Varazdin Development and Entrepreneurship Agency and **University North**
in cooperation with
Faculty of Management University of Warsaw
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat
Polytechnic of Medimurje in Cakovec

Economic and Social Development

51st International Scientific Conference on Economic and Social Development Development

Book of Proceedings

Editors:
Khalid Hammes, Mustapha Machrafi, Vladimir Huzjan

ISSN 1849-7535

Rabat, 26-27 March 2020

FORTHCOMING REFORM OF UNIVERSITY HOSPITAL FINANCING AND POSSIBILITIES FOR EFFICIENCY IMPROVEMENT IN LATVIA

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ABSTRACT

One of the main parts of the health sector is university hospitals, as providers of highly professional tertiary health care services as well as knowledge transfer system for any level of health service providers. Creation of a fair and effective system of financing of in-patient care is a significant part of health financing policy reform and the payment model has a direct impact on health services delivery. Starting in 2014 Latvia introduced equalized payments by diagnosis-related groups (DRGs) to pay a flat rate for average costs. This created cost shifting and other negative provider behaviours included misclassification of treatment without clinical justification. This leads to the necessity for the government to monitor and evaluate activity against baselines and regulate compliance to achieve the policy intent of the payment system. In terms of managing risk, there is a need to define national-level financing policy, to establish an effective overall cost-control mechanism. The purpose of this article is to identify the main determinants of the university hospital behaviour and based on international experience propose payment system model taking into consideration Latvian university 'tertiary' hospital needs. As the empirical basis for research statistical data of National Health Service and interviews. In the paper comparative analysis, empirical analysis, statistical data processing including the deductive and synthesis methods are used. Main challenges identified include insufficient data in health care institutions, interference from interest groups, the need to adjust payments to separate capital costs and depreciation and teaching tasks in university hospitals. Lessons for health care financing policy reforms include the continuation of specific financing model to facilitate access to knowledge and provider decision autonomy in university hospitals in Latvia.

Keywords: *Health financing reform, Health policy, Hospital financing, Latvian health care services*

1. INTRODUCTION

The main challenge of modern times for the Latvian health care system is the need to solve large-scale problems of reducing mortality and raising the salaries of medical staff as well as immediate investment in tertiary hospitals and regional hospitals. The cessation of economic growth and the prospect of slow economic development pose an imperative for health care to search for more efficient ways of organizing medical care and using available resource potential. Achievement of targets for increasing wages without increasing government funding for health means the need to raise funds to solve this problem by undertaking measures to save resources and develop different sources to pay for medical services. Hospital sector (in-patient health care provision) financing is one of the important issues for any health care financing

