

## SELECTED ASPECTS OF PROJECT MANAGEMENT FOR THE IMPLEMENTATION OF A NEW STANDARD OF COST ACCOUNTING IN HEALTH CARE UNITS

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**Purpose:** The aim of the article is to discuss the most important aspects related to the management of the project of implementing the cost accounting standard in hospitals in Poland. A properly implemented standard is to enable the support of management processes and proper financial management in the health care system at the macro level as well as at the level of the healthcare entity. The first period of operation of these regulations is an opportunity to take stock in this respect.

**Design/methodology/approach:** The research was conducted by using a survey questionnaire. On the basis of the questionnaire survey in 52 hospitals in Poland. The obtained test results were subjected to the basic statistical analyses.

**Findings:** On the basis of the analyses of the results of empirical research, recommendations were formulated regarding the principles of implementation of the cost accounting standard in hospitals and the directions of its effective use in management processes in the future.

**Research limitations/implications:** The utilization of survey research is associated with the presence of subjectivity in assessments by respondents.

**Originality/value:** The article presents important recommendations for health care managers on projects to implement the new cost accounting standard in health care entities in Poland.

**Keywords:** hospital, cost accounting, project management.

**Category of the paper:** Research paper.

### 1. Introduction

The main source of the health care system's problems is primarily the limited financial resources available within the system, but its effectiveness is also affected by the ineffective management of these resources (Rogowska, 2019). A solution supporting management processes in the field of financial management is the Regulation of the Minister of Health of

26 October 2020 on recommendations for the standard of cost accounting for healthcare providers. Proper implementation of this recommendation is a challenge for healthcare entities in Poland. The aim of the article is to discuss the most important aspects related to the management of the project of implementation of the cost accounting standard in hospitals in Poland. A properly implemented standard is to enable the support of management processes and proper financial management in the health care system at the macro level as well as at the level of the healthcare entity. The first period of operation of these regulations is an opportunity to take stock in this respect. The study was conducted using a questionnaire in 52 hospitals in Poland. On the basis of the conducted analyses of the results of empirical research, conclusions were formulated related to the implementation of the new cost accounting standard, but above all the potential possibilities of its use in analytical work for the needs of various stakeholder groups - internal and external (Głód, Mucha-Wójcik, 2019).

## **2. Standard of cost accounting in healthcare entities – principles of implementation**

Challenges related to the information potential in the accounting system of healthcare entities are quite a challenge (Hass-Symotiuk, Kludacz-Alessandri, Cygańska, 2020). At the same time, the role of cost accounting in the healthcare sector is increasing (Carroll, Lord, 2016).

In the past, there have been attempts to standardize solutions in this area at the national level, as well as there have been demands for the use of more modern solutions, for example in the form of activity cost accounting (Chluska, 2007). These problems do not only concern the Polish healthcare system (Jovanović, Dražić-Lutilsky, Vašiček, 2019).

The history of cost accounting regulations in healthcare is quite extensive. The first regulation on cost accounting in health care units was the Regulation of the Minister of Health and Social Care of 22 December 1998 on the detailed principles of cost accounting in public health care institutions. This regulation made it necessary to record costs in a way that would enable the calculation of unit costs of health services. According to this legal act, the costs incurred by a health care institution should be recorded by type and by cost centres in the subject-entity system. The generic cost system groups costs by type, i.e. consumption of materials and energy, external services, taxes and fees, salaries, employee benefits, depreciation, other costs. On the other hand, costs in the entity system are grouped according to cost centres, which constitute a separate scope of activity of a health care institution.

Another attempt in this area was a solution based on variable cost accounting introduced by the Regulation of the Minister of Health of 8 July 2015 on recommendations for the standard of cost accounting for healthcare providers, which is based on a resource-process approach.

Taking into account further comments on problems with the implementation of the cost accounting standard for healthcare providers has been included in the Regulation of the Minister of Health of 26 October 2020. on recommendations for the standard of cost accounting for healthcare providers. The regulation has been in force since 1.01.2021. and is mandatorily required for healthcare providers who have entered into a contract for the provision of health care services.

The main assumptions of the new cost accounting standard include, first of all, the unification of type accounts and cost generation centers. First of all, the records of the costs of medical materials, medical and non-medical services and the costs of salaries have been detailed. An important change is the clear indication of the account numbers of cost centers in accordance with the classification of the so-called departmental codes of the Ministry of Health. Further sections of the regulation present a unified method of applying the distribution keys for common costs in the scope of the medical and auxiliary parts. An important change in the new cost accounting is the clearly defined components of management costs and the uniform method of calculating the costs of sales of a given medicinal product. The final effect of these regulations is also the presentation of the method of calculating the cost of the procedure and the man-day.

