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RESEARCH

THE INFLUENCE OF RECORDS ON MEDICAL CHARTS AS A FACTOR ASSOCIATED WITH TECHNICAL DISALLOWANCES

A INFLUÊNCIA DOS REGISTROS DO PRONTUÁRIO COMO UM DOS FATORES ASSOCIADOS À GLOSA TÉCNICA HOSPITALAR

LA INFLUENCIA DE LOS REGISTROS EN LA HISTORIA CLÍNICA COMO UNO DE LOS FACTORES QUE SE ASOCIA AL FALLO TÉCNICO HOSPITALARIO

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ABSTRACT

Objective: identify the influence of records in medical charts as one of the factors associated with technical disallowances. **Method:** quantitative, analytical, cross-sectional field study conducted in 2018 in two hospitals. A total of 324 payment statements were analyzed, considering five health plan operators in each hospital. These statements contain the codes of disallowances provided in the TISS [Exchange of Information on Supplementary Health] Table. **Results:** technical disallowances concerning materials were higher than those concerning medications in hospitals 1 and 2, 90.99% and 84.79%, respectively. The factors associated with technical disallowances were hospital stay — p=0.001 in hospital 1 and p=0.01 in hospital 2 — and type of hospitalization in hospital 2, p=0.000. Hospital 1 amounted to R$2,305.61 (2.28%) of disallowances in nine medical charts. However, all the medical charts contained the records of technical reports, which can be appealed. A different result was found for hospital 2, where 43 medical charts totaled R$31,181.14 (17.82%) of disallowances, R$3,096.13 of which concern missing codes (material and medication); hence, no appeal is possible, resulting in financial loss. **Conclusion:** the monetary amounts of technical disallowances were higher in both hospitals. There is evidence that the length of hospital stay generates disallowances. Therefore, the records in medical charts influence disallowances, and missing records lead to financial loss. TISS standardizes the reasons for disallowances, favoring justifications to appeal, and facilitates the analysis of records and controls of payments to the services provided.

Keywords: Electronic Health Records; Billing; Supplemental Health; Health Management.

RESUMO

Objetivo: *identificar a influência dos registros no prontuário como um dos fatores associados à glosa técnica.* ***Método:*** *estudo quantitativo analítico, de campo, transversal, realizado no ano de 2018 em dois hospitais. Foram analisados 324 demonstrativos de pagamento, sendo cinco operadoras de cada hospital. Nesses demonstrativos, estão descritos códigos de glosa referentes à Tabela de Domínio de Troca de Informações de Saúde Suplementar (TISS).* ***Resultados:*** *nos hospitais 1 e 2, a glosa técnica de material foi maior que a de medicamento, sendo 90,99% e 84,79%, respectivamente. Os fatores associados à glosa técnica foram o tempo de permanência — p = 0,001 no hospital 1 e p = 0,01 no hospital 2 — e o tipo de internação no hospital 2, com p = 0,000. O hospital 1 apresentou R$ 2.305,61 (2,28%) de glosa em nove prontuários. Contudo, todos apresentaram registros de relatório técnico, que pode ser recursado. O resultado foi diferente do hospital 2, onde foram glosados 43 prontuários, no valor de R$ 31.181,14 (17,82%); desse valor, R$ 3.096,13 são referentes aos códigos de material e de medicamentos, não havendo registros em prontuários e não sendo possível fazer recurso, acarretando perda.* ***Conclusão:*** *nos dois hospitais, o valor da glosa técnica de material foi maior. Há evidência de que o tempo de permanência pode gerar glosa. Quanto ao registro no prontuário, este influencia na glosa e, quando ausente, gera perda financeira. A utilização do TISS padroniza os motivos de glosas, favorece a realização da justificativa do recurso, facilita a análise dos registros e auxilia no controle do pagamento do serviço prestado.*

Palavras-chave: *Registros Eletrônicos de Saúde; Faturamento; Saúde Suplementar; Gestão em Saúde.*

RESUMEN

Objetivo: *identificar la influencia de los registros en las historias clínicas como uno de los factores asociados al fallo técnico.* ***Método:*** *estudio cuantitativo analítico, de campo, transversal, en el año 2018, en dos hospitales. Se analizaron 324 extractos de pago, con cinco operadores de cada hospital. En estas declaraciones se describen los códigos del fallo que hacen referencia a la Tabla de Dominio de Intercambio de Información Sanitaria Suplementaria (TISS).* ***Resultados:*** *en los hospitales 1 y 2, el fallo técnico del material fue superior a la de la medicación, siendo del 90,99% y del 84,79%, respectivamente. Los factores asociados al fallo técnico fueron la duración de la estancia; p = 0,001 en el hospital 1 y p = 0,01 en el hospital 2, y el tipo de ingreso en el*

