

Improving Claims Processing in the Medical Aid Sector Through Robotic Process Automation: A Scoping Review

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Research Article

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Abstract

Claims processing in the medical aid sector is slowed by repetitive administrative tasks and manual workflows. Robotic Process Automation (RPA) has emerged as a promising solution for improving operational efficiency and reducing processing delays. This scoping review aimed to map the existing literature on the use of RPA to improve claims processing in the medical aid sector and identify its benefits, implementation challenges, and research gaps. Guided by the PRISMA-ScR framework, a structured search of peer-reviewed and grey literature was conducted across multiple databases. The review found that RPA improves processing efficiency, accuracy, workflow optimisation, and turnaround times while reducing administrative workloads. Key challenges included system integration, data quality, governance, and organisational readiness. RPA has the potential to improve claims processing within the medical aid sector. However, successful implementation requires effective governance, process standardisation, and organisational readiness. Further research is needed within the South African medical aid context.

1. Introduction

Medical aid claims processing is an important component in the sector, which ensures that the healthcare providers get paid on time and patients have a smooth reimbursement process (Machireddy, 2023). Claims processing begins when healthcare providers submit reimbursement claims to medical aid organisations following the provision of healthcare services. After submission, the claims specialist first verifies the patient's eligibility, the diagnosis, and the submission of claims, then processes the payment (Machireddy, 2023).

Claims processing workflows are time-consuming for medical aid providers. Although the claims process is digital, it is still slow, repetitive, and labour-intensive as staff manually enter data, check documents, and process claims (Pingili, 2024). Claims analysts also take longer to process claims, causing delays and inefficiencies.

The South African medical aid sector plays a significant role in supporting access to private healthcare services and managing healthcare reimbursements for medical aid beneficiaries. The sector consists of 71 registered medical schemes (16 open and 55 restricted) serving more than 9.1 million beneficiaries, all regulated by the Council for Medical Schemes (CMS), which oversees compliance, governance, and financial sustainability within the industry (Council for Medical Schemes, 2024). Due to increasing claims volumes, administrative complexity, and growing pressure to improve service delivery, medical aid organisations continue to invest in digital transformation initiatives and process automation technologies to improve operational efficiency and customer experience.

Robotic process automation addresses the challenges experienced in claims processing by automating repetitive and rule-based tasks such as data entry, document verification, and customer communication (Machireddy, 2023; Pingili, 2024). Studies have reported that the use of RPA can improve efficiency, accuracy, and processing speed in claims-processing activities. RPA has also been associated with

reduced operational costs and increased process reliability. Despite the benefits associated with RPA adoption, challenges relating to system integration, employee readiness, data quality, governance, and process standardisation continue to affect successful implementation (Pingili, 2024).

Although the broader benefits of RPA are increasingly recognised, limited consolidated evidence exists on its use specifically in claims processing within the South African medical aid sector.

A scoping review approach is appropriate for this study because the use of RPA in claims processing in the medical aid sector is an emerging and evolving research area. Existing studies examine different aspects of RPA adoption, implementation, and performance; however, the evidence remains fragmented and insufficiently synthesized. As a result, there is limited understanding of the current state of knowledge regarding the use of RPA in medical aid claims processing. This review, therefore, aims to map the existing literature on the body of knowledge, identify key concepts, examine implementation trends, and highlight gaps in the literature relating to RPA in medical aid claims processing. Therefore, a scoping review is suitable for this study as it explores different study designs comprehensively.

1.1 Objectives

The primary objective of the review is to identify and map existing literature relating to the use of Robotic Process Automation in claims processing within the medical aid sector. The review also aims to identify gaps in the current literature and provide an overview of emerging trends and implementation practices relating to RPA in healthcare insurance claims processing. The scoping research question is:

What evidence exists regarding the use of Robotic Process Automation (RPA) to improve claims processing in the South African medical aid sector?

The study addresses the following three research questions:

RQ1: How can Robotic Process Automation (RPA) improve claims processing in the South African medical aid sector?

RQ2: What impact does Robotic Process Automation (RPA) have on process efficiency, accuracy, and turnaround time in claims processing?

RQ3: What strategies can support effective implementation and optimisation of RPA in the South African medical aid sector?

