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D6.9 - Report on stakeholders' views on the effects of payment mechanisms (analysis of in-depth interviews)

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FLASH - Flexible Approaches to Support Health through financing

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Glossary of terms

Financing mechanism - a mechanism used to transfer funds from the purchaser of health care services to the providers.

Hospital - an institution that is built, staffed, and equipped for the diagnosis of disease; for the treatment, both medical and surgical, of the sick and the injured; and for their housing during this process. The modern hospital also often serves as a centre for investigation and teaching.

Financial incentives - incentives that are created by the payment methods and the responses of the providers to those incentives, which can have profound effects on the way health care resources are allocated, and services are delivered.

Diagnosis Related Group (DRG) system or DRGs are a patient classification system used by hospitals and insurers to categorize patients based on their diagnoses, treatments, and other factors.

The National Health Fund – NHF – public payer for the healthcare services in Poland.

Executive summary

This document presents Deliverable D6.9: the report analyzing stakeholders' views on the effects of payment mechanisms in the Polish healthcare system. The study is part of Work Package 6, which focuses on incentives for efficiency and quality in healthcare. The research methodology involved two main stages:

- Focus Group conducted on December 16, 2024, with eleven participants from the National Health Fund and the Agency for Health Technology Assessment and Tariffication, hospitals and academia.
- In-Depth Interviews: conducted between March and May 2025, involving ten experts, including hospital managers and representatives from the National Health Fund and the Agency for Health Technology Assessment and Tariffication.

The transcripts from the stakeholder meeting and interviews were used as a basis for PESTEL analysis. This analysis was conducted to categorize external factors influencing the healthcare system:

- Political Factors: The necessity of political will and decision-making to implement changes in funding mechanisms.
- Economic Factors: The impact of the state's economic potential on healthcare funding and the rising costs of medical staff.
- Social Factors: The challenges posed by an ageing population and increased patient awareness.
- Technological Factors: The need for rapid adaptation to new medical technologies and their integration into funding models.
- Environmental: pro-environmental attitudes and investment in alternative energy sources.
- Legal Factors: The slow pace of legislative changes affecting the implementation of new funding mechanisms.

The findings from the collected data and the analysis show that while the DRG system was intended to enhance efficiency, its implementation has led to several unintended consequences, necessitating a reevaluation of the payment mechanisms in place to ensure they align with the healthcare needs of the population.

1. The study outline

1.1. The overview of the approach

The issue of deciding on the structure and priorities of financing social services, especially health services in the public sector, is gaining importance at a time of increasing expectations of the public in terms of the state taking action to secure the public interest (i.e. improving the health of citizens) as well as pressure on the effective use of public funds (i.e. a more efficient and effective health care system). A growing interest in public sector health financing issues can be observed on the part of both researchers and practitioners. This knowledge is also important from the point of view of management practitioners, as a coherent approach to public policy-making strategies in relation to health policy issues is the most important aspect for managers in health entities.

The primary rationale for the research topic is the research gap identified in the systematic literature review, which was the subject of the report in Task D6.7: Overview of the literature on incentives for hospitals. In that report we presented categories of financial mechanisms and incentives along with the findings from the literature review. In this report we focus on the determinants (political, economic, social, technological, environmental - understood as the natural environment and legal - PESTEL) of decision-making concerning the choice of ways of financing health services. This may contribute to the prevention, mitigation or counteracting the emergence of significant health problems occurring in the population.

The aim of the study was to look for better funding mechanisms than existing ones for inpatient services for three specialties: cardiology, ophthalmology and neurology. The study focused on reviewing existing funding approaches that operate in other health systems. In addition, the study sought the knowledge of experts in order to find out their opinions on the applicability of solutions in the Polish healthcare system. The interviews with experts focused on obtaining their opinions on the PESTEL components that could favour implementation of changes in financing hospital care services in Poland.

The preparation of the PESTEL analysis was preceded by two stages:

1) step I: conducting a focus group;
2) step II: conducting in-depth interviews.

1.2. Focus group - stakeholders meeting

Prior to the focus study, the researchers analysed and synthesised the material obtained in Task D6.7: Overview of the literature on incentives for hospitals, in which were presented categories and summarized findings of a systematic review of the literature. This synthesis made it possible to prepare a list of health problems that occur in the Polish health care system within the framework of hospital treatment, together with the identification of financial mechanisms preventing, mitigating or counteracting them. The list of identified health problems was used as a basis for discussion in the focus group.

The focus group took place on December 16th, 2024. The meeting was conducted using a platform that enables remote communication (MS Teams). The facilitators moderated the discussion, asked questions and ensured that each participant had the chance to express his or her opinion.

Fourteen experts participated in the meeting, representing:

1) the National Health Fund (the public payer in the Polish health insurance system),
2) the Agency for Health Technology Assessment and Tariffication (responsible for setting tariffs for publicly financed health care services and preparing proposals for recommendations on cost accounting standards for health care providers),
3) hospital managers;
4) academia – health economists and public health policy experts
5) project team members.

The aim of the focus group was for the experts to verify the list of the most important problems that occur in the health care system in Poland and to identify possible financial mechanisms that could be introduced to prevent, mitigate or counteract them (also in the context of the functioning of the

billing system according to the DRG system for the financing of medical services in hospital treatment).

During the survey, experts were asked to assess the current system of financing and accounting for medical services in the Polish health care system with regard to hospital treatment. In this respect, the experts pointed out the advantages and disadvantages of the current solutions. The experts also assessed the evolution of financial solutions in the field of hospital treatment. In particular, the experts were asked to assess the solutions adopted in health care from the perspective of demographic challenges and technological solutions. The focus group scenario is attached as Appendix 1.

The list of previously identified problems existing in the health care system, which was presented to the experts, included the following problems:

1) incidence (above average or significant increase) of adverse events such as hospital-acquired infections (SEPSIS, infectious diseases; pressure sores; catheter-related infections);
2) mismatch between the number of services provided to patients with different health conditions and the costs of those services; mismatch between the use of resources and the costs associated with acquiring or maintaining them (cost-intensity); e.g. share of patients requiring relatively simple procedures with cost-appropriate pricing versus share of patients with complications, multiple severe diseases, requiring cost-intensive services and prolonged hospitalisation;
3) increases in the costs of healthcare provision (salaries, equipment, IT, etc.);
4) reduced commitment to improving the quality of services (beyond health outcomes);
5) inefficient spending of funds;
6) a reduction in clinical quality indicators for treatment, failure to apply clinical guidelines e.g. from scientific societies or the latest medical knowledge in the area;
7) increased length of hospitalisation;

8) reduced or insufficient provision of services, e.g. consultations, hospital admissions, diagnostics, new drug therapies;
9) Increasing unnecessary transfers of patients between hospitals or even 'shifting' a patient requiring intensive care to a general ward in order to minimise costs;
10) an increase in hospital readmissions due to complications e.g. after surgery;
11) a reduction in revenue, non-payment for overperformance or non-payment for services rendered;
12) a reduction in expenditure on hospital care or a reduction in funding for procedures carried out in the hospital;
13) increased mortality or decreased healthy life expectancy;
14) increase in cases of incorrect billing of services provided.

Experts in the focus group were asked to complete the list based on their own experience and knowledge. The experts were also asked to assess which of the identified problems were the most important and the most frequent.

During the focus group (survey), the experts also gave their opinion on how the DRG system affects the organisation of the provision of medical services in hospital care. The experts assessed how the DRG-based billing system works in the Polish healthcare system. They also expressed their opinions on the direction in which the DRG system should be improved and developed. As part of the focus group study, the experts were asked to indicate in which areas of service provision the DRG system should be replaced by another mechanism, and in which areas of service provision the current solution could be replaced by the DRG system. The experts also pointed out possible barriers related to changes in the operation of the DRGs.

The matter derived from the survey was transcribed. In order to work efficiently, the content was transferred to MAXQDA (MAXQDA Analytics Pro 2022 Version).

Table 1 *- Participants of the stakeholder meeting*

Persons attending the meeting	Interview length [characters with spaces]	Meeting times	Date of the meeting
Meeting leader: 1. Barbara Więckowska 2. Grzegorz Głód Stakeholders: 9 persons	97231	17:00-19:00	16.02.2024

Source: own study.

Table 2 *- Participants of the stakeholder meeting with description of professional experience*

Stakeholder	Description of professional experience
Stakeholder 1	Chairman of the Board of Directors of the Sosnowiec City Hospital.
Stakeholder 2	She works at Agency for Health Technology Assessment and Tariffication, where she was in charge of projects related to DRG. She also has experience of working at the National Health Fund in the position of deputy director of the Department of Health Care Services.
Stakeholder 3	Head of the hospital contracting department
Stakeholder 4	She works at Agency for Health Technology Assessment and Tariffication and worked at the National Health Fund in the area of contracting services.
Stakeholder 5	Habilitated doctor; long-time member of the Council of the National Health Fund, Lower Silesian Branch.
Stakeholder 6	Director of the health entities team and member of the board of the national association of district hospital employers, which represents over 200 district hospitals in our country.
Stakeholder 7	Chairman of the Board of Municipal Hospitals.
Stakeholder 8	At the headquarters of the National Health Fund, deputy director in the Department of Analysis, Quality Monitoring and Optimization of Services.
Stakeholder 9	At the headquarters of the National Health Fund, the director of the Public Partnership and Innovation Office.

Source: own study.

1.3. In-depth interviews

In the next stage of the study, individual in-depth interviews were conducted. The findings from the systematic review of the literature (compiled in the summary report of Task D6.7: Overview of the literature on incentives for hospitals) and the insights from the discussion during the stakeholder meeting were used to prepare a questionnaire for in-depth interviews. Conducting in-depth interviews was intended to deepen the understanding of the financial mechanisms and incentives.

Ten in-depth interviews were conducted between March and May 2025. In-depth interviews were conducted using a standardised semi-structured interview questionnaire addressed to seven hospital managers: one responsible for procurement and six in selected segments of medical domain - three specialties: cardiology, ophthalmology and neurology; two experts per medical domain. The hospital managers, which were selected for the interviews, were actively involved in shaping the terms and conditions for pricing services in hospital care. They had extensive knowledge, both theoretical and practical, of the functioning of the health care financing system based on DRGs.

Two interviews were conducted to gather perspectives of the payer in the Polish health care system - the National Health Fund; both at the central level and at the level of the provincial branch of the National Health Fund. An expert from the Agency for Health Technology Assessment and Tariffication was interviewed to provide insights about pricing and technicalities around tariffs for DRGs.

The interviews were transcribed verbatim. In order to work efficiently, the content was transferred to MAXQDA (MAXQDA Analytics Pro 2022 Version) and used as a basis for the PESTEL analysis.

Table 3 *- Characteristics of in-depth interviews with experts*

Expert	Description of professional experience	Interview length [characters with spaces]	Date of interview
Expert 1	Doctor of Economics specialising in management, he has significant practical experience in consultancy and management of medical entities. He cooperates with the Agency for Health Technology Assessment and Tarification as an expert.	21 231	9.05.2025
Expert 2	Director of the Hospital of the Ministry of Internal Affairs and Administration in Katowice, doctor specialising in general surgery. He has extensive experience in health care management.	31 367	5.05.2025
Expert 3	Doctor in the discipline of management science and quality. Long-term Director of the Prof. Leszek Giec Upper Silesian Medical Centre of the Silesian Medical University in Katowice - a multi-specialist clinical hospital.	42 551	16.04.2025
Expert 4	Director of the District Hospital in Zawiercie, has considerable experience in hospital management	58 252	18.04.2025
Expert 5	With more than 25 years of experience in CEO, CFO roles in public and non-public health care entities, he has experience in crisis management related to financial, organisational problems and strategic challenges. Director of the Provincial Branch of the National Health Fund.	33 979	14.04.2025
Expert 6	She has over 30 years of experience in health care. She held managerial positions in the largest hospitals in Silesia in terms of contracting and settling medical services. She has also worked at the Regional Branch of the National Health Fund.	22 664	4.05.2025
Expert 7	Deputy Director for Economic and Financial Affairs - Chief Accountant at the Independent Public Clinical Hospital No. 1	10 920	22.04.2025

	named after Prof. Stanisław Szyszko of the Medical University of Silesia in Katowice		
Expert 8	Neurologist specialist; Head of the Department of Neurology in Zabrze at the Medical University of Silesia in Katowice. President of the Multiple Sclerosis and Neuroimmunology Section of the Polish Neurological Society. Member of the Committee of Neurological Sciences of the Polish Academy of Sciences.	25 603	6.05.2025
Expert 9	She worked at the Agency for Health Technology Assessment and Tarification, where she was in charge of projects related to DRGs. She also has experience of working at the National Health Fund in the position of deputy director of the Department of Health Care Services	34 086	3.04.2025
Expert 10	Head of the Health Care Services Department at the Regional Branch of the National Health Fund. He works in a number of committees and expert teams, including those dealing with the area of health needs.	53 414	20.03.2025

Source: own study.

1.4. PESTEL as a tool for decision-making process

At the beginning of the public policy formulation process, it is crucial to understand the socio-economic context in which the strategic change will take place. Any strategic action should be preceded by a good recognition of the environment, i.e. the context in which the change will take place. The recognition of the environment is called strategic analysis. In the literature, strategic analysis is defined as the diagnosis of an organisation and its environment for the purpose of developing a development strategy[1]. A properly conducted strategic analysis should examine all spheres affecting the organisation and its environment. It should examine the past, the present and prepare the information necessary to draw up scenarios for the future.

Strategic analysis is a research procedure whose purpose is, on the one hand, to assess the management strategy currently being pursued by the organisation and, on the other hand, to delineate the practically possible directions of further activity, in connection with observed changes in the environment. The diagnostic function of strategic analysis is to indicate:

- what the external conditions are, then in which areas the organisation under study can develop and compete effectively with competitors (eliminating its own mistakes and inefficiencies), and
- what is the general assessment of its structures, dependencies and functioning.

The projection function carried out in the process of strategic analysis boils down only to the presentation of an overview of the basic options for future strategic solutions. It should be noted, however, that strategic analysis is not a substitute for forecasting and business planning, but only a preliminary determination of the future strategies of the organisation, taking into account the results of the diagnosis of the macro-environment.

[1] Z. J. Pietraś, *Decydowanie polityczne*, Wydawnictwo Naukowe PWN, Warszawa-Kraków 1998.

The macro-environment (or further environment) is the totality of external factors that affect organisations indirectly - that is, the company has no direct control over them, but they must be taken into account when making strategic decisions. The macro-environment very much determines an organisation's ability to function and develop. In general, an organisation has little, if not no, ability to change these conditions. The exceptions are, for example, lobbying activities carried out by significant groups of organisations. Macro-environmental influences reveal themselves in the form of data and phenomena that need to be known and can be predicted, but which are not subject to the organisation's influence. Globalisation, deregulation, discontinuities in technological change, reduced protectionism, changes in customer expectations, structural changes in economic sectors, social and economic development international are cited as the main factors affecting organisations. The identified factors can be seen as opportunities or threats, without the possibility to change them, but only with the possibility to react proactively to them.

The macro-environment consists of all the elements outside the studied organization or system that form the so-called organisational environment, i.e. technical, economic, social, demographic, political, legal, cultural, ecological, ethical, etc. factors. They define the framework conditions for the organisation's operation.

Various methods are used to diagnose the environment. Depending on the chosen method of macro-environment analysis (PEST, SLEPT, PRESTCOM, PESTEL), the range of factors to be assessed in detail varies[2].