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hospital 2 con p = 0,000. El Hospital 1 presentó R$ 2.305,61 (2,28%) de fallos en nueve historias clínicas. Sin embargo, todos presentaron registros de informe técnico, las cuales pueden ser apeladas. Resultados diferentes en el hospital 2, donde se han encontrado 43 historias clínicas, por un valor de R$ 31.181,14 (17,82%) y, de este valor, R$ 3.096,13 se refieren a los códigos de material y de medicamentos, no teniendo registros en las historias clínicas y no siendo posible apelar, acarreando pérdidas. ***Conclusión:*** *en los dos hospitales, el valor del fallo técnico del material fue mayor. Hay pruebas de que el tiempo de permanencia puede generar fallos, y en cuanto al registro en la historia clínica, este influye en el fallo y, cuando falta, genera una pérdida financiera. El uso del TISS normaliza los motivos de los fallos, favorece la realización de la justificación del recurso, facilita el análisis de los expedientes y ayuda a controlar el pago del servicio prestado.*

Palabras clave: *Registros Electrónicos de Salud; Facturación; Salud Complementaria; Manejo de la salud.*

INTRODUCTION

A medical chart is a – printed or electronic – structured document used to record information about care delivery. It is organized to contain the patient's identification information and the services provided by health workers in an orderly fashion.[1] From an ethical and legal perspective, incomplete or missing records harm patients, the health workers involved in the service, and the healthcare institution. Financial losses, which mainly occur in hospitals, accrue from faulty notes and records under the Nursing staff's responsibility.[2,3] Regarding this aspect, Resolution No. 514/2016 of the Federal Nursing Council (COFEN) provides guidelines on the quality of medical records to be performed by the Nursing team.[4]

Resolution No. 1638/2002 of the Federal Council of Medicine (CFM) highlights the specificities of medical charts as a source of information for research and legal support, also assisting and justifying the correct collection of the amounts spent — in the event of an audit.[5] COFEN Resolution No. 429/2012 provides guidelines for recording professional actions in paper or electronic health records.[6] Based on the best evidence available, a Nursing auditor analyzes how adequate the elements of medical records are. Such an analysis reveals care management and fills in gaps for potential lawsuits.[7,8]

Transitioning from paper to electronic medical records demands appropriate training and a secure computerized environment to file clinical information and Nursing statistical data.[9] The level of adequacy of electronic Nursing records exposes the quality of the services provided.[10] Hence, incorrectly recording actions may result in the inappropriate charge of items, often due to an incompatibility of procedures, leading to denied or rejected hospital claims.[1,11]

An auditor makes the financial control based on the record of expenditures and payment processes, using statistical data and hospital indicators. The processing of contractual and administrative disallowances involves checking bills related to medical procedures, assessing the quality of healthcare delivery, and the justifications provided.[12,13]

Disallowed hospital bills are frequent in auditing, both among Health Plan Operators (HPO) and in the hospital field, and it is a challenge to decrease disallowance indexes and optimize resources.[12] Therefore, to keep an institution's financial balance, the Nursing staff requires training on how to write a medical record correctly. Additionally, research is needed to unveil the reasons for technical losses related to faulty medical records.[14]

In October 2012, Normative Resolution No. 305, published by ANS [Brazilian Regulatory Agency for Private Health Insurance and Plans], determined the mandatory adoption of a standard for disallowances within TISS [Exchange of Information on Supplementary Health].[12] It standardized the main justifications for disallowances using the TISS table.[15] Note that ANS Law 13,003 from 2014 provides for the appeal of disallowances and presents information regarding contracts, supporting both HPO and hospitals.[16]

The TISS Content and Structure Manual provides information on using statements to appeal and verify disallowances[17]. Based on the TISS Table, statements enable forecasting hospital bills, describing the services provided, the amounts processed in Reais[1], and the total amount of disallowances in Reais and respective codes.[15] Additionally, it contains patients' data, billing clarification, statement of disallowances payment, and bill processing.[17,18] All stakeholders, hospitals, and health insurance companies are interested that information is recorded correctly in medical files for the procedures and other items, such as material and medications, to be later assessed.[19]

In Brazil, supplementary healthcare is financed by individuals and companies and covers private services through health plan operators. HPO are preferably paid according to the unit of service/procedure, i.e., fee for service. This bureaucratic payment model is based on a "table" that determines the price of each item.[12] Hence, each item (hospital stay, fees, material, medications, exams, and service fees) is summed and operationalized through coding. Hence, the hospital charges these items and provides justifications.[12] When no justification

is provided, disallowances may occur, which will demand time until payment is authorized.

Given the previous discussion and intending to produce scientific knowledge on the subject, considering its relevance for Nursing practice and hospital management, this study aims to identify the influence of medical records as one of the factors associated with disallowed hospital bills.

