient care include: (i) refining reimbursement rates linked to service volumes and (ii) moving to 100% DRG reimbursement. Refining reimbursement rates

based on service volumes will help reduce incentives for unnecessary admissions, while moving to a 100% DRG reimbursement system will improve the efficiency of acute inpatient and day care episodes.

Refine reimbursement rates based on service volumes

EHIF pays 30% of the tariffs for all cases that exceed the negotiated annual contract volumes for acute inpatient care, which may encourage unnecessary admissions, including unwarranted admissions for low-mortality conditions (e.g. asthma exacerbation) or diseases that may be treated in day care settings (e.g., cataract surgery).

Although the unlimited 30% reimbursement rate beyond contract volumes is common among OECD countries, EHIF should assess to what extent hospitals surpass the volume cap to determine whether it sufficiently reduces the incentives for delivering unnecessary acute inpatient care. If it is not a sufficient deterrent for unnecessary care delivery, EHIF should consider introducing a threshold above and beyond it does not reimburse providers at all. Other OECD countries have introduced such thresholds, commonly set at 15% of contract volumes (de Lagasnerie et al. 2015).

Complementarily, EHIF may want to guarantee hospitals partial or full reimbursement of the fixed cost component of care episodes below the volume caps to limit the incentive to reach this threshold in the first place. In Germany for example, insurers pay for 20% of the cost of services that are not delivered under volume caps to partially cover fixed costs. In the state of Maryland in the United States, insurers attempt to fully cover fixed costs of underdelivered services, estimated to be approximately 50% of total costs (de Lagasnerie et al. 2015). EHIF and MOSA may also want to consider the introduction of interventions to improve admission and discharge management (Box 2).

Box 2. Strategies to improve admission and discharge management

The following policy strategies could help reduce the number of unnecessary admissions while better meeting patient needs.

Develop Clear Admission Criteria, Backed Up by a Physician Peer Review Group

There are currently no systematic criteria to determine whether a patient should be admitted. Many countries, such as the United States and Australia have three separate lists of admission criteria which allow doctors and insurers to determine whether a patient (a) should be admitted, (b) should not be admitted or (c) it is not clear whether the patient should be admitted. The insurers develop these lists into software packages. When an admission nurse inputs basic symptomatic information, the system delivers an immediate electronic response to the provider to flag the appropriateness of an admission. This might be followed up by an audit within 90 days. Estonia could develop both “front end” software to communicate with the provider as well as “back-end” peer review audits of cases that are not clearly appropriate to help cut down admissions, particularly those coming through the emergency department.

Strengthen Hospital Discharge Planning (“Transition Care”)

Hospital discharge plans are often incomplete and given solely to the patient and/or family to deliver to their primary care physician. Every discharge from an acute care episode should be accompanied by an in-depth patient and family discharge plan detailing where the patient should go, what treatments and medications he or she should receive, any additional visits and follow-up the patient needs with a specialist or primary care physician. This discharge plan should be electronically delivered to the primary care physician to ensure an adequate “transition” of patients back to their primary care provider.

Restructure Hospital Beds to Create More Nursing Beds or other Post-Acute Beds

As shown by a recent National Audit, a significant share (25%) of inpatient nursing admissions includes cases that would more appropriately benefit from social care or home-based care (National Audit Office 2015).²¹ At the same time, many county hospitals have occupancy rates of less than 60%. Thus, the country’s health sector infrastructure plan, to be released in 2018, could build in a strategy to reduce excess bed capacity in hospitals, while investing in social and home-based care which are less costly and could lead to improved patient satisfaction. Access to social care services is currently uneven, since availability of services is dependent on municipality resources and funding priorities. At the same time, Estonia has a relatively underdeveloped home care sector. As its population ages, it would be wise for Estonia to consider good models of health and social care for the aged as in other countries such as Japan, which could further help patients to return home and avoid time spent in the hospital. Reducing excess bed, capacity, however, could have implications on waiting times. Thus, the EHIF must strengthen its monitoring of waiting times to ensure adequate access to care.

Move to a 100% DRG reimbursement rate

The current combination of DRGs and FFS payments for acute inpatient and day care episodes encourages providers to continue obtaining detailed activity information that is important for monitoring and costing purposes, however, it counteracts incentives for greater efficiency in the entire hospital systems, including incentives to reduce the average lengths of stay and unnecessary care.

To encourage further efficiency improvements in care delivery from admission to discharge and to induce reductions in the administrative burden and costs, EHIF should increase DRG reimbursement rates toward 100% while concurrently decreasing FFS reimbursement rates. However, the transition toward a 100 percent reimbursement rate of DRGs payments will enhance the incentives for the under-provision of clinically necessary care, early discharges, and “up-coding” of patient cases; moreover, removing the FFS payment may reduce the incentive to code procedures accurately. To reduce these risks, EHIF will need to strengthen its monitoring activities of care quality and may want to introduce financial penalties for delivering low quality care (e.g. reduced or no payment for readmission within 30 days). Prior to initiating this transition, it will be critical to strengthen counting practices (see section 4.3.4).

²¹ A 2015 audit revealed that a quarter of all inpatient nursing care recipients were found to not require that level of care; nearly half of these patients (45%) could have more appropriately and economically have received nursing or welfare care at home (National Audit Office 2015).

4.2.4. Options for strengthening provider payment methods in the medium term

In the medium term, the options for refining payment methods focus on further improving the quality and scope of primary care, as well as increasing primary care-led coordination of care. To further encourage a shift in service delivery to primary care, changes to supply and demand-side mechanisms are proposed to embolden incentives to reduce unnecessary outpatient specialist, emergency care visits and acute inpatient and day care episodes. In addition, measures are proposed to increase the efficiency of acute inpatient and day care episodes.

Primary care

Options to refine and enrich payment methods in primary care include: (i) enhancing QBS indicators, (ii) creating incentives for a shift to primary care group practices, and (iii) introducing a payment for enhanced care management and coordination. All three of the proposed measures will contribute to further improvements in quality of care. Shifting to multidisciplinary group practices will also help widen the scope of care, and introducing a new payment for enhanced care management and coordination will help encourage better primary care-led coordination of care.

Enhance QBS indicators

The QBS's current indicators may require some modification to increase incentives for quality and integration of care in the medium term. For example, current indicators used in the QBS are primarily process measures, which describe the health services and procedures necessary to deliver quality health care to a specific target group (e.g., conducting regular monitoring tests and prescribing medication to patients with chronic conditions such as diabetes, hypertension, hypothyroidism). However, process indicators do not reflect the health outcomes that patients and purchasers aim to achieve (Cashin et al. 2014), although they have the advantage of being easy to monitor, for example, using claims data. In addition, indicators do not yet reward processes and the use of tools which may improve coordination of care between care settings.

After a decade of rewarding quality care processes, EHIF should gradually encourage a shift in attention to health outcomes by including health outcome indicators in the QBS. For this purpose, most pay-for-performance schemes in OECD countries use intermediate rather than final outcomes measures. In France and England for example, P4P schemes include indicators for controlled blood pressure (hypertension), blood sugar (diabetes) and cholesterol (hypercholesterinemia) (Srivasta et al. 2016). In comparison to final health outcomes (e.g., morbidity and mortality), intermediate outcomes have the advantage of a shorter lag-time between care intervention and result. Moreover, they are less susceptible to factors beyond quality of care (and outside the control of the physician), such as co-morbidities and socio-economic conditions. By using intermediate outcomes, care providers can therefore be reasonably held accountable for results achieved over a group of patients without any major risk adjustments.

A good starting point for revisions of the QBS indicators may include the standardized set of outcome measures that are being developed by the International Consortium for Health Outcomes Measurement. This group of experts is working to identify outcomes for specific conditions covering about 45% of the disease burden in high-income countries (Porter et al. 2016). Moreover, as e-health applications designed to improve quality and coordination of referrals between care settings are introduced and/or expanded (e.g. e-referral system, clinical decision support system, etc.), EHIF may want to revise the indicators under Domain 3 to better encourage use of these systems.²²

Introduce additional financial incentives for joining and adjust traditional payment methods to seize the full potential of group practices

Aside from MOSA's one-time investment to cover the cost of infrastructure for primary health care centers and EHIF's payment incentives for joining primary health care centers (e.g. higher basic allowance and raised cap on therapeutic FFS fund), EHIF may need to introduce additional financial incentives to promote the development of group practices within these centers. Indeed, a recent study showed that physicians operating in solo practices are more profitable on average than those in group practices, which may explain the limited growth in the number of group practices (Lukka 2015). EHIF may also need to adjust traditional payment methods for group practices to ensure that the full benefits of this model can be realized, such as the implementation of innovative care models, expanded diagnostic and treatment capacities and improved quality of care.

To further strengthen incentives for forming group practices, EHIF should offer incentives such as one-time bonuses at the time of joining and compensation for any financial losses in the first phase of implementation.

