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ANALYSIS OF THE EFFECT OF DOCTOR'S RESPONSIBILITY AND SOP-SPM KNOWLEDGE ON BPJS KESEHANATN CLAIMS WITH MEDICAL RECORDS MEDIATION

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Abstract: The National Health Insurance (JKN) program managed by BPJS Kesehatan (Indonesian Health Insurance Agency) is a major source of hospital revenue, but delays in inpatient claims pose serious financial risks. Bangil Regional Hospital, Pasuruan Regency, shows low initial claims and high follw-up claims, which slows cash flow and reduces efficiency. The underlying factor is the delay in returning medical records by the doctor in charge of the service. This study examines the effect of doctor responsibility and knowledge of SOPs/SPM on the quantity of BPJS Kesehatan claims, with the promptness of medical record return as a mediating variable. This study is an explanatory research study using SEM PLS with 54 samples (Doctors, Medical Records Officers, and BPJS Claims Management Officers) at Bangil Regional Hospital in Pasuruan. The results of this study directly show: 1) Doctors' responsibility plays a role in the number of BPJS Health claim files, 2) Doctors' knowledge of Standard Operating Procedures (SOP) and Minimum Service Standards (SPM) does not play a role in the number of BPJS Health claim files, 3) Timeliness of returning medical records plays a role in the number of BPJS Health claim files, 4) Doctors' responsibility plays a role in the timeliness of returning medical records, 5) Knowledge of SOP-SPM plays a role in the timeliness of returning medical records, 6) Timeliness of returning medical records does not play a significant role as a mediator in the relationship between doctors' responsibility and knowledge of SOP-SPM on the number of BPJS Health claim files.

Keywords: Doctor's Responsibility, Knowledge of SOP-SPM, Timeliness of Returning Medical Records, Number of BPJS Health Claim Files

1. Introduction

The National Health Insurance (JKN) program, managed by BPJS Kesehatan (the Indonesian Health Insurance Agency), is a key pillar of Indonesia's healthcare system. Since 2014, the number of participants has steadily increased, making BPJS claims a primary source of revenue for hospitals. However, this heavy reliance also carries financial risks, particularly when claims are delayed or denied. An unstable hospital cash flow can disrupt payments for emplyees, operations, and medical supplies, making the accuracy and timeliness of claims essential for the continuity of healthcare services (BPJS Kesehatan, 2019).

Bangil Regional Hospital is facing serious issues with BPJS Kesehatan (Social Security Agency) claims, particularly for inpatient services. Data from March to May 2025 shows that initial claims averaged only 64.4%, with the remainder having to be submitted as follow-up applications. April 2025 was the worst month, with nearly 44.1% of new claims submitted as follow-up applications. This slowed down payment receipts and disrupted the hospital's liquidity. The difference in nominal value between initial and folow-up claims indicates a potential significant loss of financial efficiency.

Table 1. Number of inpatient claim files for BPJS Kesehatan at Bangil Regional General Hospital, March-May 2025

Month	Total Number of Inpatient Files	Number of Inpatient Files Claimed	Number of Late Inpatient Files
March 2025	2169	1608	561
April 2025	2295	1198	1097
May 2025	2473	1948	525

Table 2. Nominal BPJS Kesehatan inpatient claims at Bangil Regional General Hospital March-May 2025

Month	Nominal Amount That Should Be Received	Nominal Amount Claimed	Nominal Amount of Follow-up Inpatient Files
March 2025	Rp. 16,468,710,090	Rp. 11,392,398,800	Rp. 5,076,311,290
April 2025	Rp. 15,254,739,400	Rp. 8,529,285,900	Rp. 6,725,453,500
May 2025	Rp. 18,105,132,400	Rp. 12,308,961,500	Rp. 5,796,170,900

Table 3. Percentage of follow-up inpatient claims from BPJS Kesehatan at Bangil Regional General Hospital March-May 2025

Month	Percentage Claimed Early	Follow-up Percentage
March 2025	69.2%	30.8%
April 2025	55.9%	44.1%
May 2025	68.0%	32.0%

Table 4. Comparison of inpatient and outpatient claims for BPJS Health at Bangil Regional General Hospital, March–May 2025