METHOD

This study was extracted from the first author's Master's thesis titled "*Glosas Hospitalares: um estudo múltiplo de caso em duas instituições privadas*" [Hospital disallowances: a multiple case study in two private institutions], defended in the Nursing Graduate Program at the Faculty of Medicine School at *São José do Rio Preto* - FAMERP, in 2020. We complied with all ethical aspects concerning research with human subjects recommended by Resolution No. 466/2012, National Council of Health, and the Institutional Review Board at FAMERP approved the study project (opinion report No. 2,713,102).

This quantitative, analytical, cross-sectional field study was conducted in two hospitals in southeast Brazil. Hospital 1 is a medium-sized facility with 73 beds, where a nurse auditor supervises the contracts and controls of HPO and coordinates the billing department. Hospital 2 is a large-sized facility with 240 beds. This hospital has no nurse auditor, and the billing department employees perform the contracts and controls of HPO. These hospitals were chosen based on the following criteria: general hospital; of private and profitable nature; accredited with various HPO; fee-for-service payment model; and free access to medical records, the payment statements of hospital bills, and records analysis. Traditional paper statements were used at the time of the study.

Data were collected from January to December 2018, using analysis statements of medical bills issued by the HPO to the hospitals under study. The statements included the beneficiary's name, code, service description, and monetary amounts with respective justifications and codes from the TISS table. Therefore, patients and their medical records were identifiable. The random sample comprised 324 payment statements of 10 HPO, five in each hospital. The monetary amounts of technical disallowances were assessed according to the justifications of materials and medications based on TISS for Hospital 1 (n=109) and hospital 2 (n=215).

These statements were also analyzed to correlate the amounts of technical disallowances to hospitalization profiles. Hence, the length of hospital stay, type of hospitalization (clinical or surgical), and outcome (discharge, death, or transference) of the 324 medical records were verified. A total of 109 statements were assessed in hospital 1 and 215 in hospital 2 to measure the technical disallowances concerning materials and medications with a TISS code, verifying the registration and medical records. Statements not related to medical records were excluded (100 statements in hospital 1 and 172 in hospital 2). The justifications and TISS codes of the technical disallowances were classified as Groups, Message Codes, and Message Description. Only the statements presenting the Group codes related to the material and medication items provided in the TISS Table were analyzed.[15] Therefore, the analysis included only the statements with TISS codes 2008 and 2012 (related to materials) and 2108 and 2112 (related to medications).

An Excel tool (version 2016) and a database were developed to treat and analyze data. SPSS (version 23) was used for the descriptive analysis. Spearman Correlation was used to make inferential cross-tabulations between the amounts of technical disallowances and the average length of stay, besides the amounts of technical disallowances with the type of hospitalization. The Mann-Whitney test was used for the amounts of technical disallowances and outcomes. The results concerning independence between the variables considered a p-value ≤ 0.05, characterizing significance between the groups. All the tests considered an alpha error of 5% and a 95% confidence interval. The categorical variables were analyzed in terms of absolute frequencies and percentages; the amounts are presented in Reais.

RESULTS

The total technical disallowances concerning material items were higher than medications in both hospitals. Table 1 shows that the highest disallowance concerning material items in hospital 1 was applied by the HPO – B, totaling R$65,970.99 (93.5%). In hospital 2, HPO – M disallowed R$100,823.43 (90.1%). The highest disallowance concerning medications in hospital 1 was applied by HPO – B, R$4,519.80 (6.4%); and in hospital 2, HPO – M it amounted to R$10,993.92 (9.8%). In hospital 1, four (80%) HPO presented technical disallowances concerning materials. All the five HPO presented technical

[1] Brazilian currency

disallowances for medications in hospital 2, while three (60%) HPO applied technical disallowances concerning medications in hospital 1.

In Table 2, the Spearman correlation shows that statistical significance ($p \leq 0.05$) was found in both hospitals regarding the average length of hospital stay and technical disallowances. In hospital 1, most of the 109 medical records (100 – 94.3%) presented a length of stay ≤ 15 days, with disallowances up to R$3,000.00. Of the 215 medical records assessed in hospital 2, 186 (91.6%) presented a length of stay ≤ 15 days, with disallowances up to R$ 3,000.00.

Table 3 shows that most of the medical records in both hospitals concerned clinical hospitalizations. Statistical significance was found only between the type of hospitalization and the amounts of technical disallowances in hospital 2. Of the 106 records analyzed in hospital 1, 67 (63.2%) concerned clinical hospitalizations and 39 (36.8%) surgical hospitalizations, with monetary amounts of up to R$3,000.00. In hospital 2, 139 (64.7%) of the 215 disallowed records concerned clinical hospitalizations and 76 (35.3%) concerned surgical hospitalizations, both with amounts of up to R$ 3,000.00.

The Mann-Whitney test was applied, and Table 4 shows that the outcome variable was not statistically significant in hospital 1 (p=0.648) or hospital 2 (p=0.085). Among the outcomes, discharge was the most frequent: 101 (95.2%) in hospital 1 and 196 (96.5%) in hospital 2.