Moreover, to maximize the benefits from team-based models, EHIF should also link payments to group practice lists as opposed to separate payments for each family physician. Practices would then be free to distribute the risks and rewards amongst individual family physicians and nurses as they see fit. This payment arrangement would also facilitate the implementation of innovative care models, such as multidisciplinary team-based care management. Patients should still be allowed to choose a physician who is primarily responsible for providing their care. However, in cases where the physician is not available, the model would allow patients to see other physicians within the practice.²³

Finally, EHIF should complement steps towards linking payments to practice lists by adjusting the FFS and QBS components to group practices. Under the FFS, the range of services included in all three funds should be expanded and their respective caps raised for group practices to develop their diagnostic and treatment capacities. Moreover, domain 3 of the QBS should encourage processes that drive quality

²² A review of options to improve the quality and coordination of referrals is provided in a separate report under the current RAS.

²³ Since 2017, patients with acute illnesses can already see other physicians either within their own family physician's practice or another practice.

improvements typical of group practices, for example, peer review and learning. At the same time, EHIF should carefully revisit the capitation and allowance systems for any necessary adjustments to adequately reflect the services, case mix, and cost structures of group practices.

Aside from creating stronger incentives for joining group practices and adjusting traditional payment methods, it will be equally important for EHIF and MOSA to support group practices in establishing rules for ownership and financing and internal contractual arrangements. Experience with different kind of models is rapidly growing, both in Estonia and internationally and studies could be commissioned to systematically capture models and lessons. For example, joint ownership, eventually by both family physicians and nurses, allows group members to have a direct stake in the overall operation and financial performance of the practice, sharing both losses and profits. Alternatively, practice ownership may be concentrated in the hands of a few founding partners who share risks and profits, while the rest of the group members are paid via salary. This arrangement may lead to more flexible work arrangements, greater income security, and mobility for employed family physicians and nurses. At the same time, internal contractual arrangements and rules must be established to clarify roles and responsibilities and create incentives for the provision of quality of care.

Introduce a payment method for enhanced care management and coordination

EHIF currently lacks a mechanism to reimburse family physicians participating in the risk-stratified, enhanced care management and coordination program for patients with multiple chronic conditions and social and behavioral risks. EHIF, together with the family physician association, is currently piloting this program, which includes activities such as the development of anticipatory care plans, multi-disciplinary team meetings to discuss cases, coordination and follow-up on patient care in other care settings (e.g. specialist care, social care), and regular monitoring of patient conditions and adjustments of care plans. International experience suggests four principle options to pay for enhanced care management and coordination activities. These include fixed-rate payments for each participating patient, payments for individual or bundles of services and performance-based payments.

A first option is to compensate primary care providers in the form of a fixed, prospective payment for all patients enrolled into enhanced care management and coordination programs. The tariff of the payment reflects the full costs of the services included in the program. For example, the French National Health Insurance Fund for Salaried Worker France (CNAMTS) used this approach when it introduced in 2009 the Experimentation of New Modes of Remuneration (ENMR) program to promote (i) care coordination, (ii) inter-professional collaboration, and (iii) expansion of services in multi-disciplinary primary care settings (Afrite et al. 2013). CNAMTS, however, costed and paid providers for each of the three domains separately, as they had been introduced independently. Combined, payments under the ENMR constituted on average approximately 5% of a facility's revenue.

A second option is to pay primary care providers for each individual service. For example, in the US, Medicare introduced in 2015 "Chronic Care Management Services" as a billable activity under the FFS system for patients with two or more chronic conditions. Chronic Care Management Services include up

to 20 minutes of non-face-to-face coordination services which providers can bill each month, such as creating a comprehensive patient care plan, coordinating provider transitions, and providing follow-up services.

A third option is to compensate primary care providers for bundles of services included in the program. For example, German statutory health insurers use this approach under integrated care programs, among others the “Cardio-Integral” by AOK Plus. Participating primary care providers receive add-on payments for (i) the enrollment of patients, compliance monitoring (visits, treatment), and adherence to clinical pathways, (ii) the coordination of invasive diagnostic and therapeutic procedures, and (iii) the compliance with treatment guidelines, including drug lists. Activities and tariffs for each domain are negotiated between AOK Plus and participating providers. Tariffs and billing frequencies vary dependent on the care needs of patients with different cardiovascular diseases and conditions.

A final option is to pay primary care providers based on their performance. In the second phase of the ENMR in France, for example, CNAMTS distinguished between mandatory and optional services within the care coordination domain and introduced fixed and variable payments for each of these sub-domains. The fixed component considers the number of patients, while the variable component also reflects improvements in care coordination processes. Participating providers receive 60% of the expected payment in advance with the remaining share paid at the end of the year, adjusted based on provider performance. Originally, CNAMTS had envisioned the entire ENMR as part of a pay-for-performance scheme, but had dropped the idea due to monitoring and reporting challenges.

For Estonia, option 1 seems the most appropriate choice, at least in the beginning for two main reasons. First, it reflects the comprehensive approach of EHIF’s care management program for patients most likely to benefit (as determined by a risk-stratification methodology). Hence, any unbundling of payments, such as in options 2 and 3, defies this logic and may undermine the effectiveness of the program. Second, option 1 supports a focus on supervision and coaching rather than billing and reporting in the early stages of the program.

With this payment option, close provider monitoring and other quality assurance measures will be required to ensure that patients receive adequate care. The risk-stratification system itself provides a mechanism to ensure that providers do not ‘dump’ patients that are too difficult and costly to manage. While initially a flat-rate payment (reflecting the costs of program services for an average patient) may be used, the payment can eventually be risk-adjusted to adequately compensate providers who manage more complex patient populations.

In the future, when the program becomes part of everyday practice, the fixed-rate payment for enhanced care management could be integrated with the capitation payment to avoid unnecessary complexity of the primary care payment system. It could also incorporate a performance-based component, as in option 4, that could be integrated with the current quality bonus system. However, in the current phase of the program, tying payments for care management and coordination to performance indicators and targets seems premature, as lessons about good performance are still limited, even at the process level.

Outpatient specialist and emergency care

Refinements to the payment system for outpatient specialist and emergency care in the medium term may include: (i) reducing volume caps, (ii) increasing co-pays for outpatient specialist visits without referrals and adding fees for “no shows” and (iii) increasing co-pays for emergency care visits during family physician office hours. These measures will help to limit unnecessary visits while reducing waiting times. The increases in co-pays for outpatient specialist and emergency care are not intended as revenue raising measures, but rather to change patient behavior. Copays should be sufficiently high to deter patients from seeking unnecessary outpatient specialist and emergency care in favor of care from their primary care provider. As a result, OOP expenditures should not significantly increase. Aside from these payment method refinements, additional service delivery interventions may be needed to improve the appropriateness of referrals to outpatient specialist and emergency care.²⁴

Reduce volume caps for outpatient specialist care

Insufficiently tight volume caps in outpatient specialist care, combined with FFS incentives, are likely to encourage unnecessary specialist visits (i.e., services that should be provided in primary care) contributing to waiting times. Currently, unnecessary specialist visits constitute a significant share of specialist visits for various tracer conditions (World Bank 2015).

EHIF should consider to gradually decrease volume caps for outpatient care, in particular, for services with demonstrated high proportions of unnecessary visits (e.g. secondary prevention of uncomplicated diabetes and hypertension). The potential for such reductions should increase with improvements in the quality, scope, access and coordination role of primary care services. EHIF should carefully monitor any impacts of the reductions in volume caps on waiting times.

Raise co-pays for outpatient specialist visits without a referral and fees for “no shows”

The current 5 EUR co-pay for specialist visits may not be sufficiently high to deter patients from by-passing family physicians to access specialties that are exempted from the referral requirement (e.g. gynecology, psychiatry, dermatovenerology, ophthalmology, etc.), resulting in high shares of unnecessary specialist visits and long waiting times. Moreover, although the health insurance act specifies that providers can charge up to 10 euros for patients who cancel appointments less than 24 hours before the appointment time, or fail to show up for booked appointments, this may not be a sufficiently high disincentive/penalty for “no shows.” These unnecessary visits and “no shows” exacerbate waiting times for outpatient specialist care.

²⁴ A review of interventions designed to improve the appropriateness of referrals to outpatient specialist and emergency care visits are provided in a separate report (referral system review) under the current RAS.

Complementing reductions in volume caps, changes to demand side incentives could help reduce unnecessary visits in outpatient specialist care, including: (i) increased co-pays for specialist visits without a referral (i.e. in those specialties that are currently exempted from the gatekeeping system) and (ii) fees for missed appointments or “no shows”.

To deter bypassing of primary care, the gatekeeping scope should ideally be increased to include some of the current exempted specialties. However, until this increased scope is effectively implemented, raising co-payment levels for visits without a referral from a family physician could serve as a temporary fix. As demonstrated in countries such as Germany, higher copays can be effective in reducing visits without a referral from a primary care physician (Bech 2005). There should nevertheless be exceptions for certain conditions where primary care referrals are not necessary (e.g. antenatal care).

