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**Summary of the doctoral dissertation entitled: "Usefulness of information
in the reporting of public medical entities"**

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The source of financial information in the health care sector is primarily public healthcare entities, which are obliged to report under the existing legislation. The information used in health care, which is one of the publicly funded systems, may be considered specific, especially when compared to the accounting policy of public health entities, such as public hospitals. Information that is repeated or unnecessary for the given recipient may cause chaos, information dispersion and an increased risk of errors, both when the reporting and statistical information is created and when it is interpreted by the recipients. This is an example of the "information smog" (a term proposed by R. Tadeusiewicz) and is frequently described in terms of information overload and the problem of assessing the information's credibility. According to Tadeusiewicz, it is a by-product of the dissemination and dispersion of information while it is produced, collected, processed and transmitted.

The issue of creating reports is the subject of many scientific considerations, however, they lack a direct reference to the applicable flow of reporting information, as created by the Independent Public Health Care Institutions, hereinafter referred to as SPZOZs, and as seen by various recipients of those reports.

Regarding the above-mentioned research areas, the present work is an important addition to the existing research on the usefulness of information, and may also be used nationwide as a set of guidelines for changes in the existing legislation.

Thus, there is **a gap in the research** to date regarding the validity and rationality of the created and submitted reporting information on health-care units, indicating at the same time the need to modify the reporting model used by public health care units, taking into account the information need of the recipients of this information. It also seems necessary to rationalise the circulation of primary and secondary information.

The main goal of the work is *to examine and evaluate the flow of reporting information created by public healthcare units in Poland for the management and supervisory bodies, with particular regard to the usefulness and relevance of this information.*

The main objective of the research depends largely on achieving the specific objectives, which have been divided as follows:

a) specific objectives regarding the theoretical and exploratory part:

C1: *Characterising health care units as reporting entities.*

C2: *Reviewing and classifying the mandatory reports submitted by public health bodies.*

b) specific objectives for the empirical part:

C3: *Examining the cases of duplication of the information contained in the financial statements of public medical facilities, prepared for the needs of various recipients.*

C4: *Evaluating, based on the research findings, the usefulness of the information presented in the reports produced by public health bodies.*

C5: *Assessing the relationship between obligatory reports by public health bodies and the usefulness of the information contained therein for the recipients of these reports.*

C6: *Developing proposals to modify the reporting model for public health entities.*

The analysis of the research problem allowed to formulate the **main hypothesis** on the *need to modify the currently used scope of information provided in the reports, as well as the manner of reporting both financial and non-financial data in public health care bodies in Poland to take into account the usefulness of the reported information for their recipients and improve their circulation between the managing and supervising units at different levels of the public health care sector in Poland.*

In order to verify the main hypothesis, the following **theses** and **detailed hypotheses** were also subjected to research, respectively divided into the theoretical and empirical parts:

a) specific objectives regarding the theoretical and exploratory part:

T1: *Health care units are specific reporting agents requiring specific reporting arrangements.*

T2: *The relevance of the presented reporting information by public health bodies depends on its usefulness to the public at all levels in the health sector.*

T3: *Being the recipients of the reporting information, managing and supervisory authorities in the health sector exhibit a diverse organization, both in the level of detail and scope, of the process of aggregating data on the financial and property situation of public health entities.*

b) detailed hypotheses regarding the empirical part:

H1: *The founding bodies express a varied assessment of the reports received from independent public health care institutions in Poland.*

H2: *There is significant duplication of the same financial information being reported to the recipients managing and supervising public health care units in Poland.*

H3: *Reporting by public health bodies is not fully useful to the recipients of the information.*

H4: *There is a relationship between the usefulness of certain elements of the financial statements being reported and other qualitative features of the reports.*

The subject of the research was financial and non-financial statements prepared by public health care units in Poland and addressed to management, supervisory and/or administrative bodies in the health care sector. **The subject of the research** was public health care units and their selected funding bodies. The choice of **research methods** used was determined by the research objectives and the verification of the hypotheses. In the theoretical part of the work, the methods of induction, synthesis and deduction were used, as well as the descriptive method, which concerned the critical-comparative analysis.

The empirical research was divided into two parts. The first task consisted in comparing the data in selected financial reports and presenting the result in the form of a similarity matrix. Data from individual reports were analyzed in terms of their occurrence and reproduction in the reports covered by the study. In relation to the similarity matrix, the following *research methods were used*: analysis, synthesis, observation, and deduction.

However, the second part of the empirical research included surveys conducted between April and June 2021. In this part of the study, statistical methods were used including- Mann-Whitney U-test,- Kruskal-Wallis

H-test, Friedman's single coefficient analysis of variance, and Spearman's rank correlation coefficient, as well as inductive reasoning analysis and method. As for the **research tools** in the empirical part, Excel 2007 and Statistica 13.3 were used.

Based on the research results obtained, the hypotheses were verified. The conclusions resulting from the conducted research allowed to formulate certain solutions regarding the reporting of financial information by public medical entities in Poland. They also made it possible to determine what changes are desirable in relation to reporting information, its creating, usefulness, and interpretation.