Table 5 presents data concerning the monetary amounts of disallowances. In hospital 1, 100 medical records of R$98,533.97 were disallowed by other HPO; these did not present the TISS code that corresponded to the records. HPO-F and M disallowed nine records with TISS code 2008, which concerned materials totaling

Table 1 - Distribution of technical disallowances concerning materials and medications per hospital and HPO. *São José do Rio Preto*, SP - Brazil, 2018

Facility	HPO*	Materials		Medications		Total	
		R$	(%)	R$	(%)	R$	(%)
Hospital 1	B	65,970.99	(93.5)	4,519.80	(6.4)	70,490.79	
	F	8,582.77	(100)			8,582.77	
	G			1,100.05	(100)	1,100.05	
	J	15,521.92	(81.7)	3,466.08	(18.2)	18,988.26	
	M	1,677.71				1,677.71	
Total		91,753.39	(90.9)	9,085.93	(9.01)	100,839.58	(100)
Variables	Mean	18,350.68		1,817.19		50,419.66	
	SD†	22,350.52		2,070.12		58,454.72	
	Median	8,582.77		1,100.05		50,419.66	
	Min	1,677.71		1,100.05		9,085.93	
	Max	65,970.99		4,519.80		91,753.39	
Hospital 2	E	13,002.21	(59.3)	8,903.71	(40.6)	21,905.92	
	H	2,057.47	(74.2)	714.37	(25.7)	2,771.94	
	J	990.92	(100)		(100)	990.92	
	L	31,487.65	(84.0)	5,995.01	(15.9)	37,482.66	
	M	100,823.43	(90.1)	10,993.92	(9.8)	111,817.35	
Total		148,361.68	(84.7)	26,607.01	(15.2)	174,968.79	(100)
Variables	Mean	29,672.34		5,321.40		87,484.35	
	SD†	48,581.52		4,873.56		86,093.55	
	Median	13,002.21		5,995.01		87,484.35	
	Min	990.92		714.37		26,607.01	
	Max	100,823.43		10,993.92		148,361.68	

*HPO- Health Insurance Companies; † SD – Standard Deviation

Table 2 - Association between technical disallowances (R$) and patients' average length of stay. *São José do Rio Preto*, SP - Brazil, 2018

Facility	ALS* (days)	Disallowance (R$) ≤ 3,000.00		Disallowance (R$) 3,000.01 to 6,000.00		Disallowance (R$) > 6,000.00		Total Disallowances		Spear man's test
		n	(%)	n	(%)	n	(%)	n	(%)	p-value
Hospital 1	≤ 15	100	(94.3)	1	(100)	-	-	101	(92.6)	0.001
	16 a 30	4	(3.7)	-	-	2	(100)	6	(5.5)	
	≥ 30	2	(1.8)	-	-	-	-	2	(1.8)	
	Total	**106**		**1**		**2**		**109**		
Hospital 2	≤ 15	186	(91.6)	4	(66.6)	5	(83.3)	195	(90.7)	0.01
	16 a 30	17	(8.3)	2	(33.3)	1	(16.6)	20	(9.3)	
	≥ 30	-	-	-	-	-	-	-	-	
	Total	**203**		**6**		**6**		**215**		

ALS*- Average Length of Stay

Table 3 - Association between technical disallowances (R$) and type of hospitalization. *São José do Rio Preto*, SP - Brazil, 2018

Facility	Type of hospitalization	Disallowance (R$) ≤ 3,000.00		Disallowance (R$) 3,000.01 to 6,000.00		Disallowance (R$) > 6,000.00		Total Disallowances		Spear man's test
		n	(%)	n	(%)	n	(%)	n	(%)	p-value
Hospital 1	Surgical	39	(36.8)	1	(100)	-		40	(36.7)	0.233
	Clinical	67	(63.2)	-	-	2	(100)	69	(63.3)	
	Total	**106**		**1**		**2**		**109**		
Hospital 2	Surgical	71	(34.9)	2	(33.3)	3	(50.0)	76	(35.3)	0.000
	Clinical	132	(65.1)	4	(66.6)	3	(50.0)	139	(64.7)	
	Total	**203**		**6**		**6**		**215**		

Table 4 - Association between technical disallowances (R$) and outcomes. *São José do Rio Preto*, SP - Brazil, 2018

Facility	Outcome	Disallowance (R$) ≤ 3,000.00		Disallowance (R$) 3,000.01 to 6,000.00		Disallowance (R$) > 6,000.00		Total Disallowances		Mann Whitney's test
		n	(%)	n	(%)	n	(%)	n	(%)	p-value
Hospital 1	Discharge	101	(95.2)	1	(100)	2	(100)	104	(95.4)	0.648
	Death	2	(1.8)	-	-	-	-	2	(1.8)	
	Transference	3	(2.8)	-	-	-	-	3	(2.7)	
	Total	**106**		**1**		**2**		**109**		
Hospital 2	Discharge	196	(96.5)	6	(100)	6	(100)	208	(96.7)	0.085
	Death	6	(2.9)	-	-	-	-	6	(2.7)	
	Transference	1	(0.4)	-	-	-	-	1	(0.4)	
	Total	**203**		**6**		**6**		**215**		