Moreover, in countries such as the United States, charging fees equal to a certain proportion of the visit cost to patients who miss their scheduled appointments or fail to cancel their appointments with sufficient notice has been generally regarded as an effective measure to reduce “no shows”. Practices typically inform patients of their cancellation policy at the time of scheduling and often combine this with phone, email or text message reminders (Keohane 2007).

Raise co-pays for emergency care visits for non-life threatening conditions during family physician office hours

Similar to outpatient specialist care, the 5 EUR co-pay for emergency care visits may not be a sufficient deterrent for patients seeking care for non-life threatening conditions in emergency rooms during family physician office hours.

Raising co-pays for non-life threatening emergency care visits during family physician office hours, when patients presumably have quick access to family physicians for urgent care, may help to reduce unnecessary emergency care visits. Implementation of a similar policy in Finland, for example, has been shown to cut down on emergency room visits. Co-payments for non-life threatening conditions after family physician working hours, however, should not be increased until there are sufficient primary care after-hours arrangements for urgent primary care visits. Currently, these after-hours alternatives in primary care are not widely available.

Acute inpatient and day care

Options to strengthen payment methods in acute inpatient care include: (i) reducing volume caps and (ii) improving alignment of DRG payments with clinical guidelines. While reducing volume, caps will help reduce incentives for unnecessary admissions, better alignment of DRG payments with clinical guidelines improves the quality and efficiency of acute inpatient and day care episodes.

Reduce volume caps

Insufficiently tight volume caps combined with DRG and FFS are likely to encourage unnecessary admissions (e.g. for conditions which could be more adequately treated in other care settings such as day care or outpatient specialist care). Currently, unnecessary admissions constitute a significant share of inpatient care for various tracer conditions (World Bank, 2015). These unnecessary admissions contribute to high costs and long waiting times.

EHIF should consider gradually reducing volume caps for inpatient care episodes, particularly for services with demonstrated high shares of unnecessary admissions. The potential for such reductions should increase over time with improvements in the quality, scope, access and coordination role of primary care services. In addition, EHIF should consider reducing volume caps for surgeries and other procedures in acute inpatient care that could be shifted into day care settings.²⁵ EHIF should carefully monitor the impacts of these reductions in volume caps on waiting times.

Improve alignment of DRG tariffs with clinical guidelines

Current DRG tariffs are defined based on average costs from a sample of hospitals, which may not align with the costs of providing care in line with clinical guidelines. This may cause hospitals to receive payments which are too high or too low relative to costs of providing care in line with well-established standards of practice.

For certain high-volume DRGs, where clear consensus exists regarding clinical standards, EHIF should align DRG tariffs with clinical guidelines to reinforce good standards of practice. In England, for example, so-called 'best practice tariffs' have been developed for hip-fractures and strokes to pay providers based on the costs of providing care in line with clinical guidelines (Quentin 2013). Providers with costs of care that are above the best practice tariff are penalized and are encouraged to modify care processes. Prior to implementing this modification to DRG tariffs, it will be critical to carefully model the behavioral and financial impact of different price levels on providers. As with DRGs generally, quality monitoring is necessary to avoid unintended consequences such as 'skimping' on necessary care.

4.2.5. Emerging options to strengthen provider payment methods in the long-term

Over the past decade, two payment methods have been emerging in OECD countries with the explicit goal of improving care integration: (i) bundled payments for both acute episodes of care and chronic conditions and (ii) population-based payments (PBPs) covering a wide range of services for an entire population group. Debates are heated over which method promises greater value for money, moreover, whether they are superior to traditional payment methods. Evidence however remains at best scarce. Given the good performance of EHIF's payment system, including room to refine, strengthen, and enrich traditional

²⁵ A review of the scope for shifting acute inpatient care surgeries and procedures to other settings are presented in a separate report under the current RAS.

payment methods, it seems prudent for EHIF to wait and learn from pilots in other countries before considering experimenting with any of these methods and their variants.

Method 1: Bundled payments for acute episodes of care or chronic conditions

Bundled payments involve single, fixed tariffs to cover all services delivered for: (i) the treatment of an acute episode of care, or (ii) the management of a specific chronic condition or disease (American Medical Association, 2016). Bundled payments aim to encourage cost savings and quality improvements in care by holding providers responsible for delivering and coordinating a range of services, which may span across multiple care settings, while keeping costs below the bundled payment tariff. If costs exceed the tariff, providers bear the financial liability. In most cases, achievement of the full bundled payment may be contingent on meeting quality targets, including patient outcomes (see Annex 2).

Bundled payments for acute episodes of care have been emerging in the US and Europe since the mid-2000s to encourage better coordination across the full episode of care for acute conditions. Examples from the US include the Geisinger Health System bundled payment for coronary artery bypass graft surgery (CABG), the PROMETHEUS bundled payment for clinical episodes including hip and knee replacement, and the Acute Care Episodes (ACE) Medicare demonstration focusing on 37 inpatient cardiac and orthopedic procedures. Examples from Europe include Best Practice Tariffs (BPTs) in England, covering admissions for hip fracture, stroke, cholecystectomy and cataract surgery, and Ortho Choice bundled payments in Sweden, covering orthopedic procedures including hip, knee and spine surgery (Srivasta et al. 2016).

Payments typically cover the costs of acute inpatient care activities (e.g. elective surgery) as well as pre- and post-admission outpatient visits, including the management of any complications that may result within a certain period after discharge (Porter and Kaplan 2015). For example, the Geisinger ProvenCare bundle for cardiac bypass surgery in the US included all costs related to preoperative evaluation and work-up; hospital and professional operative fees; routine post-discharge care (e.g. smoking cessation counseling and cardiac rehabilitation); and management of any related complications occurring within 90 days of surgery (Paulus et al. 2008).

Bundled payments for chronic conditions have been implemented predominantly in Europe to help improve coordination of care and to encourage a holistic, long-term perspective rather than one-off encounters or interventions (Srivasta et al. 2016). Designs focus either on rare, high cost diseases, or common chronic conditions. In Portugal, for example, bundled payments have been introduced for patients with selected high-cost chronic conditions including HIV/AIDS, multiple sclerosis, pulmonary hypertension, lysosomal storage disease, and certain oncological diseases, while in the Netherlands and Denmark, bundled payments have been used for more common chronic conditions including Type 2 diabetes, cardiovascular care and chronic obstructive pulmonary disease (COPD) (Srivasta et al. 2016).

For chronic conditions, the bundles typically cover all services related to the management of the disease, in line with clinical guidelines and pathways. For example, the Dutch bundled payment scheme for

diabetes included routine primary care check-ups, additional consultations, imaging, lab tests, examinations (e.g. foot examinations), counseling, medications, psychosocial care, and coordination of specialist services. The costs of disease complications are normally covered outside of the bundle (Porter and Kaplan 2015). The bundled payment for a chronic disease is typically time-based (per month or year) since, unlike acute care episodes, the cycle of care may continue indefinitely.

Additional information regarding the determination of bundled payment tariffs and contracting arrangements between payers and providers are discussed in Annex 2.

What is the impact of bundled payments on cost and quality?

To date, bundled payments pilots are still limited in numbers and scope and reported impacts on costs and quality of care need to be considered with caution.

Pilots for acute care episodes demonstrated that bundled payments can achieve cost savings, with no or little deterioration of care quality. The ACE demonstration saved Medicare an average of USD 319 per episode of care across 12,501 episodes. This amounted to about USD 4 million in net savings or 1.72% of total expected costs for these care episodes, without substantial detrimental effects on care quality (CMS 2015). The Geisinger ProvenCare bundled payment pilot showed improved trends on 8 of 9 quality indicators, including reduced readmissions to intensive care units, reduced use of blood products, reduced readmissions by 10%, shorter average length of stay and reduced hospital charges. Also under the OrthoChoice bundled payments, average costs decreased for care episodes with improvements in quality of care (e.g. reduction in waiting times, reductions in complications after hip and knee surgery, etc.)

Results of pilots with bundled payments for chronic conditions are mixed. In Portugal, the costs for treating HIV/AIDS decreased while the quality of care was maintained (e.g., patient adherence to medication, controlled infection levels, compliance of providers with treatment guidelines, etc.). In the Dutch diabetes bundled payment program, care processes and patient outcome indicators improved – at an increased cost. While costs of care increased for all diabetes patients in the country from 2008-2009, the increase for patients in the bundled payment program was a statistically significant EUR 288 more than the costs of care-as-usual patients (Struijs et al. 2012). Reasons for the higher cost increase remain unclear, but may be due to delays in the referral and treatment by specialists, which could have prevented more costly care at later stages in the disease (Srivasta et al. 2016).