The first chapter of the dissertation contains the description of the health care system in Poland, the specifics of its operation with particular reference to the definitions introduced

by international organisations such as the WHO or the OECD. The chapter also includes the comparative analysis of health system models. In the next part, the description of various types of entities performing medical activities was presented concerning the currently applicable legal regulations. Particular attention was paid to the Act on Medical Activities, which is considered to be the basic legal act for public medical entities in Poland. Legal aspects related to the functioning of medical entities were also presented. As part of the review, analysis and interpretation of applicable law, reference was made to the concept of usefulness and rationality of reporting information in regard to accounting in health care. The first chapter was concluded with the analysis of sets of reporting information produced by medical entities and a summary.

The considerations in chapter two relate to the characteristics of reporting by public healthcare entities and the nature of financial reporting with reference to the principles and features of reporting information issued by public healthcare entities in Poland. The next part of the chapter concerns the reporting of financial and non-financial information in public health care entities and is complemented by the description of the information being reported.

The third chapter in its entirety is an empirical part of the research work, which was divided into two parts. The first one included original similarity matrices including data on costs and revenues, as well as assets and liabilities. Each element of the matrix was a single observation in the study, containing the value of 0 to indicate the lack of repetition of information, and 1 to denote the repetition. The purpose of the matrices was to analyze the degree of repetition of the same financial information included in reports to different recipients. The second part of the empirical research included surveys based on selected statistical methods. As for its content, this chapter covers the flow and exchange of information between recipients of financial and non-financial reports selected for audit purposes by independent public health care institutions in Poland. The criteria for determining the research sample along, as well the description of the entities covered by the research, and a detailed presentation of the research methodology used were also included. Each of the reports included in the empirical studies was subjected to a detailed characterization and analysis in terms of the information contained therein and then assessed in terms of the use of the information. The next part concerned the analysis of the usefulness of reporting documents in Polish health care units. The questionnaire used in the survey was made available to respondents in an electronic form and concerned primarily the assessment of the usefulness of the information received from a subordinate- health authorities (SPZOSs), as well as the assessment of its readability, clarity and transparency, detail, comparability and

reproduction of information reported by public health entities. The abovementioned factors were assigned to main indicators, which in the initial stage of the research were used to define original indicators subjected to statistical analysis.

The results of the conducted research allowed determining the directions of possible changes in the manner of reporting and interpretation of data of selected groups of reporting elements, with particular emphasis on the usefulness of this information. It was also possible to take a critical look at the problem of proper evaluation, interpretation, and usefulness of information reported by SPZOZs. The review of the selected reports allowed assessing the research problem and formulate a conclusion that frequently the elements of the selected financial statements resemble the balance sheet and an income statement. A detailed analysis of the data obtained using the similarity matrices for cost and revenue information showed that over 75% of all information and 52% of information on assets and liabilities is reproduced in the analyzed reports.

The obtained results were also confirmed by the surveys, which show that some of the reporting information is not fully useful for their recipients since the information or data obtained or collected and/or processed is not fully used due to the decision-making capabilities of the recipients of the reports.

It was found that there is a positive and moderate correlation between the usefulness and readability of the reports covered by the study and that the increase in the frequency, transparency, comparability, and readability of the reports subjected to the study is associated with an increase in the level of their usefulness.

The results of the conducted analyses lead to the conclusion that the type and scope of information received has an impact on the implementation of tasks related to the organization and management of hospitals. Therefore, the author notes the need to modify the applied standards in the field of short- and long-term reporting, because the scope of the reported information varies depending on the individual needs of the recipients.

It is essential that the reporting information is provided in a single IT system, accessible to all recipients. Collecting the information generated by a medical entity would allow access to it from any level and at any time, including the possibility of choosing the information detail and filtering it. This would further improve the work at all levels of the information cycle and contribute to better use of time, also reducing errors in the data.

The results obtained using the original similarity matrices to analyse the reporting data and surveys for the identified research gap contribute to the literature in the field of accounting in health care. They cover, in particular, areas related to reporting financial and

non-financial data, and constitute a starting point for considering how reporting data is produced and how it is useful. The research also took into account the problems related to the COVID19- pandemic. It was also possible to identify areas needing new standards or improvement in terms of reporting.

Due to the specificity of the health care sector and the scope of research, the issues raised in this dissertation cannot be considered closed, but require further investigation in terms of the usefulness and use of financial information in public medical entities for management purposes. The obtained results may provide a rationale for further work in the field of monitoring economic phenomena occurring in the health care system in Poland. It may also be considered rational to continue the survey on the same research area and include the assessment of financial and non-financial data, but from the micro-level, i.e. individual-SPZOZs.

This dissertation fills the research gap regarding the validity and rationality of the reporting information, highlighting at the same time the problems of its circulation on the formal and- legal basis. The obtained results seem to confirm the phenomenon of the "information smog", i.e. the information overloading and problems with assessing the credibility of information.

Taking into account the above conclusions, it can be stated that the dissertation will constitute a significant enhancement of knowledge on the usefulness of the information in the reporting of public medical entities in Poland.