R$2,305.61 (2.2%). Hospital 2 presented 215 disallowed medical records; 172 were from other HPO and totaled R$143,787.65. No disallowances were applied to the TISS code related to records in the medical charts. HPO-E disallowed nine medical records with code 2008, which concerns materials, totaling R$12,560.35 (40.3%). HPO-H disallowed six medical charts, and HPO-L disallowed 21, amounting to R$13,888.59. Many disallowed medical charts were found in hospital 2, missing the justifications with TISS codes concerning materials and medications.

Table 5 - Distribution of medical charts (n=324), TISS codes, disallowances, and records according to hospital and HPO. *São José do Rio Preto*, SP - Brazil, 2018

	HPO†	Disallowed charts (n)	TISS Codes*	Disallowances (R$)	Records on charts	Total (%)
Hospital 1	Others	100		98,533.97		
	F	04	2008	638.16	Yes	27.68
	M	05	2008	1,667.45	Yes	72.32
	Sub-Total	09		2,305.61		100
	Total	**109**		100,839.58		
Hospital 2	Outros	172		143,787.65		
	E	08	2008	12,560.35	Yes	40.28
		01	2108	2,400.38	No	7.70
	H	02	2008	926.79	Yes	2.97
		02	2012	964.09	Yes	3.09
		01	2012	155.90	No	0.50
		01	2108	15.43	Yes	0.05
	J	04	2008	214.03	Yes	0.69
		01	2008	0.92	No	0.00
		01	2008	2.00	No	0.01
		01	2008	52.66	No	0.17
	L	09	2012	2,340.38	Yes	7.51
		02	2112	5,346.25	Yes	17.15
		01	2112	332.27	No	1.07
		08	2008	5,717.69	Yes	18.34
		01	2008	152.00	No	0.49
	Sub-Total	43	-	31,181.14	-	100
	Total	**215**	**-**	**174,968.79**	-	

†HPO - Health Insurance Companies; *TISS - Exchange of Information on Supplementary Health

DISCUSSION

In this study, technical disallowances were higher regarding materials in both hospitals. In hospital 1, disallowances corresponded to R$91,753.39 (90.9%), and in hospital 2, disallowances corresponded to R$148,361.68 (84.8%). One study conducted over two months in a medium-sized private facility reports similar results, with disallowances concerning materials of R$4,046.63 (64.3%) in April and R$6,606.18 (73.55%) in May.[20] In 2017, a study was conducted in a medium-sized public hospital to analyze technical disallowances concerning orthopedic surgeries, totaling R$67,994.38. Of which, R$56,251.71 (82.7%) concerned procedures and R$11,742.67 (17.3%) materials.[14]

The technical disallowances concerning materials were higher than medications regardless of the size of the hospitals or HPO, both in the sample addressed in this study and the studies previously mentioned. The institutions addressed here adopt the fee-for-service model, and payment is issued after the services are provided. Therefore, care is first provided to patients according to their needs, and the materials must be registered and justified to the insurance companies.[19,20] The procedures must be accurately registered because medical charts are subject to auditing both on the part of the HPO and hospitals.[19] The Nursing staff uses materials to perform procedures and for this reason, taking notes is essential. It is up to the auditor to measure the items, disallowances, financial returns, and records concerning complications and procedures performed on patients.[13]

The audit sector should play an effective role within the hospital and intervene in the records if needed. This is possible by checking the prescriptions of procedures, continually training workers, and using Nursing protocols.

In both hospitals, statistical significance was found between length of hospital stay and technical disallowances: 92.6% in hospital 1 and 90.7% in hospital 2; length of hospital stay was equal to or below 15 days. A study conducted over three years in eight hospitals reports that 94.5% of the technical disallowances concerned two to three-day hospitalizations and that 86% of hospitalizations were eight-day or more.[12] Auditors may divide long-term hospitalizations into partial bills, usually every ten days, totaling three bills in one month. The purpose is to refine the control of bills and minimize the time needed

to send the invoices to HPO, speeding up the process of generating revenue for the hospital.[21]

Identifying the factors associated with technical disallowances, such as the length of hospital stay, helps internal auditors to adopt strategies such as fractioning hospital bills to ensure greater control over revenue generation. In addition, based on evidence-based practice, external auditors can assess, together with the care team, the possibility of dehospitalization and other strategies such as home care, infusion clinics, or even transitional care to reduce costs.