Type of Service	MARCH 2025	
	Number of Files	Cost
Inpatient	2,169	Rp. 16,468,710,090
Outpatient	12,003	Rp. 4,582,912,815

Type of Service	APRIL 2025	
	Number of Files	Cost
Inpatient	2,169	Rp. 15,254,739,400
Outpatient	11459	Rp. 4,213,229,530

Type of Service	APRIL 2025	
	Number of Files	Cost
Inpatient	2473	Rp. 18,105,132,400
Outpatient	13,262	Rp. 5,118,772,910

Source: Bangil Regional Hospital management report (Processed, 2025)

A fundamental factor contributing to claims delays is incomplete and late return of medical records. As legal and administrative documents, inaccurate or late return of medical records

delays the coding, verification, and claims processes with the National Health Insurance (BPJS). This is where the role of the physician in charge of services (DPJP) becomes crucial. The doctor's level of compliance in completing and returning medical records by the deadline significantly determines the number of claims that can be processed. Low compliance directly impacts hospital revenue.

Previous research has highlighted many internal hospital factors, such as the completeness of medical resumes.(Aeni et al., 2024), understanding SOP (Hartati & Emelia, 2021), as well as the workload of officers (Nurjanah & Trisna, 2024). However, these studies tend to be descriptive and have not quantitatively examined physician responsibility. International research also emphasizes quality improvement and documentation timeliness. (Troude et al., 2020), but not linked to financial outcomes such as BPJS claims. This gap highlights the need for an analytical model that integrates physician behavioral factors, SOPs/SPM knowledge, and administrative-financial outcomes.

This study offers novelty by placing the number of BPJS claims as the primary dependent variable and adding the timeliness of medical record return as a mediating variable. This approach links physician behavior (responsibility and knowledge of SOPs/SPMs) with hospital financial outcomes, a process that has never been comprehensively tested. Using path analysis or mediation regression, this study aims to answer the question: To what extent do physician responsibility and knowledge of SOPs-SPMs influence the number of BPJS claims through the timeliness of medical record return?. In addition to academic contributions, the study results are expected to provide strategic recommendations for Bangil Regional Hospital management in improving documentation compliance and optimizing hospital revenue.

2. Literature review

Doctor's Responsibilities (X1)

A doctor's responsibility is a professional commitment to carrying out medical duties in accordance with ethical standards and service procedures. According to Notoatmodjo(2012), responsibility is part of a professional attitude that reflects an individual's awareness of their duties and obligations in a work system.

Knowledge of SPO-SPM (X2)

Knowledge is the result of knowing, and this occurs after a person senses a particular object. According to Bloom (1956), Knowledge encompasses six levels: knowing, understanding, applying, analyzing, synthesizing, and evaluating. In this context, knowledge of SOPs and SPMs reflects medical personnel's understanding of the work standards set by healthcare institutions.

Number of BPJS Kesehatan claim files (Y)

The number of BPJS claim files is the total number of claim documents successfully processed and submitted to BPJS Kesehatan. According to the Indonesian Ministry of Health (Minister of Health Regulation Number 71 of 2013 concerning Health Services in the National Health Insurance, 2013), BPJS Kesehatan claims are an administrative process that must meet the requirements of completeness and accuracy of data in order to be accepted and paid.

Timeliness of Return of Medical Records (Z)

Timeliness is the correspondence between the planned time and the actual implementation time. According to Sutabri (2012), timeliness in information systems is very important to support work efficiency and effectiveness. In this study, the timeliness of medical record returns plays a role in accelerating the BPJS Kesehatanclaim process.

3. Method

This type of research is explanatory research with a quantitative approach. The main objective is to examine and analyze the effect of physician responsibility and knowledge of standard operating procedures and minimum service standards on the number of BPJS Kesehatan claims, mediated by the timeliness of medical record returns. The research was conducted by individuals directly involved in the BPJS Kesehatan claim process (doctors, medical record officers, and BPJS claim administrators) at the Bangil Regional General Hospital, located on Jalan Raya Raci – Bangil, Pasuruan Regency, East Java Province, with the postal code 67153. A sample of 54 respondents was obtained using saturated sampling (census) (Hair et al., 2022). Data were collected through a Likert scale-based questionnaire and documentation, with primary and secondary data sources. The instruments were tested for validity, reliability, and model fit using SmartPLS. Data analysis techniques used Partial Least Square-Structural Equation Modeling (PLS-SEM) to test the measurement model and structural model.