The implementation of new regulations in the field of cost accounting in healthcare entities in Poland can be treated from the perspective of project management. The success of cost accounting implementation is influenced by both behavioural and organisational factors, e.g. management board support, relationship with the implemented competitive strategy, connection with performance appraisal and remuneration systems, training, implementation of accounting by employees and having appropriate resources for implementation (Wnuk-Pel, 2010).

An important issue in this area is also the use of IT solutions that supports the cost settlement process itself, but also include an analytical component (Azevedo, Duarte, Santos, 2022). In addition, there are dilemmas related to the very methodology of managing such an implementation project, even towards the use of agile solutions (Jiménez, Afonso, Fernandes, 2020). In addition, the implementation of solutions in this area is the subject of comparative research at the international level (Bertoni, De Rosa, Dražić Lutilsky, 2017).

First of all, the prevailing view is that the area is an opportunity to support management processes in healthcare entities, but it is also a significant challenge in the processes of its effective implementation (Kihuba et al., 2016).

### 3. Research Method

The discussed empirical research was conducted in the fourth quarter of 2022 among 52 hospitals in Poland. 19 hospitals are located in the Silesian Voivodeship, 13 hospitals in the Lublin Voivodeship, and 12 hospitals in the Podkarpackie Voivodeship. On the other hand, 3 hospitals come from the Świętokrzyskie Voivodeship, 2 hospitals each from the Podlaskie and Małopolskie Voivodeships, and 1 hospital represents the West Pomeranian Voivodeship.

An important criterion describing the research sample is the type of hospitals according to the division, which is the essence of the creation of the so-called hospital network in Poland. Therefore, in the structure of the surveyed hospitals, 21 belong to the first level (40.4%) and also 21 belong to the second level – 67 hospitals. The sample includes 8 tertiary hospitals (15.4%) and one national hospital and one pulmonary hospital. 41 hospitals surveyed (78.9%) have an accreditation certificate confirming compliance with quality standards verified by the Quality Monitoring Centre.

The five-point Likert scales used in the empirical study were based on a modified tool developed by Eriotis, Stamatiadis and Vasiliou (2011) and adapted to the realities of the Polish health care system and regulations concerning the cost accounting standard.

In accordance with the adopted tool, the assessment of the management of the project implementing the cost accounting standard in the context of health care units was based on 7 thematic areas, which included:

- the level of knowledge and experience of the employees of the analysis and costs department,
- assessment of the quality of the IT system,
- the relationship between the medical staff and the administrative staff,
- use of expert knowledge,
- training support
- assessment of the support of management processes by the new cost accounting standard,
- assessment of the possibility of using the new cost accounting standard.

The defined area of empirical research allows basic assessments to be made in the research area undertaken.

#### 4. Analysis of empirical research results

The assessment of the level of knowledge and experience of the employees of the analysis and costs department was based on 4 questions. The arithmetic mean taking into account the total score of all questions was 3.82, which indicates a rather high level of knowledge and experience of the employees of the analysis and costs department in the opinion of the respondents. Taking into account the type of units, the highest level of knowledge and experience of the employees of the analysis and cost department was assessed in the case of first-level hospitals (3.96), and the lowest in tertiary hospitals (3.5). The table below presents a summary of the average responses to individual questions on a 5-point scale (1 – very low, 5 – very high).

**Table 1.**

*Average ratings of answers to questions on the level of knowledge and experience of the employees of the analysis and cost department*

	Average
The level of education of the employees of the analysis and cost department	3,86
The level of professional experience of the employees of the analysis and cost department in the field of cost accounting	3,79
The level of education in the area of finance and accounting of the head of the unit	3,77
The level of professional experience in the area of finance and accounting of the head of the unit	3,95

Source: Author's own elaboration based on empirical research

In the second area, the units were diagnosed in terms of IT quality system assessment. On the basis of the responses received, it should be stated that in total, more than 60% of the units answered in the affirmative to the 4 statements made. More than 8% of the units agreed with a strong affirmative answer. Difficulties with indicating a clear answer were noted in the case of less than 29% of units. In the remaining units, the statements were negative to the thesis put forward. A detailed structure of the answers to the questions posed in the area of IT quality system assessment is presented in Table 2.

**Table 2.**

*Structure of responses to questions related to the assessment of the IT quality system*

	Definitely yes	Yes	It's hard to say	No	Definitely no
Existing information technology is able to provide the data needed for the new cost accounting standard	12,50%	62,50%	22,92%	2,08%	0,00%
Our IT systems in various domain areas (finance and accounting module; costs module; HR and payroll module; warehouse management module, medical statistics module, pharmacy module, etc.) are integrated	12,50%	81,25%	6,25%	0,00%	0,00%

Cont. table 2.