More clinical hospitalizations were found in this study than surgical ones in both hospitals: 63.3% in hospital 1 and 64.6% in hospital 2. Even though disallowed clinical hospitalizations were more frequent than surgical hospitalizations, statistical significance was found only in hospital 2 (p=0.000). A similar study found 54.3% of clinical hospitalizations, 38.8% surgical hospitalizations, and 6.9% hospitalizations for ambulatory care.[20]

Most times, hospitals cannot identify the amounts of disallowed services, failing to receive for procedures[20]. Hence, clinical hospitalizations need to be better controlled because when patients have complications and various procedures are demanded, more resources are required. Therefore, nurse auditors need to negotiate protocols with HPO to avoid financial losses in this type of hospitalization.

Surgical hospitalizations are often better controlled for, also to avoid undue charges. The presence of auditors in the surgical center and highly complex procedures is common to intercept non-conformities and prevent disallowances. Greater control is obtained by using administrative instruments intended to function as a barrier, such as forms, authorizations, invoices, and using envelopes with labels containing the batch and series of high-cost materials. Another strategy is for healthcare providers and HPO to negotiate surgical protocols.

In this study, the analysis of outcomes did not reveal interferences in the monetary amounts of technical disallowances. The highest disallowances were associated with hospital discharge: 104 (95.4%) in hospital 1 and 208 (96.7%) in hospital 2. Considering only the hospital outcome, a study conducted in two public hospitals (hospital A and hospital B) analyzed 430 medical charts classified as discharge (clinical improvement), transference, death, discharge on request, or evasion, reporting a prevalence of hospital discharge: 167 (77.7%) in hospital A and 32 (14.9%) in hospital B.[22]

Regarding the disallowed medical charts addressed in this study, 324 statements were assessed, the technical disallowances of 272 of these were related to other reasons, while 52 (16%) were related to justifications and codes not registered on the medical charts: 9 (17.3%) in hospital 1 and 43 (82.7%) in hospital 2. Note that 17.3% (R$2,305.61) of the technical disallowances applied by HPO in hospital 1 contained the codes correctly recorded. For this reason, disallowances were reverted. However, considering that this facility has an auditing team, these situations can be improved. On the other hand, in hospital 2, seven (16.2%) out of 43 medical charts did not present the records; hence, appealing was not possible, and the hospital had to sustain a loss of R$3,096.13. Note that hospital 2 does not have an auditing team on its staff.

A different result was found in a private hospital addressed in a two-month study. It verified that 32 (16.5%) of the 194 statements with technical disallowances concerning Nursing records presented codes/justifications; 161 (83.0%) did not present any code/justification, and it did not apply in 1 (0.5%) case. The study mentioned above reports that 26 (13.40%) statements showed that the medications or procedures reported had been checked, and 166 (86.60%) had not. The financial impact of disallowances was not expressive, though: a total of R$320.00 corresponded to the absence of notes, and only R$30.00 corresponded to a lack of medication checks.[3]

Thus, Nursing actions interfere in auditing hospital bills, often through the records of procedures and services, as such records support the collection of paying sources.[23] Because disallowances concern inconsistent recording of materials and the checking of medications provided to patients, faulty records lead to financial loss.[24]

The competent performance of Nursing auditors should enable administrative and financial control among hospital organizations.[14] By showing divergent notations through concurrent auditing, auditors support the improvement of records, even by visiting the patients' units to clarify doubts. However, auditing is often retrospective in many institutions, being performed only after patients are discharged.[25]

Note that electronic records are sources of information that enable monitoring quality and safety levels that can be measured and serve as indicators in an audit.[26] Electronic medical records support the standardization of records and clinical and administrative notations, favoring control and preventing disallowances and undue collections.

Hospitals 1 and 2 are recommended to establish specific routines and administrative tools for determining how to write medical records. These directly reflect on the collection of material expenditures and medication

checking to avoid technical disallowances. Hence, the TISS Table is recommended to favor hospitals' internal auditing because it provides codes and supports the mapping of records, speeding up the analysis of charges related to the care provided to patients and decreasing technical disallowances.

Before TISS was created, there were many reasons for technical disallowances. Many conflicts emerged between HPO and care providers when these reasons were qualitatively analyzed. This study presents an analysis and contributes to the field by providing data obtained with TISS coding and the reasons for disallowances in a quantitative format, favoring the work process and the productivity of auditors.

Several skills are required in the practice of Nursing auditors. This study highlights the need for knowledge concerning the TISS codes, the need to establish parameters for the HPO tables, and the influence of records on measuring technical disallowances; proper records enable appealing disallowed bills. This study advances knowledge regarding the practice of Nursing auditors because TISS was adopted here as the methodology to analyze technical disallowances. ANS standardized TISS, but the lack of studies addressing this subject shows that it is seldom used.