The key elements underpinning this scoping review focus on the population, concept, and context of the study. The population includes medical aid schemes organisations, insurance administrators, claims analysts, and employees involved in claims processing activities. The central concept of the review is Robotic Process Automation (RPA), including automation technologies used to improve claims processing, administrative workflows, document handling, and workflow optimisation. The context of the review is situated within the medical aid and healthcare insurance sector, with particular emphasis on operational

efficiency, cost reduction, processing accuracy, compliance, customer service improvement, and broader digital transformation initiatives in claims processing.

2. Method

2.1 Protocol and registration

This scoping review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018). A qualitative scoping review approach was adopted, and findings from selected studies were analysed thematically to identify recurring patterns, concepts, and challenges relating to RPA implementation in healthcare claims processing.

2.2 Eligibility criteria

Eligibility criteria were developed to ensure that only studies relevant to the objectives of the scoping review were included. Studies were included if they focused on Robotic Process Automation (RPA) within healthcare, medical aid, insurance claims processing, or healthcare administration. The review considered studies discussing claims processing efficiency, workflow automation, digital transformation, administrative optimisation, and process improvement. Academic journal articles, industry reports, and relevant grey literature published in English between 2021 and 2026 were included. Studies were excluded if they did not focus on claims processing, were unrelated to healthcare or medical aid environments, focused on Artificial Intelligence without reference to RPA, contained duplicated concepts, or lacked sufficient methodological detail. These criteria ensured that the selected studies aligned with the objectives of the review.

2.3 Information sources

The literature search was conducted using multiple academic databases and repositories to ensure broad coverage of literature relating to RPA and claims processing. The databases and sources searched included ResearchGate, Information Systems Frontiers, ScienceDirect, ProQuest, MDPI, Mendeley, and grey literature sources. Additionally, the Council for Medical Schemes repository were searched for South African-specific literature. A total of 1069 records were identified across all information sources, with ResearchGate contributing the largest number of records ($n = 783$), followed by Information Systems Frontiers ($n = 119$), ScienceDirect ($n = 92$), ProQuest ($n = 59$), MDPI ($n = 7$), Mendeley ($n = 6$), and grey literature sources ($n = 3$). The searches were conducted in April to May 2026, and additional studies were identified through reference list screening and manual searches.

2.4 Search

A structured search strategy was used to retrieve relevant literature from the selected databases. Keywords and Boolean operators were applied consistently across all databases to improve the relevance and accuracy of the search results. The main search terms included “Robotic Process Automation”, “RPA”, “claims processing”, “medical aid”, “healthcare insurance”, “healthcare automation”, and “digital

transformation". Search strings such as ("Robotic Process Automation" OR "RPA") AND ("claims processing" OR "medical aid" OR "healthcare insurance") were used to identify studies relevant to the review topic. The search strategy ensured consistency and transparency throughout the scoping review process and allowed for the identification of literature aligned with the research objectives.

The search strategy was aligned with the research questions of the study. The search strategy ensured consistency and transparency throughout the scoping review process.

Research Question	Search String
RQ1	("Robotic Process Automation" OR RPA) AND ("claims processing" OR "claims management") AND ("medical aid" OR "medical scheme" OR "health insurance")
RQ2	("Robotic Process Automation" OR "intelligent automation") AND ("claims processing" OR "claims adjudication") AND (efficiency OR accuracy OR "turnaround time")
RQ3	("Robotic Process Automation" OR RPA) AND (implementation OR adoption OR "change management") AND ("health insurance" OR "medical aid")

2.5 Selection of sources of evidence

The entire selection process was conducted by the primary researcher. The selection process followed the PRISMA-ScR framework. A total of 1069 records were initially identified from all databases and information sources. During the identification stage, 75 duplicate records were removed using reference management software Zotero. The remaining 994 records were screened based on title and abstract, with 892 records excluded for not meeting eligibility criteria (e.g., not focused on RPA, not related to claims processing, or outside healthcare/medical aid context). This resulted in 100 records being screened at the title and abstract level. During the screening stage, 63 records were excluded because they did not meet the inclusion criteria. A total of 37 reports were then sought for retrieval, and all 37 reports were successfully retrieved and assessed for eligibility. During the eligibility stage, reports were excluded for reasons including not focusing on claims processing (n = 8), not being healthcare or medical aid related (n = 5), focusing on general Artificial Intelligence without RPA relevance (n = 3), and duplicate concepts or relevance overlap (n = 2). Following the screening and eligibility process, a final total of 20 studies were included in the scoping review. The entire process was documented using the PRISMA flow diagram.

