
Selected Aspects of Hospital Financing During the 1st and 2nd Waves of the COVID-19 Pandemic

Submitted 12/06/22, 1st revision 13/07/22, 2nd revision 22/07/22, accepted 18/08/22

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Abstract:

Purpose: The aim of this scientific study is to analyze selected rules governing the financing of hospitals. The studied period is the first and second waves of the COVID-19 pandemic. The aforementioned pandemic waves posed new challenges for hospitals in respect to patient treatment, which had to entail changes in the financing of such medical entities. The author discusses the financing of health services, costs generated by "hospital beds", and the costs of protection and treatment of the patients infected with Sars-CoV-2. One of the changes that has affected the whole system was the introduction of the "Medical Fund".

Methodology: The article uses the following research methods: historical and legal – selected legal acts and communications issued by public administration bodies such as the Minister of Health and the President of the National Health Fund were analyzed, including their effect on public health institutions during the first two waves; dogmatic and legal – a systemic and linguistic interpretation of legal acts, reports and information found on websites was carried out.

Results: The research results allow for putting forward *de lege ferenda* conclusions which might be helpful if new epidemiological threats emerge in the future. To be more precise, it will be possible for public authorities to better prepare for crisis situations and ensure stable financing of hospitals.

Practical implications: The solutions regarding the financing of health services provided by hospitals adopted during the first wave of the COVID-19 pandemic exerted an influence on the evolution of financing medical services during the subsequent waves.

Originality: The article is original in its approach to the problem of financing hospitals taking into account the level of COVID protection. Determination of the importance of allocating funds to hospitals during the pandemic waves is an attempt to determine measurable effects for COVID-19 patients and patients not infected with the coronavirus. The article may provide an impetus for an international discussion on the principles governing the financing of medical entities such as hospitals in individual countries.

Keywords: Health services financing, hospitals during the first wave of the pandemic, public finances.

JEL Classification: H51, K32, P34.

Paper type: Research article.

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The article has been written as part of the research project (DNWZ.711.291.2022.PBU) financed by the Pedagogical University of Cracow, Poland.

1. Introduction

The starting point for deliberations is the Act of 23 March 2017 amending the Act on health care services financed from public funds (Journal of Laws of 2017, item 844). This Act laid foundations for the system of basic hospital provision of health care services, commonly referred to as the "network of hospitals" (Byszewski, 2018). The system should guarantee access to health services in the following areas (Robakowski, 2020), hospital treatment, highly specialized services, outpatient specialist care provided in hospital clinics, or drug programs.

The first case of Sars-CoV-2 was confirmed on 4 March 2020 in a hospital in Zielona Góra, where a 66-year-old man, who had just come back from Germany, was diagnosed with a coronavirus infection. On 14 March 2020 an epidemiological emergency was announced in the Regulation of the Minister of Health of 13 March 2020 on the announcement of epidemic emergency in the territory of the Republic of Poland (Journal of Laws of 2020, Item 433). The emergency lasted until 20 March 2020. On 15 March 2020, a cordon sanitaire was introduced at the Polish border, which resulted in limiting border traffic. On 20 March 2020 the Minister of Health announced in his Regulation a state of epidemic, which lasted until 15 May 2022.

The epidemiological emergency was reintroduced on 16 May 2022 (Regulation of the Council of Ministers of 13 May 2022 amending the Regulation on the establishment of certain restrictions, orders, and prohibitions resulting from the state of epidemic (Journal of Laws of 2022, item 1025). The outbreak of the pandemic led to a sharp increase in the number of deaths in many countries all over the world, including Poland. The Sars-CoV-2 death toll of 4 December 2020 was 18,828 people. As it turned out, the health care system was completely unprepared for the outbreak of the pandemic and was unable to cope with the rapidly growing number of coronavirus infections as well as the treatment of non-COVID patients.

This forced radical changes in the functioning of the entire hospital network and resulted in a transformation of the model of hospital financing. The reorganization of the structure and financing of these entities stemmed from the significant limitation of access to medical services they were supposed to provide, e.g.: difficult access to hospital outpatient clinics, the transformation of some of hospitals into COVID-19 dedicated hospitals, a shortage of available beds, a significant shortage of medical staff (nurses, doctors). All these factors were a consequence of the Sars-CoV-2 infection fears (CBOS, 2020).

The importance of these fears may be evidenced by the "Polish diagnostic, therapeutic and organizational recommendations related to the care of patients infected or exposed to Sars-CoV-2 infection" issued by the Agency for Health Technology Assessment and Tariff System on 25 April 2020. (https://www2.aotm.gov.pl/wpcontent/uploads/covid_19/2020.04.25_zalecenia%20covid19_v1.1.pdf).