This study's main limitation concerns a lack of studies addressing the TISS Table and the reasons for disallowances standardized by ANS. It compromised the discussion of results, restricting the focus to the practice and experience of this study's authors. Hence, among the few studies found and which contributed to this study's discussion are integrative reviews[1,2] and studies addressing a single hospital.[23,24,26]

CONCLUSION

Considering this study's objective, the results indicate that among the factors associated with technical disallowances, the length of hospital stay emerged in both hospitals. However, statistical significance was found only in hospital 2 regarding the type of hospitalization, while the outcome variable did not correlate with the monetary amount of disallowances.

Material items presented the highest technical disallowances in both hospitals. Regarding records, seven medical charts in hospital 2 were inadequate; hence, disallowances remained, resulting in financial loss.

The TISS Table favored and standardized the reasons for technical disallowances in both hospitals as various HPO adopted its codes. It facilitated the auditing work when analyzing the records and enabled reverting disallowances.

Despite ANS and TISS standardization, many divergences were found in terms of payment, appeals, and supporting records between providers and HPO. Further research is needed in this context to unveil possibilities and reconcile demands for both ANS and TISS; the challenges of the private market go beyond costs and payments.

REFERENCES

1. Camargo LR, Pereira GR. Análise dos Registros realizados pela Enfermagem e o possível impacto na auditoria: uma revisão da literatura nacional. Rev Adm Saúde. 2017[cited 2020 Dec 21];17(68). Available from: http://dx.doi.org/10.23973/ras.68.55

2. Barreto JA, Lima GG, Xavier CF. Inconsistências das anotações de Enfermagem no Processo de auditoria. Rev Enferm Cent Oeste Min. 2016[cited 2020 Dec 21];6(1):2081-93. Available from: https://doi.org/10.19175/recom.v0i0.917

3. Spigolon DN, Lima AM, Teston EF, Maran E, Costa MAR, Derenzo N. Impact of the nonconformity of Nursing notes in the context of hospital. Ciênc Cuid Saúde. 2019[cited 2020 Dec 21];18(1):e44748. Available from: https://doi.org/10.4025/cienccuidsaude.v18i1.44748

4. Conselho Federal de Enfermagem. Resolução COFEN nº 514/2016. Aprova o guia de recomendações para registros de Enfermagem no prontuário do paciente, com a finalidade de nortear os profissionais de Enfermagem. Brasília: COFEN; 2016[cited 2020 Dec 21]. Available from: http://www.cofen.gov.br/wp-content/uploads/2016/08/Guia-de-Recomenda%C3%A7%C3%B5es-CTLN-Vers%C3%A3o-Web.pdf

5. Conselho Federal de Medicina. CFM nº 1638, de 10 de julho de 2002. Define prontuário médico e torna obrigatória a criação da Comissão de Revisão de Prontuários nas Instituições de Saúde. Brasília: CFM; 2002[cited 2020 Dec 21]. Available from: http://www.portalmedico.org.br/resolucoes/cfm/2002/1638_2002.htm

6. Conselho Federal de Enfermagem. Resolução COFEN nº 429/2012. Dispõe sobre o registro das ações profissionais no prontuário do paciente, e em outros documentos próprios da Enfermagem, independente do meio de suporte - tradicional ou eletrônico. Brasília: COFEN; 2012[cited 2020 Dec 21]. Available from: http://www.cofen.gov.br/resoluo-cofen-n-4292012_9263.html

7. Ribeiro BS, Silva MC. Auditoria de Enfermagem e sua importância no ambiente hospitalar: uma revisão de literatura. REFACI. 2017[cited 2020 Dec 21];2(2):1-25. Available from: http://revista.faciplac.edu.br/index.php/REFACI/article/view/269/88

8. Candido ASG, Cunha ICKO, Munhoz S. Informações de Enfermagem registradas nos prontuários frente às exigências do Conselho Federal de Enfermagem. Rev Paul Enferm. 2018[cited 2020 Dec 21]29(1/3):31-8. Available from: https://docs.bvsalud.org/biblioref/2019/02/970750/informacoes-de-Enfermagem-registradas-nos-prontuarios-frente-as_YWjr3mW.pdf

9. Saranto K, Kinnunen UM, KiveKäs E, Lappalainen AM, Liljamo P, Rajalahti E, *et al*. Impacts pf structuring Nursing records: a systematic review. Scand J Caring Sci. 2014[cited 2020 Dec 21];28(4):629-47 Available from: https://doi.org/10.1111/scs.12094

10. Choa I, Kimb E, Choi WH, Staggers N. Comparing usability testing outcomes and functions of six electronic Nursing record systems. Int J Med Inform. 2016[cited 2020 Dec 21];88:78-85. Available from: http://doi.org/10.1016/j.ijmedinf.2016.01.007

11. Zunta RSB, Lima AFC. Audit and account billing process in a private general hospital: a case study. Rev Eletrônica Enferm. 2017[cited 2020 Dec 21];19:1-11. Available from: https://doi.org/10.5216/ree.v19.42082