The PEST analysis, which forms the basis for the most common methods of macro-environment analysis, is based on an analysis of the factors that actually and potentially exert (or could exert) an influence on a company and its activities[3]. It is usually a prelude to the scenario method, SWOT analysis

[2] L. Berliński, I. Penc-Pietrzak, *Engineering the Design of Enterprise Strategy*, Difin Publishing House, Warsaw 2004.

[3] A. Wysokińska-Senkus, J. Górna, *Risk and opportunity analysis in the light of ISO 9001:2015 requirements,* "Zeszyty Naukowe Politechniki Śląskiej Seria: Organisation and Management' 2018, z. 128.

or Porter's five forces analysis[4]. The analysis begins by listing the following components of the external environment: Political - political factors, Economic - economic factors, Social - socio-cultural factors, Technological - technological factors.

The PEST analysis has been modified several times. One modification is the PESTEL analysis, i.e. the PEST analysis extended to include environmental (Environmental) and legal (Law) factors[5].

P - political area, is created by the laws governing the conduct of business. These factors include, but are not limited to: state stability, tax policy, labour law or integration into the European Union.

E - economic area is closely linked to the economy of the country in which the organisations operate and its level of development. These factors include, but are not limited to: the level of inflation, the level of GDP, unemployment, energy and electricity prices, the level of exports and imports, natural resources and their use, or interest rates.

S - social area is demography, culture, values and traditions and lifestyles. It is conditioned by cultural integrity, education and income levels, age and gender structure, mortality, religion and its impact on life, internal and external migration.

T - the technological area is made up of: the research conducted and its results, the level of government expenditure on new technologies, the availability of technology substitutes, the computerisation and digitalisation of organisations, the speed with which new technologies emerge, the implementation of quality standards, or the innovativeness of the technologies used[6].

E - this ethical-environmental area aims to assess the impact of climate change and global inequalities on the health of the organisation, the

[4] M. Kwiecińska, Selected methods of strategic analysis of the environment in planning crisis response operations - a theoretical approach, 'Obronność. Zeszyty Naukowe Wydziału Zarządzania i Dowodzenia Akademii Sztuki Wojennej" 2016, 2(18).

[5] D. Masłowski, E. Kuklińska, M. Dendera-Gruszka, *PEST/PESTEL analysis as a tool supporting the development of cities. A case study based on the city of Opole*, Faculty of Law, Administration and Management of Jan Kochanowski University in Kielce, Kielce 2018.

[6] J. Kałkowska, E. Pawłowski, J. Trzcielińska, S. Trzcieliński, H. Włodarkiewicz-Klimek, *Strategic Management. Metody analizy strategicznej z przykładami*, Poznań University of Technology, Poznań 2010.

pressure of the state or society to find solutions to global warming, the ozone hole, or environmental pollution.
L - the legal area - regulations related to consumer law, protection against unfair competition or employees' rights and obligations towards them[7].
The PESTEL analysis consists of three procedural stages[8]:
Stage I. Distinguishing factors in each of the areas analysed
Stage II. Determining the extent to which the factors highlighted affect organizations at present and how they will affect them in the future.
Stage III. Defining the relationship between the organization and its environment, assessing the importance of particular areas for its functioning and predicting possible directions of its development, or preparing the organization for the occurrence of anticipated trends.

In seeking information on the determinants of the institutional change in the financing of inpatient medical services from DRGs to another type of financing, an analysis of the literature on the subject and online sources was carried out and a focus survey with experts was conducted.

[7] D. Masłowski, E. Kuklińska, M. Dendera-Gruszka, PEST/PESTEL analysis as a tool assisting city development. A case study based on the city of Opole..., op. cit.
[8] E. Multan, E. Bombiak, M. Chyłek, *Strategic analysis in the enterprise. Zagadnienia teoretyczne i studia przypadków*, Wydawnictwo Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach, Siedlce 2014.

2. Background

This report serves as Deliverable D6.9: Report on stakeholders' views on the effects of payment mechanisms (analysis of in-depth interviews). This is the second report prepared by SGH researchers in Task 6.5: 'Hospital payment, incentives, and performance' and is based on the results of the analysis presented in the report of Deliverable D6.7: *Overview of the literature on incentives for hospitals*.

The report for Deliverable D6.7: Overview of the literature on incentives for hospitals presents the results of an analysis of 171 articles included in the systematic review. To identify articles regarding financial interventions that aimed to influence changes in provider behaviour we performed the overall search in a systematic way to minimise the potential bias in the PRISMA-P (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The number of publications on the subject under study in the remaining nineteen countries does not exceed six over the period 2013-2023 (the last 10 years). The selected publication was systematically classified according to key attributes, including country of origin, year of publication, payment mechanism and associated effects.

In the study, we classified incentives (mainly payment mechanisms) using the OECD/WHO classification[9] and the Urban Institute classification[10], as shown in the table below.

Table 4 *- Classification of payment mechanisms used as incentives with brief characteristics.*

The main category of payment mechanism	Payment mechanism	Brief characteristic
	Fee-for-service (FFS)	Fixed payment for each unit of service without regard to outcomes. It is typically

[9] Barber SL, Lorenzoni L, Ong P. Price setting and price regulation in health care: lessons for advancing Universal Health Coverage. Geneva: World Health Organization, Organisation for Economic Co-operation and Development; 2019. License: CC BY-NC-SA 3.0 IGO.

[10] Berenson, Robert A. et al. "Payment Methods and Benefit Designs : How They Work and How They Work Together to Improve Health Care Payment Methods : How They Work." (2016).

Activity-Based Payment		paid retrospectively by billing for each service or patient contact.
	Per diem	Fixed amount per day for inpatient stay, which may vary by department, patient, clinical characteristics, or other factors.
	DRG	Payment is paid to hospitals per admission or discharge, whereby patients are classified (DRGs) based on diagnosis and procedures.
Budget	Global budget	A prospective lump-sum payment to a healthcare provider to cover aggregate costs over a specific period for a set of services independent of the actual volume providers.
Consolidated	Bundled payment	A single payment covers a bundle of distinct goods and services required for the treatment of a given medical condition based on clinical practice guidelines.
	Capitation	Prospective fixed lump-sum payment per person enrolled for care with a provider within a given period (typically one year) covering a defined set of services, independent of whether the services are provided.
	Pay-for-performance (P4P)	Payments to health care providers for meeting specific performance targets, such as process quality or efficiency measures, or penalties for poor outcomes, such as medical errors or avoidable readmissions.
Incremental	Shared savings	A form of payment in which a provider or a provider organisation shares generated savings with the payer when actual spending for a defined population is less than a target amount. Under shared savings-also referred to as one-sided or upside-only-the recipient is not at risk for overspending.

The largest number of publications addressing the impact of financial incentives on provider behaviour is for countries such as the United States, China, Taiwan, the United Kingdom, and South Korea. Publications about these five countries correspond to 71% of all publications included in the systematic review. The number of publications on the subject under study in the remaining nineteen countries does not exceed six over the period 2013-2023.

In the literature review conducted, Activity Based Payment was identified in 21 countries[11]. In many countries, DRG is the primary classification of payment mechanisms used (Denmark, France, Germany, Hungary, Italy, Netherlands, South Korea) or is combined with another (Indonesia, Japan, USA, China, Taiwan). Also in Poland, accounting based on DRG is the basic system for financing hospital services in Poland. The system was introduced by the National Health Fund and is based on classifying patients' hospitalisations into appropriate DRG groups, which are assigned specific financial rates.

2.1. DRG systematic review results - Incentives

In the analysis of 47 publications on the Diagnostic-Related Group (DRG) payment mechanism, seven distinct types of financial incentives were identified. The most frequently examined incentives included a full switch to a new payment scheme (for example: from budget to DRG) (19 studies), payment levels based on input measures (11), and payment levels linked to process measures (7). These mechanisms led to varying outcomes. Table 4. presents the outcomes of measured effects among different incentives. The highest proportion of positive effects was observed in schemes offering additional payments on top of existing payment systems (4 out of 5 unique effects) and in those linking payment levels to outcome measures, although the latter was only assessed in one publication. In contrast, payment levels based on input measures and process measures yielded more inconclusive or negative results. A full switch into a new payment model was the most extensively studied intervention and demonstrated a wide range of outcomes—both positive and negative—highlighting its potential impact but also the need for careful implementation.[12]

[11] Canada, China, Denmark, France, Germany, Hungary, Indonesia, Iran, Israel, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Poland, South Korea, Switzerland, Taiwan, UK, US.

[12] Examples of studies:
Negative effect: Vuagnat A, Yilmaz E, Roussot A, et al. Did case-based payment influence surgical readmission rates in France? A retrospective study. BMJ Open 2018;8:e018164. doi:10.1136/ bmjopen-2017-018164
Positive effects: Behzadi A, Bayati M, Bashzar S, Jaafaripooyan E. The Effect of Prospective Payment Systems on Health Care Providers' Behavior: A Case Study of Global Surgeries Payment System in Iran. Med J Islam Repub Iran. 2022 Apr 9;36:32. doi: 10.47176/mjiri.36.32. PMID: 36128284; PMCID: PMC9448475.

Table 5 *- Incentives and outcomes*

Intervention	Inconclusive	Negative	No impact	Positive	Sum
Additional payment on top of existing payment scheme		1		4	5
Payment along with other payment scheme			3	1	4
Payment levels depending on input measures		7	3	5	15
Payment levels depending on outcome measures		1			1
Payment levels depending on process measures		1	5	3	9
Price increase	1			2	3
Switch into new payment scheme	3	9	9	20	41
Total sum	4	19	20	35	78

Source: own study.

2.2. DRG systematic review results - Effects

The studies assessed a broad set of effects (Table 5), with the most frequently analyzed being length of stay (LOS; 19 studies), number of services (9), and readmission rates (8). Among these, LOS showed the highest number of positive outcomes (9)[13], followed by number of services (5) and spending reductions (5). Positive effects were also observed in clinical quality indicators, survival rates, and reductions in adverse events, although these were less commonly studied. However, certain outcomes, particularly upcoding (10 studies), number of services, and casemix, were associated with a significant number of negative effects, indicating potential

[13] Examples of studies: Jeon MJ, Choo SP, Kwak YH, Kim DW, Kim EH (2019) The effect of diagnosis-related group payment system on the quality of medical care for pelvic organ prolapse in Korean tertiary hospitals. PLoS ONE 14(8): e0220895. https://doi.org/10.1371/journal.pone.0220895
Waitzberg, R., Quentin, W., Daniels, E. et al. The 2010 expansion of activity-based hospital payment in Israel: an evaluation of effects at the ward level. BMC Health Serv Res 19, 292 (2019). https://doi.org/10.1186/s12913-019-4083-4
Zhang L, Sun L. Impacts of case-based payments reform on healthcare providers' behaviour on cataract surgery in a tertiary hospital in China: an eight-year retrospective study. Int J Health Plann Mgmt. 2022; 37(1): 504-512. doi:10.1002/hpm.3365

unintended consequences of specific incentive schemes. These findings suggest that while DRG-based incentives may successfully improve certain efficiency and quality metrics, they may also incentivize gaming behaviors or lead to reduced equity.

Table 6 - Effect and outcomes

Effects	Inconclusive	Negative	No impact	Positive	Sum
Adverse events			3	1	4
Casemix	1	2	1	4	8
Costs			1	3	4
Indicators of clinical quality of treatment	1			1	2
LOS	1	3	6	9	19
Number of services		3	1	5	9
Readmission	1	2	3	2	8
Spendings		1	1	5	7
Survival/life expectancy		1	2	2	5
Upcoding		7	1	2	10
Total sum	4	19	20	35	78

Source: own study.

2.3. DRG systematic review results - Positive effects

Table 6 summarizes the distribution of positive effects across different types of incentives. The highest number of positive outcomes was observed in studies evaluating a switch into a new payment scheme (20 unique effects), especially in relation to LOS (7), costs (3), and number of services (2). Input-based payment levels also resulted in several positive outcomes (5), though concentrated around areas like upcoding and spending. Additional payments on top of existing schemes showed consistent effectiveness across multiple domains, including survival rates, LOS, and spending.

Although input-, process- and price-related incentives were evaluated less frequently, they nonetheless demonstrated encouraging signals in selected outcomes. [14] These results suggest that targeted, well-structured incentives—particularly those enhancing existing payment models or shifting towards outcome-oriented financing—can lead to meaningful improvements in efficiency and care quality.

Table 7 *- Positive effects across different financial incentives in DRG payment scheme*

Effects	Additional payment on top of existing payment scheme	Payment along with other payment scheme	Payment levels depending on input measures	Payment levels depending on process measures	Price increase	Switch into new payment scheme	Sum
Adverse events						1	1
Casemix		1	1		2		4
Costs						3	3
Indicators of clinical quality of treatment						1	1
LOS	1		1			7	9
Number of services	1			2		2	5
Readmission						2	2
Revenues						1	1
Spendings	1		1			3	5
Survival/life	1			1			2

[14] Example of study: Di Giacomo M, Piacenza M, Siciliani L, Turati G. Do public hospitals respond to changes in DRG price regulation? The case of birth deliveries in the Italian NHS. Health Econ. 2017 Sep;26 Suppl 2:23-37. doi: 10.1002/hec.3541. PMID: 28940919.

expectancy							
Upcoding			2				2
Total sum	4	1	5	3	2	20	35

Source: own study.

2.4. DRG systematic review results - Negative effects

Despite promising results in some areas, Table 7 illustrates the range of negative effects linked to several incentive mechanisms. Notably, input-based payment schemes were frequently associated with upcoding (6 unique effects) [15], and the same issue appeared in studies assessing outcome-based schemes and switches to new models. Switches into new payment models also led to an increase in readmissions, longer LOS, and reduced survival in some cases. Additionally, increased number of services and spending were occasionally reported as unintended consequences.

These findings underline the importance of designing DRG-related incentives with safeguards to prevent system manipulation and negative patient outcomes. We recommend caution when implementing input- or process-based payment levels and suggest that any systemic reform, particularly full payment model switches, be preceded by thorough piloting, monitoring, and stakeholder engagement to mitigate risks.

Table 8 *- Negative effects across different financial incentives in DRG payment scheme*

Effects	Additional payment on top of existing payment scheme	Payment levels depending on input measures	Payment levels depending on outcome measures	Payment levels depending on process measures	Switch into new payment scheme	Sum

[15] Example of study: Anthun KS. Predicting diagnostic coding in hospitals: individual level effects of price incentives. Int J Health Econ Manag. 2022 Jun;22(2):129-146. doi: 10.1007/s10754-021-09314-5. Epub 2021 Oct 6. PMID: 34613585; PMCID: PMC9090893.

Casemix		1		1		2
LOS	1				2	3
Number of services					3	3
Readmission					2	2
Spendings					1	1
Survival/life expectancy					1	1
Upcoding		6	1			7
Total sum	1	7	1	1	9	19

Source: own study.

3. Decision making process: Context of Polish healthcare system

3.1. The healthcare system in the context of institutional change

When considering the problem of systemic choices, we thus refer to those decisions and actions that aim to form the structure of the health care system and define the basic rules of its functioning. In this light, the role of the state as the main actor defining which health needs will be met with public funds, as well as what standards and rules must apply to entities operating in the system and benefiting from public funding, is clearly outlined. Taking action to change the existing system solutions is in the nature of institutional change. Institutional change is a process involving the transformation of norms, rules, social values in order to eliminate identified barriers[16],[17], [18],[19],[20]. The concept of institutional change has been explained by Powell and DiMaggio as change that is caused by institutional pressures on the organisation, i.e. pressures resulting from legal requirements[21]. Alston defined institutional change as the effect of the interaction of supply and demand in society and compared voters to demand and government to supply[22]. In the following years, institutional change was seen as the process of decision-making by a specific collective in a centralised manner [23]. According to M. Coccia, "institutional change is the evolution of institutions,

[16] J. Godłów-Legiędź, *Czy nowa ekonomia instytucjonalna jest neoklasyczna?*. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu. Ekonomia 2009; 3(74 Mikroekonomia i ekonomia instytucjonalna, 28-42.