2.6 Data charting process

Data from the included studies were extracted using a customised data extraction form developed in Microsoft Excel. The charting process focused on gathering information relevant to the objectives of the review and ensuring consistency across all selected studies. Information extracted included the author(s), year of publication, study title, research methodology, healthcare or organisational setting, RPA application area, key findings, benefits of RPA, implementation challenges, and recommendations for practice. The data extraction process was conducted manually to maintain consistency and accuracy throughout the review process.

2.7 Data items

The scoping review focused on extracting data items directly related to the improvement and the use of RPA in claims processing within the medical aid sector and other industries. Key variables extracted from the studies included process efficiency, reduction in manual tasks, turnaround times, operational costs, workflow optimisation, employee experiences, customer service improvements, and implementation challenges. Additional information relating to organisational readiness, digital transformation, and automation strategies was also extracted where applicable. These data items assisted in identifying recurring themes and understanding how RPA contributes to improving claims processing processes.

2.8 Critical appraisal of individual sources of evidence

The included studies were reviewed for relevance, credibility, and methodological appropriateness. The appraisal process considered the clarity of the research objectives, relevance to the review topic, appropriateness of the research methodology, reliability of findings, and applicability to the healthcare and medical aid environment. Studies that lacked sufficient relevance or methodological detail were excluded during the eligibility stage. The remaining studies were considered suitable for inclusion because they contributed meaningful insights into the use of RPA in healthcare administration and claims processing.

2.9 Synthesis of results

The findings from the included studies were synthesised using thematic analysis using a phased approach. This approach enabled the identification of recurring themes, concepts, and patterns relating to the use of RPA in claims processing within the medical aid sector. The main themes identified included improved claims processing efficiency, reduced administrative workload, improved accuracy, faster turnaround times, enhanced customer satisfaction, implementation challenges, and organisational readiness for digital transformation. The results of the scoping review were presented narratively and supported through thematic discussions, and the PRISMA flow diagram.

The PRISMA-ScR checklist was completed as a guide to complete the prism article.

3. Results

3.1 Selection of sources of evidence

The study selection process followed the PRISMA-ScR framework to ensure transparency and consistency throughout the review. A total of 1069 records were identified from the selected databases and information sources. The identified records consisted of ResearchGate (n = 783), Information Systems Frontiers (n = 119), ScienceDirect (n = 92), ProQuest (n = 59), MDPI (n = 7), Mendeley (n = 6), and grey literature sources (n = 3). During the identification stage, 75 duplicate records were removed using reference management software Zotero. The remaining 994 records were screened based on title and abstract, with 892 records excluded for not meeting eligibility criteria such as not focused on RPA, not related to claims processing, or outside healthcare/medical aid context. This resulted in 100 records

remaining for title and abstract screening. During the screening stage, 63 records were excluded because they did not meet the inclusion criteria. A total of 37 reports were then sought for retrieval, and all 37 reports were successfully retrieved and assessed for eligibility. During the eligibility stage, studies were excluded because they were not focused on claims processing (n = 8), were not related to healthcare or medical aid environments (n = 5), focused on Artificial Intelligence without discussing RPA (n = 3), or contained duplicate concepts and overlapping relevance (n = 2). Following the selection process, 20 studies were included in the final scoping review. The selection process is illustrated in Fig. 1 using the PRISMA-ScR flow diagram.

3.2 Characteristics of sources of evidence

The included studies focused on the implementation and use of Robotic Process Automation within healthcare administration, insurance claims processing, and digital transformation environments. The studies included journal articles, industry reports, and grey literature published between 2021 and 2026. Most studies explored the use of RPA to improve administrative efficiency, automate repetitive tasks, reduce claims processing times, improve accuracy, and enhance operational performance within healthcare insurance environments. The reviewed studies originated from different healthcare, insurance, and industries contexts and applied various research methodologies, including qualitative studies, case studies, literature reviews, and mixed-method approaches. The characteristics of the included studies were summarised in the publication summary Table 1 aligned with the research questions.

The included studies were categorised according to the research questions of the review. Five studies primarily addressed claims processing challenges within healthcare insurance environments for RQ1, nine studies examined the impact of RPA on efficiency, accuracy, turnaround time, and operational performance that align with RQ2 there are six studies focused on implementation strategies, success factors, and challenges associated with RPA adoption that align with RQ3. This categorisation facilitated the thematic synthesis of findings and ensured alignment between the literature, research questions, and review objectives.