reform. In general, we can summarise that there are three main directions of the reform. First – strategic purchasing as health service purchaser reform, including assurance of public interest in population health and efficiency optimizing the cost-effective provision of healthcare services. In the scientific literature, outcomes of such reform are analysed by Klasa et al. (2018) and previously by Hurst (1991), Schieber (1995), Busse et al. (2017). Strategic purchasing can be defined as the process of allocating pooled funds to health care providers, whether within an NHS system with a purchaser-provider split (i.e. England), through contracts with insurance funds as in social insurance (i.e. Germany), and in more market-based systems (i.e. Netherlands) (Greer et al., 2016). Contracting of health service providers (a process that specifies what is purchased) is synonymous with purchasing and exclude situations in which individual patients do the purchasing of their own care (Figueras et al., 2005). Strategic purchasing, often called commissioning in the United Kingdom (UK), goes beyond mere purchasing, contracting on price and quantity, or reimbursement of providers (Klasa et al., 2018). Contracting in the Baltic States also was introduced and strategic purchasing implementation provides an opportunity to revise the selective contracting criteria so that they would better respond to changes in the health care delivery system and population needs, but also to further prioritize providers with a higher quality of care (Habicht et al., 2018). The second direction is – improvement of quality of care and establishing health pathways in a public health service (Holla et al., 2016). This also includes encouraging higher standards of quality of care by adopting pay-for-performance schemes for all levels of care. And the third direction is the implementation of the system of payments for in-patient care in combination with an increase of accountability and management organization. One of the management organization directions during the last two decades New Public Management (NPM) has been seen as one 'solution' to the many vicissitudes facing public hospitals in order to promote economic effectiveness. According to Mattei et al. (2013) New Public Management revolves around the creation of competition through privatization, quasi-markets and service contracts for achieving greater efficiency. One of the key elements in the NPM reform movement has been a call for decentralization of decision-making towards political and non-political institutions and actors. However decision making does not guarantee any direct effects for economic efficiency. Thus Pirozek et al. (2015) characterized corporate governance after the hospital reform, but demonstrated that the fact that the hospital's legal form had no influence on economic results. Successful management in the form of adjusted economic results is only associated with the private type of facility ownership, but the size of the hospital, the size of the supervisory board and the medical qualifications of the senior manager had no statistically verifiable influence on the efficiency of the hospital management, though we did record certain developments as a result of the transformation process. The economic results that were reported were significantly distorted by the operating subsidies from the founder. As for Latvian health care provision smaller hospitals and some bigger regional hospitals are usually owned by municipalities, while larger tertiary hospitals (university hospitals) and specialized (mono-profile) hospitals (e.g. psychiatric hospitals) are owned by the state. Hospitals became either non-profit-making state or municipal limited liability companies but were never fully privatized. Almost all dental practices, pharmacies and several sanatoria (spas) were privatized. In addition, there has been a small increase in the number of private hospitals since 1993, however, they usually have very few beds and provide mostly non-contracted care. Scientific literature accepts the general assumption that teaching hospitals (university clinical hospitals) tend to reveal a different structure of services providing less of basic and more of highly specialized care, management and organization of resources and therefore, the presence of teaching status has been acknowledged as a very important determinant of efficiency (Votápková et al., 2013). Since 1990s (Wiley, 1992) reforms in the financing of hospital services in European countries and other OECD countries reveals a commitment to a common

objective of relating resource use to hospital workload by means of a standardized case-mix framework in the pursuit of greater efficiency. The majority of countries reviewed favour a global budgeting approach to financing hospital services to the patient-based alternative. Over the past 20 years, most European countries have introduced DRGs or similar grouping systems as instruments for hospital reimbursement. There are different approaches used to determine prices for inpatient care within DRGs or similar grouping systems employed in EU member states (i.e. Denmark, France, Germany, Hungary, Italy, the Netherlands, Poland, Spain and England). In the scientific literature (Schreyögg et al, 2006) also the three steps necessary to set prices: definition of a data sample, use of trimming methods and definition of prices. Different studies It concludes with a discussion on the typical development path of DRG systems and the role of additional reimbursement components in this context. The Diagnosis Related Group (DRG) system constitutes an approach to measuring hospital case mix that entails the separation of hospitalized patients into unique groups based on their diagnoses and procedures. Since originally developed in the United States in the 1980s, a number of versions of DRGs have developed to reflect the evolution in potential applications, in addition to developments in expertise, information technology, and data systems (Wiley, 2014). Based on the literature analysis we can summarise main factors of the reform – organizational issues and trend in the available facilities and technologies; efficiency and quality in in-patient health care; payment and contracting system.

2. THE HOSPITAL FINANCING REFORM POLICY BACKGROUND

Latvia reorganized in-patient care sector various times during the last three decades. Since the reorganization of the hospital sector in 2008 - 2010 (European Observatory on Health Systems and Policies, 2019), hospitals are classified into three categories: (1) “care hospitals”, which provide long-term (medical) care after discharge from an acute hospital; (2) multi-specialty hospitals at local, regional and national level; and (3) specialized hospitals for psychiatry, trauma, maternity and narcology. “Care hospitals”, as well as local and regional multi-speciality hospitals, are generally owned by municipalities. National multi-specialty hospitals, i.e. the university hospitals in Riga, as well as all specialized hospitals are owned by the state (national government). Rehabilitation care is provided by dedicated rehabilitation institutions. Only a very small portion of the hospital sector is privately owned. Emergency care is provided by the State Emergency Medical Service (SEMS) with emergency medical assistance (EMA) teams, and by emergency departments of hospitals. As shown in scientific literature (Walczak et al., 2018), the share of hospital expenditures in Latvia decreased substantially since 2009, while the share of expenditures for ambulatory providers and medical goods increased in 2009 as the government substantially reduced spending on inpatient services, while prioritizing primary care and pharmaceuticals (Mitenbergs et al., 2012). As indicated in Table 1 recent figures on total public expenditures continuing this trend of public spending on hospitals.