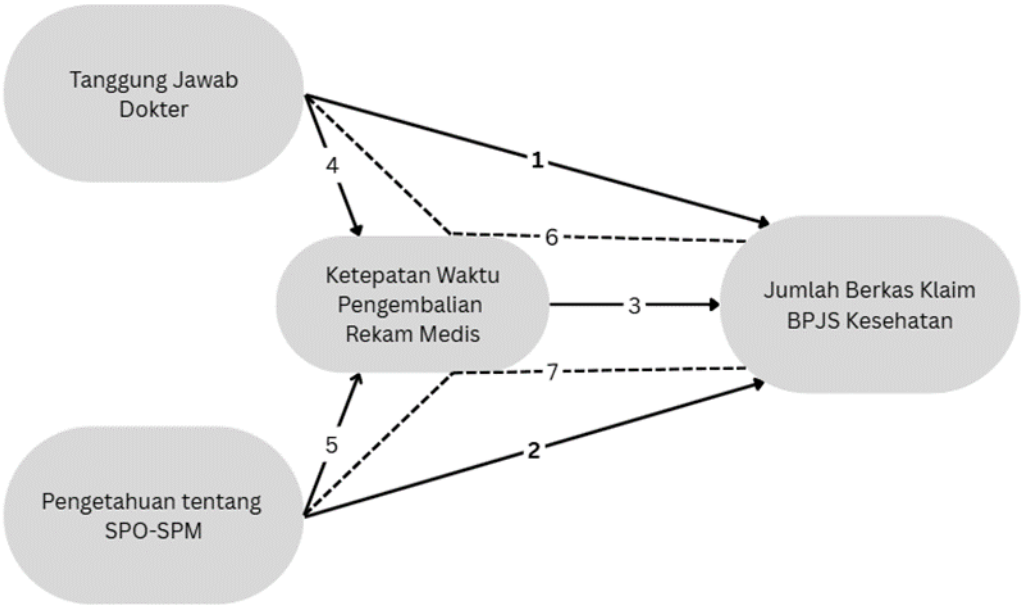

Figure 1. Conceptual Framework of Research (2025)

Information:
——► Direct relationship
- - - -► Indirect relationship (moderation)

Hypothesis:
H1: Doctors' responsibility has a positive effect on the number of BPJS Kesehatan claim files at Bangil Regional Hospital, Pasuruan Regency.
H2: Knowledge of SOP - SPM was not able to have a positive influence on the number of BPJS Kesehatan claim files at Bangil Regional Hospital, Pasuruan Regency.
H3: The timeliness of returning medical records affects the number of BPJS Kesehatan claim files at Bangil Regional Hospital, Pasuruan Regency.
H4: The doctor's responsibility influences the timeliness of returning medical records at Bangil Regional Hospital, Pasuruan Regency.
H5: Knowledge of Standard Operating Procedures (SOP) and Minimum Service Standards (SPM) influences the timeliness of returning medical records at Bangil Regional Hospital, Pasuruan Regency.

H6: Timeliness of medical record return mediates the relationship between doctor's responsibility and the number of BPJS Kesehatan claim files at Bangil Regional Hospital, Pasuruan Regency.
H7: The timeliness of returning medical records mediates the relationship between knowledge of Standard Operating Procedures (SOP) and Minimum Service Standards (SPM) and the number of BPJS Kesehatan claim files at Bangil Regional Hospital, Pasuruan Regency.

4. Results and Discussion

4.1 Results

Information in this study regarding respondent characteristics includes: 1) Gender, 2) Age, 3) Length of Service, 4) Employment Status

Table 5. Characteristics Based on Age

No	Age	Amount	Percent
1	≤35 years	7	13.5%
2	36-40 years old	15	28.8%
3	41-45 years old	12	23.1%
4	46-50 years	6	11.5%
5	>50 years	12	23.1%
	Total	52	100%

Source: Processed research data (2025)

Based on this data, it can be seen that the 36-40 age group constituted the largest group participating in this study, followed by the 41-45 age group and the 50+ age group, which had similar percentages. Information about this age distribution is crucial for understanding the demographic profile of the respondents.