The geographical distribution of included studies revealed that most originated from international contexts, with limited South African representation. The studies were published between 2021 and 2026, with the majority (n = 12) published between 2023–2024, indicating emerging interest in RPA within healthcare administration. Methodologically, the studies included journal articles (n = 12), conference papers (n = 5), book chapters (n = 1), and grey literature/industry reports (n = 2). Study designs comprised qualitative studies (n = 6), case studies (n = 4), literature reviews (n = 5), mixed-method approaches (n = 3), and conceptual frameworks (n = 2). Only one study (Nxumalo, 2022) focused specifically on the South African healthcare context, highlighting a significant gap in local evidence.

Table 1 summarises the 20 studies included in the scoping review by presenting their authors, publication year, type, key findings, and relevance.

Table 1
Summary of Included Studies

Author(s)	Year	Title	Type	Key Findings	Relevance to the Scoping Review
(Delagrammatikas et al., 2025)	2025	The Role of RPA and Data Analysis in the Transformation of the Insurance and Banking Industries	Journal Article	RPA improved operational efficiency and automated insurance-related workflows.	Relevant to claims processing automation and efficiency improvement.
(Schwarz, 2021)	2021	The 4 Disruptive Technologies Reshaping Insurance	Journal Article	Emerging technologies are transforming insurance operations and service delivery.	Relevant to digital transformation within insurance environments.
(Dhatterwal et al., 2023)	2023	Robotic Process Automation in Healthcare	Book Chapter	RPA improved healthcare administrative efficiency and workflow automation.	Relevant to healthcare administration and workflow optimisation.
(Bindiya et al., 2023)	2023	Robotic Process Automation (RPA): A Software Bot for Automation	Conference Paper	Automation reduced repetitive manual tasks and improved process consistency.	Relevant to administrative process automation.
(Sajquin & Dueñas, 2023)	2023	The Inclusion of RPA in the Digital Transformation Process	Journal Article	RPA supported organisational digital transformation initiatives.	Relevant to healthcare digital transformation and automation.
(Schlegel et al., 2024)	2024	How to Conduct Successful Business Process Automation	Journal Article	Governance and process standardisation improve automation implementation success.	Relevant to implementation and optimisation strategies.
(Nimkar et al., 2024)	2024	Increasing Trends of Artificial Intelligence Within Healthcare	Journal Article	Healthcare technologies improve operational performance and efficiency.	Relevant to healthcare automation trends.

Author(s)	Year	Title	Type	Key Findings	Relevance to the Scoping Review
(Johnny & Dav, 2024)	2024	The Role of Robotic Process Automation in Business Processes	Journal Article	RPA improved productivity and workflow optimisation.	Relevant to workflow improvement and automation.
(Chu Lin et al., 2025)	2025	Integrating Robotic Process Automation in Healthcare	Conference Paper	RPA integration improved healthcare administration and workflow efficiency.	Relevant to healthcare process optimisation.
(Sun, 2024)	2024	Challenges Faced by Enterprises in Digital Transformation	Conference Proceeding	Organisations experienced governance and integration challenges during automation implementation.	Relevant to implementation barriers and organisational readiness.
(Patrício et al., 2024)	2024	Literature Review on the Sustainable Implementation of RPA	Journal Article	Sustainable implementation requires governance and organisational readiness.	Relevant to long-term RPA implementation.
(Al Khass & Valilai, 2026)	2026	Application of Generative AI-Based Robotic Process Automation	Conference Paper	AI-enhanced RPA improved automation and workflow management processes.	Relevant to intelligent automation in administrative workflows.
(Asatiani et al., 2023)	2023	Deciding on the Robotic Process Automation Operating Model	Journal Article	Effective operating models improve successful RPA implementation.	Relevant to organisational implementation strategies.
(Bin-Nashwan et al., 2025)	2025	Does AI Adoption Redefine Financial Reporting	Journal Article	Automation technologies improved operational efficiency and reporting processes.	Relevant to automation and digital transformation discussions.
(Haleem et al., 2021)	2021	Hyperautomation for the Enhancement of Automation Technologies	Journal Article	Hyperautomation improved process integration and operational workflows.	Relevant to workflow automation and optimisation.