Method 2: Population-based-payments

Population-based payments (PBP) involve setting a prospective benchmark budget, which forms the basis for payments to groups or networks of providers for the provision of all or the vast majority of services for a defined population. The emergence of this method has been closely related to the establishment of Accountable Care Organizations (ACO) in the United States and elsewhere. These are networks of health care providers that are collectively accountable for the organization, costs and quality of health care for their members. In most cases, providers continue to be paid using traditional methods (e.g. FFS) but are

responsible for keeping total costs below the benchmark budget. Insurers and providers may share any savings generated below the benchmark budget (contingent on achieving specified quality targets). However, if the costs of services delivered exceeds the budget, providers may also be responsible for covering a portion of losses.

Some countries have experimented with PBPs, with the largest pilots taking place in the US as part of broader reforms mandated by the Affordable Care Act of 2010. For example, Medicare has contracts with over 400 ACOs. Providers forming the ACO typically include primary care providers and hospitals, but can also include specialists, home care providers and long-term care institutions (Srivasta et al. 2016). In Europe, examples of PBPs have been implemented in Germany and Spain. In south-western Germany, two statutory health insurance funds contracted a private joint venture “Gesundes Kinzigtal GmbH” (GK) to run a population-based integrated care model for their insured populations. GK has contracts with 86 providers including primary care physicians, hospitals, nursing homes, physiotherapists and pharmacists. In Spain, the regional Health Ministry of Valencia established the Alzira model, a public private partnership (PPP) pilot with the Ribera Salud Group, a private contractor, to build a hospital and manage the care for the population of the Alzira area (Srivasta et al. 2016).

The range of health services covered by PBPs varies across pilots. In the Medicare pilots, ACOs are financially responsible for Medicare part A and B costs, which include inpatient hospital care, skilled nursing care, hospice and home health services as well as hospital outpatient care and doctors’ services. In Germany, providers are responsible for all health care costs for the insured population except for long-term care. In the Alzira model, providers are responsible for primary and secondary care services (Srivasta et al. 2016).

The size of the population assigned to an ACO varies widely. In the US, Medicare requires each ACO to be accountable for at least 5000 patients. To avoid any risk selection, providers in the “Gesundes Kinzigtal” approach are held financially accountable for the entire insured population (31,000 patients), although only a third of the population insured by the two statutory insurance partners are officially enrolled in the integrated care program. In the Alzira model, Ribera Salud Group is responsible for managing care for the entire Alzira population of 245,000 patients. Populations can be assigned to ACOs retrospectively or prospectively. For example, Medicare assigns patients retrospectively depending on whether patients received the vast majority of primary care services from a provider working within the ACO, while patients in the GK and Alzira models have been assigned prospectively.

Additional information regarding the setting of target budgets and payment and contracting arrangements are presented in Annex 2.

What is the impact of PBP models on costs and quality of care?

To date, PBP pilots are few and implementation periods tend to be short, hence, any reported impacts on costs and quality need to be considered preliminary at best.

In the US, Medicare ACOs contributed to slowing the health spending growth on an aggregate level in recent years, though not all ACOs could achieve cost savings. Moreover, a subset of the Medicare ACOs, known as Pioneer ACOs, have been able to achieve improvements in 28 of the 33 required quality indicators, including controlling high blood pressure, screening for future fall risk, and screening for tobacco use and cessation.

In Europe, evaluations showed that the GK model, achieved marginal savings, while enrolled patients had higher two-year survival rates for chronic heart disease, lower hospitalization rates, and greater satisfaction than comparison groups. Internal evaluations suggest that costs in the Alzira model were 25% lower than the average per inhabitant for Valencia (Srivasta et al. 2016). Meanwhile, compared to other hospitals in the same region, hospitals in the Alzira model had shorter waiting times for emergency visits and consultations, fewer readmissions and shorter lengths of stay (Srivasta et al. 2016).

What is the right path forward?

Bundled payments and PBPs have been emerging as payment methods with the explicit goal of improving integration of care. Evidence on which of these approaches is superior in terms of achieving this goal remains scarce and the way forward in countries that pilot these methods is much debated.

Proponents of bundled payments argue that they promote accountability for outcomes at patient level, which are of more value to patients than population-level outcomes. Since bundled payments use a bottom-up approach to cost reduction (by encouraging providers to decrease costs per acute episode or chronic patient), bundled payments should encourage multidisciplinary care coordination and improvements in the efficiency of care processes. As patients and providers gain more transparency on the outcomes and costs of treating particular conditions, bundled payments should also encourage competition based on value with patients being able to make more informed provider choices. At the same time, prices should fall as providers become more efficient (Porter and Kaplan 2016).

Critics argue, as the experience with DRGs suggests, that bundled payments for acute episodes will fail to trigger hoped-for innovations in care delivery (Porter and Kaplan 2016). In addition, they will be subject to the same unintended consequences including “skimping” on needed care, “cream-skimming” healthier patients and increasing the volumes of episodes to maintain revenue levels. Opponents of bundled payments for chronic conditions also argue that they are simply a form of “disease capitation,” and thus are a very small step away from full capitation, yet attempt to push actuarial risk down to the individual patient level, which is technically more difficult. They suggest that this could create strong incentives for providers to select patients and treatments based on financial returns rather than patient need. Moreover, since these bundled payments focus on individual diseases, some believe they are not suited to deliver care to chronic patients, who typically have multiple comorbidities. Since bundled payments for both acute episodes and chronic conditions focus on patients who are already sick, critics suggest that they do not do not encourage prevention of the acute condition or chronic disease early on, as PBPs do (James and Poulson, 2016).

Proponents of PBP models argue that these models are better able to eliminate waste in the health care system because they encourage cost savings across patient groups rather than for specific care episodes or conditions. Thus, they are thought to promote greater integration of care and a more holistic view of population wellbeing than bundled payments, in addition to keeping costs down (e.g. through risk-stratified case management, discharge planning, preventive activities, etc.). Proponents also argue that they do a better job of encouraging prevention early on, to reduce the incidence of downstream complications and costs.

Opponents of PBPs, however suggest that using a top-down, population-level approach to encourage cost reduction promotes targeting of generic high-cost areas such as limiting use of expensive drugs or tests, shortening lengths of stay, and discharging patients to home rather than to expensive rehabilitation facilities, rather than encouraging efficiency where it matters most to patients – in the treatment of their condition. In addition, they suggest that this approach could lead to rationing and thus a reduction in the provision of necessary care, without tying outcomes back to patients or providers. Critics also argue that PBPs shift responsibility for a population’s mix of medical needs from the insurer to ACOs, which have a lower ability to spread risk and thus are ill equipped to manage them effectively. Moreover, they suggest that while cost savings may be achieved in the short run, PBPs entrench large existing systems, eliminate patient choice, promote consolidation, and in the process, limit competition (Porter and Kaplan, 2016; James and Poulsen, 2016).

Against the background of these unresolved debates and given the good performance of EHIF’s payment system, including room to refine, strengthen, and enrich traditional payment methods, it seems prudent for EHIF to wait and learn from bundled and population-base payment pilots in other countries before considering experimenting with any of these methods and their variants. Should EHIF decide to pilot any of these payment methods, two potential starting points may include (i) bundling of acute and outpatient services (e.g. pre- and post-acute care for certain high-volume procedures) given that this often involves services delivered by professionals in the same facility (i.e. hospitals), and (ii) using population based payments with shared savings and losses for multidisciplinary group practices, given that these practices are able to provide a wider range of services in-house.

4.2.6. Cross cutting issues

Payment methods can have unintended consequences, from dumping and cream-skimming of patients to skimping, up-coding and overprovision of services. To mitigate these effects, payment systems typically include processes of risk adjustment and quality monitoring. While risk adjustment is particularly relevant to prospective payment methods for patient populations with varying levels of risk such as primary care capitation and the emerging PBP method, provider quality monitoring and auditing is critical to mitigate the unintended consequences of all payment methods.

Risk adjustment

Risk adjustment is the process of modifying providers' payments to account for the relative health status of their patient populations. Paying prospectively for enrolled patient populations through capitation or population-based payments may disadvantage providers who care for complex patients since they run the risk of incurring higher costs than those who treat relatively healthier patients (American Medical Association 2012). This creates incentives for these providers to "cream skim" (select healthier patients), "dump" (costlier or difficult to manage patients) and/or "skimp" (underprovide necessary care) to ensure financial sustainability or make profits. Risk adjustment is thus seen as a mechanism to "level the playing field" to ensure that providers are compensated in a manner that allows them to provide high quality care to patients according to their health risks.

How is risk adjustment done?

Risk adjustment consists of two steps: (i) assessing health risk based on the relative health status of individual patients within a population and assigning "relative risk scores", and (ii) adjusting payments made to participating providers based on the average relative risk score of their enrolled population. Assessing health risk is typically done using algorithms that incorporate information on demographics (e.g. age, gender, etc.), illnesses and other factors. The resulting relative risk scores indicate each patient's health status, and thus likely cost levels compared to an average member of the population. Payers adjust payments based on these relative risk scores to ensure that providers receive higher payments for higher risk patients.

