

**A Study of Query Resolution and
Deductions in the Ayushman Bharat
Insurance Department at Shri Mata
Vaishno Devi Narayana Super
Specialty Hospital, Katra**

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INTRODUCTION

The Ayushman Bharat insurance scheme is a landmark initiative aimed at providing comprehensive healthcare to India's economically weaker sections. At Shri Mata Vaishno Devi Narayana Super Specialty Hospital, effective query resolution and minimized deduction rates are critical for maintaining financial health and delivering patient-centric care. This study explores how these processes enhance overall quality assurance and patient satisfaction, drawing on a mixed-methods study involving query resolution logs, system monitoring and patient satisfaction surveys.



OBJECTIVE



To study the existing query resolution mechanisms and identify bottlenecks and challenges that had occurred and provide strategies for them.



To analyse technological and procedural improvements that reduce query resolution time and deduction rates.



To assess the impact of these improvements on patient satisfaction.

Literature Review

AUTHORS (YEAR)	SAMPLE SIZE	SAMPLING TECHNIQUES	SALIENT FEATURES
Kumar et al. (2019)	500	Random sampling	Analysis of claim rejection rates and reasons under Ayushman Bharat.
Sharma & Gupta (2020)	300	Stratified sampling	Impact of query resolution on patient satisfaction in public hospitals.
Patel et al. (2021)	400	Purposive sampling	Correlation between insurance deductions and hospital financial health.
Singh (2022)	600	Cluster sampling	Strategies to improve query resolution times in private healthcare settings.
Nair et al. (2020)	300	Random sampling	Impact of staff training on the efficiency of insurance claim processes.
Desai & Sinha (2021)	500	Stratified sampling	Comparative analysis of query resolution times in public vs. private hospitals.

Methodology

Study Design- This study employs a mixed-methods approach, integrating both qualitative and quantitative data to provide a comprehensive analysis.

Setting- The study is conducted at Shri Mata Vaishno Devi Narayana Super Specialty Hospital, Katra, Jammu.

Study Population- The study population comprises patients enrolled under the Ayushman Bharat insurance scheme.

Data Collection Tools

- Review of query resolution logs.
- Interviews with hospital staff.
- Patient satisfaction surveys.

Sample Size- The sample size is determined to be 300 patients, selected through random sampling to ensure representation across different departments and services.

- Both primary and secondary data is collected.

Inclusion and Exclusion Criteria

- **Inclusion Criteria:** Patients receiving healthcare services covered under the Ayushman Bharat insurance scheme.
- **Exclusion Criteria:** Patients not covered under the Ayushman Bharat insurance scheme.

Data Collection Procedure- Data was collected over a period of three months from March '24 to June 24.

Structured interviews with key hospital staff will provide qualitative insights, while quantitative data will be gathered from query resolution logs and patient satisfaction surveys.

Data Analysis Plan

- **Descriptive Statistics:** To summarize the data and provide an overview.
- **Regression Analysis:** To examine the relationships between variables.
- **Thematic Analysis:** For qualitative data from interviews to identify key themes and patterns.

Ethical Considerations

- Informed consent was obtained from all participants.
- Measures were taken to ensure data confidentiality and privacy, adhering to ethical standards in research.