Author(s)	Year	Title	Type	Key Findings	Relevance to the Scoping Review
(Machireddy, 2023)	2023	Automation in healthcare claims processing: Enhancing efficiency and accuracy	Journal Article	RPA reduced claims processing delays and improved operational efficiency.	Directly relevant to claims processing improvement.
(Pingili, 2024)	2024	The Basics of Robotic Process Automation in Insurance Claims	Literature Review	Automation improved processing speed and workflow accuracy.	Relevant to healthcare workflow optimisation.
(Tekale, 2022)	2022	Claims Optimization in a High-Inflation Environment Provide Frameworks for Leveraging Automation and Predictive Analytics to Reduce Claims Leakage and Accelerate Settlements	Journal Article	The study highlighted the role of automation technologies in improving workflow efficiency and operational performance.	Relevant to workflow optimisation and automation implementation.
(Lee et al., 2026)	2026	Robotic process automation for identifying missing codes on insurance claims	Journal Article	The study developed and implemented an RPA system integrated with OCR and electronic medical record platforms to identify missing insurance claim codes.	Directly relevant to insurance claims processing, workflow optimisation, administrative efficiency, and the implementation of RPA within healthcare claims environments.
(Nxumalo, 2022)	2022	Exploring the implications of Robotic Process Automation (RPA) on operational efficiency in public health care in South Africa.	Journal Article	The study explored the adoption of RPA within South African public healthcare institutions and identified improvements in operational efficiency,	Highly relevant to RPA implementation, operational efficiency, and healthcare process optimisation within the South African

Author(s)	Year	Title	Type	Key Findings	Relevance to the Scoping Review
				administrative processes, and workflow optimisation.	healthcare environment.

3.3 Critical appraisal within sources of evidence

The included studies were assessed for relevance, methodological appropriateness, and contribution to the objectives of the review. The appraisal process considered the clarity of the research objectives, research methodology, relevance to RPA and claims processing, and the credibility of the findings presented in each study. Studies lacking sufficient relevance or methodological detail were excluded during the eligibility stage. The remaining studies were considered appropriate because they provided meaningful evidence relating to the use of RPA in healthcare administration and claims processing environments. The appraisal process ensured that the selected studies aligned with the objectives and scope of the review.

3.4 Results of individual sources of evidence

The reviewed studies consistently highlighted the potential benefits of implementing Robotic Process Automation within claims processing environments. The studies selected reported that RPA improves operational efficiency by automating repetitive and rule-based administrative tasks, by reducing manual workloads and improving process consistency (Delagrammatikas et al., 2025; Dhatteerwal et al., 2023; Machireddy, 2023; Pingili, 2024). Similarly, workflow optimization was identified as a key benefit, with studies indicating that automation streamlines business processes and enhances organizational productivity (Chu Lin et al., 2025; Johnny & Dav, 2024).

The findings further demonstrated that RPA contributes to improving processing accuracy, reducing human error, and faster turnaround times within healthcare and insurance, or rather, the medical aid sectors. Studies focusing on insurance claims processing reported that automation improved claims validation, reduced processing delays, and enhanced the overall quality of administrative processes (Lee et al., 2026; Machireddy, 2023; Pingili, 2024). Additional evidence suggested that automation technologies support operational performance and service delivery through improved workflow management and data processing capabilities (Bindiya et al., 2023; Nxumalo, 2022).

Other studies also highlight the role of RPA in supporting broader digital transformation initiatives. The adoption of automation technologies was found to contribute to organizational efficiency, innovation, and business process improvement across healthcare and insurance sectors (Bin-Nashwan et al., 2025; Sajquin & Dueñas, 2023).

Despite these benefits, the literature identified several challenges associated with RPA implementation. Common barriers included system integration difficulties, governance concerns, organizational readiness limitations, and resistance to change among employees (Sun, 2024). Other challenges included data

quality concerns, process standardization requirements, and the need for effective implementation strategies to ensure sustainable adoption and usage of automation technologies (Asatiani et al., 2023; Nxumalo, 2022; Patrício et al., 2024).

Overall, findings demonstrate that RPA presents significant opportunities for improving claims processing through enhanced efficiency, accuracy, workflow optimization, and operational performance. For a successful implementation or usage depends on effective governance, organizational readiness, process standardization, and the alignment of the automation initiatives with organizational objectives (Patrício et al., 2024; Schlegel et al., 2024).