[17] S. Mazur, *Zmiana instytucjonalna*. Zarządzanie publiczne. 2013; (24+ 25), 34-43.

[18] Morawski L., Główne problemy współczesnej filozofii prawa: prawo w toku przemian. Wydawnictwa Prawnicze PWN, 2000.

[19] H. Valette, M. Colon, Institutional change for the development of urban sanitation in the Global South: A social science review. *Utilities Policy*, 2024; *88*, 101755.

[20] M. Zielenkiewicz, Wpływ zmian instytucjonalnych na wzrost gospodarczy w krajach transformacji i rozwijających się. *Studia Ekonomiczne*, 2015; *213*, 88-101.

[21] P. J. DiMaggio, W. W. Powell, The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American sociological review, 1984; 48(2), 147-160.

[22] L. J. Alston, Institutions in Economics: The old and new institutionalism, by Malcolm Rutherford. Cambridge University Press, Cambridge, New York and Melbourne, 1994. Pp. xi, 225. $54.95. ISBN 0-521-45189-2. Journal of the History of Economic Thought. 1996;18(1):154-156. doi:10.1017/S105383720000300X

[23] Kingston C., Caballero G., Comparing theories of institutional change. *Journal of Institutional Economics*, 2019; *5*(2), 151-180.

considered as rules and/or expectations, that regulate human interactions for the socio-economic development of nations" [24] . The process of institutional change involves a new solution resulting from a legal order imposed by the sovereign[25].

Defining institutional change has evolved over the years. Initially, the term under discussion highlighted the significant influence on institutional change exerted by top-down pressures. Over time, elements of bottom-up influences appeared in the definitions, i.e. decision-making by the collective, expectations regulated by interpersonal interactions, i.e. the role of actors in the process changed. When analysing the state of the art based on definitions of institutional change, it can be seen that each definition exposes the interactions taking place between organisations, society and the legal system in which they operate (North, 2006). The effect of the interaction is to focus change on the shortcomings and challenges of the institutional system and on potential solutions[26].

The institutions created show differences at the level of solutions adopted in different countries. However, current international policies aim to harmonise law at the European Union level, which in effect leads to cultural convergence[27].

[24] M. Coccia, Comparative Institutional Changes. A. Farazmand (ed.), Global Encyclopedia of Public Administration, Public Policy, and Governance, Springer Nature Switzerland AG, 2019.
[25] M. Magdziarczyk, The legal environment of the entrepreneur and the management of change induced by legislation in a theoretical perspective–a literature review. *Scientific papers of Silesian University of Technology. Organization & Management/zeszyty naukowe politechniki slaskiej. Seria organizacji i zarzadzanie*, 2024; 196.
[26] P. Selznick, Institutionalism" old" and" new". Administrative science quarterly, 1996; 270-277.
[27] R. Szarfenberg, Targeting, rationalization and'iron laws'. Social Policy Issues, 2020; 4, 83-95.

The factors shaping institutional change are the state system [28, 29, 30], institutional entrepreneurship[31], economic growth, level of satisfaction of social needs [32, 33], globalisation, degree of formalisation [34], competitive solutions[35], the development of technologies[36], organisations[37] and their interaction[38].

The dynamic development of medical knowledge that took place in the twentieth century, as well as the constant changes and innovations in the field of medical technology, had a direct impact on the increase in demand for health services. This increase was not only quantitative – it was accompanied by an improvement in the efficiency and quality of the health services offered, which was undoubtedly a positive effect of scientific and technological progress. Nevertheless, in parallel with the improvement in the quality of services, there has been a significant increase in the costs associated with their provision. Financial outlays on health care began to increase at what can only be described as an exponential rate. In view of

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[28] A. Baranski, Voluntary contributions and collective redistribution. *American Economic Journal: Microeconomics*, 2016; *8*(4), 149-173.

[29] J. R. David, P.S. Tolbert, J. Boghossian, Institutional theory in organization studies. In *Oxford research encyclopedia of business and management,* 2019.

[30] M. Raynard , R. Greenwood, Commentary on perspective article:'institutional logics: motivating action and overcoming resistance to change'–Heather A. Haveman, David Joseph-Goteiner, and Danyang Li. *Management and Organization Review*, 2023; *19*(6), 1178-1184.

[31] Wisniewski, Kowalska, Przekształcenie Ośrodka Pomocy Społecznej W Centrum Usług Społecznych, Biblioteczka CUS, Kancelaria Prezydenta Rzeczypospolitej Polskiej, Warszawa 2022.

[32] A. Frączkiewicz-Wronka, Nowoczesna koncepcja świadczenia usług publicznych-zmiana w kierunku nowego zarządzania publicznego. Prace Naukowe/Akademia Ekonomiczna w Katowicach, 2010; 15-62.

[33] M. Grewiński, *Usługi społeczne we współczesnej polityce społecznej: przegląd problemów i wizja przyszłości*. Dom Wydawniczy Elipsa 2021.

[34] T. Ramus, A. Vaccaro, S. Brusoni, Institutional complexity in turbulent times: Formalization, collaboration, and the emergence of blended logics. *Academy of Management Journal*, 2017; *60*(4), 1253-1284.

[35] A. Schlüter, K. van Assche, S. Fall, K. Senghor, H. Banikoi, E. Kane, Theories of institutional change and marine privatisation. *Maritime Studies*, 2015; *24*(1), 17.

[36] E. Ostrom, *Unlocking public entrepreneurship and public economies* (No. 2005/01). WIDER Discussion Paper 2025.

[37] D. North, Understanding the process of economic change. *Storia del Pensiero Economico*, 2006; 2005/2.

[38] M. Tina Dacin, J. Goodstein, W. Richard Scott, Institutional theory and institutional change: Introduction to the special research forum. *Academy of management journal*, 2002; *45*(1), 45-56.

such a situation, an urgent need arose for the state - as the key organiser and guarantor of the healthcare system - to intensively search for tools and instruments enabling to make rational decisions regarding the allocation of available public funds. The aim of these actions was to achieve the intended health effects, while at the same time maintaining control over costs and ensuring the efficiency of the system.

In this context, the state began to use a variety of measures, including legal, economic, management and public awareness instruments. The common denominator of these measures has been the pursuit of a health policy that, on the one hand, addresses the real health needs of the population and, on the other, is both economically efficient and socially just. However, creating such a balance between efficiency and equity is an extremely difficult task, especially under conditions of limited resources and the complexity of the health system. Cezary Włodarczyk, analysing the essence of health policy, emphasises that it represents various forms of intervention in the natural course of events that may have health consequences for individuals and entire populations. His approach assumes that effective health policy requires deliberate systemic choices - that is, decisions of a strategic nature that shape the foundations of health system functioning[39].

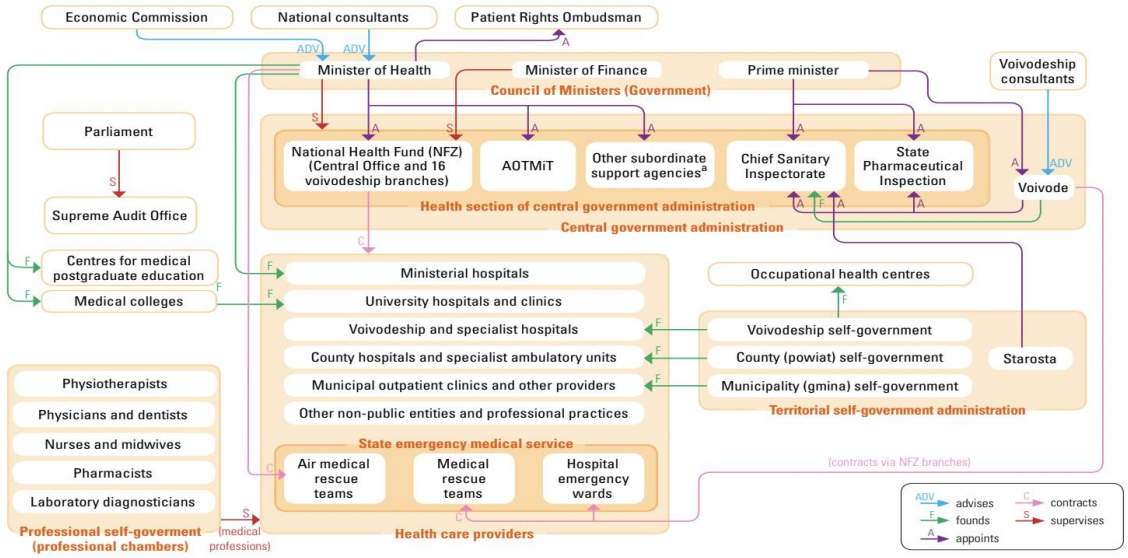
3.2. The basics of the Polish healthcare system

The health care system in Poland is a complex set of entities and institutions whose goal is to provide citizens with access to health care services. The key entity responsible for the organization and smooth functioning of the health care system is the Minister of Health. The Minister of Health is supported by specialized offices responsible for, among other things, paying for the benefits provided by the National Health Fund (Narodowy Fundusz Zdrowia - NFZ) and the valuation of benefits by the Agency for Health Technology Assessment and Tariff System (Agencja Oceny Technologii Medycznych i Taryfikacji - AOTMiT). These are the key entities of the health care system responsible for organizing the system, contracting health care services and

[39] W.C. Włodarczyk, „*Współczesna polityka* zdrowotna. *Wybrane zagadnienia*", Wolters Kluwer, 2014.

participating in their valuation of health care services. The following Figure 1 shows an overview of the Polish health system.

Figure 1. *Overview of the Polish health system*



Source: Based on Zabdyr-Jamróz et al. (2012).

Notes: [a]National Institute of Public Health – National Institute of Hygiene, Centre for Monitoring Quality in Health Care, Centre for Health Information Systems, national centres and research institutes, National Blood Centre. The Starosta (who is the elected head of the county's executive board) appoints the County Sanitary Inspector; the voivode appoints the Voivodeship Sanitary Inspector and the Voivodeship Pharmaceutical Inspector; the Prime Minister appoints the Patient Rights Ombudsman, voivodes, the Chief Sanitary Inspector and the Chief Pharmaceutical Inspector; the Minister of Health appoints the president of the NFZ (central office and voivodeship branches), the president of the AOTMiT, and the heads of other subordinate agencies. The voivode founds voivodeship Sanitary-Epidemiological Stations and county Sanitary-Epidemiological Stations.

Source: European Observatory on Health Systems and Policies, 2019, p. 19[40].

The Minister of Health plays a central role in shaping the health policy of Poland. This includes planning and implementing system reforms and public health programmes. The Minister cooperates with local governments, patient organisations, medical universities, and research institutions. Within the government, the Minister of Health is responsible for preparing draft laws, regulations, and other legal acts related to public health. On the international stage, the Minister represents Poland in matters concerning health, including cooperation with the European Union (EU) and the World

[40] Sowada C, Sagan A, Kowalska-Bobko I, Badora-Musiał K, Bochenek T, Domagała A, Dubas-Jakóbczyk K, Kocot E, Mrożek-Gąsiorowska M, Sitko S, Szetela A, Szetela P, Tambor M, Więckowska B, Zabdyr-Jamróz M, van Ginneken E. Poland: Health system review. Health Systems in Transition, 2019; 21(1): 1–235.

Health Organization (WHO). The National Health Fund is a public institution responsible for financing health care services using public funds. Its key responsibilities include:

- Financing healthcare services;
- Contracting medical facilities, including hospitals;
- Managing public health funds, primarily sourced from health insurance contributions;
- Recording and billing healthcare benefits;
- Funding medicines, foodstuffs for special nutritional purposes, and medical devices covered by patient entitlements.

The Agency for Health Technology Assessment and Tariff System is an expert advisory body supporting decision-making regarding public funding of health services. Its main tasks include:

- Assessing the effectiveness and cost-effectiveness of new medical technologies;
- Providing recommendations on reimbursement and tariff levels;
- Developing proposals for standard cost estimations;
- Supporting the Ministry of Health and the National Health Fund in evidence-based healthcare financing decisions.

The Polish health care system consists of a number of entities that are jointly responsible for the organisation, financing and delivery of health care services to citizens. The structure of this system is complex and includes public, local government and private institutions acting in perspective of governance. Governance in the public sector can be analysed from three perspectives: as part of a political process, through the lens of general principles of management of private organisations, or as a specific field of knowledge and practice. An approach combining the latter two approaches seems most pertinent - although the principles of governance are similar, their application to public organisations requires consideration of their unique characteristics.

According to Peter Drucker, governance is a common feature of all organisations, differing mainly in the language and practice of method implementation. Key differences arise in the context of the organisational

environment, the type of stakeholders, the absence of profit as a measure of effectiveness or the explicitly political dimension of operations. In the public sector, decision-making is difficult because the process is exposed to strong political influence, they make decisions in an environment full of stakeholders with conflicting interests and they act without a profit motive, which affects the assessment of their effectiveness. In addition, actions are more transparent, which means greater accountability to society. Decisions are often compromised and the decision-making process can be lengthy and ambiguous[41]. M. Murray notes that the politicisation of activities is not exclusive to the public sector, but is much more prevalent in it. Ring and Perry, on the other hand, identify five important differences between the public and private sectors, including vagueness of guidelines, greater influence of lobbyists, weaker coalition stability and less precision in planning[42].

Public organisations work for the common good, which distinguishes them from private (profit-driven) and social organisations (focused on the interests of their members). The main purpose of the public sector is to provide social goods and services and to create public value. B. Bozeman introduces the concept of 'organisational audience', which describes the extent to which an organisation functions according to public sector standards [43] . This spectrum is assessed along the dimensions of environment, objectives, structure and values. The public sector environment is characterised by greater complexity, openness and volatility than in the private sector. These organisations often operate in a monopoly environment, which limits competition and pressure to improve service quality. The recipients of their activities are numerous, often conflicting social groups, which further complicates management.

Public institutions are characterised by a formalised structure, a strong bureaucracy, limited employee autonomy and the dominance of an

[41] P.F. Drucker, *Innowacja* i *przedsiębiorczość. Praktyka i zasady*. Warszawa: PWE. 1992, 271.
[42] P.S. Ring, J.L. Perry, *Strategic Management in Public and Private Organizations: Implications of Distinctive Contexts and Constraints*. Academy of Management Review, 10(2), 1985, 276–382.
[43] B. Bozeman, *Public values and public interest: Counterbalancing economic individualism*. Washington, DC: Georgetown University Press, 2007.

autocratic style. Employees are less often driven by financial motivations and more often by ideological ones, but their commitment is usually lower than in the private sector. As C. Pollitt points out, managers need to understand the political process, operate under social pressure and account for performance in a multidimensional way[44].