Information systems offer user-friendly query capabilities for different audiences	2,08%	41,67%	47,92%	8,33%	0,00%
An information system typically provides data that is accurate and up-to-date	6,25%	56,25%	37,50%	0,00%	0,00%

Source: Author's own elaboration based on empirical research.

Another area of evaluation of the implementation of the cost accounting standard is related to the relationship between medical and administrative staff. Respondents were asked two questions in this area. The vast majority of respondents positively assessed the optimal level of relations between administrative staff and medical staff. However, when assessing the extent to which healthcare professionals use data from management processes, a large percentage of entities struggle to determine a clear impact. A detailed structure of the answers to the questions posed in the area of relations between medical and administrative staff is presented in Table 3.

**Table 3.**

*Structure of answers to questions related to the relationship between medical and administrative staff*

	<b>Definitely yes</b>	<b>Yes</b>	<b>It's hard to say</b>	<b>No</b>	<b>Definitely no</b>
The relationship between the administrative staff and our medical staff in terms of the implementation of the new cost accounting standard can be described as optimal	29,17%	41,67%	25,00%	4,17%	0,00%
Medical staff are eager to use data from the field of cost accounting and analyses in management processes at the level of selected organizational units (e.g. department, outpatient clinic)	8,34%	45,83%	45,83%	0,00%	0,00%

Source: Author's own elaboration based on empirical research.

The use of expert knowledge in the process of implementing the cost accounting standard is another area that has been assessed among the audited entities. Three questions were used to assess this area. In the majority of units (33.33%) difficulties were encountered in assessing the use of expert knowledge, and less than 29% of respondents expressed a negative opinion on the assessment of the use of this knowledge. A detailed structure of the responses to the questions posed in the area of expert knowledge support is presented in Table 4.

**Table 4.**

*Structure of replies to questions on the use of expertise*

	<b>Definitely yes</b>	<b>Yes</b>	<b>It's hard to say</b>	<b>No</b>	<b>Definitely no</b>
During the design of the new cost accounting system, professional support of consultants was provided	6,25%	25,00%	43,75%	22,92%	2,08%
During the implementation of the new cost accounting standard, professional support of consultants was provided	10,42%	33,33%	29,17%	25,00%	2,08%

Cont. table 4.

Professional support of consultants was provided in the preparation of an analysis system based on the new cost accounting standard	10,42%	37,50%	27,08%	16,67%	8,33%
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Source: Author's own elaboration based on empirical research.

In the evaluation of training support, mostly positive opinions were received (in total, over 45% of the surveyed units). However, it is important to emphasize that there are difficulties in assessing the conduct of training in the use of an appropriate analysis system resulting from the new cost accounting standard. Table 5 presents the structure of responses to the statements made in the area of training support.

**Table 5.**

*Structure of responses to training support questions*

	<b>Definitely yes</b>	<b>Yes</b>	<b>It's hard to say</b>	<b>No</b>	<b>Definitely no</b>
Appropriate training was provided on the design of the new account standard Costs	4,17%	37,50%	33,33%	22,92%	2,08%
Appropriate training was provided on the implementation of the new cost accounting standard	4,17%	52,08%	39,58%	4,17%	0,00%
Appropriate training was provided on the use of the appropriate analysis system resulting from the new cost accounting standard	4,17%	33,33%	54,17%	8,33%	0,00%

Source: Author's own elaboration based on empirical research.

Another area of project management for the implementation of a new cost accounting standard in health care units included support for management processes by a new cost accounting standard. As in the case of the assessment of training support, also in this area, in the vast majority of statements, the respondents encountered difficulties in unambiguously determining the level of support for management processes by the new cost accounting standard. The difficulties in this assessment relate primarily to supporting planning processes in defining objectives, policies and directions of action, including the use of elements of budgeting and forecasting, as well as supporting negotiation processes in the field of negotiations with the National Health Fund and internal negotiations conducted in the entity. On the other hand, support for coordination processes related to analyses and cooperation between units of a healthcare entity (e.g. departments/outpatient clinics and auxiliary organizational units of a medical and non-medical nature) and support for supervision and internal control processes were positively assessed. Table 6 presents a detailed structure of the responses received to the statements made in the field of support for management processes by the new cost accounting standard.