Various commercially-available risk assessment models draw on information available through claims data to generate cost estimates (American Medical Association 2012). Examples used by public insurers in the US (i.e. Medicaid and Medicare) include the Adjusted Clinical Groups (ACGs) case-mix system developed by Johns Hopkins University, the Chronic Illness and Disability Payment System (CDPS), and Hierarchical Condition Categories (HCCs) (American Medical Association 2012, Martin et al. 2004). The main limitation of these claims-based models is that the information available through claims data (e.g. diagnoses encoded using classification systems such as ICD-10) lack sufficient granularity and comprehensiveness to adequately adjust for different levels of patient risk, and thus may result in significantly biased risk scores. For example, claims data typically lack information on patient symptoms (which may not necessarily result in a diagnosis) and condition severity levels, and do not fully account for the interaction effect of certain comorbidities that may be especially difficult to manage (e.g. physical and mental comorbidities). Moreover, claims data do not account for other non-clinical factors which may impact a patient's overall health and complexity level such as socioeconomic status, family and social support systems, health-related behaviors, psychosocial factors, etc. Thus, in the future, payers will need to draw on more detailed clinical information, such as data encoded in electronic medical record systems, and other administrative or routinely collected data sources to produce more accurate estimates of patient risk.

Risk-assessment can be done using either concurrent or prospective models. Concurrent models predict costs using information (e.g. patient diagnoses) from the same year. Because these models use information arising during a business year, they require retrospective payment adjustments. In contrast,

prospective models predict costs based on information from previous years. Physicians are generally better off when concurrent risk-assessment models are used since they have a much higher predictive accuracy than prospective models - concurrent models can attribute approximately 50% of the variation in costs to variations in risk scores, while prospective models can attribute only 20% to variations in risk scores. However, payers tend to favor prospective models since they create stronger incentives for preventive care and appropriate medical management (American Medical Association 2012).

Although risk adjustment models can reasonably predict the costs of common diseases across patient populations, they fail to appropriately account for unusual diseases and conditions that may arise and may be extremely expensive, including injuries. Thus, to protect providers against these outlier costs, excess loss or “stop loss” insurance may be needed, where beyond a certain pre-determined cost threshold per patient providers are no longer responsible for the cost of treatment.

It is important to note that there is no gold standard when it comes to selecting tools for risk adjustment. Many of the models developed to date have similar levels of predictive ability, though the field is continuing to develop rapidly. Thus, other factors may be more important when selecting an appropriate risk adjustment model, such as cost, ease of use, access to quality data, underlying logic of the model, transparency and resistance to gaming (American Academy of Actuaries 2010).

How is risk adjustment relevant for EHIF's payment methods?

Current risk adjustment practices for primary care capitation payments may need to be strengthened, particularly as services covered under the FFS lists are folded in the capitation payments to ensure that family physicians who cover more complex patient populations receive adequate resources. If ever pursued, risk adjustment would also be necessary for PBPs, to ensure that provider networks are held to budget limits that account for the health status of their enrolled patient populations. While risk adjustment can reduce the incentives for “skimping”, “dumping” and “cream skimming” under these payment methods, quality monitoring and auditing (discussed in the next section) are nevertheless critical to ensure that providers are delivering adequate care.

Provider quality monitoring and auditing

Quality monitoring and auditing of providers are key purchasing functions necessary to avoid potentially unintended consequences of payment methods, which may jeopardize patient health and/or lead to waste of health care resources. These functions ensure that health care is in line with accepted standards of good practice (i.e. clinical guidelines) and is producing the desired patient health outcomes. In Estonia, these functions are part of a broader health care quality assurance system which requires some improvements.²⁶

²⁶ A review of the Estonian quality assurance system for health care and options for improvement is provided in a separate report delivered under the first RAS.

How are provider quality monitoring and auditing done?

Provider quality monitoring consists of: (i) defining and agreeing on specific quality indicators with providers (e.g. in provider contracts), and (ii) routinely collecting relevant data and assessing provider performance against these indicators (Health Care Payment Learning and Action Network, 2016). Quality monitoring activities typically draw on claims data and other administrative data sources. The indicators selected should include both process and outcome measures; however, the vast majority of quality indicators commonly employed are process measures, as these tend to be easier to monitor. Since these measures do not reflect the outcomes that payers and patients aim to achieve, health sector organizations are increasingly beginning to develop standardized and comprehensive sets of outcome indicators. In the case of bundled payments and PBPs, which require providers to become accountable for care that spans multiple care settings, quality indicators will need to be adapted accordingly to reflect performance on relevant outcomes and processes, including care coordination activities.

Quality auditing consists of relying on an independent, qualified medical professional to assess whether care is being provided per recommended standards of good clinical practice (e.g. clinical guidelines) and/or achieving desired outcomes. Audits typically follow a formal, structured and systematic approach and may focus on selected aspects of the structure (e.g. quality of premises, availability of necessary equipment, etc.), process or outcome of care. Providers may be selected randomly or targeted specifically (e.g. due to patient complaints, or poor performance on quality monitoring indicators). In cases where quality standards are not being met, audits seek to identify what the underlying causes are and determine necessary steps for improvements. Audits may draw on a variety of methods and information sources such as reviewing routinely collected data from electronic medical records, performing surveys, conducting direct observation by peers or using “simulated patients” (Flottorp et al. 2010). Findings of clinical audits are often reported back to providers, coupled with recommended follow-up corrective actions.

How are quality monitoring and auditing relevant to Estonia’s payment methods?

Quality monitoring and auditing are essential for most of EHIF’s payment methods to ensure that services are being provided in line with accepted standards of good practice and are achieving desired patient outcomes. Exceptions include the QBS, which already involves quality monitoring by design, as well as allowances, which have limited evidence of unintended consequences on quality of care. In contrast, payment methods such as capitation, payments for care enhanced care management and coordination, and DRGs, require quality monitoring and auditing to ensure that providers do not skimp on necessary care to maximize profits. Similarly, under FFS and DRGs, EHIF should ensure that providers do not increase volumes of unnecessary services and admissions or up-code services to maximize profits.

If EHIF should decide at some point to implement either bundled payments or PBPs, quality monitoring and auditing will be critical to ensure that providers continue to adhere to evidence-based care processes, including adequately coordinating care between care settings, and are held accountable for patient health outcomes. Indeed, OECD countries piloting these payment methods are increasingly making full payment to providers contingent on achieving specific process and outcome measures (see Annex 2).

4.3. Strengthening the payment system functions

Aside from payment methods, refinements of key functions can help improve the payment system's effectiveness in achieving health sector reform objectives. The following sections discuss options to strengthen these functions in the short and medium term. They aim to enhance the accountability for results, accuracy and consistency of information, and alignment of financial incentives with sector objectives. The section starts however with definitions of these functions and an overview of the status quo in Estonia.

4.3.1. Definitions of payment system functions

Five key payment system functions are critical for the adequate design and application of payment methods as well as the performance of the payment system, including classifying, counting, costing, pricing and reporting.

Classifying is the process of using standardized systems to define health care products (i.e. diagnoses and procedures) for paying providers. These systems draw on routinely-collected health care information at the patient level, and should ideally account for variations in symptoms, complexity level, treatment regimes, and care settings.

Traditional classification or “output” systems are commonly used to code diagnoses and procedures for claims processing, external reporting and other administrative uses, however, fail to support critical, complementary processes. Commonly used examples of output systems include the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) for the classification of diagnoses, and the International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) for the classification of procedures. These systems however capture information insufficiently that is critical to inform processes such as quality monitoring and risk adjustments.

Detailed clinical information is typically classified using clinical reference terminologies or “input” systems for capture in electronic medical records (EMR). Input systems help standardize information that is documented in EMR systems and shared between providers, thus supporting better integration and quality of care. They also enable the development of computerized clinical decision support systems (Bowman 2005). A common example of an input system is the Systematic Nomenclature of Medicine – Clinical Terms (SNOMED-CT), which is owned and distributed internationally by the International Health

Terminology Standards Development Organization (IHTSDO). SNOMED-CT captures comprehensive information on patient care, including symptoms, diagnoses, etiologies, procedures and outcomes.

While input systems are too complex to be used on their own for claims processing and other administrative processes, mapping between input systems such as SNOMED-CT and output systems such as ICD-10-CM allow aggregating granular clinical information documented in EMR systems into more manageable formats (e.g., ICD-10) for the use in payment systems. Mapping can also automate the conversion of EMR data into ICD-10-CM codes. This avoids the duplication of processes to capture health care information, thus improving the accuracy of information and reducing administrative costs. However, linking information captured in EMR directly to payment processes carries the risk of financial incentives distorting the documentation of clinical information.

Counting is the process of coding and aggregating routinely collected information on the delivery of health care at the patient level using classification system codes. Adequate coding and aggregation of health care data is critical for the accuracy and consistency of health care information employed in payment and other administrative processes.