Table 9 *- Differences between private and public sector organisations*

Specification	Private sector organisations	Public sector organisations
Internal relations		
Planning and goal setting		
Sources of power	Ownership of funds (private, public) and mandate of interest group member	Ownership of funds and political mandate
Overall objectives	Competitiveness, uniqueness, commercial objectives	Success in mission implementation of state policies, public, social objectives
Nature of aims and objectives	Clarity and clarity, precision	Fuzziness, multiplicity of objectives
Core values	Cost-effectiveness, individual entrepreneurship	Efficiency, ethics, patriotism, responsibility, justice
Organising		
Organisational structure	Companies of different sizes, less formal, flexible	Complex system of institutions with different tasks, often over-formed, extensive hierarchy
Level of individual entrepreneurship	High	Low
Conduct (operations)		
The detail of internal regulations	General	Very detailed
Autonomy and incentives for managers	High autonomy, high willingness to take risks, motivated mainly by material factors	Low autonomy, low willingness to take risks, limited influence in motivating employees

[44] C. Pollitt, G. Bouckaert, *Public Management Reform*: *A Comparative Analysis – New Public Management*, Governance, and the Neo-Weberian State, Oxford University Press, Oxford 2011.

Employees	Few or no trade unions or other associations, activities to create customer orientation and loyalty to the company, motivation of employees mainly by material factors	Different types of trade unions, workers' main goal is to pursue the public interest, motivation to work is ideological (desire to serve)
Features of the decision-making process	Rationality, employee participation and consultation closed within the company concerned, democratisation of management closed within the company concerned	Transparency, public participation, openness and democracy
Control		
Financial perspective	Profit, growth, stability, market share	In accordance with the principle of sound management, with the emphasis on the pursuit of the public interest
Measurability of results	Ease of measuring results, e.g. sales volumes	Immeasurability of many spheres of public activity
Responsibility for tasks	Individual	Impersonal liability prevails
Sources of control	Greater importance of internal control, external control focused on legal compliance	Higher level of external (primarily political) control than internal control
External relations		
Object of the transaction with the environment	Private goods	Public, social goods
Strategic stakeholders of the organisation	Shareholders, managers, customers	Taxpayers, beneficiaries, authorities
Competitors	A large numer	No or few
Final users	Consumer or other company	Citizens and recipients of public services (customers)

The table included in the document shows differences in structures, objectives, sources of power, motivations, decision-making processes and relations with the environment. Private organisations are flexible, profit-

driven and measurable, while public organisations operate on the basis of a political mandate, are guided by the public interest and operate under greater formalism.

The public sector operates in a more difficult environment than the private sector, mainly because of the dependence on politics, the lack of profit motive and the high transparency of operations. Changes in personnel due to political turnover make continuity of management difficult. Decisions are made under uncertainty and pressure from many groups, and the criteria for their evaluation are often subjective. Despite these difficulties, public organisations are crucial for fulfilling the tasks of the state and meeting the needs of citizens.

3.3. DRG as a method of financing health services

The method of financing within the DRG system for medical services provided in inpatient units of the Polish health care system has been criticised practically since its introduction. In the context of financial management in health care, the system of financing medical services based on DRG, used in many countries, including Poland, is particularly controversial and debatable. Although this system was introduced with the intention of to increase economic efficiency and transparency in the disbursement of public funds, in practice it has given rise to numerous reservations and criticisms from representatives of the medical community, health economists and patient organisations.

The main objection to DRG is the risk of reducing the patient to a 'unit of account' in the financial system, which can lead to simplification and standardisation of medical care in a way that does not take into account the individual needs of the patient. In practice, this means that facilities may pursue procedures that generate more revenue, even if they are not necessarily the most medically appropriate. On the other hand, procedures that are undervalued or low margin may be reduced or even eliminated

from the service provision, resulting in a deterioration of the availability and quality of services in some areas of medicine.

Another problem is the phenomenon of so-called 'patient selection' (*cream skimming*), which consists of preferential admission of patients whose treatment falls within the valuation of a given DRG group and does not generate excessive costs. Patients with comorbidities or requiring longer hospitalisation may be seen as 'unprofitable' in this system, raising legitimate concerns about equality of access to healthcare and a violation of the principle of social justice.

In addition, critics point to the difficulties in updating the DRG catalogues and their inadequacy to meet changing clinical and technological realities. The pricing of many procedures has not kept pace with the rising costs of materials, drugs and medical staff, leading to chronic underfunding of some services and generating financial strains on the system.

Although the DRG system was intended as a mechanism to promote efficiency and transparency in healthcare, its implementation without appropriate adjustments, constant monitoring and dialogue with the medical community may in practice lead to the opposite effect - widening inequalities, reducing the availability of services and worsening the motivation and working conditions of medical staff.

In response to the aforementioned limitations of the DRG system, alternative or complementary solutions are being sought both in Poland and in other countries, which could provide greater flexibility, fairness and better alignment of funding with the real health needs of the population.

One of the proposed reforms is to modify the DRG system by taking into account the patient's clinical risk, or so-called *risk adjustment*. This approach would allow a more accurate representation of the cost of treating patients with chronic diseases, comorbidities or those requiring longer hospitalisation. This avoids hospitals being financially penalised for treating more clinically complex patients.

Another solution is a mixed financing model, combining different mechanisms depending on the type of benefits. For example, for acute interventional services (such as surgery), DRGs may be used, but for long-term care, palliative care or psychiatric services, lump-sum, global budgets or *outcome-based* contracts may be more appropriate. Value-based healthcare (VBH) model, which is gaining traction, relies on payments being linked to the treatment outcomes achieved - not only clinical outcomes, but also patient quality of life and satisfaction with care. This model promotes a focus on outcomes, not just the number of procedures performed, and can be applied in both the inpatient and outpatient care services. In some countries, population-based budgets (so-called *capitation payments*) are also in place or being tested, where a certain amount of funding is allocated to the entire population entitled to healthcare services regardless of the number of services. The responsibility for the health of the population is then placed on so-called health management organisations (e.g. Accountable Care Organisations in the United States), which can invest in prevention, care coordination and treatment, avoiding costs arising from repeated hospitalisations. The need to increase transparency and public participation in benefit pricing is also important. The participation of patient representatives, clinical experts and health economists in the tariff-setting process can contribute to greater public acceptance and a better representation of the real costs of services.

Finally, funding reforms should go hand in hand with the development of information systems and health data analytics that enable ongoing monitoring of the cost, quality and outcomes of treatment. It is data - properly analysed - that allows to make more rational strategic decisions and respond dynamically to the changing health needs of the population. In view of the above, it may be considered legitimate to consider the decision-making process in health care through the prism of increasing the efficiency of the functioning of the system, while respecting the principles of social justice in access to health services.

This process should be analysed in the context of modern models of public management, which take into account a participatory approach to decision-making that enhances citizen involvement and transparency in the actions

of public authorities. Although such an approach is considered right and necessary, it is important to be aware that its implementation in practice is a difficult process, ambiguous and with a high level of uncertainty as to its final outcome, as it concerns decision-making in relation to organisations that cater to needs socially recognised as important and therefore their activities are publicly funded.

4. Problems of the DRG system and the financing of health services - focus group summary

In the statements made by the participants of the meeting, there were many critical remarks concerning the current model of valuation of health services in Poland, with particular emphasis on the DRG system (JGP; Polish version of DRG). These comments were accompanied by reflections on the need for systemic changes, which should take into account both the real costs of services and the need for flexibility in dynamically changing conditions.

4.1. Failure to adapt the DRG system to changes in clinical and cost standards

One of the main problems identified by experts is the inflexibility of the DRG system and the slowness with which tariff updates are introduced. The system does not keep up with changes in cost structure and clinical practice, resulting in underestimation of services cost and a growing financial deficit on the part of hospitals. In the opinion of participants, AOTMiT is an institution with too limited resources to adapt tariffs to changing realities on an ongoing basis.

Stakeholder 3 described the DRG system as overly complex and inflexible, requiring daily monitoring of regulatory changes. Retrospective verifications by the NHF often lead to denied payments for services already provided, especially in cases involving overlapping scopes like hospitalization and oncology packages. Multispecialty hospitals face losses when only the most expensive ward is reimbursed, leaving others unpaid. Due to constant changes and revisions, hospital staff spend significant time auditing and optimizing billing to ensure maximum reimbursement, rather than focusing solely on patient care.[45]

[45] "the DRG system, it's very complicated and at the moment inflexible, in fact in the department the day starts with checking the legislation, that is what projects are going to come in, what has come in in terms of billing, in terms of the requirement for future contracting. Retrospective verification. As the previous lady mentioned there is also a huge problem. Because it gets to the point where, once

The representative of AOTMiT (Stakeholder 2), in turn, highlighted the challenge of fairly funding a shift from hospital to outpatient care. Current cost comparisons show hospital and outpatient service valuations won't equalize without comprehensive analysis of social and system costs. While the agency works on updating tariffs area by area, a full catalogue-wide overhaul is needed for meaningful change—though this remains an ambitious, perhaps unrealistic goal.[46]

In addition, she (Stakeholder 2) stressed that a detailed analysis showed little link between costs and clinical outcomes until patient pathways and all related medical events were considered. This analysis is hindered by incomplete reporting due to rigid service baskets. She also highlighted two major challenges: strict staffing requirements that are hard to meet and the difficulty of raising staff salaries amid workforce shortages.[47]

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the annual contract is closed, the Fund is doing the verification, where we already have after we have signed the annexes ending the contract. The Fund does a retrospective verification, where it throws out our benefits, for example, having two scopes, hospitalisation and package, and we have some financial plans where they are signed. And suddenly it turns out that the Fund throws out a benefit that should have been included in hospitalisation from the oncology package, and there we no longer have plans. As a result, well that benefit is left unaccounted for, for example. Or patients who go to us between wards, yes at multispeciality hospitals, we bill that ward which is the most expensive, yes, all those other cheaper wards are unbilled. The fund does not pay for these services. The problem is all these revision factors. The modifications. There's so much of that that we actually have such an audit trail done to try to grasp it. From a package like this, from a lump sum like this, is comprehensive care like this - there really is a huge amount of it. Apart from that, at the moment we are actually calculating, the secretary and the doctor are looking through catalogues to see how to calculate the best results, whether the patient really needs this examination or not. We look at the best way to account for it, so that we can get the biggest amount of money from the National Fund".

[46] "the problem we see is how, how and how much we are able to pay for the reversal of the pyramid of services, because, again based on actual costs, comparing the costs of hospitalisation, with outpatient costs, well, in no calculation, if we count it as we should after the costs of service providers. Well, it is not going to happen that these valuations will equalise, which means that we should actually carry out analyses of social costs, system costs and consider what this ratio should be, so that this trend starts to reverse. In my opinion, without really such an update, which has already been mentioned, what does it look like. All tariffs and areas at once, actually setting new characteristics. We the Agency are doing a bit of this, but it is again on an area-by-area basis. This work of ours is often not published externally for the known reasons that have already been mentioned today related to finance, we are trying to put things in order there, we are analysing in terms of shifting the homogeneity of groups in terms of just costing patients. But really, for this to make sense, it should be done, in my opinion, for the entire catalogue, once. And then we could talk about updates. However, I believe that this is more of a dream than something achievable."

[47] "we conducted such an in-depth analysis project at the Agency in institutes under the Ministry of Health. And even having data on the results of studies from one of the institutes on the clinical outcomes of studies; here, well, it was difficult to find any observation between the relationship of costs and the other parameters. It was only when we actually carried out an analysis looking for patient pathways of all medical events that some correlations between costs and certain parameters started to emerge, whereas it would be much easier if all, all procedures and all, and all diagnoses and diseases that may complicate the patient's condition were reported as well. A problem that will be

A representative of the NHF (Stakeholder 8) signaled that they are exploring ways to increase add-on services (additional service billing) while keeping the system financially sustainable. They aim to give doctors tools to add necessary services without fear of creating deficits, possibly through risk-sharing mechanisms to improve funding flexibility.[48]

In turn, the representative of the NHF (Stakeholder 4) added that the contracting conditions are based on an outdated basket of guaranteed services from 2009, which no longer fits modern medical realities. Instead of a major reform, ongoing and systematic evaluation and updates of both the service baskets and GP regulations are needed to keep pace with rapid medical progress.[49]

4.2. Cost pressures associated with the law of increase

A significant factor destabilizing the system is the increasing share of salary costs in the overall revenue of health care institutions. In many hospitals, staff costs reach almost 90% of the budget, leaving insufficient funds for other expenses (equipment, diagnostics, infrastructure). The existence of a law guaranteeing annual salary increases without a simultaneous increase in tariffs puts directors in a critical situation - they are not able to cover the growing costs of operations.

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difficult to solve, in my opinion, because of the basket already mentioned. And I agree that it needs to be changed. There are rigid requirements in terms of staffing and manning needed to run, or run wards. Well, here it is linked both to the difficulty of meeting these requirements and to raising staff salaries, which are not really there and are difficult to recreate at the moment. And I think I would point to these 2 main problems, which are the problem with reporting and the availability of medical staff."

[48] "we are also considering mechanisms to increase the possibility of add-on services. Well, it is a very, very difficult piece of bread and how, how to provide add-on services so that the system would still be financially viable, and, on the other hand, to add some real tools for the doctor, so that he wouldn't have to be afraid to add every additional thing when providing services due to the fact that it would be a deficit service again. So we are also looking for some mechanisms here, some kind of risk sharing, so that, for example, it is partly financed, to improve flexibility. Such things are on the agenda."

[49] ."the conditions of contracting services result from the basket of guaranteed services, which is completely unadapted to the present times, because it was created in 2009 and not much has changed in it since then. So I wouldn't even talk about a revolution or a reform, but about an ongoing evaluation, which we have to implement, both in the baskets and in the GPs, which were introduced in 2008, if I'm not mistaken. And you would probably have to systematise this evaluation. Yes, because what was established a long time ago is already completely out of step with the medical world, where progress is very fast."

The Act of 8 June 2017 on the manner of determining the lowest basic remuneration of medical professionals employed in medical entities sets out the manner of determining the lowest basic remuneration of medical professionals employed in medical entities, taking into account the type of work performed, and the manner and timetable for reaching the target level of basic remuneration thus determined. The introduction of the above-mentioned Act was to serve the purpose of increasing interest in training in the medical professions, promoting the taking up of employment in the country and encouraging already employed staff to increase their professional qualifications through specialization. As a result, this process was to translate into the number and professionalism of medical staff employed in medical entities, and thus was to result in a higher level of health safety through improved quality and availability of health services and a higher level of sanitary safety.

The AOTMIT representative (Stakeholder 2), noted that despite regularly collecting salary data, tariffs aren't updated often enough. Adjustments tied to minimum wage increases exist, but inflexible legislation hinders demand-supply-based price simulations, especially for lump-sum benefits.[50]

From the perspective of district hospitals in Poland, one of the directors (Stakeholder 6) took the floor and presented his point of view in this area: until July 2022, hospitals received separate salary funding based on reported staff data. After that, the system shifted to a single stream via an increased point valuation. However, the new valuation didn’t cover actual costs—district hospitals in Podkarpackie were short 300,000 to 1,000,600 PLN per month just for salaries. Despite later adjustments, salary costs now consume almost 90% (89.7%) of National Health Fund revenues, leaving little for

[50] "We collect data on salaries twice a year and this constitutes a huge database and despite the fact that tariffs have not been issued recently, they are probably not issued as often as the service providers would like. But we have this mechanism related to the change of the price per point due to the increase of the lowest salary in health care. And here this inflexibility also hooks, because when we would like to simulate in some way with the demand-supply method the price per point of benefits, which are in the lump sum, well, again we rely on this element related to the legislative necessity of separating further benefits. "

patient care. Without better valuation of services, financial pressure on hospitals will continue to undermine reforms.[51]

A representative of the National Health Service (Stakeholder 9), referring to the issues raised, summarised the demands proposed in the discussion "nothing would particularly change, because after the increase immediately the directors would have a queue of doctors and other staff who would expect to see their salaries increased, to a level that would have already exceeded these valuations. Sorry well that is how it is so far."