Table 6. Characteristics Based on Gender

No	Gender	Amount	Percent
1	Man	32	61.5%
2	Woman	20	38.5%
	Total	52	100%

Source: Processed research data (2025)

These results indicate that the majority of respondents who participated in this study were male, which provides important context for understanding subsequent findings.

Table 7. Respondent Characteristics Based on Employment Status

No	Employee Status	Amount	Percent
1	ASN	22	42.3%
2	PKWT	30	57.7%
	Total	52	100%

Source: Processed research data (2025)

Of the 52 respondents sampled in the study, the results of the description of the characteristics of respondents based on employment status obtained 22 people or 42.3 percent of respondents were ASN and 30 people or 57.7 percent of respondents were PKWT.

Table 8. Respondent Characteristics Based on Length of Service

No	Years of service	Amount	Percent
1	< 1 year	2	3.8%
2	1-5 years	21	40.4%
3	5-10 years	12	23.1%
4	>10 years	17	32.7%
	Total	52	100%

Source: Processed research data (2025)

Based on the data above, the majority of respondents have worked for between 1-5 years. However, a significant percentage of respondents with more than 10 years of service is also present, indicating that some participants have extensive work experience. This information is important for understanding the context of respondents' experiences, which may influence their perceptions or answers in the study.

If a variable's alpha coefficient is greater than 0.60, then the variable has a high level of composite performance. This is measured using a set of metrics called Cronbach's Alpha. According to Cresswell (2019), If the composite score of a variable is greater than 0.70, the variable is considered to have strong composite performance. In addition, the true range variable or potential variation of the latent idea is indicated if the calculated average variance is greater than 0.50. The following table shows the results of the Cronbach's alpha test, Composite Reliability, and Obtained Average Variance:

Table 9. Cronbach's Alpha, Composite Reliability, and Mean Variance Extraction

Variables	*Cronbach's Alpha*	Composite reliability (rho_a)	Average variance extracted (AVE)
Doctor's Responsibilities (X1)	0.946	0.956	0.653
SPO-SPM Knowledge (X2)	0.947	0.955	0.762
Timeliness of Medical Record Return (Z)	0.797	0.837	0.714
Number of BPJS Health Claim Files (Y)	0.928	0.945	0.933

Source: Processed research data (2025)

The results of construct validity testing of the variables of doctor's responsibility, SPO-SPM knowledge, timeliness of medical record return, and the number of BPJS Kesehatan claim files show that all constructs obtained AVE values of more than 0.50, which means that most of the indicator variance can be explained by the latent construct. Then, the results of construct reliability testing of the variables of doctor's responsibility, SPO-SPM knowledge, timeliness of medical record return, and the number of BPJS Kesehatan claim files show that all constructs obtained Cronbach's Alpha values of more than 0.70 indicating good indicator consistency in general, and Composite Reliability (CR) values of more than 0.70 indicating strong internal consistency based on the actual contribution of the indicators to the construct.

Thus, all indicators and dimensions of the variables of doctor's responsibility, knowledge of SPO-SPM, timeliness of medical record return, and number of BPJS Health claim files meet the requirements for convergent validity testing, discriminant validity, and construct validity and reliability so that all indicators can be used in the next testing process.

Table 10. Coefficient of Determination (R2)

	R Square	*R Square adjusted*
Timeliness of Medical Record Return (Z)	0.405	0.380
Number of BPJS Health Claim Files (Y)	0.491	0.459

Source: Processed research data (2025)

Table 10 shows that the results of the coefficient of determination test of the influence on the timeliness of the return of medical records obtained an R-square (R^2) value of 0.405, which means that the large influence on the timeliness of the return of medical records can be explained by 40.5 percent by the doctor's responsibility, knowledge of SPO-SPM, while the remaining influence is explained by other factors outside the study. Then, the results of the coefficient of determination test of the influence on the number of BPJS Kesehatan claim files obtained an R-square (R^2) value of 0.491, which means that the large influence on the number of BPJS Kesehatan claim files can be explained by 49.1 percent by the doctor's responsibility, knowledge of SPO-SPM, and the timeliness of the return of medical records, while the remaining influence is explained by other factors outside the study.

