



Assessment of the information quality in hospital admission authorizations – SUS (Unified Health System), in a hospital in the upstate São Paulo

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Introduction

Health information is an important and decisive element for the diagnosis, planning, management decision-making, and allocation of health resources. It is an essential part of health management and policies, both public and private. Another relevant function of health information is to constitute the necessary elements for research in the health areas; when produced in a structured and reliable way it will constitute essential tools [1-5].

Brazil has a rich and well structured Health Information System national networking (SIS), from the point of view of gathering, processing and making such information available for the public health service and researchers. The main national health information systems are: the Mortality Information System (SIM), the Live Birth Information System (SINASC), the Notifiable Disease Information System (SINAN), the SUS Hospital Information System (SIH-SUS), the SUS Outpatient Information System (SIA-SUS) and the Primary Care Health Information System (SISAB). The first three are considered epidemiology information systems, and they others are called assistance information systems [3].

The objective of the SUS Hospital Information System (SIH-SUS) is *"to capture the information provided in hospitals and process hospital admission information"*. It is a system aimed at capturing and processing health information for paying care procedures to hospitals that are part of the National Health System, both public and private, nationwide. It is a depository of relevant administrative, demographic, geographic, and health information. The Hospital

Inpatient Authorization Form (AIH) is the main tool for capturing and processing the data that is recorded, processed, analyzed and validated, and then sent to the Ministry of Health that makes it available on a DATASUS website for administrators and the general public [3,6].

In spite of the advances over the years in capturing, processing, analyzing and validating the data contained in the AIH, the issue of the confidence of such data persists, since it is generated and registered by the hospital admitting the patient. The reliability of medical information was defined (Roger, n/d) as the capability to reproduce the same information according to preset criteria. In case of medical information obtained from medical visits, the issue remains whether such information is trustworthy. It points out to the quality of such information transcription, interpretation and encoding [2].

Regarding the trustworthiness of the data contained in the AIH, the importance of health information for epidemiological diagnosis, planning and management of policies and health programs, in addition to the proper allocation of resources for financing hospital care, scientific profile studies are necessary to prove the trustworthiness of the AIH records.

This study seeks to analyze the trustworthiness of the main diagnosis recorded in the AIH through the ICD-10, and the adaptation of the main procedure registered in the AIH by using the registered SIGTAP table codes (SUS Table of Procedures, Medication and OPM Management System). The proportion of agreement and divergence of the information contained in the AIH forms with those in the medical records was analyzed.

Methods

Ethical Issues

The study protocol falls under CNS (National Health Council) Resolution 566/12 and was submitted to and approved by the Research Ethics Committee of the Ceres Medical School - FACERES.

Study design

Exploratory case study with quantitative approach, use of descriptive statistics, and document analysis. The study was carried out at a general hospital under municipal management in São Carlos-SP; the hospital has 234 beds distributed this way: 47 ICU beds (adult, pediatric and neonatal), 36 surgical beds, 92 clinical, 25 obstetrics, 18 pediatrics, and 16 neonatal beds [8].

Data collection

Secondary data from the Hospital Inpatient System (SIH) paid to the municipality were used regarding the competencies from January to December of 2019. Another subject of study were selected medical records from the hospital database, according to justified non-probabilistic sampling, considering the diseases of interest for the study, totaling 460 studies [9]. The most frequent hospitalizations in the clinical and surgical areas that belonged to the procedure codes in the

SIGTAT/SUS table of the Clinical Procedure groups (03), Clinical Treatment subgroup - Other Specialties (03) and the Surgical Procedures group (04) were analyzed. Diagnosis records of the International Classification of Diseases-10 (ICD-10) have also been analyzed. This analysis was carried out as approved by the researchers and according to Clinical Protocols and medical literature criteria with regards to diagnosis and registered treatment.

Results

Table 1 represents the percentage of absolute agreement of diagnoses, according to CID – 10 (International Classification of Diseases). There was a majority of agreement for all of the diagnoses, the highest was the classification regarding appendicitis (90.90%) and lowest for the urinary tract infection (61.53%), the other categories were above 75% of agreement.

Table 2 show the agreement between the diagnosis analyzed by researchers and the pertinent classification of the SIGTAP/SUS procedures. All the diagnosis show more agreement than disagreement, the highest was the cholecystectomy procedure (88.9%) and the lowest was the urinary infection treatment, the other diagnosis were above 73%.

Table 1. Agreement between diagnosis according to the International Classification of Diseases – 10.