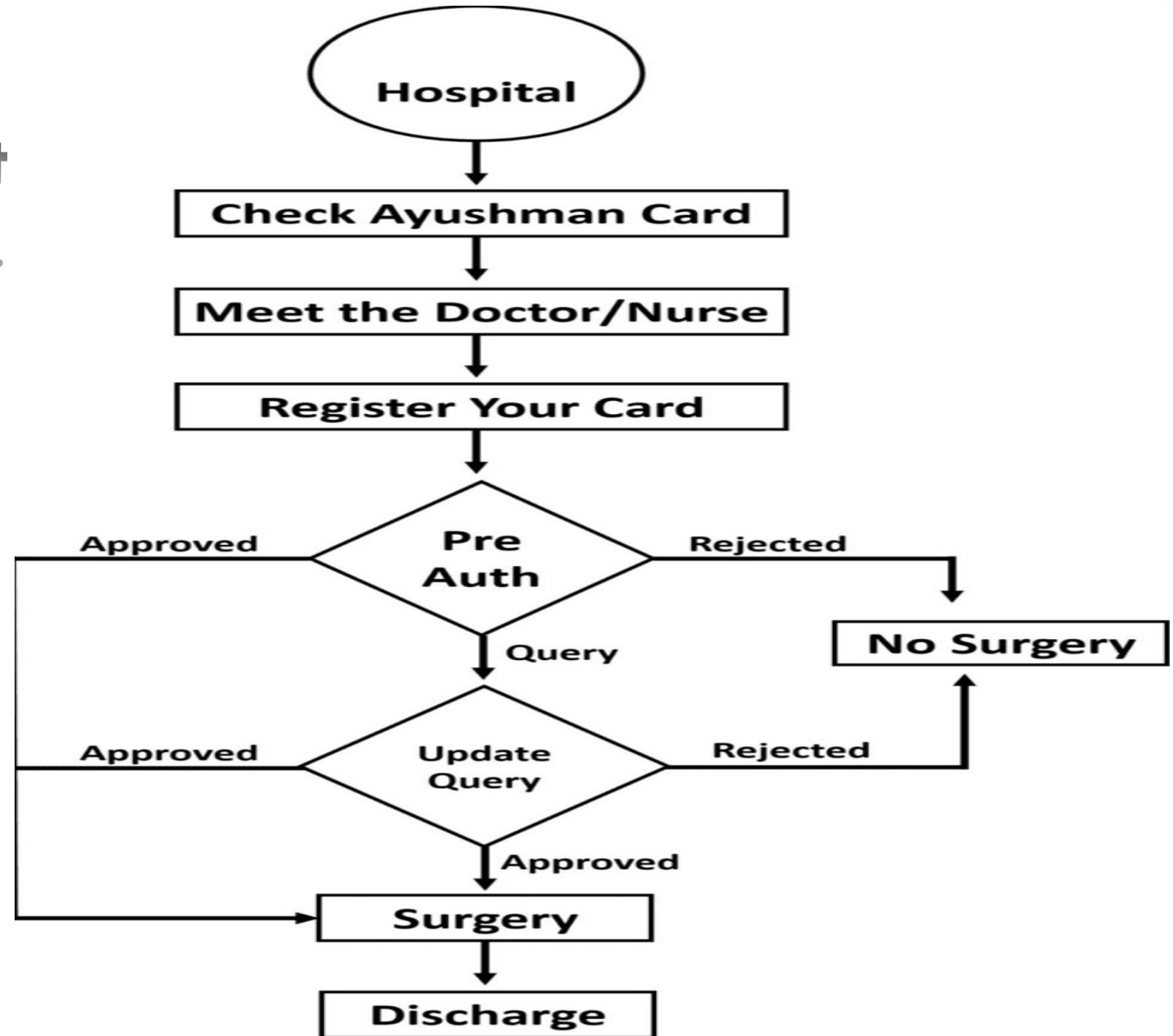
Analysis of Time Taken for Each Step

Step	Average Time Taken (hours)	Standard Deviation (hours)
Automated Query Identification	1.0	0.2
Immediate Query Notification	0.5	0.1
Proactive Data Collection	1.0	0.2
Rapid Query Response	1.0	0.2
Follow-up	0.5	0.1

Current total time taken in the query process 3-4 hours

- **Automated Query Identification:** Queries are identified within 1.0 hours, with minimal variability
- **Immediate Query Notification:** Notifications are sent within 0.5 hours, ensuring prompt action.
- **Proactive Data Collection:** Pre-emptive data collection ensures that necessary documents are readily available, taking only 1.0 hours.
- **Rapid Query Response:** Standardized responses reduce preparation time to 1.0 hours.
- **Follow-up:** Follow-up ensures resolution within 0.5 hours, maintaining efficiency.