2. The Model of Hospital Financing During the 1st and 2nd Waves of the COVID-19 Pandemic

The rapid development of the pandemic forced the state to change its health policy and increase the financing of hospitals. Therefore, from June 2020 the financing of the basic provision of health services in hospitals settled as a lump sum was increased by over PLN 300 million. This was a result of the changes introduced by the package prepared by the Ministry of Health and the National Health Fund (hereinafter referred to as NHF).

Amendments to the Order of the President of the NHF (No. 185/2019/DSOZ) and changes in the purchasing plans of NHF voivodeship branches allowed for increasing the unit of account by PLN 0.03 and decreasing the adjustment ratio for 1st and 2nd degree hospitals by 1 percentage point (Communication of the Minister of Health of 16 June 2020 – increasing the financing of services provided by hospitals).

At this point, one should get acquainted with the two concepts used in the above-mentioned Communication. The first is the unit of account, which is a measure used to define the value of a health service. This can be, for example, a health care organizational unit, advice, a person-day (§ 1 (3) of the Annex to the Regulation of the Minister of Health of 8 September 2015 on general conditions of contracts for the provision of health care services). Each health service contracted by the NHF is assigned a certain number of units of account, and the product of the number of units of account and their unit price is the value of a health service.

The adjustment ratios are set by the President of the NHF. They determine the amount of multipliers for individual groups of patients or health services, or groups of health service providers, or groups of persons performing a given medical profession, by means of which the amount of the NHF's liability towards health service providers is calculated (§ 1 (16) of the Annex to the Regulation). The aforementioned modifications entered into force on 1 July 2020.

The first system changes in hospital financing during the pandemic were introduced by the Regulation of the Minister of Health of 4 September 2020 amending the Regulation on the general conditions of contracts for the provision of health care services (Journal of Laws, items 1548 and 1837). The amended § 3a made it possible for hospitals to apply for an advance payment in the amount of 1/12 of the amount of the obligation specified in the contract for the provision of health care services.

It referred to the hospitals where medical staff had been quarantined or isolated (including home isolation) due to Sars-CoV-2 exposure. Pursuant to § 3b, the health care providers who met certain conditions, despite having provided only part of the health care services specified in their contracts for health care services provision, received payments for the provision of services in the periods of November and

December 2020. The amount of those payments was determined as the product of the inverse of the number of reporting periods in the settlement period and the amount of liability for a given range of services, without having to settle it by the end of the settlement period.

The adopted solutions comprehensively resolved the issues related to the NHF's financing of medical activities carried out by hospitals in cases where, for the objective COVID-19-related reasons, they could not provide all health services. The condition was that the health care providers fulfilled their contracts up to a limit set within a range between 65 and 100%. Thus, for 50% of the hospitals that had met the above-mentioned conditions the amount of the advance payment for November 2020 exceeded PLN 0.5 million, and the upper 15% were amounts ranging from PLN 2 to 8 million. Therefore, it was a major cash injection for those medical entities seeking funds for their current expenses.

The solutions related to the financing of hospitals adopted at that time should be assessed positively, as they, at least temporarily, relieved those entities of a financial burden. The COVID-19 pandemic period in Poland saw four types of hospitals depending on the level of COVID protection (Information of the NHF Headquarters of 16 November 2020):

- 1st level - hospitals with so-called buffer beds for patients with suspected coronavirus infection,
- 2nd level - entities that treated COVID-19 patients and provided care to patients with suspected coronavirus infection,
- 3rd level - hospitals that admitted patients with COVID-19 whose main reason for hospitalization was not Sars-CoV-2,
- 4th level - hybrid hospitals that combined the tasks of e.g. second and third level hospitals, and coordinated the care of COVID-19 patients in each voivodeship.

The first, second and fourth level hospitals received PLN 100 per day for the availability of each additional bed not financed under the contract with the NHF for the patients suspected and infected with the Sars-CoV-2 virus. The second and fourth level hospitals received funds for the availability of ventilators for the patients suspected and infected with the virus.

It was PLN 200 per day for the availability of each additional ventilator which was not covered by the existing contract with the NHF. Third level COVID-19 hospitals received funds for the readiness to provide medical services to the COVID-19 patients. It was PLN 40 per day for each bed entered in the register of entities performing medical activities (Information of the NHF Headquarters of 16 November 2020).

Such a model of hospital financing compensated hospitals for the non-performance of health services they would have performed in a given period of time.

3. Funds for the Readiness to Perform Medical Services in Hospitals

The readiness to perform medical services is a new concept defined during the pandemic. The money paid to the hospitals for the said readiness was compensation for the lost remuneration they would have obtained from the NHF had they treated patients normally (in a non-COVID reality). The amount of the compensation was calculated taking into account the remuneration for services paid to these hospitals by the NHF in January and February 2020, i.e. according to the average from the period before the pandemic (on average over PLN 717 per day per bed).