4.3. Problems with reporting and billing of benefits

Attention was also drawn to numerous inaccuracies and formal problems in reporting and in the settlement process with the National Health Fund (NHF). Often, after the end of the year and the signing of annexes, the Fund performs retrospective verification, which results in the rejection of some services - e.g. by wrongly assigning a service to the wrong scope. Such

[51] "(...) until 2022, I think it was in July, there was a change in the way of financing, that is, until 2022, until the month of July, we had financing of the so-called PESEL, as far as remuneration of employees is concerned, so in other words, hospitals reported to the National Health Fund how many employees they had, what is their education generally, right? And so on and with a separate stream of money they received amounts for staff salaries. What happened after July? After July, the financing system was changed and at that point the increase in the valuation of a point was raised, yes, and surely everything would have been fine if this valuation had been adequate to the costs incurred by hospitals. I made such an analysis of district hospitals in the Podkarpackie voivodeship at the very beginning. And please imagine that in the first proposal, which was proposed to us, hospitals lacked from 300 000 to 1 000 600 PLN per month to cover, only and exclusively, the costs of salaries. That was the reality in 2022. What happened? Well later, of course, a few pennies were added to the lump sum there. Later on, it was recalculated again, and the following year the valuation was already a little better, but in any case, we have, to this day, this decision has had a very strong impact on the financial situation of hospitals, particularly district hospitals, where these procedures are not quite, in my opinion, well valued and should be much higher. Then this problem would not exist. That is why I am also talking about this when I analyse hospitals. I am talking about hospitals, I am talking all the time about the Podkarpackie Voivodeship, you can see a tendency of growth of the costs of salaries in the general revenues from the National Health Fund from year to year, as of today I do not have the end of 2023. This, dear colleagues, is almost 90%, 89.7% probably, of the total revenues from the National Health Fund. Ladies and gentlemen, as you can see, if the way of valuations is not changed, first of all, and these valuations are not increased, then from year to year, if the increase law, which you know is the main problem today, I think, will continue. Well, at that point, in my opinion, no reform will work, because the wage costs are already so high in the hospitals that the directors are simply no longer able to cover these costs. Stakeholder 6: "He went on to summarise the problems at hand: only in fact, more than 90% of what I said earlier, this money is not used to treat patients, it is used for salaries. And this is where we have the problem that it is failing a little bit for sure, and somehow the truth of treating patients, because the one is connected to the other."

situations result in a lack of funding for services already provided and introduce uncertainty and chaos in the financial management of hospitals.

The representative of the NHF (Stakeholder 9) stated that healthcare providers are often unaware of NHF process management tools and coefficients. Some only discover and start using them years after implementation. This lack of awareness is largely due to poor communication from the Fund, not the providers themselves.[52]

The representative of the AOTMiT (Stakeholder 4) stated constant regulatory changes create instability, making it hard for hospitals to keep up, especially with adapting IT systems essential for NHF settlements. Despite lump-sum financing, contracts are still signed per service area, which hospitals find inefficient. Retrospective audits add financial uncertainty, as previously settled invoices can be revised—usually requiring repayments. Since 2009, the Ministry of Health sets rigid funding rules, limiting the NHF's flexibility. Hospitals struggle to fund innovations due to the system's inflexibility and lack of external support. [53]

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[52] "when it comes to this process management and the coefficients that the NHF imposes, we also see that sometimes providers are not aware of the existence of some of these solutions at all. Here, one of the ladies said about starting work in the morning and opening and checking what's going on in the legislation. But it is probably not that super common and it does not happen everywhere, because it turns out that after a couple of years, providers ask about something that actually already exists or they inform, we found out and only recently we have been billing something using some tool that the Fund introduces. And of course it is not the fault - probably more the fault of the Fund than of the service providers - that this is happening. Well, because this very information is not getting through."

[53] "that there are very unstable regulations that change so often that, in addition to the fact that the service providers do not keep up with it, they also do not keep up with the adaptation of IT systems, without whose support the contract with the National Health Fund cannot be settled well. Another thing is that contracts are concluded for individual scopes of services despite the fact that there is a lump sum, so hospitals would expect a contract to be concluded for the hospital as a whole. Well, this is a bit out of place in our regulations; at least for the time being. The fact that there are retrospective verifications, which means that, again, these changes in the regulations, there is no certainty as to how much; in fact, whether we will close the budget at the end of the year, because even those invoices that have been settled can be verified. So it turns out that the hospital has to return something or it gets something. Usually, it has to return something. It is this system that is very rigid, because, as I and (...) still remember, before 2009, it was the National Health Fund that set the rules of the game, and after 2009 it was the regulator, that is the Ministry of Health, that took over the tasks of creating a basket of guaranteed services and financing. And this possibility to make these funding models more flexible is very limited. Now, basically, the National Health Fund can only adjust by indicators and there are very few of these qualitative factors that can be woven into this in these funding models. And this is what hospitals, at least from this research of mine, would expect. Probably the providers will also speak up in a moment. And what else often came up is that it is precisely this low flexibility of these funding systems that makes it difficult for hospitals to fund the innovative technologies they are implementing, but well, they don't have this external funding."

In turn, the NHF representative (Stakeholder 9) suggested that: exploring the German model, where an independent public institution, InEK Institute (Institute for the Hospital Remuneration System), manages both the DRG system and tariff setting. InEK includes representatives from hospitals, payers, and the government, ensuring balanced oversight. This unified management improves efficiency and is even used for commercial billing.[54]

According to the representative of district hospitals said (Stakeholder 6) hospitals aim to treat patients but face financial strain, often waiting months for NHF payments on over-limit services. As a result, hospitals are forced to cover costs upfront, effectively crediting the NHF. This delay complicates negotiations with staff and worsens financial instability, especially amid staffing shortages.[55]

4.4. Deficiencies in reporting of clinical and cost data

Experts unanimously pointed to the insufficient quality and completeness of the data reported to AOTMiT and the NHF, which makes it difficult to conduct reliable cost and clinical analyses. The current system does not allow for adequate consideration of comorbid diagnoses or the complexity of clinical cases, which leads to underestimation of tariffs for more complex

[54] "it might be worth considering going deeper into the German model. Where we actually have one external institution, independent in a sense, but external from the payers, but also from the hospitals, which not only tariffs, but above all manages this DRG system. Such an institution in Germany is the InEK Institute (Institute for the Hospital Remuneration System) and it performs these two functions. It is like a company set up there. It is a company, let's call it public, where both representatives of hospitals, representatives of payers; there are many of them there; and, of course, the government have their shares. On the other hand, it is so good that the management of the system and the tariffication is in one hand and this system is so good that it is also used in commercial billing, including tariffs in the majority".

[55] "our main goal as hospitals is probably to treat patients, and we try to treat these patients, we do, but well, up to a certain point. Yes, see from the media reports yes, how many hospitals have and what is the amount of overdraft both limited and unlimited, yes? Well, if we have a month, December is practically already half over, and hospitals have not yet been paid for non-limited services for the third quarter. Well, then something is probably wrong. Patients have been treated, hospitals have incurred costs. Well, tell me who among you would like to be paid for three months. Well, we, as hospital directors, have to explain to the doctor at this point that we will pay you, well, if the National Health Fund pays us for the excess, of course, we are talking about this payment over the limit which we have agreed with the doctor. So well, I think it is definitely a very big negotiation difficulty, today, in the case of still no medical staff, to reach an agreement, so the hospitals bear the costs by crediting the National Health Fund, yes. So that has to be said openly as well".

patients. The need for a wider collection of medical and cost data - ideally from all healthcare providers, not just from selected centres - was also identified.

A representative of the AOTMiT (Stakeholder 2) highlighted that in Poland, procedures are reported mainly for billing, not for analytical use—coexisting diagnoses and related procedures are often missing. This limits the ability to analyze costs and adjust payments based on patient complexity. Although some correlations emerged when analyzing complete patient pathways, meaningful analysis is blocked by poor data and outdated service baskets. She also stressed that rigid staffing requirements and insufficient salaries add to the challenges hospitals face. [56]

4.5. Lack of a coherent vision for reform and an answer to the question of the purpose of the system

A fundamental question has been asked: *what is the purpose of the health system?* Is it to shorten queues, cover more patients, improve health outcomes or perhaps implement innovations? The lack of a clear answer makes it difficult to plan systemic reforms. We currently have a situation where tariffs have been introduced at different times, without consistency, and often - despite the results of cost analyses - new tariffs have not been introduced for political reasons.

[56] "unfortunately, in Poland, procedures are reported for billing purposes. Neither coexisting diagnoses nor other procedures are reported in such a way that they could be used later in analyses. And we see this actually in all areas, trying to carry out analyses to what extent the statistical variables correlate. As far as on the costs, having the costs from the hospitals on the variable costs of all the procedures performed, they are very different from those of the National Health Fund, and this is a huge problem, because it really blocks us from any analysis and changes in terms of, for example, making payments dependent on co-morbid diagnoses. We have conducted such a project of in-depth analysis in the Agency in institutes subordinate to the Ministry of Health. And even having data on the results of studies from one of the patient institutes on the results of clinical trials; here, well, it was difficult to find any observation between the dependence of costs and other parameters. It was only when we actually carried out an analysis looking for patient pathways of all medical events that some correlations between costs and certain parameters started to emerge, whereas it would be much easier if all, all procedures and all, and all diagnoses and diseases that may complicate the patient's condition were reported as well. A problem that will be difficult to solve, in my opinion, because of the basket already mentioned. And I agree that it needs to be changed. There are rigid requirements in terms of staffing and manning needed to run, or run wards. Well, here it comes down to both the difficulty of meeting these requirements, elevating staff salaries, which are not really there and are difficult to reproduce at the moment".

A representative of county hospitals (Stakeholder 6), commenting on the area under discussion, emphasized the need for a comprehensive health system reform—not just of county hospitals, but also primary care (PCPs), outpatient care (AOS), and all hospital levels, including teaching and specialist hospitals. He called for a review of lump sum payments, suggesting they should be assessed at the ward level, not hospital level, to reflect actual service capacity. He also stressed verifying staff and equipment to allow hospitals to provide more care, and highlighted disparities where some hospitals are overperforming while others underdeliver, yet receive the same funding.[57]

Another county hospital representative (Stakeholder 7) added that the issue is systemic, stating that reforming only district hospitals is insufficient and that a comprehensive overhaul of the entire healthcare system is needed.[58]

The AOTMiT representative (Stakeholder 2) concluded that the ideal approach would be to revalue the entire service catalogue at once to ensure consistency across groups. Currently, tariffs were set at different times, leading to imbalances, and some were never adjusted—even when cost analyses showed lower values—often due to political decisions.[59]

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[57] "only not the reform of county hospitals, but the reform of the whole system, and this system starts with the PCPs, AOS, as well as the whole hospitality, but the whole hospitality in the whole sense of not only county hospitals, as I said earlier, but also teaching and specialist hospitals, right? And so on. This is the first thing, as far as verification is concerned, I would suggest verification of the lump sum and, first of all, examination of the units concerned, because the units have, of course, some, not all, such potential that they are able to provide definitely more services than the lump sum proposed, yes. That is to say, to verify the staff, to verify the equipment and to enable these hospitals to actually treat patients, because, as my colleague before me said, if a hospital performs 40% of the lump sum, I am paid for 100, and my colleague in the neighbouring hospital performs 120 or 130. Well, I think something is wrong? Is it? So I would review the lump sums and not the lump sums per hospital, but the lump sums per ward. In fact, and that's the change I would propose. And, of course, in the first instance a reform of the PCPs as well."

[58] "this is a really big problem. And referring, yes I mean the reform of the whole system, because the reforms of the district hospitals - it's all too little."

[59] "what is our goal? As if from the level of the organiser of the health care system. In an ideal world it would probably have to be done in such a way that the whole catalogue is valued once and then there is, as it were, adequacy between the different groups. Because the problem we face is that different areas were priced at different times. Moreover, often these tariffs were not introduced because, for example, the result of the cost analysis was much lower than the tariffs. And due to various elements, most of which were probably politically motivated, it was decided to leave them unchanged".

4.6. Underfunding of conservative services and minor procedures

Analyses by the Agency and providers show that hospital services, where the main cost is the patient's stay, are the most underestimated. Often tariffs are grossly underestimated in relation to actual costs. This raises the question of the effective functioning of a mechanism to encourage some medical procedures to be performed in specialist outpatient care instead of hospitalisation.

The AOTMiT representative (Stakeholder 2) noted that analyses show behavioural services are the most underfunded, with tariffs significantly below actual costs—mainly due to high inpatient stay expenses. Similar underpricing is seen in small procedures involving short hospital stays, likely to discourage unnecessary admissions. However, basing tariffs on real cost analyses would require increasing prices for these services.[60]

A representative of the NHF (Stakeholder 8) additionally commented, that ongoing work on DRG system reform includes introducing clearer distinctions between diagnostics and conservative treatment, as current groupings are vague. A more precise classification would improve system management. They are also exploring flexible valuation mechanisms based on patient condition or history to better adapt funding to individual cases.[61]

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[60] "in fact, the conclusion from the analyses carried out to a large extent is that the most underfunded are behavioural services, where it is known that 80% of the costs are generated by the stay. Is this the element that we want to subsidise? Because based on costs, well, these are the groups that show sometimes several hundred percent underestimation of the tariff in relation to costs. This is also observed in small procedures, if we take 2 - 3 days of hospitalisation, the tariffs, which probably precisely for this reason, in order not to encourage hospital admissions, were priced at such and not at a different level. Well basing the pricing on the outcome of the cost analysis it is clear that we will be elevating these services."

[61] "I will say what a few more people here are going to say, but, well, we have what concepts in the project and the work that is going on in the Fund at concerning changes in the DRG system. Well, one of them is the introduction of products that will better define and differentiate between diagnostics and conservative treatment, because, well, currently we have this system unclearly defined. We have a division basically into treatment and conservative groups. In the conservative ones, and sometimes also in the surgical ones, it is not clear what is specifically funded. It seems that such a stronger demarcation of this and a better definition of it from this point of view could certainly help to better manage the system and what is happening in the middle. We are also thinking about mechanisms related to some variants of valuation, depending on the condition of the patient or the patient's history, to make the system a bit more flexible for specific cases".

4.7. The urgent need for a comprehensive update of tariffs

There was a consensus that a comprehensive and one-off update of the entire benefit catalogue, taking into account actual costs, clinical variability and patient complexity, would make sense. The current activities of the AOTMiT are carried out in a piecemeal manner, which does not achieve consistency and efficiency. Unfortunately, for financial and political reasons, such a comprehensive review is judged to be unrealistic in the near future.