12. Rodrigues JAR, Cunha ICKO, Vannuchi MTO, Haddad MCFL. Out-of-pocket payments in hospital bills: a challenge to management. Rev Bras Enferm. 2018[cited 2020 Dec 21];71(5):2658-66. Available from: https://doi.org/10.1590/0034-7167-2016-0667

13. Pertille F, Ascari RA, Oliveira MCB de. A importância dos registros de Enfermagem no faturamento hospitalar. Rev Enferm UFPE on line. 2018[cited 2020 Dec 21];12(6):1717-26. Available from: https://doi.org/10.5205/1981-8963-v12i6a234419p1717-1726-2018

14. Souza ENC, Santos CH, Higashi P, Souza IF. Processo de auditoria de contas em um hospital público: mapeamento das glosas técnicas em cirurgias ortopédicas. Rev Adm Saúde. 2018[cited 2020 Dec 21];18(73):1-15. Available from: http://dx.doi.org/10.23973/ras.73.145

15. Agência Nacional de Saúde Suplementar. Tabelas de Dominio TISS. Brasília: ANS; 2007[cited 2020 Dec 21]. Available from: http://www.sbpc.org.br/upload/conteudo/320070521124247.pdf

16. Presidência da República (BR). Lei nº 13.003, de 24 de junho de 2014. Altera a Lei nº 9.656, de 3 de junho de 1998, que dispõe sobre os planos e seguros privados de assistência à saúde, com a redação dada pela Medida Provisória nº 2.177-44, de 24 de agosto de 2001, para tornar obrigatória a existência de contratos escritos entre as operadoras e seus prestadores de serviços. Diário Oficial da União, Brasilia (DF); 2014[cited 2020 Dec 21]. Available from: http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2014/lei/l13003.htm

17. Agência Nacional de Saúde Suplementar. TISS. Troca de Informação em Saúde Complementar. Manual de Conteúdo e Estrutura. Instruções para preenchimento das guias em papel. Versão 2.1.10. Brasília: ANS; 2010[cited 2020 Dec 21]. Available from: http://www.ans.gov.br/images/stories/Plano_de_saude_e_Operadoras/tiss/Padrao_tiss/manual_de_conteudo_e_estrutura_v2110.pdf

18. Agência Nacional de Saúde Suplementar. Padrão TISS. Organizacional. Brasília: ANS; 2017[cited 2020 Dec 21]. Available from: http://www.ans.gov.br/images/stories/Plano_de_saude_e_Operadoras/tiss/Padrao_tiss/tiss3/Padrao_TISS_Componente_Organizacional_201704.pdf

19. Silva JASV, Hinrichsen SL, Brayner AC, Vilella AS, Lemos MC. Glosas Hospitalares e o Uso de Protocolos Assistenciais: revisão integrativa da literatura. Rev Adm Saúde. 2017[cited 2020 Dec 21];17(66):1-18. Available from: http://dx.doi.org/10.23973/ras.66.13

20. Santos MP, Rosa CDP. Auditoria de Contas Hospitalares: Análise dos principais motivos de glosas em uma instituição privada. Rev Fac Ciênc Méd Sorocaba. 2013[cited 2020 Dec 21];15(4):125-32. Available from: https://revistas.pucsp.br/index.php/RFCMS/article/view/17653/pdf

21. Guerrer GFF, Lima AFC, Castilho V. Study of billing audits in a teaching hospital. Rev Bras Enferm. 2015[cited 2020 Dec 21];68(3):358-63. Available from: https://doi.org/10.1590/0034-7167.2015680306i

22. Nascimento AB. Prontuário do paciente como subsídio para a atuação profissional, à luz da clínica compartilhada. Mundo Saúde. 2016[cited 2020 Dec 21];40(2):151-9. Available from: http://www.saocamilo-sp.br/pdf/mundo_saude/155574/A01.pdf

23. Cobaito FC. Faturamento hospitalar sob a lente da qualidade total. Rev Gest Sist Saúde. 2016[cited 2020 Dec 21];5(1):52-61. Available from: http://www.revistargss.org.br/ojs/index.php/rgss/article/view/167/176

24. Vidoto S, Marisco NS. As glosas hospitalares no contexto da Enfermagem em uma instituição hospitalar. Rev Espaço Ciênc Saúde. 2015[cited 2020 Dec 21];3:5-27. Available from: https://revistaeletronica.unicruz.edu.br/index.php/saude/article/view/112/52

25. Viana CD, Bragas LZT, Lazzari DD, Garcia CTF, Moura GMS. Implementation of concurrent Nursing audit: an experience report. Texto Contexto Enferm. 2016[cited 2020 Dec 21];25(1):e3250014. Available from: https://doi.org/10.1590/0104-070720160003250014

26. Nomura ATG, Barragan MS, Almeida MA. Quality of Nursing documnetation before and after the Hospital Accreditation in a university hospital. Rev Latinoam Enferm. 2016[cited 2020 Dec 21];24:e2813. Available from: https://doi.org/10.1590/1518-8345.0686.2813