Table 11. Summary of Hypothesis Test Results

No	Influence	Path Coefficient	Standard Deviation (STDEV)	*T-Statistics*	*P Values*	Note:
1	Doctor's Responsibility (X1) → Number of BPJS Health Claim Files (Y)	0.354	0.140	2,535	0.011	Hypothesis accepted
2	SPO-SPM Knowledge (X2) → Number of BPJS Health Claim Files (Y)	0.036	0.152	0.233	0.815	Hypothesis rejected
3	Medical Records (Z) → Number of BPJS Health Claim Files (Y)	0.409	0.175	2,340	0.019	Hypothesis accepted
4	Doctor's Responsibilities (X1) → Medical Records (Z)	0.417	0.144	2,906	0.004	Hypothesis accepted
5	SPO-SPM Knowledge (X2) → Medical Records (Z)	0.307	0.154	1,993	0.046	Hypothesis accepted
6	Doctor's Responsibility (X1) → Medical Records (Z) → Number of BPJS Health Claim Files (Y)	0.171	0.108	1,584	0.113	Hypothesis rejected
7	SPO-SPM Knowledge (X2) → Medical Records (Z) → Number of BPJS Health Claim Files (Y)	0.126	0.082	1,538	0.124	Hypothesis rejected

Source: Processed primary data (2025)

4.2 Discussion:

4.2.1 The Influence of Doctors' Responsibilities on the Number of BPJS Kesehatan Claim Files

The results of the PLS-SEM analysis show that physician responsibility has a direct effect on the number of BPJS Kesehatan claim files with a path coefficient of 0.354 and P-Values of 0.011. This indicates that physician responsibility is more effective in increasing the number of BPJS Kesehatan claim files. At Bangil Regional Hospital, Pasuruan Regency, in practice, doctors who demonstrate a higher level of responsibility, for example, administrative discipline, commitment to completing documents, and coordination initiatives, produce more claim files ready for submission.

This research is in line with Herman et al. (2020), a study at Dr. Hasan Sadikin General Hospital found that delays in BPJS Kesehatan claims were generally caused by incomplete claim documents, inaccurate diagnoses, and differing perceptions between doctors and coding staff. This suggests that doctors' behavior and compliance in completing medical record documents also influence the smoothness of the claims process. Similar findings were reported by Utami et al.(2024)at Dr. Moewardi Surakarta Regional Hospital, which explained that incomplete medical record documents were the main factor causing pending BPJS claims, although the study did not specifically examine doctor behavior as a direct cause of delays.

Theoretically, the responsibilities of doctors can be explained through the Theory of Organizational Behavior (Robbins & Judge, 2017), which states that individuals who understand their roles and responsibilities will demonstrate work behaviors that align with organizational standards. In the hospital context, doctors who have a high level of responsibility for documentation will be more disciplined in completing and returning medical records, thus supporting the smooth running of the BPJS Kesehatan claims process (Suhermin & Hermawati, 2021).

4.2.2 The Influence of SPO-SPM Knowledge on the Number of BPJS Claim Files

The results of the PLS-SEM analysis show that knowledge of SPO-SPM does not affect the number of BPJS claim files with a path coefficient of 0.036 and *P-Values* 0.815. This is because respondents demonstrated a high level of SOP–SPM knowledge (averaging around 4.2/5 on the questionnaire scale), meaning doctors generally understand the rules and procedures. However, this knowledge did not have a direct and significant impact on the number of BPJS Kesehatan claim files successfully processed. In other words, many doctors know what to do, but that knowledge has not translated into increased claim output.

This result is different from the research by Utami et al.(2024) at Dr. Moewardi Regional Hospital, Surakarta, which explained that incomplete medical record documents were the main factor causing pending BPJS claims, although the study did not specifically examine physician behavior as a direct cause of delays. Research by Aeni et al.(2024) at Arjawinangun Regional Hospital, the completeness of medical resumes, influenced by an understanding of Standard Operating Procedures (SOPs), significantly impacted the timeliness of file returns. At Bangil Regional Hospital, Pasuruan Regency, knowledge is cognitive, but implementation requires routine, habit, and enforcement. Doctors may understand SOPs and SPMs, but when clinical workloads are high, administrative documentation is often delayed.