3.5 Synthesis of results

The charting results were analysed in relation to the review objectives and research questions. The findings identified several identified several challenges associated with claims processing, including manual workflows, processing delays, and administrative inefficiencies. The reviewed studies consistently reported that RPA improves operational efficiency, processing accuracy, turnaround times, and workflow optimization through the automation of repetitive tasks. The literature also highlighted implementation considerations such as organizational readiness, governance, system integration, and change management. Overall, the findings suggest that RPA has significant potential to improve claims processing within the medical aid sector while supporting broader digital transformation initiatives.

4. Discussion

4.1 Summary of evidence

The findings of this scoping review indicate that Robotic Process Automation (RPA) has significant potential to improve claims processing within the medical aid sector. The reviewed studies consistently demonstrated that RPA contributes to improving operational efficiency through the automation of repetitive and rule-based administrative tasks. Automation was associated with reduced processing times, improved workflow consistency, reduced human error, and enhanced processing accuracy.

The findings align with broader automation literature suggesting that RPA is most effective for high volumes, rule based processes (Asatiani et al., 2023), which characterizes much of claims processing workflow. The evidence also suggests that RPA is rarely a standalone solution- successful implementations typically integrate RPA with other technologies such as optical character recognition(OCR) (Lee et al., 2026), predictive analytics (Tekale, 2022) and AI- enhanced decision-making (Al Khass & Valilai, 2026), supporting the concept of hyper automation (Haleem et al., 2021).

The evidence further suggested that RPA supports cost reduction and enables healthcare organizations to improve customer service delivery by accelerating claims turnaround times and reducing delays. In addition, the studies highlighted the role of RPA in supporting broader digital transformation initiatives within medical aid sector.

While the reviewed literature provides valuable insights into RPA's potential globally, the South African context presents unique considerations. Only one included study (Nxumalo, 2022) examined RPA in South African healthcare, and it focused on public healthcare rather than medical aid schemes. This contrasts with industry reports indicating that major South African medical schemes have already begun implementing automation technologies for claims processing suggesting a gap between academic research and industry practice.

4.2 Limitations

Several limitations were identified during the scoping review process. Firstly, the review was limited to studies published in English, which may have excluded relevant literature published in other languages. Secondly, the available literature relating specifically to RPA in claims processing within the South African medical aid sector remains limited, resulting in the inclusion of broader healthcare administration and insurance automation studies to support the review objectives. In addition, the included studies applied different research methodologies and contexts, which contributed to heterogeneity across the findings. The review was also limited by the availability of full-text articles and accessible grey literature sources. Furthermore, because the study followed a scoping review approach, the review focused on mapping and synthesising available evidence rather than conducting detailed statistical analysis or measuring the effectiveness of interventions quantitatively. Despite these limitations, the review provided valuable insights into the current state of knowledge relating to RPA in claims processing within healthcare environments.

4.3 Conclusions

This scoping review explored the use of Robotic Process Automation in improving claims processing within the medical aid sector. According to (Dhatterwal et al., 2023; Johnny & Dav, 2024; Machireddy, 2023) RPA can improve operational efficiency, processing accuracy, workflow optimisation, and turnaround times by automating repetitive administrative tasks within claims processing environments (Pingili, 2024). The review also highlighted the potential of RPA to reduce operational costs and support digital transformation initiatives within healthcare insurance organisations. However, the findings further revealed that successful implementation requires organisations to address challenges relating to system integration, governance, employee readiness, process standardisation, and technological adaptation (Nxumalo, 2022; Sun, 2024). Overall, the review demonstrated that RPA presents significant potential opportunities for improving claims processing within the medical aid sector and provides a foundation for future research and implementation practices within the healthcare insurance environment, although evidence specific to the South African medical aid sector remains limited, highlighting a need for further research.

4.4 Recommendations

Based on the findings of this scoping review, medical aid organisations should prioritise the implementation of RPA in repetitive and rule-based claims processing activities to improve efficiency, accuracy, and turnaround times. Organisations should establish strong governance structures, standardise business processes, and improve data quality before implementing RPA to maximise automation benefits. Employee training and change management initiatives should also be prioritised to reduce resistance to

automation and improve organisational readiness. Furthermore, future research should focus on empirical studies within the South African medical aid sector to evaluate the real-world impact of RPA on claims processing performance, cost reduction, customer satisfaction, and regulatory compliance. Such research would help address the current lack of South African evidence identified in this review and support evidence-based implementation strategies.

Declarations

Funding

No external funding was received for this scoping review. The study was conducted as part of a postgraduate academic research project.

5.1 Ethics approval and consent to participate

Not applicable. This study is a scoping review based exclusively on published literature and did not involve human participants or animals.