The development of the pandemic forced further changes in hospital financing, i.e., the introduction of Ordinance No. 189/2020/DSOZ of the President of the NHF of 1 December 2020 amending the Ordinance on the principles of reporting and settling health care services related to the prevention, counteracting and combating COVID-19:

1. Lump sum remuneration for readiness to provide medical services - calculated for a module comprising no more than 56 beds, and if at least 49 of these beds were already occupied, for a module comprising no more than 28 additional beds, and if at least 21 out of those 28 beds were already occupied, a lump sum remuneration was calculated for a module comprising no more than another 28 beds provided that so many were available.
2. Lump sum remuneration for readiness to provide medical services to patients requiring mechanical ventilation calculated for a module comprising no more than 10 beds for patients requiring mechanical ventilation, and if at least 7 of these beds were already occupied, the lump sum remuneration covered a module comprising no more than 10 additional beds, provided that so many were available - 13 beds for patients requiring mechanical ventilation in total.

All these activities in the area of hospital financing were aimed at improving the functioning of such entities as well as ensuring financial liquidity and patient health security.

4. Temporary Hospitals

The rapid development of the pandemic in 2020-2021 forced the authorities to launch quite specific medical entities called temporary hospitals (Sieńko, 2020). As the first and second waves of the pandemic showed, such actions turned out to be unjustified and the adopted financing principles were highly unsuccessful.

The first temporary hospital was established at the PGE National Stadium in Warsaw. The facility was equipped with 160 cardiac monitors, 45 ventilators, 4 mobile X-ray machines, 3 oxygen generators, 2 ultrasound scanners. It was assumed that one such hospital for patients with COVID-19 would be set up in each voivodeship. Most of them were opened in November 2020. The number of hospital

beds for patients infected with the coronavirus increased by more than 5,000 as the pandemic developed.

However, the cost of adapting the selected buildings to serve as temporary hospitals amounted to approximately PLN 130 million. The valuation of the services provided in these hospitals raised controversies among both the political opposition and medical professionals. The Agency for Health Technology Assessment and Tariff System calculated that the daily availability of a bed in a temporary hospital cost PLN 822.42; a day of hospitalization – PLN 1,026.40; a mechanical ventilation station – PLN 3,773,70; a day of hospitalization of a patient requiring ventilation – PLN 4,321,14; readiness of an admission room in a temporary hospital – PLN 18,299.

For example, in November 2020, the occupancy of the temporary hospital in Warsaw was about 10% of all the beds for COVID patients. As a result of the wrong health policy, approximately PLN 591 million was spent on the establishment of temporary hospitals during the pandemic. In 20 temporary hospitals, the establishment of which cost the government a total of PLN 515 million, there were only 420 patients with COVID-19. The monthly maintenance of the hospital at the National Stadium cost PLN 21.5 million.

Unfortunately, the allocation of funds to the temporary hospitals that did not fulfill their role meant that it was difficult for the patients not infected with COVID-19 to access ordinary hospitals and obtain specific health services.

In the end, 39 temporary hospitals were established, including 17 active and 22 passive ones. The active hospitals were the ones that had been established and equipped, and had medical staff ready to provide health care services. The passive hospitals, on the other hand, were ready to provide services in terms of infrastructure but without the involvement of medical staff. Undoubtedly, this health policy was not properly conducted if one takes into account that the average cost of establishment and equipment of one temporary hospital was PLN 27 million.

5. Medical Fund

The pandemic situation as well as the difficult financial situation of hospitals forced the legislator to pass the Act on the Medical Fund on 7 October 2020 (Journal of Laws of 2020, item 1875). Pursuant to the Act, the Fund is a state special purpose fund, the administrator of which is the Minister of Health. The Fund consists of 4 sub-funds:

- the sub-fund for strategic infrastructure;
- the sub-fund for modernization of medical entities;
- the sub-fund for development of disease prevention;
- the sub-fund for innovation in therapy.

The objective of the Medical Fund is to support activities aimed at improving the health and quality of life of patients by providing additional sources of financing in areas such as:

- prevention, early detection, diagnostics and treatment of civilization diseases, including cancer and rare diseases;
- health protection infrastructure affecting the quality, accessibility, and safety of health care services provided;
- access to high-quality health care services.

As an example, below the Author presents the budget and expenses of the sub-fund for innovation in therapy.