4.2.3 The Influence of Timeliness of Medical Record Return on the Number of BPJS Health Claim Files

The PLS-SEM analysis results show that the timeliness of medical record returns influences the number of BPJS Kesehatan claim files, with a path coefficient of 0.409 and a P-value of 0.019, which is considered strong. This finding confirms that a positive perception of operational rules and standards will encourage better compliance behavior. This aligns with organizational behavior theory, which states that attitude is a key determinant of actual behavior (Ajzen, 1991).

This study is consistent with the study of Fadlilah et al., (2020)Research at Hasan Sadikin General Hospital showed that incomplete documents returned after the deadline resulted in delayed or rejected BPJS Health claims. Research by Aeni et al. (2024)Research at Arjawinangun Regional Hospital also revealed that the timeliness of medical record return impacts the completeness of claim files and the efficiency of the verification process. Respondents rated the timeliness of medical record return as high (average score of 4.2/5). This

means that the majority of doctors felt they had made efforts to return medical records according to procedure. The results showed that the higher the respondents' perception of the importance of timely medical record return, the higher the realization of timeliness itself. In other words, there is a consistent relationship between doctors' awareness/perception and their actual actions in fulfilling this administrative obligation.

4.2.4 The Influence of Physician Responsibility on the Timeliness of Medical Record Retrieval

Based on SEM-PLS analysis, physician responsibility has a positive contribution to the timeliness of returning medical records with a path coefficient of 0.417 and a P-Value of 0.004. This means that doctors who have a high sense of responsibility for their administrative duties will be more disciplined and consistent in returning medical records according to the schedule set by the hospital. Questionnaire data shows that responsibility indicators, such as the commitment to returning medical records immediately after the service is completed and the awareness that delays impact services and BPJS Health claims, obtained high scores (average >4/5). This reflects that the perception of responsibility is quite strongly embedded in respondents inBangil Regional Hospital, Pasuruan Regency.

The research results are in accordance with research by Nurjanah (2024) at Bina Kasih Medan Hospital which also highlighted that the “Man” (HR) and “Method” (work procedures) factors were the main causes of delays, where the individual responsibility of doctors was an important component in the “Man” category.

4.2.5 The Influence of SOP-SPM Knowledge on the Timeliness of Returning Medical Records

Based on SEM-PLS analysis, SPO-SPM Knowledge has an effect on the Timeliness of Returning Medical Records at Bangil Regional Hospital, Pasuruan Regency with a path coefficient of 0.307 and*P-Value*0.046. In other words, the greater a doctor's understanding of the rules and standard procedures, the greater their likelihood of returning medical records on time. The average SOP–SPM knowledge score in the research data was quite high (around 4.2/5), indicating that most doctors understand the applicable administrative regulations.

This finding is consistent with(Herman et al., 2020)This study stated that late inpatient claims occurred due to incomplete claim files (including supporting examination results), incorrect diagnoses/inappropriate action codes, different perceptions between doctors and coders, problems with the legibility of doctors' handwriting, and a lack of clear claim SOPs. Meanwhile, international research by(Goldszmidt et al., 2025)also strengthens this relationship. In their study, "Striking the Right Balance Between Accountability and Quality Improvement: A Discharge Summary Timeliness Tale," they found that physicians who understood and were accountable for documentation standards tended to complete discharge summaries more timely. Although conducted in the context of the Medicare system, the principles raised are highly relevant to the BPJS Kesehatan system in Indonesia, where accurate documentation is a key requirement for claim validation.

4.2.6 The Influence of Timeliness of Medical Record Return as a Mediator between Doctor's Responsibility and the Number of BPJS Health Claim Files

The results of this study indicate that the timeliness of medical record return does not act as a mediating variable in the relationship between physician responsibility and the number of BPJS Kesehatan claims. Although in theory, responsible physicians tend to be disciplined in returning medical records on time, empirical data does not support this hypothesis. This is due to bottlenecks in the claims process chain, where documents that are quickly returned remain

delayed if administration, diagnostic codes, or verification are incomplete. This finding aligns with Value Chain Theory, which emphasizes the importance of optimizing all activities, not just timeliness.