Table 1: Expenditure for selected health care functions by health care financing schemes (Eurostat Database, 2019)

	2013	2014	2015	2016
Inpatient curative and rehabilitative care	23.81	21.48	21.02	19.23
Day curative and rehabilitative care	6.91	6.22	6.54	8.01
Outpatient curative and rehabilitative care	18.53	21.62	21.49	21.75
Home-based curative and rehabilitative care	0.28	0.26	0.21	0.54
Long-term care (health)	5.38	5.49	5.24	4.73
Ancillary services (non-specified by function)	12.08	11.27	10.94	9.49
Pharmaceuticals and other medical non-durable goods	26.28	26.97	27.65	28.29
Therapeutic appliances and other medical durable goods	3.6	3.14	2.89	3.62
Preventive care	0.73	1.98	2.03	2.4
Governance and health system and financing administration	2.39	1.58	2	1.95

However linked to financing structure reforms, the number of hospitals and hospital beds in Latvia declined from 88 hospitals in 2008 to 67 hospitals in 2010 and continued to decline, and the number of per 100000 population also decreased, below the EU average (See Table 2). Despite an increasing number of long-term care beds, the relative number of such beds in Latvia still clearly lags behind that of western European countries and also behind the other Baltic countries (European Observatory on Health Systems and Policies, 2019).

Table 2: Hospital beds by type of care per hundred thousand inhabitants (Eurostat Database, 2019)

	Available beds in hospitals	Curative care beds in hospitals (HP.1)	Rehabilitative care beds in hospitals (HP.1)	Long-term care beds in hospitals (HP.1)	Other beds in hospitals (HP.1)
2008	746,09	507,00	38,44	45,94	154,72
2009	640,14	427,53	32,20	46,12	134,29
2010	551,47	343,88	21,37	62,46	123,76
2011	588,43	358,03	34,25	67,05	129,09
2012	588,50	355,99	37,51	66,46	128,54
2013	579,98	350,43	40,10	64,05	125,41
2014	565,71	338,45	40,58	60,64	126,04
2015	569,45	338,81	40,10	64,32	126,22
2016	571,97	340,95	39,70	63,74	127,58

Hospital networks have become a popular organizational form promoted in public health systems (Dubas-Jakóbczyk et al., 2019; Bravi et al., 2013). Creation of hospital coordination network as a group of hospitals that cooperate with each other in order to coordinate and deliver health care services for a given population is recommended to improve accessibility and quality of care (Petersone et.al., 2019). In Europe, hospital care is financed from public sources and in 2016, the share of hospitals in the total current health expenditures ranged from 29% in Germany to 47% in Estonia (for Latvia it was 31.55%) (Eurostat Database, 2019). Tertiary health care in Latvia is financed on the same way as secondary health care - through "earmarked" health care programs, reimbursement for diagnosis-related groups (DRG), payments for emergency medical care and assistance, and bed-day charges. For inpatient care and secondary outpatient care since 2012 the regulations of Cabinet of Ministers listed hospitals and priority secondary outpatient providers (hospitals) that are to be contracted by the NHS. Hence, competition between inpatient and secondary outpatient providers for contracts is rather limited. Different ownership structures characterize health care provision in Latvia. Smaller hospitals and some bigger regional hospitals are usually owned by municipalities, while larger tertiary hospitals (university hospitals) and specialized (mono-profile) hospitals (e.g. psychiatric hospitals) are owned by the state. Mainly owned by public sector (state and municipalities) have limited competition with privately owned hospitals (Table 3).