As coding and aggregation are extremely vulnerable to human error and/or fraudulent miscoding to optimize payments, it is necessary to assure the quality of these activities. Important mechanisms for quality control include: (i) developing nationally-consistent counting rules and standards to guide counting practices; (ii) accrediting providers and performing routine audits of counting practices to ensure compliance with national standards; and (iii) using health information management professionals to carry out coding functions. The use of professional coders instead of clinical staff is not only a matter of accuracy and consistency, but also efficiency. Whenever possible, the responsibility for coding should therefore rest with a specialized layer of information service staff within health care facilities. Typically, this staff is also responsible for the management of clinical records.

Costing is the process of determining the expenditures (both direct and indirect) of delivering health care services, yielding a nationally-recognized unit cost per health care product. Whenever possible, costing should use a patient-level activity-based costing approach to improve the use of resources and promote efficiency (Blunt and Bardsley 2012). This is a bottom-up approach since it establishes unit costs by tracking the actual resource use and associated costs of care delivery for individual patients. Thus, it captures more accurate information on actual resource use and variation in costs across patients compared with top-down costing approaches, which allocate total facility costs downwards to departments and then services to calculate average unit costs (Ozaltin and Cashin 2014). Variations in resource use and care costs across patients can reveal sources of inefficiencies and shortcomings in terms of quality of care that can serve as the basis for the redesign of care processes.

To achieve the level of detail required for patient-level costing, it is necessary to implement information systems that can capture patient and cost data, called Patient-Level Information and Costing Systems (PLICS). With the right level of investment and support, PLICS can be introduced relatively quickly. In England, for example, shortly after the introduction of PLICS, the Department of Health strongly

recommended their implementation across all National Health Service trusts (Department of Health 2010) and within a year, over half of all NHS trusts started using them (Llewellyn et al. 2016; Blunt and Bardsley 2012).

Pricing consists of determining the amounts that payers reimburse providers for the delivery of health care services. Pricing moderates the incentive effects of payment methods, enhancing or mitigating both intended and unintended consequences. Pricing is at its core a negotiation process, that in most mature systems is based on systematic information sharing and consultation processes to ensure that providers understand and accept the evidence base for the change in incentives. Part of the evidence base underpinning the process includes accurate cost information and the results of an understanding of the impact of price changes on provider revenues (e.g., budget impact modeling) and behaviors, payer's expenditures and system sustainability.

Monitoring is the process of continuously assessing the performance of a payment system, including the implementation and impact of critical processes and strategic initiatives to improve system performance. The key purpose is to enable adjustments to achieve strategic organizational objectives. Therefore, any efforts to monitor payment systems must be embedded in broader performance monitoring and management systems of the payer organization and of the sector. Monitoring involves the development of sound indicators and reporting frameworks, including targets. Time series data and analysis are essential to understand the effect of adjustments over time. An example of a common organizational monitoring framework is the Balanced Scorecard Model (Kaplan and Norton 1992). A frequent challenge of Balanced Scorecard Models is keeping to a list of indicators of strategic importance.

4.3.2. Overview of current status of payment system functions in Estonia

To **classify** health care information for health care payments, EHIF uses "output" systems, including the WHO's ICD-10 for diagnoses, a nationally developed list of health services, and the NOMESCO classification for surgical procedures. The ICD-10 has been used since its introduction in 1997 as the classification system for diseases. The nationally-developed service list, contained in a government regulation, covers procedures for all health care levels and specialties. The list forms the basis of EHIF's health service package and includes also service prices. The NOMESCO classification for surgical procedures was introduced in 2001 with the Nordic DRG case-mix classification system as a grouping tool for activity analysis and phased in for payments between 2004 and 2009. Although the national health service list overlaps with the NOMESCO classification, there is clear mapping between the two systems. The national ID system allows linking patient data across these systems and care settings.

In addition, input systems are also available. In 2010, Estonia became a member of IHTSDO, with its E-health foundation as the national release center. Since then, a total of nine affiliate licenses have been granted, and some affiliate licensees currently use the terminology with their own translations. The E-health foundation aims to expand the use of SNOMED-CT for the nation-wide documentation of clinical data in health care provider EMR systems. This expansion is expected to support the development of

computerized clinical decision support systems in primary care - a priority of both family physicians and EHIF.

Mechanisms to ensure the quality of **counting** practices remain limited. Although some counting instructions are available on the web, there are no comprehensive guidelines available; moreover, those available are mostly tailored towards care provided in hospitals. While EHIF carries out audits of counting practices of hospital for services included in the national health service list, it does not conduct audits of counting practices at the primary care level; moreover, it does not audit counting practices of diagnoses. There is no mechanism to accredit providers based on their counting practices. Typically, health care providers do not employ professional coding staff – doctors and other clinicians currently have the primary role of coding clinical data for claims-processing.

EHIF uses top-down **costing** approaches to set and update tariffs for its payment methods.

For services reimbursed on a FFS basis, EHIF in principle aims to comprehensively review service costs at least every five years. Updates are typically prompted based on applications from specialty associations. EHIF uses an activity-based costing methodology (adopted in 2005) to update service costs, with data sent in by reference providers (e.g. selected primary care practices and hospitals). The costing methodology is conducted in close collaboration with specialist associations and consists of the following general steps (EHIF, 2016e):

- Establish expected service volumes for future years based on trend analysis using claims data from reference providers;
- Review inputs and activities and corresponding quantities for each service, drawing on claims data and national and international standards;
- Establish average costs of inputs and activities drawing on facility/department-level cost data sent by reference providers
- Considering forecasted service volumes and impact modelling results, revisit and optimize inputs, activities and corresponding quantities; and
- Calculate final average unit cost per service.

To update DRG tariffs and relative case weights, the resulting service unit costs are used as inputs in a two-step calculation. First, the mean tariff is calculated based on the service costs. Deviations from this mean are then trimmed at the 90th and 5th percentiles, and a new mean is calculated. DRG tariffs and relative case weights are updated annually or biannually (depending on the volume of claims for the DRG group).

Tariffs for hospital per-diems as well as primary care capitation and allowances are determined using a traditional cost accounting methodology, which allocates the costs of various inputs to determine the average unit cost per cost object. The relevant cost objects are acute inpatient/day care bed-days for per-diems, patients for capitation and family practices for allowances. The relevant inputs for hospital per-diems include basic examinations, diagnosis and treatment planning, nursing, meals, simple medical procedures, laboratory tests and pharmaceuticals. For primary care capitation, input include family

physician and nurse labor (i.e. salaries agreed between EHIF and the professional associations), equipment, medical supplies, devices, and office management. The monthly salaries of physicians and nurses are weighted based on the average proportion of visits per year by age group (0-2, 3-6, 7-49, 50-69, and 70+), while the costs of other inputs are not weighted. The inputs for the basic, distance, second family nurse and after-hours allowances include: costs of the premises (rent, maintenance, utilities, etc.), equipment, medical supplies and devices and transportation (for home visits, lab tests and training in urban/rural areas).

The overhead and salary components of all payment method tariffs are updated annually. Overheads are updated based on the GDP deflator, while salaries are updated based on rates agreed upon between EHIF and professional associations.

Pricing negotiations are part of the periodic cost reviews for each specialty. In general, EHIF does not negotiate relative price levels to signal behavioral preferences due to concerns about long term distortions in price structure. Instead, prices are commonly set at cost level, subject to approval by MOSA per recommendation of the EHIF management and supervisory boards. EHIF does, however, retrospectively compare cost data with tariffs to ensure full cost-recovery. In case of deviations, it analyses the underlying causes and determines whether pricing updates are warranted, in which case it initiates negotiations with providers. As a result, “price” negotiations are part of the costing process, that is, negotiations of the optimal mix of inputs and activities, corresponding quantities and prices. EHIF only models the impacts of price changes and service volume trends on its own expenditures – it does not model the impacts on provider revenues and behaviors.

EHIF’s **monitoring** and reporting framework is based on the balanced scorecard model. It includes a set of 11 core organizational performance indicators. These are complemented by a set of 12 indicators to monitor the impact of EHIFs development and reform plans. Each set of indicators captures information along four dimensions:

- Beneficiaries;
- Partners (i.e. health care providers);
- Health care system; and
- Organizational development.

Information on a subset of these indicators is published in EHIF’s annual report.

The set of organizational performance indicators is at best loosely aligned with EHIF’s strategic priorities and sector reform objectives. For example, service coverage indicators capture progress in screening gynecological cancers and childhood dental disease rather than primary health care interventions addressing main causes of the disease burden.

The set of indicators to monitor the implementation status and impact of EHIF's development capture progress toward some but not all of EHIF's strategic objectives. For example, it includes indicators to capture reductions in avoidable hospital admissions and unnecessary outpatient visits as well as recent changes to the primary care payment system, including raised FFS fund caps and modifications of the QBS. However, it does not include indicators to monitor progress in strengthening service delivery capacity in primary care. Moreover, by capturing either changes in business processes or expected outcomes, it provides only a partial view of chains of causes and effects, thereby limiting the information base to draw conclusions.