From the perspective of Agency Theory and the Theory of Planned Behavior, physician responsibility does influence behavior, but organizational outcomes are still determined by external factors such as information systems and claims units. Therefore, strengthening comprehensive organizational mechanisms is necessary to ensure physician responsibility truly impacts BPJS Health claims (Widodo et al., 2021).

4.2.7 The Influence of Timeliness of Medical Record Return as a Mediator between Knowledge of SOP - SPM and the Number of BPJS Health Claim Files

The results of the study showed that physicians' knowledge of SOPs and SPMs significantly influenced the timeliness of medical record returns, and timeliness also influenced the number of BPJS Kesehatan claims. However, when tested as a mediating pathway, the relationship was not significant (*indirect effect*= 0.170; t = 1.540; p = 0.125). This means that although procedural knowledge increases physician compliance in returning medical records on time, the effect of knowledge on claims does not primarily operate through speed, but rather is determined more by the completeness and quality of the document content. Medical records that are returned quickly but incomplete still cause delays in claims because they must be corrected by the medical records unit or verification team.

These findings are consistent with various theories of organization and management. In*Value Chain Theory*(Porter, 1985), speed is only one link in the chain that does not automatically add value if the subsequent verification chain is not optimal. Theory*Planned Behavior* (Ajzen, 1991)also emphasized that the intention to behave in a disciplined manner is influenced by external factors, such as the claims system or the unit's workload. *Transaction Cost Economics* (Williamson, 1981) explained that even though medical records were returned quickly, transaction costs still arose in the form of document revisions. From the perspective of *Human Capital Theory* (Becker, 1964), Knowledge is human capital that has not yet generated optimal ROI because it is not supported by a robust claims system. Finally,*Institutional Theory*(North, 1990) emphasized that non-formal institutions, such as work culture and inter-unit coordination, also determine the effectiveness of claims. This finding is also consistent with previous research, research by Fadlilah et al., (2020) at Hasan Sadikin General Hospital, it was shown that incomplete documents returned after the deadline resulted in BPJS Health claims being delayed or rejected. Although these studies have not explicitly tested a mediation model, the results suggest that timeliness of medical record return acts as a link between physician knowledge and hospital administrative outcomes.

5. Conclusion

Based on the results of data analysis using SEM-PLS, this study produces several conclusions as follows:

1. A doctor's responsibility plays a role in the number of BPJS Health claims filed. This means that the higher the doctor's level of responsibility in carrying out their administrative duties, the higher the number of BPJS Kesehatan claims the hospital can process.
2. Doctors' knowledge of Standard Operating Procedures (SOPs) and Minimum Service Standards (SPMs) did not influence the number of BPJS Health claims filed. This

indicates that even if doctors have a good understanding of SOPs and SPMs, this knowledge does not necessarily directly impact the number of approved claims.

3. The timeliness of medical record returns plays a role in the number of BPJS Health claims. These findings confirm that the sooner and more timely medical records are returned, the more BPJS Health claims can be submitted on schedule and without administrative obstacles.
4. Physicians' responsibility plays a role in the timely return of medical records. This indicates that the stronger a doctor's sense of responsibility, the more compliant they are in returning medical records within the applicable timeframe.
5. Knowledge of SOPs and SPMs plays a role in the timely return of medical records. Thus, physicians' understanding of procedures and service standards has been shown to help improve compliance with timely medical record returns.
6. Timeliness of medical record return did not act as a significant mediator in the relationship between physician responsibility and knowledge of SOPs and SPMs on the number of BPJS Health claims. This suggests that physician responsibility and knowledge influence the number of claims more directly, rather than through a mediating role in the timeliness of medical record return.