Table 1. Budget and expenses of the sub-fund for innovation in therapy

No.	Actions	Budget in PLN	Spent in PLN	Notes
1.	Costs of health services provided to persons up to the age of 18	PLN 630,000,000	PLN 109,616,870	Cumulatively for the first and second quarters of 2021.
2.	Costs of health care services provided outside the country	PLN 47,746,000	PLN 36,368,229	Cumulatively for the period of December 2020 – August 2021
3.	Costs of medicines as part of emergency access to pharmaceutical technologies	PLN 154,418,000	PLN 25,115,528	Cumulatively for January – August 2021.
4.	Costs of high clinical value drug technology	PLN 770,939,400	-	From September 2021

Source: <https://cowzdrowiu.pl/aktualnosci/post/fundusz-medyczny-ile-na-co-wydano-i-co-dalej>

The Medical Fund was launched in 2020, so it is a relatively new solution in the field of financing specific hospital activities. Unfortunately, in 2021 the Fund used only 21% of its entire budget, i.e., PLN 848 million. PLN 3.5 billion was not used, which was blamed on the pandemic.

However, this financing and spending problem is an effect of the transition from the system based on the decisions of the Minister of Health to the system based on assessing the utility of a given drug. The assessment is only carried out by consultants or attending physicians. In practice, this results in a number of doubts on the part of health care providers, i.e., hospitals. When conducting the language interpretation of the Medical Fund Act, one should note that the funds in question should be spent on all drug technologies included in the list developed by the Agency for Health Technology Assessment and Tariff System.

According to the statement of the Ministry of Health, the funds from the sub-fund for innovation in therapy are not lost at the end of the financial year. The funds that have not been spent remain in the Medical Fund's bank account and can be used in subsequent years.

6. Conclusions

The analysis of the selected rules for hospital financing allows the Author to draw a conclusion that the financial guarantees of these entities during the pandemic were particularly important. Hospitals, regardless of the degree of COVID-19 protection, should not suffer financial losses due to the non-standard mode of operation during the pandemic. An important element in hospital financing is that expenses incurred for appropriate protection measures, infrastructure modifications, and purchase of equipment to combat the pandemic, as well as potential losses resulting from the non-performance of the contract with the NHF, be covered.

Based on the applied research methods, *de lege ferenda* conclusions can be drawn as to hospital financing in the future:

- the support for the financing of ongoing hospital activities should be greater; measures need to be taken to enable the hospitals to return to the standard medical activity after the period of significant freeze during the 1st and 2nd waves of the pandemic. A good example can be the financial support for the development of the spatial adaptation of hospitals that would enable the separation of patients infected with Sars-CoV-2 from other patients. Pursuant to Article 68 of the Constitution of the Republic of Poland of 2 April 1997, it is the duty of hospitals to guarantee the continuity of their current activities in such a way so as to minimize the risk of infecting patients other than those infected with the Sars-CoV-2 virus.
- adaptation of the structure of "hospital network" to the health needs of the patients; changes in the financing resulting from the mapping of the health-related needs of the people (Announcement of the Minister of Health of 27 August 2021 on the map of health needs, Journal of Laws of 2021, item 69), in particular as regards forecasting. The extensive knowledge of the estimated number and type of necessary health services allows for fine tuning of the structure of health service providers (hospitals).
- incorporation of entities responsible for providing a desired set of health services in the 'hospital network' (public and private health care providers) and financing their activity.
- reorganization of selected hospitals, e.g. powiat hospitals, which would consist in re-profiling some of the beds for acute patients into long-term care beds.

Considering financial issues, it seems necessary to consolidate specialist health services. It seems reasonable to state that hospitals should cooperate with one another, which, as the pandemic has shown, is particularly important. The aim of

such cooperation would be to transfer complex medical cases to higher level entities, including a transfer of funds between such entities.

As shown in the paper, the lump sum settlement of health services should also undergo certain changes. The current rules are very complicated. The problem is the payment for services the cost of which has exceeded the lump sum, which raises doubts in individual medical entities. Significant funds have been blocked as a result of restoring temporary hospitals into what they have been before. According to the information provided by the Ministry of Health (upon motion of Hanna Gil-Piątek, MP), the cost of liquidation of a temporary hospital ranges from PLN 1-3 million.

To sum up, the hospital financial policy requires greater rationalization and real spending of these funds primarily on the treatment of COVID-19 patients as well as those not infected with the coronavirus.

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Legislation:

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- Regulation of the Minister of Health of 4 September 2020 amending the Regulation on the general conditions of contracts for the provision of health care services (Journal of Laws, items 1548 and 1837).
- Regulation of the Council of Ministers of 13 May 2022 amending the Regulation on the establishment of certain restrictions, orders and bans in connection with the state of epidemic2 (Journal of Laws of 2022, item 1025).
- Regulation of the Minister of Health of 12 August 2020 on the organizational standard of tele-advice as part of basic health care (Journal of Laws of 2020, item 1395).
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