Given the good practice of keeping to a small set of indicators, the organization of the scorecard along the above-mentioned four dimensions seems to introduce a level of complexity that adds little value; furthermore, the four dimensions seem to overlap rather than being mutually exclusive.

4.3.3. Options to strengthen payment system functions in the short-term

In the short-term, the main objective of improvements to the payment system functions will be improving accountability for results by enhancing EHIF's monitoring and reporting framework, eventually introducing indicators to capture the implementation and impact of payment systems reforms.

Enhance monitoring

Options to strengthen the payment system's performance monitoring and reporting include: (i) improving the alignment of the core organizational performance framework with current strategic priorities of EHIF and the sector; in particular, strengthening primary care to improve integration of care and efficiency, (ii) replacing indicator dimensions along constituencies and institutions in favor of distinguishing between improvements in business processes and outcomes with strong linkages between them, and (iii) annually publicly reporting on all performance indicators. The proposed improvements should produce information critical to adjust processes and policies to accelerate progress toward the strategic objectives while enhancing overall transparency and accountability.

If EHIF decides to adopt reform options presented in this report to strengthen its payment system, relevant indicators should be included in the scorecard component that monitors the implementation and impact of development and reform plans.

4.3.4. Options to strengthen payment system functions in the medium-term

In the medium-term, refinements to payment system functions should aim at improving the accuracy and consistency of information and strengthen pricing signals. Options include (i) expanding the use of SNOMED CT as a classifying system, (ii) strengthening quality assurance of counting practices, (iii) negotiating prices to induce intended provider behavior changes and (iv) moving to a patient-level costing approach.

Expand use of SNOMED CT as a classifying system

Refinements to classifying practices should involve: accelerating the expansion of SNOMED CT use in provider EMR systems; and implementing maps with ICD-10²⁷ to improve the accuracy of coding and collect more granular information on patient care. This will serve as the basis of reporting on QBS indicators and performing more rigorous risk-adjustment of payment methods. Moreover, it will help to standardize the information that is documented and shared between providers and allow for the development of clinical decision support systems in primary care – a priority for both family physicians and EHIF.

A recent WHO review to guide the reform of primary health care organizations (De Maessener 2016) recommended the adoption of the International Classification of Primary Care, Second Edition (ICPC-2)²⁸ mainly to better classify symptom-level reasons for encounter (RFE) in primary care. However, SNOMED-CT is considered the superior alternative as it fulfills this function more comprehensively; moreover, it has already been introduced in some EMR systems within the country and its use promoted at the national level.

With any new classification system, translation into local language and wide-scale implementation will be a resource-intensive process, require the availability of clinician input as well as adaptation or creation of new health IT infrastructure. Although resource requirements may raise concerns regarding the cost-effectiveness of implementation, Estonia may be able to draw on the experience of other small countries that have already made significant progress. Lithuania, for example, has successfully translated 40,000 SNOMED-CT concepts and is currently proceeding to pilot test it in one of the country's largest outpatient clinics.

Strengthen quality assurance of counting practices

Although classification systems may be refined or changed over time, the quality of counting practices according to current classification systems should be improved. Options for strengthening the quality control of counting practices should first include the development of clear rules and standards. These rules and standards should be translated into manuals and training programs.

To assure compliance with national rules and standards, an accreditation program of provider counting practices could be established. In addition, audits of counting practices could be improved. Since EHIF currently audits hospital counting practices, this could be expanded to include counting practices in primary care. Moreover, EHIF could also encourage internal audits by providers. The audit cycle should include feedback of audit observations and discussions of action plans for improvements.

²⁷ Maps between SNOMED-CT and ICD-10 are currently available through a collaboration between IHSTDO and WHO (Alakrawi 2016)

²⁸ www.who.int/classifications/icd/adaptations/icpc2/en/

Finally, a training program could be initiated (with continued scale-up through the long term) to establish a cadre of health information management professionals who can serve as professional coders and clinical records managers within provider facilities.

Introduce regular negotiations of price incentives with stakeholders, including improvements in impact modelling

EHIF should systematically adjust relative price levels in line with desired provider behavior changes. To help make these pricing adjustment decisions, EHIF should establish an annual pricing cycle that engages stakeholders systematically in the steps of deciding (i) periodic adjustments of prices based on cost reviews and (ii) annual indexation of prices in the health service list. This cycle should include systematic information sharing and stakeholder consultation process to ensure that proposed changes are understood and agreed to by relevant stakeholders. The introduction of such a process may be gradual with pricing adjustments to promote the shift from acute inpatient to day care as a starting point.

The periodic adjustment of prices based on cost reviews should incorporate impact modeling of price changes on EHIF expenditures and provider revenues and behaviors. The purpose of these impact models is to help determine the adequate price levels and phase-in schedules, while promoting clear understanding and sense of ownership of pricing decisions by all stakeholders. To ensure the integrity of the modeling, total expenditure and revenue estimates should be reconciled with actual revenues and expenditures from the most recent audited accounts. Short-term efforts to strengthen EHIF's impact modeling capacity should focus on the financial sustainability of small, community hospitals to assess and ensure the political viability of payment reform proposals.

Move to patient-level costing approach

EHIF should move from its top-down costing approach to a patient-level costing approach, deriving cost from actual resource use. Indeed, independent of EHIF's service costing and pricing, documenting patient-level costs are in the interest of all providers, and particularly hospitals, as it is part of good management to understand the sources of cost variations and potential inefficiencies in care processes. The transition to the model should be gradual using a phased promotion and development program of patient-level costing capabilities. The transition should start with a small pilot group of providers and focus in the first instance on high volume, high cost case types where input tracking systems are generally most common or investment is cost effective.

In addition to using the information generated by PLICS in the costing approach, EHIF should feedback PLICS data to providers, thus encouraging them to identify and rectify sources of inefficiencies and redesign care processes.

4.4. Links between suggested refinements to payment system functions and payment methods

While the payment method refinements suggested in this report can be implemented independently of the proposed improvements to the payment functions, investing in improvements to these functions can help strengthen the design and application of the payment methods, as well as their effectiveness of in achieving sector reform objectives. Linkages between the payment methods and payment system functions can be found in three major areas.

First, increasing the accuracy and consistency of information (e.g. through the expanded use of SNOMED and improved quality of counting practices) will allow for enhanced monitoring of performance on QBS quality indicators and of services that are delivered under different payment methods (e.g., enhanced care management and coordination payment, DRGs, etc.) as well as improved predictive accuracy of risk adjustment models (e.g., for primary care capitation).

Second, enhanced pricing negotiations, drawing on patient-level cost data and impact models, can help to improve the effectiveness of payment method modifications, such as moving to a 100% DRG reimbursement rate and aligning DRGs with clinical guidelines, by reinforcing desired behavior changes.

Finally, enhancing EHIF's monitoring framework will help to increase accountability for the payment methods' contributions toward achieving the health sector's (and EHIF's) reform objective of strengthening and increasingly shifting service delivery to primary care.

5. Endnotes

The EHIF currently operates a sophisticated payment system that is in general commendable and advanced in comparison to other EU countries. This report describes options to further refine both components of the payment system – payment methods and functions. The options to refine the payment methods aim to simplify, reduce overlaps, and improve the alignment of resulting incentives with sector reform objectives. Given the complexity of the blend of payment methods within and across care settings, it will be important to monitor effects of these refinements, both intended and unintended. To support the effectiveness of the payment methods in achieving reform objectives, the options to strengthen the payment system's key functions aim to enhance the accuracy and consistency of information used by the payment system, the alignment of price signals with reform objectives and the payment system's accountability for results.

This report examines only one part of the broader purchasing system. There are other components that drive integration of care and system efficiency (e.g. contracting), that may warrant further analysis. Moreover, some of the proposed options require further analytical work prior to implementation. For example, certain adjustments and innovations in the payment of group practices will require a better

understanding of internal contracting and governance models to maintain incentives for delivering high quality and efficient care among individual physicians.

The options for reform offered in this report correspond to good practices as well as recent innovations in OECD countries. Nevertheless, EHIF should continue to search for and monitor evidence on other emerging payment system innovations as it moves forward with the reform process. Success may also require some flexibility in the sequencing of reform activities. Last but not least, it will be important to adopt a consultative approach with other health sector stakeholders throughout the design and implementation process.