A representative from the NHF (Stakeholder 9) commented the NHF representative noted that Poland's DRG system is lagging behind current needs. Contributing factors include poor-quality data submitted to the Agency, the Agency's limited capacity, and the slow pace of tariff updates, which haven't kept up with real cost changes.[62]
The representative of the university (Stakeholder 5) expressed mixed views on the system's ability to keep up with demographic and technological changes. While some progress has been made, she noted it's often difficult to apply innovations due to the rigid service basket. She emphasized that DRG reform should start with defining what should be funded and how to structure payment units—only then should tariff setting follow. Factors like procedures, co-morbidities, and hospital stay length must be considered early in the design to build a more logical and flexible system.[63]

[62] regarding the DRG itself, because I also participated in the creation. However, it seems to me that our system; with apologies to the representatives of the agencies present here; is a bit out of step with the changes. Perhaps for reasons such as this, it is simply that on the one hand the quality of the data submitted to the Agency is not the best. On the other hand, perhaps the institution is too small. On the other hand, it seems to me that the speed of tariff creation has not kept up with the actual changes in the costs of individual benefits. That's it for now".
[63] "I wanted to point out another thing that only came up somewhere in the meantime, namely in this second question is how do you assess keeping up with changes, for example demographic or technological. I have this mixed feeling, because on the one hand, on the basis of experience, I would say that it has been good. And on the other hand, well this investigation, is it very difficult to take advantage of these technological changes?" In addition, she added that "well, so what if we change something after we change something, if I am just not able, because of the basket, to be flexible to change the provision of the benefit at all. So it is also an important thing from the point of view of the construction of a logical construct, as it were, which is the DRG group. Well, as if the valuation, the creation of the tariff is the last step. We have to think at the beginning about what we are going to pay for, how we are going to build this unit of account, what effects will it consist of? Yes, in other words, are we only doing procedures, are we reducing, increasing valuations depending on co-morbidities. Can we sum something up. Like here these elements. When we have this cut-off for another day of hospitalisation so that we pay, well here is, it seems to me, well, a lot to do".

In turn, the representative of AOTMiT (Stakeholder 2) emphasized that meaningful reform requires a comprehensive, one-time update of all tariffs and service groupings to ensure consistency. While the Agency works on individual areas, limited funding and lack of transparency hinder broader efforts. She noted that a full overhaul of the entire catalogue is necessary — but currently more of an ideal than a realistic goal.[64]

4.8. Planned developments of the DRG system

Among the planned solutions were proposals:

- Clearer distinction between diagnostic and conservative treatment to make it clear what exactly is funded in the group.
- Variation of tariffs according to the patient's condition or clinical history - as an attempt to adapt tariffs to the actual case submission.
- Add-on services and risk-sharing mechanisms to facilitate the funding of more complex cases without fear of service deficits.

[64] "in my opinion, without really such an update, which has already been mentioned, what it looks like. Tariffs all and area at one time, actually setting new characteristics. We do a little bit of the Agency, but it is again on individual areas. This work of ours is often not published externally for the known reasons that have already been mentioned today related to finance, we are trying to put in order there, we are analysing in terms of shifting the homogeneity of the groups in terms of just costing patients. Well, but really, for this to make sense, it should be done, in my opinion, for the whole catalogue, one time. And then we could talk about updates. However, I believe that this is more of a dream than something achievable."

5. PESTEL based on analysis of in-depth interviews

Based on the sources provided, the PESTEL analysis emerges as a useful framework for categorising the external factors that affect the health care system in Poland and the possibility of making changes to it, especially in the context of financing. The analysis of the interviews indicates the specific factors within each category that respondents considered important. The identified macro-environmental factors by PESTEL category based on the analysis of the interviews are presented below.

5.1. Political factors

The first element in the scope of the PESTEL analysis is the **political factor**. This sphere of the macro-factors plays an important role. The first factor is the **role of decision-makers and the sheer political will to carry out the necessary changes**. It is seen as a key element on which other aspects of the system depend. Introducing any change in funding requires a 'political game'. Reaching consensus between the different parties (providers, payer, patient, regulator) is extremely difficult ('there is such a clash of needs and misunderstanding of the situation, so it would have to work in harmony with each other and a bit faster'; 'the influence groups are not able to get along, which is good, because I think it will be very difficult.'). Another factor is **rationally set goals** and the current lack of a clearly defined vision and strategic/operational goals is a problem (" there is a need for ongoing monitoring and ongoing verification of goals, such and strategic, and such of these operational goals, to respond to these things"; "we in Poland don't have such an idea of how we want to do things, we just kind of put out fires. That is, we don't start from what our goal is and what we want to achieve"). In this area, in the opinion of the respondents, **the requirements of the European Union** are also an important factor ("the European Union imposes a minimal level of social security"). **Lobbying activities** are also relevant here and influence change. Furthermore, **the discretionary nature of the indicators** in terms of the political acceptability of the correction indicators plays an important role ("the formula for lump sums is complicated and often incomprehensible", "today, for example, lump sums are also calculated in a complicated way, there is a very long

formula, but it has a correction factor there at the end, which is discretionary", "according to a very complicated formula that nobody understands. (...) usually not even the NHF itself either, full discretion?"). At the level of management of medical entities, **the independence and efficiency of managers** is an important factor**.** The ability of hospital directors to manage rationally, motivate staff and deal with the imperfections of the system and the labour market is crucial for improvement, regardless of the political option.

5.2. Economic factors

The second element in the PESTEL analysis is the economic environment. In this area, in addition to the factors indicated in detail by the respondents, attention should be paid to the issue of expenditures incurred on the health care sector, which determine to a large extent the possibility of introducing changes in the manner of financing medical services. **The factor that was indicated in this area is the economic potential of the state,** as the level of benefits in the public system is a consequence of the economic conditions of the state and the level of the collected contribution. Changes in funding can affect the state's finances ("healthcare spending is independent of the payment scheme, it's just how we collect, right? It's not just how we collect, it's also what the economic potential is"; "or too little people know that the level of benefits is a consequence of what the economic condition of the state is and how much we put in as a contribution"). An important further factor is the **increase in the cost of benefits and how they are priced**. The problem of the mismatch between the number of benefits and their costs and the use of resources to the costs of their acquisition and maintenance. The valuation of procedures by the AOTMiT is perceived as inappropriate, reacting too slowly to changes (e.g. robotisation) and new technologies. Undervalued procedures distort the financial management of entities and availability. Overvalued procedures, in turn, can lead to unnecessary patient transfers (“you need a set, acceptable break-even point for each procedure, like the price of a loaf of bread”; “they do them in very small centres because those centres want them done there because they've just got quite a high profitability”; “the rapid adaptation of the valuation to, for example, what's happening when it comes to, for

example, robotisation, yes it's too slow"; "that pathway is really long. Well, and it turns out that once it's in place, it's already outdated"; "on the one hand, it may be that we take on something that is clearly overvalued, well, but the hospital compensates itself in this way for the costs of a department that is not profitable. **The rising cost of** medical staff is a very significant element of the economic environment. The increase in salaries has been significant, but the disproportion in salaries between the public and private sectors continues to lead to an exodus of staff ("if healthcare providers did not have the muzzle that they have to pay medical staff what the ministry has imposed, then this price increase would perhaps translate into both quality and availability"; "there is a significant disproportion with the private sector...we are currently facing a significant exodus of staff because of this". In addition, the very issue of changing lifestyles of employees and being more concerned with life balance (this factor is also characteristic of the social environment) comes up here. Another issue raised by respondents was the **efficiency of spending.** This is a key criterion for evaluating funding mechanisms. Paying for effect/results is seen as reasonable and can increase efficiency. In this respect, at a strategic level, it should take into account the needs of the population and their regional distribution, and not only the availability of doctors or the pricing of procedures ("there need to be an ongoing evaluation of the whole system taking into account changing demands. That is, an increase in cancer cases, an increase in the demand for care for the elderly. And, as it were, responses to these demands."). In addition, **the purchasing power of money** was mentioned as a classic element in the economic environment**, because** the real increase in prices should be the same as the real purchasing power of money on the scale of the economy ("price increases should be the same as the real purchasing power of money on the scale of the national economy").

5.3. Social factors

The third element of the environment in the PESTEL analysis is the social environment. In this respect, the first factor is primarily the **ageing population**. Increasing health needs due to demographic change are becoming a major challenge ("unfortunately demography is inexorable..."). **Increased patient awareness** is also an important issue, as widespread

access to information increases the pressure on the system ("increased patient awareness, because we all have access to more and more information"). This factor is linked to the next one, **social pressure**, which can play an important role. Public dissatisfaction with the lack of access, patients' expectations e.g. about the appearance of the hospital ("like a private one"), patients' evaluation is an important outcome of the hospital ("there will always be some dissatisfied people and there is no health care system in the world that makes everything available at the time the patient wants it"). In the Polish healthcare system we are dealing with **the interests of different groups.** The conflict of interests between providers, payers, patients, the regulator makes change difficult ("the influence groups are not able to agree on what is good...", "they cause such a clash of needs and misunderstanding of the situation..."). Another element is the **labour market situation for medical staff** and existing workforce shortage along with exodus of staff from the public to the private sector or abroad. The influx of staff from the East (e.g. Ukraine) is a great asset but requires support in assimilation. Bottom-up demands from staff (e.g. wanting to work in one place for better money) may arise and have resonance ("someone would say, well, I don't want to run around 3,4,5 hospitals there anymore. I'd rather work in one, get paid decently.... Is it at all possible that a grassroots... such a demand would appear?"). Another element in the area of the social environment is **pro-health education.** Under-spending on pro-health education, including understanding the economics of the system, and low reporting on screening are the main challenges signaled by respondents.

5.4. Technological factors

The fourth element in the PESTEL analysis is the technological environment. In this respect, primarily respondents pointed to the **emergence and development of new medical technologies**. The emergence of new diagnostic and therapeutic technologies (e.g. robotisation, modern lenses in ophthalmology) affects the system. Their introduction into the basket of benefits and their valuation should be faster. The development of new technologies is seen as closely linked to quality and efficiency improvements ("one would expect more resources to be invested .... in some new technology development."). It is necessary to perform

complex procedures (to do a procedure you need technological involvement..."). In turn, technological development itself is a factor influencing the system, and arguably changes in this regard appear in the respondents' assessment as potentially disadvantageous ("payment per person-day would stop technological development.").

5.5. Environmental factors

The penultimate element in the PESTEL analysis is the environmental factor. In this area, there were no significant indications from respondents. Issues related to **pro-environmental attitudes** and **investment in alternative energy sources** were occasionally signaled.

5.6. Legal factors

The last element analysed in PESTEL is the legal (legislative) environment. In this respect, **the way in which legislative changes are introduced** plays a fundamental role. They are crucial for the introduction of many funding mechanisms. They require coherence and agreement between political forces ("in principle, you know, there is legislation..."; "there is a bow... this element of proper legislation."). Linked to this factor is the sheer **speed of legislative response to change,** which is perceived as far too slow. Legislation is a 'stopwatch'. The process of introducing the new DRGs, ICD-9 into the basket and the orders of the president of the NHF takes too long and the legislation is outdated when it comes into force (" the legislative environment is particularly applicable, because it is a stopwatch..."; "this is the first one, in my opinion the worst thing is that it works too slowly; "before it is sewn into the basket of guaranteed services and even later the orders of the president - it takes, really long...and once it comes into force, it is already outdated."). In this area, the issue of **legislative solutions promoting pro-quality solutions** was also raised ("if there will be a clear fork, what quality means"; "this quality should be defined with the accuracy of the subject...I think this is what our current legislation is aiming at..."). In the area of the legislative environment, the **rigid framework of legislative provisions** was also pointed out**.** These may hinder the use of certain financial bonuses (e.g. correction coefficients - "the use of at least

some financial bonuses... not always possible to achieve through a rigid framework of legislative provisions.").

5.7. PESTEL summary

The factors identified on the basis of the interviews within the individual areas of the PESTEL analysis represent a fundamental challenge and have a decisive impact on the possibility of correcting the financing mechanisms of the health care system in Poland.
The table below presents summaries of the key factors identified in the PESTEL analysis.

Table 10 *- PESTEL analysis*

The sphere of the environment according to PESTEL	Key factors
Political factors	· The role of decision-makers and the political will itself to make the necessary changes · Reasonable targets for change · European Union requirements · Lobbying activities · Discretion of indicators · Independence and effectiveness of managers
Economic factors	· The country's economic potential · The increase in the cost of benefits and how they are valued · Increasing labour costs · Spending efficiency · Purchasing power of money
Social factors	· An ageing population · Increased patient awareness · Social pressure · Interests of the various groups · The labour market situation for medical staff · Health education
Technological factors	· The emergence and development of new medical technologies
Environmental factors	· Pro-environmental attitudes · Investment in alternative energy sources

Legal factors	· The way in which legislative changes are made · The speed with which legislation reacts to change · Legislative solutions to promote pro-quality solutions · Rigid legislative framework

Source: own study.

6. Attachments

1) Attachment 1 - The focus group study scenario.
2) Attachment 2 - In-depth interview study form.
3) Attachment 3 - Problem-incentive matrix.

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Attachment 1

The focus group study scenario

The purpose of the focus group study is for experts to verify the list of the most important problems that occur in the health care system in Poland and to identify possible financial mechanisms to prevent, mitigate or counteract them (also in the context of the functioning of the DRG system for the financing of medical services in hospital treatment).

Questions addressed to experts during a moderated discussion:

1. How do you assess the current system of financing and accounting for medical services in the Polish health care system with regard to hospital treatment? Please indicate the advantages and disadvantages of the current solutions.
2. How do you assess the evolution of solutions in this area? How do you assess keeping up with changes, for example: demographic, technological, etc.?
3. Below we have prepared a list of problems currently existing in the health care system. Could you add to it, based on your own experience and knowledge?
   - Incidence (above average or significant increase) of adverse events such as hospital-acquired infections (SEPSIS, infectious diseases); pressure sores; catheter-related infections
   - Mismatch between the number of services provided to patients with different health conditions and the costs of those services; mismatch between the use of resources and the costs associated with acquiring or maintaining them (cost-intensity); e.g. share of patients requiring relatively simple procedures with cost-appropriate pricing vs. share of patients with complications, multiple severe diseases, requiring cost-intensive services and prolonged hospitalisation
   - Increased costs of healthcare delivery (salaries, equipment, IT, etc.).
   - Reduced commitment to improving service quality (beyond health outcomes)
   - Inefficient spending of funds
   - Lowering of clinical quality indicators for treatment, failure to apply clinical guidelines, e.g. from scientific societies or the latest medical knowledge in a given area
   - Increased length of hospitalisation
   - Reduced or insufficient provision of services, e.g. consultations, hospital admissions, diagnostics, new drug therapies
   - Increasing unnecessary transfers of patients between hospitals or even "shunting" a patient requiring intensive care to a general ward in order to minimise costs
   - Increase in hospital readmissions due to complications e.g. after surgery
   - Decrease in revenue, non-payment for overperformance or non-payment for services provided

- Reducing expenditure on hospital care or reducing funding for procedures performed in hospital
- Increased mortality or decreased healthy life expectancy
- Increase in inaccurate billing of services provided

4. Given the identified problems in the functioning of the health care system, which do you consider to be the most significant and prevalent?
5. In your opinion, how does the DRG system affect the organisation of medical services in hospital treatment? In your opinion, does the DRG system work well in the Polish healthcare system?
6. In what direction should the DRG system be improved?
7. In which areas of the provision of benefits should the DRG system be replaced by another solution? In which areas of benefit provision could the current solution be replaced by DRG system?
8. Please identify the main barriers associated with implementing changes to the operation of the DRG system?

Support material - given to participants prior to the start of the study

Project: Flexible Approaches to Support Health through financing (FLASH)

The Warsaw School of Economics (SGH) is a co-implementer of the FLASH project. The project is coordinated by the University of Verona. The project is implemented under a grant from European funds HORIZON-HLTH-2022-CARE-08-04.

The basic premise for undertaking the presented research topic is the research gap identified as a consequence of conducting a systematic literature review and subsequent synthesis of the selected literature concerning knowledge of the determinants (political, economic, social, technological, environmental - understood as the natural environment and legal) of decision-making concerning the choice of financing methods for those health services that may contribute to preventing, alleviating or counteracting the appearance of significant health problems occurring in the population.