Table 3: Hospital beds by hospital ownership (Eurostat Database, 2019)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Public ownership	15853	13572	11154	11061	10912	10597	10170	10141	10089
For-profit private ownership	1054	862	766	1050	1060	1076	1109	1120	1119

Since 2005 almost all hospitals are paid by the NHS on the basis of contractual agreements. Contracts between the NHS and hospitals outline the types of services to be provided within a

year and specify the annual budget. The size of hospital budgets depends on the estimated unit cost of the service (including both running costs and depreciation of capital) and the estimated volume of services. The budgets are hard budgets that shift the entire risk for exceeding the budget onto the provider side. If the provider exceeds the estimated volume, the NHS does not reimburse the provider for the additional activity. In practice, university hospitals running into financial deficits, which have to be compensated for by the owners - the state, local governments.

Table 4: Main financial indicators for university hospitals (Cross-Sectoral Coordination Centre, 2019)

Hospital	Return on equity, (ROE), %	Return on assets (ROA), %	EBITDA, %	Share of own funds on balance sheet
Children's Clinical University Hospital	-0.03	0	6.06	0.13
Paul Stradins Clinical University Hospital	0.05	0.01	4.31	0.18
Riga East Clinical University Hospital	-	-2.66	4.7	-0.13
Riga psychiatry and Narcology Centre	0.08	0.03	3.95	0.39
Average	0.03	-0.66	4.76	0.14

Until 2010 Latvia used a mix of case-based payments and per diem payments (European Observatory on Health Systems and Policies, 2019). Case-based payments covered about 50% of inpatient admissions, for which hospitals received a flat rate tariff per case, depending on the primary diagnosis of patients and/or the medical interventions performed, with adjustments for the actual length of stay and the number and type of interventions performed. For the remaining 50% of patients, hospitals were reimbursed on a per diem basis, sometimes at a reduced rate if patients exceeded the average length of stay of similar patients in other hospitals. However, in order to improve budget control, a global budget system was introduced in 2010. Since then, the size of the annual global budget per hospital is calculated by multiplying the forecast number of patients (the number of patients treated in the previous year with certain adjustments) within each “health care programme” with a corresponding patient tariff and summing up the results. As it was mentioned above the hospitals bear the financial risk of running over budget if they have higher costs, even if they treat more patients or provide more services. The owners of hospitals, i.e. the state or municipalities, generally jump in to save hospitals when debts have reached a certain level. In practice, hospitals often provide more services that are covered by their budget. Emergency hospitals receive an additional budget for emergency room and admission services. The size of this budget depends on the number of available specialists on duty. One of the detected problems also is a between-hospital acute inpatient transfer is a patient who is admitted to one hospital for acute inpatient care and is then transferred to another hospital for the continuation of the same episode of care. There are risks of inappropriate transfers, especially when using per case payments. One type of inappropriate transfer would be when it is not necessary but is rather due to a clinical error. A second type is a transfer for financial reasons (the hospital might refer to a complicated and expensive patient in order to avoid financial pressure). At the initial stage it could be recommended to set neutral payment rates, defining transfer guidelines, defining referral rules and guidelines, and sample auditing on the basis of pattern analysis of routine inpatient data. Abovementioned raise necessity for reform of the hospital payment system is high up on the policy agenda.