Annex 1: Logical framework

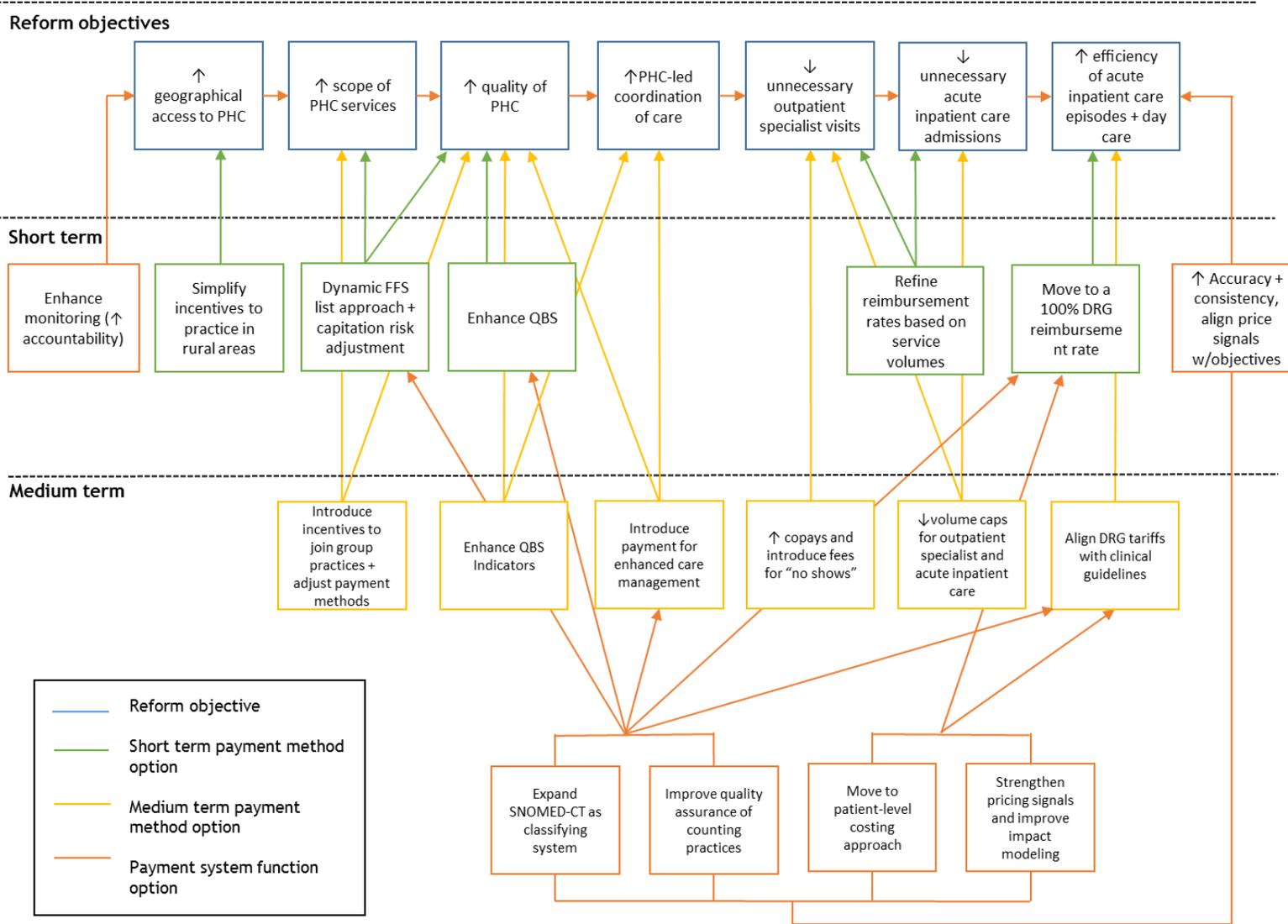
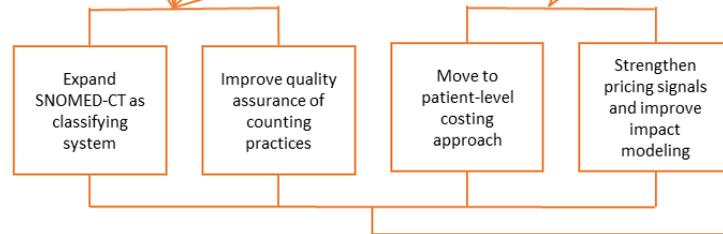
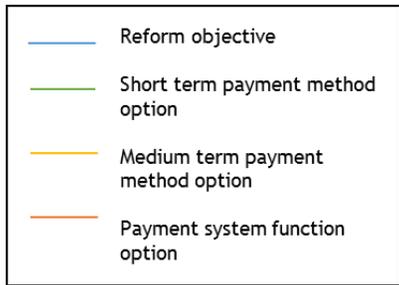
Reform objectives



Short term



Medium term



Annex 2: Determining prices, and payment and contracting for bundled payments and PBPs

How is the price of the bundle determined and what are the payment and contracting arrangements?

To set bundled payment tariffs, payers typically draw on historical costs and, more recently, attempt to reflect “best practice” as defined by clinical guidelines. Tariffs should be set high-enough to adequately cover the costs of necessary care and minimize the risk of financial losses. Indeed, they should provide a margin over a provider’s full costs when adhering to best practice to encourage improvements in care processes. However, the price cannot be set too high, such that incentives for providers to enhance efficiency are reduced.

Tariffs rates may also be set strategically to achieve certain quality goals and full payment may be contingent on the achievement of certain quality indicators. For example, the Giesinger ProvenCare bundled payment is a flat fee based on the estimated cost of a typical hospitalization plus 50% of the average cost of post-acute care for the 90-days after surgery. The 50% discount reflects GHS’s goal to substantially reduce readmissions with process improvements (Jacobs et al. 2015). In addition, providers are required to provide all 40 care process elements of the ProvenCare process for CABG to receive full payment (Paulus et al. 2008). Similarly, 10% of the tariff in Sweden’s Ortho Choice bundled payment for hip and knee replacement is contingent on patient’s functionality post-surgery (Srivasta et al. 2016).

Bundled payments can either be prospective or retrospective. Both models are currently being piloted by Medicare in the US. In the retrospective model, the payer pays providers using traditional payment methods (e.g. FFS) and later reconciles the total expenditures against a predetermined bundled payment tariff amount. If the total provider reimbursement amount is less than the tariff, the insurer pays the providers the difference. In turn, if providers were reimbursed more than the stated tariff, they must repay the overage amount to the payer. Under a prospective bundling model, providers receive a single, lump sum payment from the payer and have full responsibility costs above the lump sum amount (Lazerow 2011).

Bundled payments for acute care episodes or for chronic conditions which include mostly hospital-based services (e.g. HIV/AIDs), are typically made to hospitals, which are then responsible for distributing the funds to all participating physicians and/or providers. Bundled payments for more common chronic conditions such as Diabetes, are typically made to physician-led groups. These care groups are mostly led by primary care physicians, who either provide the relevant diabetes services themselves or contract them out to other providers (e.g. other primary care physicians, laboratories, dieticians, and specialists). For example, the bundled payment for diabetes in the Netherlands are made to care groups comprised of between three and 250 GPs (Jacobs et al. 2016).

How is the benchmark budget for PBPs determined and what are the payment and contracting arrangements?

The annual benchmark budget value can be determined either based on historical costs alone or with additional negotiations. In the Medicare and GK models, the budget is determined primarily based on past spending using administrative data. The Medicare model calculates the weighted average expenditure per ACO beneficiary over the past three years, adjusted for beneficiary characteristics. In GK, the benchmark budget corresponds to the amount of money the two contracted health insurers receive from the Central Health Fund, which is adjusted based on the age and diseases of the insured population. In the Alzira model, while historic spending levels is the starting point, the final benchmark budget is determined through negotiations between Ribera Salud and the regional health ministry.

ACOs can either be paid using traditional payment methods (e.g. FFS) or with monthly capitation payments. Most Medicare ACOs, as well as the GK ACO, are paid using traditional payment methods, while the Alzira ACO is paid with fixed, monthly capitation payments to cover all services provided for the patient population. The latter type of PBP is also often called a “*global capitation*” or “*full capitation*” model. “*Partial capitation*” is another form of payment, which refers to fixed-rate payments covering only some services for a defined population, while the remaining services are paid for using other methods such as FFS. In Europe, partial capitation is more common as a payment to primary care doctors for the care of a fixed panel of patients, usually blended with a fee-for-service element (Charlesworth et al., 2012).

The total costs of care provided by ACOs are typically reconciled with the benchmark budget at the end of the year. In the case of some Medicare models and the GK model, ACOs can share the savings with the payer if total costs are kept below the benchmark budget (shared savings contract). For other Medicare models, ACOs also share responsibility for any costs that exceed the benchmark budget (shared savings and risk contract). The Alzira ACO can keep some of the savings from the capitation amount but needs to share any profits that exceed 7.5% of turnover. It is also fully responsible for costs exceeding the capitation amount. The length of the contracts between the ACOs and providers span several years, ranging from 3 years in the Medicare model and 15 years in the Alzira model, to give all contracting parties planning security (Srivasta et al. 2016).

Full sharing of any savings is increasingly contingent on achieving certain quality goals. For example, in the Medicare ACO model, health providers must meet a series of quality targets to share shavings. These quality targets cover areas such as patient/care giver experience, care coordination/patient safety, and preventive health for patients with diabetes, hypertension, ischemic vascular disease, heart failure and coronary artery disease. Similarly, in the Alzira model providers must meet a series of quality and safety targets including process indicators, clinical outcomes and patient experience (Srivastava et al 2016).

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