5.2 Consent for publication

Not applicable.

5.3 Availability of data and material

The datasets analysed during the current study were obtained from publicly available peer-reviewed literature. The data supporting the findings of this study are available from the corresponding author upon reasonable request.

5.4 Competing interests

The author declares that there are no competing interests.

Authors' contributions

Masego Mmotlana conceived the study, conducted the literature search and screening, analysed the findings, and wrote and approved the final manuscript.

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Figures

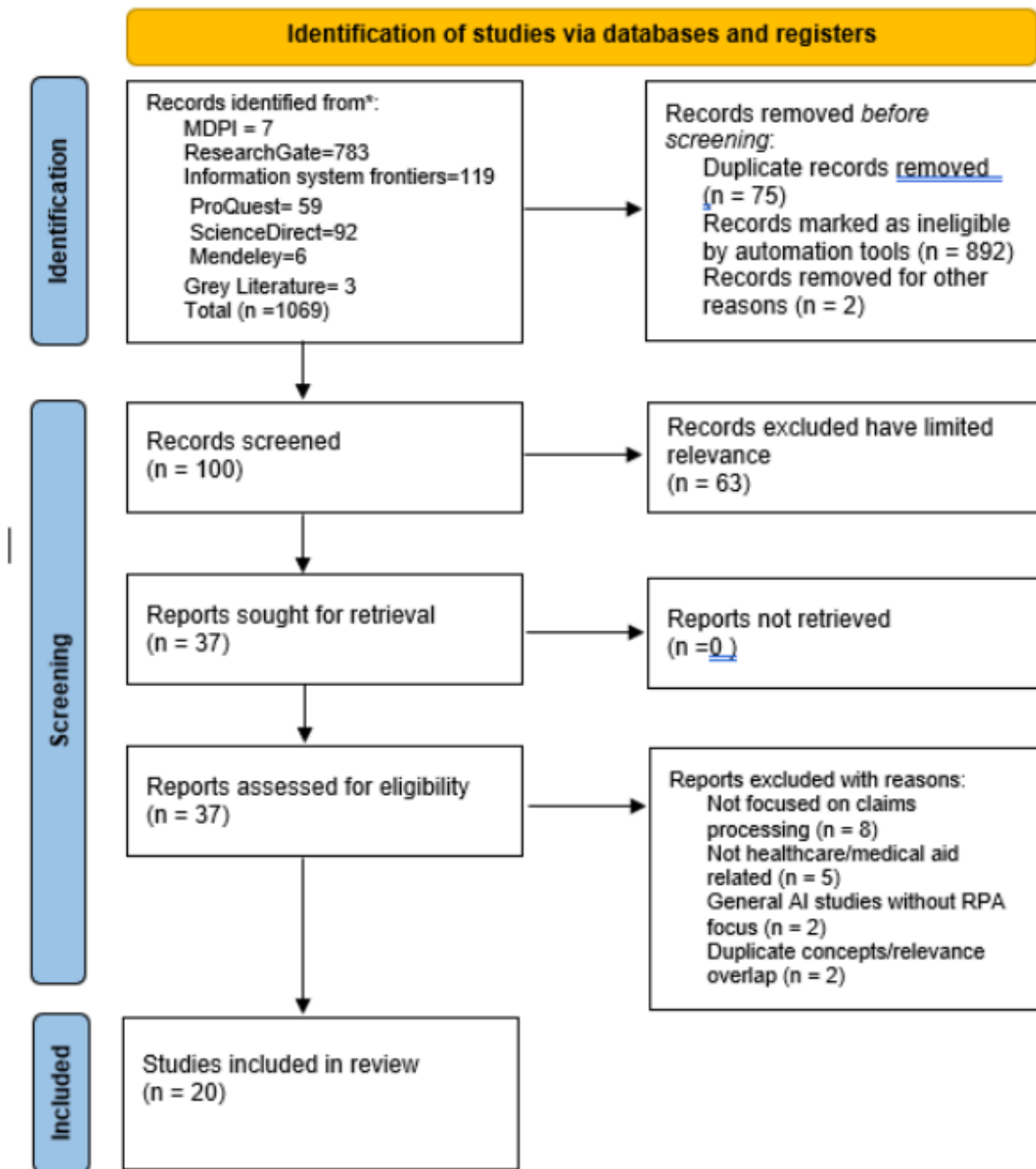


Figure 1

PRISMA Flow Diagram