	Agree		Disagree		Total	
	N	%	N	%	n	%
Diagnosis (ICD I.20 - I25)	101	84.9	18	15.1	119	100
Diagnosis (ICD I.60 - I.64)	43	75.43	14	24.6	57	100
Diagnosis (ICD K.80-K.81)	18	94.7	1	5.3	19	100
Diagnosis (ICD N.390)	16	61.53	10	38.5	26	100
Diagnosis (K35- K36 - K37)	20	90.9	2	9.1	22	100
Diagnosis (J.18.9 -)	38	79.2	10	20.8	48	100
TOTAL	236		55		291	

Source: SIHD/SUS

Table 2. Agreement of procedures according to SIGTAP/SUS table.

	Agree		Disagree		Total	
	n	%	n	%	n	%
Acute coronary syndrome/IAM* AIH Procedure	60	83.3	12	16.66	72	100
AIH Procedure - cerebrovascular accident	48	73.2	15	23.8	63	100
AIH Procedure – cholecystectomy	16	88.9	2	11.12	18	100
AIH Procedure - urinary tract infections	36	64.3	20	35.7	56	100
AIH Procedure – appendectomy	25	80.6	6	19.3	31	100
AIH Procedure – pneumonia	39	73.6	14	26.4	53	100
TOTAL	224		69		293	

Source: SIHD/SUS

* Acute myocardial infarction.

Conclusion

The agreement of the diagnosis verified by this work shows a good correlation between the AIH records and the evaluation of the researcher, there was a broad variation of diagnosis categories between urinary tract infection and cholecystitis. Close levels of reliability were verified in previous works using the percentage of absolute agreement according to the Kappa index, in spite of the broad variation [2,7,12]. Regarding the diagnosis and procedures of the table SIGTAP-SUS, we could also see a good level of agreement percentage, however with a lower variation. Previous works show reliable and close results. This work has shown good agreement between diagnosis and indication of the proper procedure according to the classification of the health system.

Keywords: Health Communication. Unified Health System. Hospitalization.

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Data sharing statement

No additional data are available.

Conflict of interest

The authors declare no conflict of interest.

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References

1. Lima CRA, Schramm JMA, Coeli CM, Silva MEM. Revisão das dimensões de qualidade dos dados e métodos aplicados na avaliação dos sistemas de informação em saúde. *Cad. Saúde Pública*. 2009; 25(10):2095-2109.
2. Veras CMT, Martins MS. A Confiabilidade dos Dados nos Formulários de Autorização de Internação Hospitalar (AIH). *Cad. Saúde Pública*. 1994; 10(3):339-355.
3. Santos AC. Sistema de informações hospitalares do Sistema Único de Saúde: documentação do sistema para auxiliar o uso das suas informações [master's thesis]. Rio de Janeiro: Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz; 2009.
4. Ministério da Saúde (Brasil). Secretaria de Atenção à Saúde. Departamento de Regulação, Avaliação e Controle. Coordenação Geral de Sistemas de Informação. SIH – Sistema de Informação Hospitalar do SUS: Manual Técnico Operacional do Sistema. Brasília: MS; 2017.
5. Secretaria Municipal da Saúde (São Paulo). Coordenação de Epidemiologia e Informação CEInfo. Boletim CEInfo Análise. São Paulo: Secretaria Municipal da Saúde, 2007. 24p.
6. Bittencourt AS, Camacho L A B, Leal MC. O Sistema de Informação Hospitalar e sua aplicação na saúde coletiva. *Cad. Saúde Pública*. 2006; 22(1):19-30, jan, 2006.
7. Melione LPR, Jorge MHPM. Confiabilidade da informação sobre hospitalizações por causas externas de um hospital público em São José dos Campos, São Paulo, Brasil. *Rev. Bras. Epidemiol*. 2008; 11(3): 379-92.
8. Cadastro Nacional de Estabelecimentos de Saúde. DataSUS [internet]. Brasília: Ministério da Saúde. Available at: <<http://cnes.datasus.gov.br/pages/estabelecimentos/consulta.jsp>>. Visited on 05-Jan-2021.
9. Franco LJ, Passos ADC, organizators. Fundamentos de epidemiologia. 2. ed. Barueri: Manole; 2011. 436 p.
10. Medronho RA. Epidemiologia. 2. ed. São Paulo: Editora Atheneu; 2009. 685 p.
11. Matos DAS. Confiabilidade e concordância entre juízes: aplicações na área educacional. *Est. Aval. Educ*. 2014; vol. 25, no. 59, p. 298-324, set./dez.
12. Mathias TAF, Soboll MLMS. Confiabilidade de diagnósticos nos formulários de autorização de internação hospitalar. *Rev. Saúde Pública*. 1998; 32 (6): p. 526-32.