The issue of deciding on the structure and priorities of financing social services, especially health services in the public sector, is gaining importance at a time of increasing expectations of the public in terms of the state taking action to secure the public interest (i.e. improving the health of citizens) as well as pressure on the effective use of public funds (i.e. a more efficient and effective health care system). A growing interest in public sector health financing issues can be observed on the part of both researchers and practitioners. This knowledge is also important from the point of view of management practitioners, as a coherent approach to public policy-making strategies in relation to health policy issues is the most important aspect for managers in health entities.

The FLASH project focuses on the issue of budget allocation and the financing of health services within a given budget using a multidisciplinary approach. The project is based on extensive research into health care financing mechanisms across Europe.

The objectives of the FLASH project focus on:

- defining financing models for health services that meet health needs in an efficient and equitable way;

- identification of key determinants of health systems resilience and long-term structural change;
- providing guidance on how better integration of healthcare services can improve the effectiveness and efficiency of healthcare delivery;
- improving the understanding of existing financial incentives and developing new opportunities for their use.

The FLASH project consists of 10 work packages (WP). The project involves 16 actors from eight EU countries. SGH is collaborating in two parts:

1) WP6 on funding mechanisms for inpatient treatment and
2) WP8 on surveying doctors' and patients' attitudes towards e-health.

SGH is currently implementing WP6.

To date, a systematic review of the literature on financial incentives in hospital treatment has been carried out in WP6. The analysis considers mechanisms currently in place (in Europe as well as outside Europe), in particular the study includes an analysis of payment mechanisms similar to the solution adopted for homogeneous groups of patients. The aim of the completed literature review was to identify financial interventions that influence changes in the behaviour of hospital treatment providers.

A general search was carried out in a systematic way, using a search strategy that followed the PRISMA-P (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The search was based on the resources of free electronic medical research databases: PubMed and Cochrane. Report databases were also searched: World Health Organisation, Organisation for Economic Co-operation and Development and World Bank. The search was limited to literature published between 2013 and 2023. A total of 171 publications were included in the review.

As a consequence of the literature synthesis, financial incentives (mainly categories of payment mechanisms) were identified using the OECD/WHO classification[1] and the Urban Institute classification .[2]

Table 1. Classification of payment mechanisms used as financial incentives

Main category of payment mechanism	Payment mechanism
Activity-based payment mechanism	Fee-for-service (FFS)
	Daily rate
	Diagnosis Related Groups (DRGs)
Budget mechanism	Global budget
Consolidated mechanism	Bundled payments
	Capitation payment system
Incremental mechanism	Pay-for-performance (P4P) mechanism
	Shared savings mechanism

Source: OECD 2019, Urban Institute 2016.

[1] Barber SL, Lorenzoni L, Ong P. Price setting and price regulation in health care: lessons for advancing Universal Health Coverage. Geneva: World Health Organization, Organisation for Economic Co-operation and Development; 2019. License: CC BY-NC-SA 3.0 IGO.

[2] Berenson, Robert A. et al. "Payment Methods and Benefit Designs : How They Work and How They Work Together to Improve Health Care Payment Methods: How They Work." (2016).

As a consequence of the systematic literature review, categories of effects of financial mechanisms were also identified, including the impact on accessibility, quality of care, healthcare provider finances and the impact on payer spending.

Table 2 Classification of effects

Overall effect	Specific effect
Access	Casemix (number of benefits/per cost)
	Number of patients
	Number of benefits
	Waiting time
Quality	Survival/expected life expectancy
	Treatment quality indicators
	Treatment/prophylaxis
	Adverse events
	Patient satisfaction
Finances of healthcare providers	Coding up
	Revenue
	Costs
	Financial risk
Spending efficiency	Length of stay
	Rehospitalizations
	Patient transfers
Impact on the payer	Payer's expenses

Source: OECD 2019, Urban Institute 2016.

The largest number of examples of research papers analysing financial incentives concerned DRGs. Therefore, a further step in the ongoing research in WP 6 is to analyse system effects through the prism of problems concerning the DRG system as one of the main financial incentives, hence the decision to conduct a focus group study with experts.

Attachment 2

Dear Sir/Madam,

We cordially invite you to participate in our scientific study in the form of an interview. In order to facilitate the process, special sheets have been prepared.

First, please indicate which of the proposed changes in the shaping mechanisms of DRG would positively impact the solution of the mentioned issues in the area of provided services.

Then, we will try to answer whether the indicated mechanism could improve: access to services, quality of services, finances of healthcare providers, efficiency of spending resources, and the situation of the payer.

Finally, we will look for answers regarding the actions needed in the PESTEL area (political, economic, social, technological, environmental, and legal) to ensure the effectiveness of the mechanism concerning the projected effect.

Additionally, we attach descriptions of mechanisms, types of impact, and examples of factors in the PESTEL area.

Interview Process

Question: Would the application of any of the following incentives within the DRG system solve any of the problems listed below?

Problem	Transition to a new payment scheme	Additional payment outside the existing payment system	Payment along with another payment scheme	Discounts and surcharges system	Penalty	Bonus	Payment levels depending on procedures	Payment levels depending on outcomes	Price reduction
Increase in prices									
Occurrence of adverse events (above									

average or significant increase), such as hospital infections (SEPSA, infectious diseases), bedsores, catheter-associated infections									
Mismatch between the number of services provided to patients in different health conditions and the cost of these services									
Increase in healthcare costs (salaries, equipment, IT, etc.)									
Lower engagement in improving the quality of services (other than health outcomes)									
Inefficient financial spending									
Increase in hospitalization time									
Decrease or insufficient number									

of services (e.g., consultations, hospital admissions, diagnostics, new drug therapies)									
Increase in unnecessary patient transfers between hospitals or "shifting" a patient requiring intensive care to a general ward to minimize costs									
Increase in readmissions due to complications, e.g., post-surgery									
Decrease in revenues, non-payment for over-served services or non-payment for services provided									
Lower hospital care spending or reduced funding for procedure									

s performed in the hospital									
Increase in mortality or decrease in average healthy life expectancy									
Increase in cases of incorrect billing of provided services									

If you indicate the possibility of implementing the selected incentive, please indicate what impact it will have on improving access, increasing quality, improving the finances of healthcare providers, improving the efficiency of resource expenditure, and positive effects on the payer.

Will the transition to [selected mechanism] change anything in:
Access Quality Healthcare Provider Finances Resource Expenditure Efficiency Payer Impact
[selected mechanism]

What actions should be taken in the POLITICAL, ECONOMIC, SOCIAL, ENVIRONMENTAL, and LEGAL spheres to make the change possible? What macro-environmental factors play a key role?
P E S T E L
[Selected mechanism]

Attachment 3

Problem-incentive matrix

Characteristics of the experts interviewed

Expert	Description of professional experience
Expert 1	Doctor of Economics specialising in management, he has significant practical experience in consultancy and management of medical entities. He cooperates with the Agency for Health Technology Assessment and Tarification as an expert.
Expert 2	Director of the Hospital of the Ministry of Internal Affairs and Administration in Katowice, doctor specialising in general surgery. He has extensive experience in health care management.
Expert 3	Doctor in the discipline of management science and quality. Long-term Director of the Prof. Leszek Giec Upper Silesian Medical Centre of the Silesian Medical University in Katowice - a multi-specialist clinical hospital.
Expert 4	Director of the District Hospital in Zawiercie, has considerable experience in hospital management
Expert 5	With more than 25 years of experience in CEO, CFO roles in public and non-public health care entities, he has experience in crisis management related to financial, organisational problems and strategic challenges. Director of the Provincial Branch of the National Health Fund.
Expert 6	She has over 30 years of experience in health care. She held managerial positions in the largest hospitals in Silesia and Zagłębie in terms of contracting and settling medical services. She has also worked at the Regional Branch of the National Health Fund.
Expert 7	Deputy Director for Economic and Financial Affairs - Chief Accountant at the Independent Public Clinical Hospital No. 1 named after Prof. Stanisław Szyszko of the Medical University of Silesia in Katowice

Expert 8	Neurologist specialist; Head of the Department of Neurology in Zabrze at the Medical University of Silesia in Katowice. President of the Multiple Sclerosis and Neuroimmunology Section of the Polish Neurological Society. Member of the Committee of Neurological Sciences of the Polish Academy of Sciences.
Expert 9	She worked at the Agency for Health Technology Assessment and Tariffication, where she was in charge of projects related to homogeneous patient groups. She also has experience of working at the National Health Fund in the position of deputy director of the Department of Health Care Services
Expert 10	Head of the Health Care Services Department at the Regional Branch of the National Health Fund. He works in a number of committees and expert teams, including those dealing with the area of health needs.

Description of symbols used

Symbol	Description
+	Has a positive effect on the factor
-	Has a negative impact on the factor
0	Has an indifferent effect on the factor
Blank box	The expert did not identify this factor

Question: According to the Respondent, would the application of any of the following incentives within the DRG system solve any of the listed problems? **What measures need to be taken in the POLITICAL, ECONOMIC, SOCIAL, ETHICAL AND LEGAL spheres to bring about change?**

	Transition to a new	Additional payment	Payment with another	System of discount	Penalty	Bonus	Levels of payment dependen	Payment levels accordin	Payment levels based on	Price drop	

Incentive / Problem		payment scheme	outside the existing payment system	payment scheme	s and rebates			t on procedures	g to effects	performance		Price increases
1	**Incidence (above average or significant increase) of adverse events such as hospital-acquired infections (SEPSA, infectious diseases); pressure sores; catheter-**											

	related infections										
	Expert 1	-	-	-	+	0	0	+	+	+	0	0
	Expert 2	0	0	0	+	+	+	0	0	0	0	0
	Expert 3	0	0	0	0	0	0	+	+	+	0	0
	Expert 4	+	+	+	0	0	0	0	0	0	0	0
	Expert 5	+	+	+	+	+	0	0	0	0	0	0
	Expert 6	-	-	-	+	+	+	-	+	+	-	-
	Expert 7	-	-	-	-	-	-	-	-	-	-	-
	Expert 8	-	-	-	-	-	-	-	-	-	-	-
	Expert 9	-	-	-	+	-	-	-	-	-	-	-
	Expert 10	-	-	-	+	-	-	-	-	-	-	-

Problem 1 Incidence (above average or significant increase) of adverse events such as hospital-acquired infections (SEPSIS, infectious diseases); pressure sores; catheter-related infections

Stimulus / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer

Switching to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	0	+	+	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					

Expert 4	+	0	+	+	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	0	+	+	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2	+	+	+	+	0
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9	+	+	+	0	0
Expert 10	+	+	+	0	0
Transition to a penalty system					
Expert 1					
Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	0	0

Expert 5					
Expert 6	0	0	0	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2	+	+	+	+	0
Expert 3					
Expert 4					
Expert 5					
Expert 6	0	+	+	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-					

dependent payment levels					
Expert 1	+	+	+	+	+
Expert 2					
Expert 3	+	+	+	+	+
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1	+	+	+	+	+
Expert 2					
Expert 3	+	+	+	+	+
Expert 4					
Expert 5					

Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels	+	+	+	+	+
Expert 1					
Expert 2					
Expert 3	+	+	+	+	+
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					

Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					

Expert 8						
Expert 9						
Expert 10						

2

Incentive / Problem		Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
2	Mismatch between the number of services provided to patients with different health conditions and the costs of											

	those services; mismatch between the use of resources and the costs associated with acquiring or maintaining them (cost-intensity); e.g. share of patients requiring relatively simple procedures with cost-appropriate pricing vs. share of patients with complications, multiple severe diseases, requiring cost-intensive services and prolonged hospitalisation											

	Expert 1	+	-	+	+	+	0	0	0	0	0	0
	Expert 2	0	0	+	0	0	0	+	+	+	0	0
	Expert 3	+	+	+	+	+	0	0	0	0	0	0
	Expert 4	+	+	+	+	0	0	0	0	0	0	0
	Expert 5	+	+	+	+	0	0	0	0	0	0	0
	Expert 6	+	0	+	0	0	0	+	+	+	0	0
	Expert 7	0	+	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	+	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	+	+	+	0	0
	Expert 10	+	+	0	0	0	0	0	0	0	0	0

Problem 2 Mismatch between the number of services provided to patients with different health conditions and the costs of those services; mismatch between the use of resources and the costs associated with acquiring or maintaining them (cost-intensity); e.g. share of patients requiring relatively simple procedures with cost-appropriate pricing vs. share of patients with complications, multiple severe diseases, requiring cost-intensive services and prolonged hospitalisation.

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer

Transition to a new payment scheme					
Expert 1	+	+	+	+	0
Expert 2					
Expert 3	+	+	+	+	0
Expert 4	+	+	+	0	0
Expert 5	+	+	0	0	0
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					
Expert 9					
Expert 10	+	0	0	0	0
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3	+	+	+	+	0

Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7	+	0	0	0	0
Expert 8					
Expert 9					
Expert 10	+	0	0	0	0
Switching to a payment with a different payment scheme					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	+	0
Expert 4	+	+	+	0	0
Expert 5	+	+	0	0	0
Expert 6	+	+	+	0	0
Expert 7					
Expert 8	0	0	+	0	0
Expert 9					

Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2					
Expert 3	+	+	+	+	0
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1					
Expert 2					
Expert 3	+	+	+	+	0
Expert 4					

Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-					

dependent payment levels					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	0	0	+	0
Expert 7					
Expert 8					
Expert 9	+	0	+	0	0
Expert 10					
Switching to payment levels according to effects					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3					
Expert 4					
Expert 5					

Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9	+	+	+	0	0
Expert 10					
Shifting to performance-based payment levels					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9	+	+	+	0	0
Expert 10					
Transition to falling prices					

Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					

Expert 8					
Expert 9					
Expert 10					

3

Incentive / Problem		Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
3	Increased costs of healthcare delivery (salaries, equipment, IT, etc.).											

	Expert 1	+	0	+	0	0	0	0	+	0	0	0
	Expert 2	+		+	+	+	+	0	0	0	0	0
	Expert 3	+	0	+	+	+	+	0	0	0	0	0
	Expert 4	+	0	+	+	0	0	0	0	0	0	0
	Expert 5	+	0	+	+	0	0	0	0	0	0	0
	Expert 6	+	+	+	0	0	0	0	0	0	0	+
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	+
	Expert 9	0	0	0	0	0	0	0	0	0	0	0
	Expert 10	0	0	0	0	0	0	0	0	0	0	0

Issue 3 Increased costs of healthcare provision (salaries, equipment, IT, etc.).