**Table 6.**

*Structure of answers to questions related to the support of management processes by the new cost accounting standard*

	<b>Definitely yes</b>	<b>Yes</b>	<b>It's hard to say</b>	<b>No</b>	<b>Definitely no</b>
The implementation of the new cost accounting standard supports planning processes in terms of defining goals, policies and directions of action, including the use of budgeting and forecasting elements	8,33%	31,25%	50,00%	8,33%	2,08%
The implemented cost accounting standard allows for the collection and preparation of information, usually in the form of reports and analyses on the functioning of individual organizational units	8,33%	31,25%	37,50%	22,92%	0,00%
The new cost accounting standard supports coordination processes related to analyses and cooperation between healthcare entity units (e.g. departments/outpatient clinics and medical and non-medical auxiliary organizational units)	14,58%	50,00%	31,25%	4,17%	0,00%
The new cost accounting standard supports the evaluation processes in terms of employee evaluation, implementation of reported improvements, and assessment of the profitability of medical procedures performed	4,17%	41,67%	47,92%	6,25%	0,00%
The new cost accounting standard supports the processes of supervision and internal control.	6,25%	47,92%	41,67%	4,17%	0,00%
The new cost accounting standard supports elements of personnel controlling, in particular in the field of analysis and forecasting of payroll costs	8,33%	41,67%	47,92%	0,00%	2,08%
The new cost accounting standard supports negotiation processes in the field of negotiations with the National Health Fund and internal negotiations conducted in the entity	6,25%	22,92%	60,42%	8,33%	2,08%
The new cost accounting standard supports the presentation of the entity's results in a professional and transparent manner with an appropriate level of detail for various stakeholder groups	8,33%	33,33%	52,08%	6,25%	0,00%

Source: Author's own elaboration based on empirical research.

The last area in the process of assessing the project management of the implementation of the new cost accounting standard in health care units was the possibility of using the new cost accounting standard. In the total assessment of all the statements made, as many as 54% of entities encountered difficulties in assessing the possibility of using the new cost accounting standard. According to the respondents, the greatest doubts should be indicated in the statement concerning the possibility of conducting a comparative analysis of the cost intensity of the procedures carried out in various health care units. As in the other cases, the structure of the responses to the convicted statements contained in this area is presented. A summary of the response structure is presented in Table 7.



**Table 7.***Structure of answers to questions on the possibility of using the new cost accounting standard*

	<b>Definitely yes</b>	<b>Yes</b>	<b>It's hard to say</b>	<b>No</b>	<b>Definitely no</b>
The implementation of a new standard of cost accounting made it possible to calculate the costs of treatment of a single medical case	2,08%	31,25%	56,25%	10,42%	0,00%
The new cost accounting standard enabled a reliable assessment of the profitability of individual organizational units	10,42%	47,92%	37,50%	4,17%	0,00%
The new cost accounting standard will affect the provision of reliable data necessary in the tariff process	6,25%	33,33%	52,08%	8,33%	0,00%
The new accounting standard will enable a comparative analysis of the cost intensity of procedures carried out in various health care units	4,17%	18,75%	68,75%	8,33%	0,00%

Source: Author's own elaboration based on empirical research.

The results presented in the table above indicate possible directions for the development of implemented solutions so that they can realistically support decision-making and management processes in healthcare entities.

## 5. Conclusions

Cost accounting is a management accounting tool that enables efficient management of health care units. The Cost Accounting Standard Regulation imposes an obligation on hospitals to keep cost accounting primarily for external use. The currently introduced system of cost accounting in healthcare entities is an example of a traditional system of cost accounting, modified for the purposes of a clearly distinguished single user. The processes of subordinating the reporting of healthcare entities to the needs of external users are certainly quite challenging. Adapting the structure of the accounting information system to the needs resulting from the expectations of internal and external users is a natural process. But it should maintain certain foundations in terms of its construction and execution. It cannot only be a response to the immediate needs of a selected group of users and ignore not only the fundamental principles of construction, but also the needs of other stakeholders.

The analysis of the results of empirical research indicates that there are no major problems related to the possession of appropriate knowledge and experience in healthcare entities in the area of the new cost accounting standard. The context of IT systems supporting this area was also highly rated. The main problem is to use the effects of the implementation of the new rules for cost settlement. The cost settlement itself is actually the first stage of a larger process of analysis for management purposes. Therefore, there is a challenge regarding the integration of

various domain systems and the development of analytical tools supporting the analysis system towards a comprehensive approach in line with the controlling philosophy (Głód, 2016).

Therefore, in the future, there is a prospect of conducting research on the maturity of these systems in the context of process maturity of accounting processes (Dreszer, Głód, 2022). Continuation of the presented research in healthcare entities in subsequent periods of operation of the cost accounting standard may allow to assess the increase in process maturity in this area.

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