Reference

Aeni, NN, Suhartini, Subianto, T., & Elfi. (2024). The Relationship between Completeness of Medical Resumes and Timeliness of Return of Inpatient Medical Records at Arjawinangun Regional Hospital in 2024. Indonesian Journal of Health Information Management, 12(2), 2337–2585.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Becker, G. (1964). Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education, First Edition. National Bureau of Economic Research, Inc. https://econpapers.repec.org/RePEc:nbr:nberbk:beck-5

Benjamin S, B., Max D, E., Edward J, F., Walker H, H., & David R, K. (1956). Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I Cognitive Domain. In Cataloging and Classification Quarterly. New York : Longmans, Green and Co. https://doi.org/10.1300/J104v03n01_03

Cresswell, JW (2019). Research Design; Qualitative, quantitative, and mixed approaches. Student Library.

Fadlilah, NA, Ardianto, ET, & Farlinda, S. (2020). Evaluation of the Performance of Coding Officers and Inpatient JKN Claims at Dr. Hasan Sadikin General Hospital, Bandung. J-REMI: Journal of Medical Records and Health Information, 1(3), 275–280. https://doi.org/10.25047/j-remi.v1i3.2059

Goldszmidt, M., Tung, T.H., Gob, A., Dresser, G., & Moist, L. (2025). Striking the right balance between accountability and quality improvement: A discharge summary timeliness tale. BMJ Open Quality, 14(2), 1–8. https://doi.org/10.1136/bmjoq-2024-003259

Hair, J.F., Hult, T.M., Ringle, C.M., & Sarstedt, M. (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In SAGE Publications, Inc (Third Edit). SAGE Publications, Inc.

Hartati, DAH, & Emelia, R. (2021). Evaluation of the Completeness of Outpatient Prescriptions Against Compliance with Prescribing SOPs in the Internal Polyclinic of MM Indramayu Hospital in 2020. Jurnal Health Sains, 2(11), 1439–1447.

Herman, LN, Farlinda, S., Ardianto, ET, & Abdurachman, AS (2020). Review of Delays in

BPJS Inpatient Claim Files at Dr. Hasan Sadikin General Hospital. J-REMI: Journal of Medical Records and Health Information, 1(4), 575–581. https://publikasi.polije.ac.id/index.php/j-remi/article/view/2030

Health, BPJS. (2019). BPJS Health Claim Technical Guidelines for 2019. Jakarta: BPJS Health.

Notoatmodjo, S. (2012). Health research methodology. Jakarta: PT. Rineka Cipta.

Nurjanah, A., & Trisna, WV (2024). Review of Security and Confidentiality Aspects of Medical Records in the Storage Room of Bina Kasih Hospital, Pekanbaru, 2024. Indonesian Journal of Health Information Management (INOHIM), 12(2), 102–108. https://doi.org/10.47007/inohim.v12i2.639

Regulation of the Minister of Health Number 71 of 2013 concerning Health Services in National Health Insurance, Ministry of Health (2013).

Robbins, S. P., & Judge, T. A. (2017). Organizational Behavior. Pearson.

Suhermin, & Hermawati, A. (2021). Building Trust in Hospitals Based on Service Quality and Patient Satisfaction. Scientific Journal of Economics, Management and Accounting, 10(1), 51–59.

Sutabri, T. (2012). Information system concepts. Andi Publisher: Jakarta.

Troude, P., Nieto, I., Brion, A., Goudinoux, R., Laganier, J., Ducasse, V., Nizard, R., Martinez, F., & Segouin, C. (2020). Assessing the impact of a quality improvement program on the quality and timeliness of discharge documentation: A before and after study. Medicine (United States), 99(51), E23776. https://doi.org/10.1097/MD.0000000000023776

Utami, YT, Soultoni Akbar, P., Amelia, R., & Sari, SY (2024). Factors Causing Pending BPJS Inpatient Claims with the Implementation of Electronic Medical Records at Dr. Moewardi Surakarta Regional Hospital. Proceedings of the National Health Information Seminar (SIKesNas), 3, 2024.

Widodo, W., Suci, RP, & Adya Hermawati. (2021). The Influence of Supply Chain Management on Competitive Advantage and Company Performance (A Study at PT. Nayaka Era Husada Malang). Conference on Economic and Business Innovation, 35, 1–10.

Williamson, O. E. (1981). The Economics of Organization: The Transaction Cost Approach. American Journal of Sociology, 87(3), 548–577. https://doi.org/10.1086/227496