3. PAYMENT SYSTEM REFORMATION DIRECTIONS

Across Europe there are a limited number of the provider payment methods in use: salary, per capita payment (capitation), the fee for service (FFS), per diem, line-item budget, global budget, case-based (DRG), pay for performance (P4P). The mode of payment creates powerful incentives affecting provider behaviour and the efficiency, equity and quality outcomes of health finance reforms. Cabinet Regulation No. 555 of 28 August 2018, Procedures for the Organising and Payment of Health Services (Latvijas Vestnesis, 2018), prescribe health services, which are paid from State budget resources. At the same time, the National Health Service's home page also publishes a list of state chargeable manipulation, which details the content and service tariffs of the State-paid service basket. As regards the methodology for calculating tariffs, it is explained that the process of calculating national chargeable health services tariffs is continually improving. Health services tariffs are designed to cover the actual costs of service providers, including each element (pay, mandatory national social insurance contributions, medical products, expenses related to patient catering (hospital), overheads and indirect production costs (expenses related to patient maintenance for payment of services, risk payments, for the purchase of materials, energy resources, water and inventory), administrative expenditure and depreciation costs. The Service shall carry out an analysis annually, assessing whether the payments made to service providers cover the actual costs of service providers, including an element cut. DRG introduction allows agreeing with the hospital on the number of patients and the amounts of interventions and manipulations, as well as on the structure of diseases and medical technologies. The DRG system makes the hospital an active participant in the decision-making process, allows to plan targets and includes mechanisms for delegation of power to the institutional level and responsibility for determining the composition of medical assistance to a particular patient with a specific disease. Currently, medical treatment institutions are not bound to direct the payment received for depreciation for the purchase of new equipment, so in most cases, the medical treatment institution uses it to cover other items (including the provision of higher remuneration for medical practitioners). Based on interviews with policymakers and representatives of health care institutions it can be recommended to include in the per case payment includes all the hospital's costs – clinicians' salaries, equipment, drugs, building maintenance, insurance, but to exclude one important type of cost is excluded – the cost of capital. There could be separate budgets for capital assets (such as the hospital site, buildings, and large items of equipment. In parallel, work is being done to improve the accounting of services of DRG, so that the value of the group is closer to actual costs. As detected through the study, the NHS, in cooperation with clinical university hospitals, shall continue to work to make payments for DRG services at their cost in the future. At the same time, solutions will be sought, as will be examined and certified in advance by the cost accounts of the medical treatment institution, in order to assess whether the division of indirect costs is provided by the methodology developed by the NHS. Authors also recommends to continue improvement of financing of tertiary care taking into consideration the special status of university hospitals in relation to the complexity of the services to be provided and the special conditions for payment is specified in Section 54.1, Paragraph two of the Medical Treatment Law (Latvijas Vēstnesis, 1997): "The increased coefficient specified in the regulatory enactments shall be applied to the University Hospital from State budget funds for the paid health services". It has already provided additional funding of €2.8 million from the information report "On the implementation of the health reform measures for 2019" to the measure "To compensate the costs of Level V medical facilities by revising the daily bed rate" by gradually offsetting from 2019 the payments for hospital health services as part of the calculation of groups associated with diagnosis (DRG services). services) in order to be determined according to the costs of these hospitals, taking into account that the most complex and cost-intensive medical treatment in university hospitals are concentrated.

Under the current approach in Latvia, payment rates are partially based on estimated actual costs of care in a previous period, as reported by service providers. Improved methods of cost estimation should be introduced. Use of standard costs rather than actual average costs could be recommended for high-volume case types for which the best method of care has been specified using a care pathway model.

4. CONCLUSION

Main factors of the hospital reform in Latvia are organizational issues and trend in the available facilities and technologies; efficiency and quality in in-patient health care; payment and contracting system. Tertiary health care in Latvia is financed on the same way as secondary health care - through "earmarked" health care programs, reimbursement for diagnosis-related groups (DRG), payments for emergency medical care and assistance, and bed-day charges. Main challenges identified include insufficient data in health care institutions, interference from interest groups, the need to adjust payments to reflect capital costs and depreciation and teaching tasks in hospitals. After the development of clinical guidelines and pathways, the main priority would be more complete implementation of the DRG system of hospital payments. Authors also recommend continuing improvement of financing of tertiary care taking into consideration the special status of university hospitals in relation to the complexity of the services to be provided and the special conditions for payment. Through the coefficient system also the transfer of knowledge to young practitioners and medical students should be considered. It can be recommended to include in the per case payment includes all the hospital's costs – clinicians' salaries, equipment, drugs, building maintenance, insurance, but to exclude one important type of cost is excluded – the cost of capital. There could be separate budgets for capital assets (such as the hospital site, buildings, and large items of equipment. The main feature of initial payment system reform could be changing the financing principles for a pre-defined scope of services. However, it will be important to closely monitor its effects, adjust the payment model when needed and to embed it into a more comprehensive strategy for the future development of the hospital sector in Latvia.

ACKNOWLEDGEMENT: *This work has been supported by the European Regional Development Fund within the Activity 1.1.1.2 "Post-doctoral Research Aid" of the Specific Aid Objective 1.1.1 "To increase the research and innovative capacity of scientific institutions of Latvia and the ability to attract external financing, investing in human resources and infrastructure" of the Operational Programme "Growth and Employment" (No.1.1.1.2/VIAA/2/18/330).*

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