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1					
Expert 2	+	+	+	0	0

Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1	+	+	0	+	+
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	+
Expert 4	+	+	+	0	0
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1					

Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	0
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1					
Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1					
Expert 2					
Expert 3					

Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Transition to performance-based payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					
Expert 3					
Expert 4					

Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	0	0	+	0	0
Expert 7					
Expert 8	0	0	+	0	0
Expert 9					
Expert 10					

4

problem \ Incentive		Transition to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
4	Reduced commitment to improving service quality (beyond health outcomes)											
	Expert 1	-	-	-	+	0	0	0	0	0	0	0
	Expert 2	0	0	0	0	0	0	0	0	0	+	0
	Expert 3	0	0	0	+	+	+	0	0	0	0	0
	Expert 4	+	0	0	0	0	0	0	0	0	0	0
	Expert 5	+	+	+	0	0	0	0	0	0	0	0
	Expert 6	0	0	0	+	0	+	0	0	+	0	0

	Expert 7	0	0	0	0	0	+	0	0	0	0	0
	Expert 8	0	0	0	0	0	+	0	0	0	0	0
	Expert 9	0	0	0	+	0	0	0	0	0	0	0
	Expert 10	0	0	0	+	0	0	0	0	0	0	0

Issue 4 Reduced commitment to improving service quality (beyond health outcomes)

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	+
Expert 5	+	+	+	+	+
Expert 6					
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	+	+
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1					

Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	+	+
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1	0	0	+	+	+
Expert 2					
Expert 3	0	0	+	+	+
Expert 4					
Expert 5					
Expert 6	+	0	+	+	0
Expert 7					

Expert 8					
Expert 9	+	+	+	0	0
Expert 10	+	+	+	0	0
Transition to a penalty system					
Expert 1					
Expert 2					
Expert 3	0	0	+	+	+
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3	0	0	+	+	+

Expert 4					
Expert 5					
Expert 6	0	+	+	0	+
Expert 7	0	+	0	0	0
Expert 8	0	+	+	0	0
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Switching to payment levels according to effects					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2	-	-	-	_	0
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

5

Incentive	Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	

problem												Price increases
5	Inefficient spending of funds Reduction of clinical quality indicators for treatment, failure to apply clinical guidelines e.g. from scientific societies or the latest medical knowledge in the field											
	Expert 1	+	+	+	0	0	0	+	+	+	0	0
	Expert 2	+	+	+	0	0	0	+	+	+	0	0
	Expert 3	+	+	+	+	+	+	+	+	+	0	0
	Expert 4	+	+	+	0	0	0	+	+	+	0	0
	Expert 5	+	+	+	0	0	0	0	0	0	0	0
	Expert 6	0	0	+	+	+	+	0	+	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0

	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	+	0	0	0	0	0	0	0
	Expert 10	0	0	0	+	0	0	0	0	0	0	0

Problem 5 Inefficient spending of funds Reduction of clinical quality indicators for treatment, failure to apply clinical guidelines e.g. from scientific societies or the latest medical knowledge in the field

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1	+	+	0	+	0
Expert 2	+	+	0	0	0
Expert 3	+	+	0	+	0
Expert 4	+	+	0	0	0
Expert 5	+	+	+	+	+
Expert 6					
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	+	0
Expert 3	+	+	0	+	0
Expert 4	+	+	0	+	0
Expert 5	+	+	+	+	+
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1	+	+	0	+	0

Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	0
Expert 4	+	+	0	0	0
Expert 5	+	+	+	+	+
Expert 6	+	+	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2					
Expert 3	+	+	0	+	0
Expert 4					
Expert 5					
Expert 6	+	0	+	+	0
Expert 7					

Expert 8					
Expert 9	+	+	+	0	0
Expert 10	+	+	+	0	0
Transition to a penalty system					
Expert 1					
Expert 2					
Expert 3	+	+	0	+	0
Expert 4					
Expert 5					
Expert 6	0	0	0	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3	+	+	0	+	0

Expert 4					
Expert 5					
Expert 6	0	+	+	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1	+	+	0	+	0
Expert 2	+	+	0	0	0
Expert 3	+	+	0	+	0
Expert 4	+	+	0	+	0
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Switching to payment levels according to effects					
Expert 1	+	+	0	+	0
Expert 2	+	+	0	0	0
Expert 3	+	+	0	+	0
Expert 4	+	+	0	+	0
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1	+	+	0	+	0
Expert 2	+	+	0	0	0

Expert 3	+	+	0	+	0
Expert 4	+	+	0	0	0
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

6

Incentive	Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	

problem											Price increases
6	Increased length of hospitalisation										
	Expert 1	-	-	-	0	+	+	-	+	+	0	0
	Expert 2	0	0	0	+	+	+	+	+	+	0	0
	Expert 3	0	0	0	0	+	+	-	+	+	0	0
	Expert 4	0	0	0	+	+	+	0	0	0	0	0
	Expert 5	0	0	0	0	+	+	-	+	+	0	0
	Expert 6	0	0	+	+	0	0	0	+	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	0	+	0	0	0
	Expert 10	0	0	0	0	0	0	0	+	0	0	0

Issue 6 Increased length of hospitalisation

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer

Switching to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					

Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	0	0
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	+	0
Expert 5					
Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	0
Expert 4	+	+	+	+	0

Expert 5	+	+	0	+	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	0
Expert 4	+	+	+	+	0
Expert 5	+	+	0	+	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-					

dependent payment levels					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	0
Expert 4					
Expert 5	+	+	0	+	0

Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9	+	+	0	+	0
Expert 10	+	+	0	+	0
Shifting to performance-based payment levels					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	0	+	0
Expert 4					
Expert 5	+	+	0	+	0
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					

Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					

Expert 8					
Expert 9					
Expert 10					

7

Incentive / problem		Transition to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
7	Reduced or insufficient provision of services, e.g. consultations, hospital admissions,											

	diagnostics, new drug therapies											
	Expert 1	+	+	+	+	+	+	+	+	+	0	0
	Expert 2	+	+	+	+	+	+	+	+	+	0	0
	Expert 3	+	+	+	+	0	0	0	0	0	0	0
	Expert 4	+	+	+	+	+	+	+	+	+	0	0
	Expert 5	+	+	+	0	0	0	0	0	0	0	0
	Expert 6	0	0	+	0	0	+	+	0	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	+	0	0	0	0
	Expert 10	0	0	0	0	0	0	+	0	0	0	0

Issue 7 Reduced or insufficient provision of services, e.g. consultations, hospital admissions, diagnostics, new drug therapies

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					

Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	+
Expert 3	+	+	+	+	0
Expert 4					
Expert 5	+	+	0	+	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1	+	+	0	+	+
Expert 2	+	+	0	0	+
Expert 3	+	+	+	+	0
Expert 4	+	+	+	+	0
Expert 5	+	+	0	+	0
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	
Expert 3	+	+	+	+	0
Expert 4	+	+	+	+	0
Expert 5	+	+	0	+	0
Expert 6	+	+	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of					

discounts and rebates					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	0
Expert 3	+	+	+	+	+
Expert 4	+	+	+	+	0
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	+	0
Expert 5					
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	+	0
Expert 5					
Expert 6	0	+	+	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1	+	+	+	+	+

Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	+	0
Expert 5					
Expert 6	+	0	0	+	0
Expert 7					
Expert 8					
Expert 9	+	0	+	0	0
Expert 10	+	0	+	0	0
Switching to payment levels according to effects					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	+	0
Expert 5					
Expert 6					
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1	+	+	+	+	+
Expert 2	+	+	+	+	0
Expert 3					
Expert 4	+	+	+	+	0
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10						

8

Incentive / problem		Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
8	Increasing unnecessary transfers of patients between hospitals or even "shunting" a patient requiring intensive care to a general ward in order to minimise costs											

	Expert 1	+	+	+	+	+	+	+	+	+	0	0
	Expert 2	+	0	0	0	0	0	+	+	+	0	0
	Expert 3	0	0	0	0	0	0	+	+	+	0	0
	Expert 4	0	0	0	0	0	0	+	+	+	0	0
	Expert 5	+	+	+	+	+	+	+	+	+	0	0
	Expert 6	0	0	0	+	+	0	0	+	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	+	0	0	0	0	0	0	0
	Expert 10	+	+	0	0	0	0	0	0	0	0	0

Issue 8 Increasing unnecessary transfers of patients between hospitals or even "shunting" a patient requiring intensive care to a general ward in order to minimise costs

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					

Expert 1	+	+	+	0	-
Expert 2	+	+	+	0	0
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9	+	0	0	+	0
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1	+	+	+	0	-
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1	+	+	+	0	-
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10	+	0	+	+	0
Switching to a system of					

discounts and rebates					
Expert 1	0	0	+	0	-
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9	+	+	+	0	0
Expert 10					
Transition to a penalty system					
Expert 1	0	0	+	0	-
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6	0	0	0	0	+

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1	0	0	+	0	_
Expert 2					
Expert 3					
Expert 4					
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1	0	0	+	0	-

Expert 2	0	0	+	+	0
Expert 3	+	+	+	+	0
Expert 4	+	+	+	+	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1	0	0	+	0	-
Expert 2	0	0	+	+	0
Expert 3	+	+	+	+	0
Expert 4	+	+	+	+	0
Expert 5	+	+	+	0	0
Expert 6	+	+	+	+	0
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1					
Expert 2	0	0	+	+	0
Expert 3	+	+	+	+	0
Expert 4	+	+	+	+	0
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					

9

Incentive / problem		Transition to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
9	Increase in hospital readmissions due to complications e.g. after surgery											
	Expert 1	-	-	-	-	0	0	+	+	+	0	0
	Expert 2	0	0	0	0	0	0	+	+	+	+	0

	Expert 3	0	0	0	0	0	0	+	+	+	0	0
	Expert 4	0	0	0	0	0	0	0	0	0	+	0
	Expert 5	0	0	0	0	0	0	0	0	0	+	0
	Expert 6	0	0	+	+	+	+	0	+	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	+	0	0	0	0	0	0	0
	Expert 10	0	0	0	+	0	0	0	0	0	0	0

Issue 9 Increase in hospital readmissions due to complications e.g. after surgery

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4					

Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

Switching to a payment with a different payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2					
Expert 3					

Expert 4					
Expert 5					
Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9	+	+	+	0	0
Expert 10	+	+	+	0	0
Transition to a penalty system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	0	0	0	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					

Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	0	+	+	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1	0	+	+	+	-
Expert 2	0	+	+	+	0
Expert 3	0	+	+	+	0
Expert 4					
Expert 5					

Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1	0	+	+	+	-
Expert 2	0	+	+	+	0
Expert 3	0	+	+	+	0
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Shifting to performance-					

based payment levels					
Expert 1	0	+	+	+	-
Expert 2	0	+	+	+	0
Expert 3	0	+	+	+	0
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2	0	+	+	+	0
Expert 3					
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

10

Incentive / problem		Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
10	Decrease in revenue, non-payment for overperformance or non-payment for services provided											
	Expert 1	-	-	-	-	0	0	-	-	-	0	0
	Expert 2	0	0	0	+	+	+	0	0	0	+	+
	Expert 3	0	0	0	+	+	+	0	0	0	0	0
	Expert 4	0	0	0	0	0	0	+	+	+	0	0
	Expert 5	0	0	0	0	+	+	0	0	0	0	0
	Expert 6	+	+	+	0	0	0	0	0	0	0	+
	Expert 7	0	0	0	0	0	0	0	0	0	0	0

	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	0	0	0	0	0
	Expert 10	0	0	0	0	0	0	0	0	0	0	0

Issue 10 Reduction in revenue, non-payment for overperformance or non-payment for services provided

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Transition to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4					
Expert 5	+	+	0	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4					

Expert 5	+	+	0	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	+
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

Switching to payment levels according to effects					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	+
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1					
Expert 2					
Expert 3					

Expert 4	+	+	+	+	+
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					

Transition to price increases					
Expert 1					
Expert 2					
Expert 3	+	+	+	0	0
Expert 4					
Expert 5					
Expert 6	0	0	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					

11

Incentive	Transition to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	

problem											Price increases
11	Reducing expenditure on hospital care or reducing funding for procedures performed in hospital											
	Expert 1	+	+	+	0	0	0	0	0	0	0	0
	Expert 2	+	+	+	0	0	0	0	0	0	0	0
	Expert 3	+	+	+	0	0	0	0	0	0	0	0
	Expert 4	+	0	0	0	0	0	0	0	0	0	0
	Expert 5	+	+	+	0	0	0	0	0	0	0	0
	Expert 6	+	0	+	0	0	0	0	0	0	0	+
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	0	0	0	0	0
	Expert 10	0	0	0	0	0	0	0	0	0	0	0

Issue 11 Reduction in expenditure on hospital care or reduction in funding for procedures performed in hospital

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1	+	+	0	+	+
Expert 2	+	+	0	+	+
Expert 3	+	+	0	+	+
Expert 4	+	+	+	+	+
Expert 5	+	+	0	+	+
Expert 6	+	0	+	+	-
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1	+	+	0	+	+

Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	+
Expert 4					
Expert 5	+	+	0	+	+
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1	+	+	0	+	+
Expert 2	+	+	0	+	0
Expert 3	+	+	0	+	+
Expert 4					
Expert 5	+	+	0	+	+
Expert 6	+	+	+	0	0
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10					
Transition to procedure-dependent payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1					
Expert 2					

Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to performance-based payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					

Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					

Expert 5					
Expert 6	0	0	+	0	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					

12

Incentive / problem		Transition to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
12	Increased mortality or decreased											

	healthy life expectancy											
	Expert 1	-	--	0	0	0	0	+	+	-	0	0
	Expert 2	0	0	0	0	+	0	0	0	0	+	0
	Expert 3	0	0	0	0	+	0	0	0	0	+	0
	Expert 4	+	+	+	0	0	0	0	0	0	0	0
	Expert 5	+	+	+	0	0	0	0	0	0	0	0
	Expert 6	0	0	0	+	0	+	0	+	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	0	0	0	0	0
	Expert 10	0	0	0	0	0	0	0	0	0	0	0

Issue 12 Increase in mortality or decrease in healthy life expectancy

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					

Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	0
Expert 5	+	+	+	+	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside the existing payment system					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	0
Expert 5	+	+	+	+	0
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a different payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	0
Expert 5	+	+	+	+	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of					

discounts and rebates					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4					
Expert 5					
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	0	+	+	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1	+	+	0	+	0

Expert 2	+	+	+	0	0
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1	+	+	0	+	0
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Shifting to performance-based payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2	+	+	+	0	0

Expert 3	+	+	+	0	0
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					

Expert 10						

13

Incentive / problem		Switching to a new payment scheme	Additional payment outside the existing payment system	Payment with another payment scheme	System of discounts and rebates	Penalty	Bonus	Levels of payment dependent on procedures	Payment levels according to effects	Payment levels based on performance	Price drop	Price increases
13	Increase in inaccurate billing of services provided											
	Expert 1	-	+	+	+	+	+	0	0	0	0	0
	Expert 2	0	+	+	+	+	+	0	0	0	0	0
	Expert 3	0	+	+	+	+	+	0	0	0	0	0

	Expert 4	+	+	+	+	+	+	0	0	0	0	0
	Expert 5	+	+	+	+	+	+	0	0	0	0	0
	Expert 6	0	0	0	+	+	0	0	0	+	0	0
	Expert 7	0	0	0	0	0	0	0	0	0	0	0
	Expert 8	0	0	0	0	0	0	0	0	0	0	0
	Expert 9	0	0	0	0	0	0	0	0	0	0	0
	Expert 10	0	0	0	0	0	0	0	0	0	0	0

Issue 13 Increase in inaccurate billing of benefits provided

Incentive / change in	Access	Quality	Finances of healthcare providers	Spending efficiency	Impact on the payer
Switching to a new payment scheme					
Expert 1					
Expert 2					
Expert 3					
Expert 4	+	+	+	+	+
Expert 5	+	+	+	+	+
Expert 6					

Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to an additional payment outside of existing payment system					
Expert 1					
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a payment with a					

different payment scheme					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	0	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Switching to a system of discounts and rebates					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	0	0	0

Expert 6	+	0	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a penalty system					
Expert 1	+	+	0	+	0
Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	0	0	0
Expert 6	0	0	0	0	+
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to a bonus system					
Expert 1	+	+	0	+	0

Expert 2	+	+	+	0	0
Expert 3	+	+	+	0	0
Expert 4	+	+	+	0	0
Expert 5	+	+	+	0	0
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to procedure-dependent payment levels					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Switching to payment levels according to effects					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to performance-based payment levels					

Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6	+	+	+	+	0
Expert 7					
Expert 8					
Expert 9					
Expert 10					
Transition to falling prices					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					

Expert 8					
Expert 9					
Expert 10					
Transition to price increases					
Expert 1					
Expert 2					
Expert 3					
Expert 4					
Expert 5					
Expert 6					
Expert 7					
Expert 8					
Expert 9					
Expert 10					