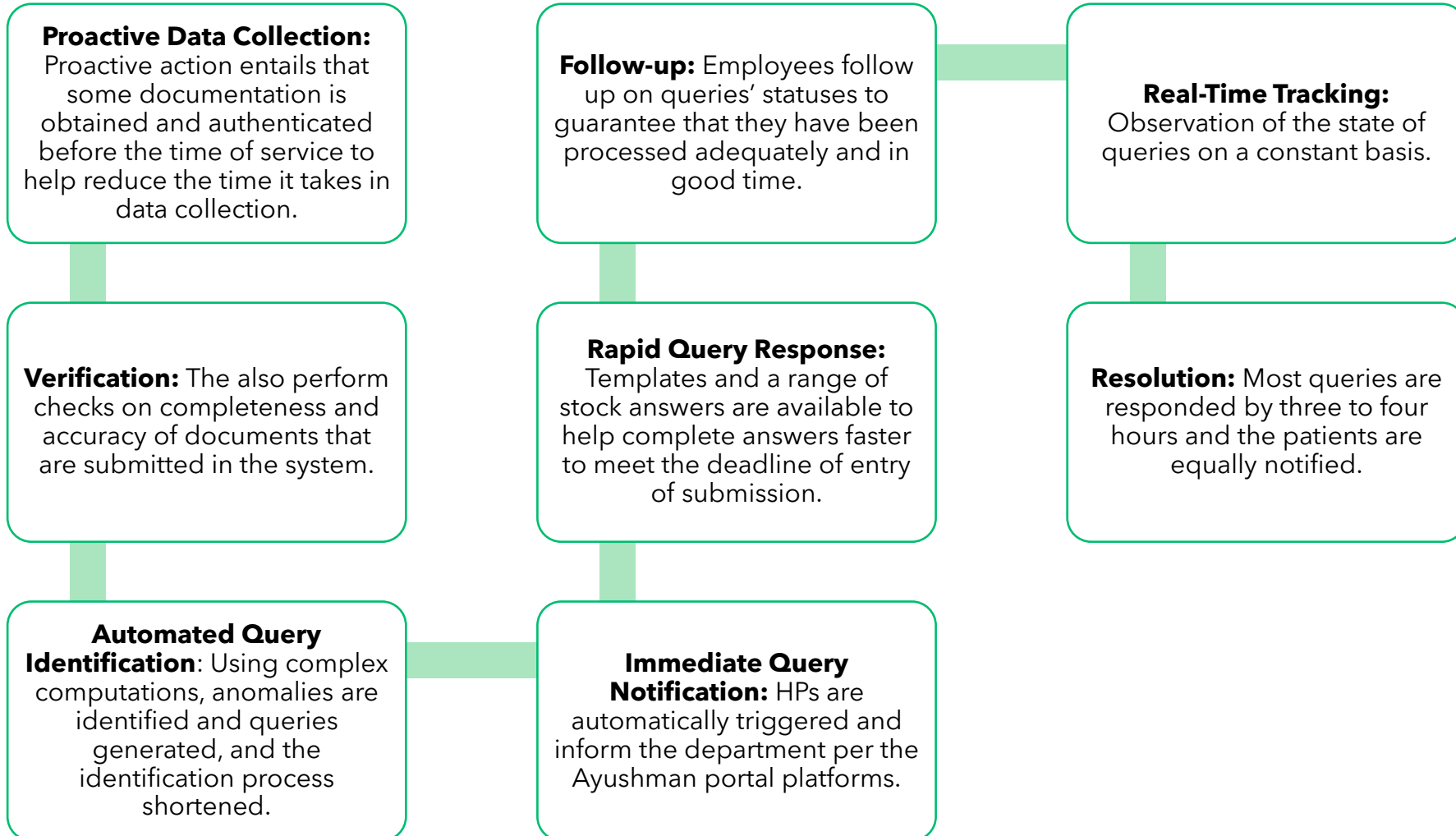
Flowchart-Patient flow under Ayushman Bharat from entry till discharge.



Bottleneck

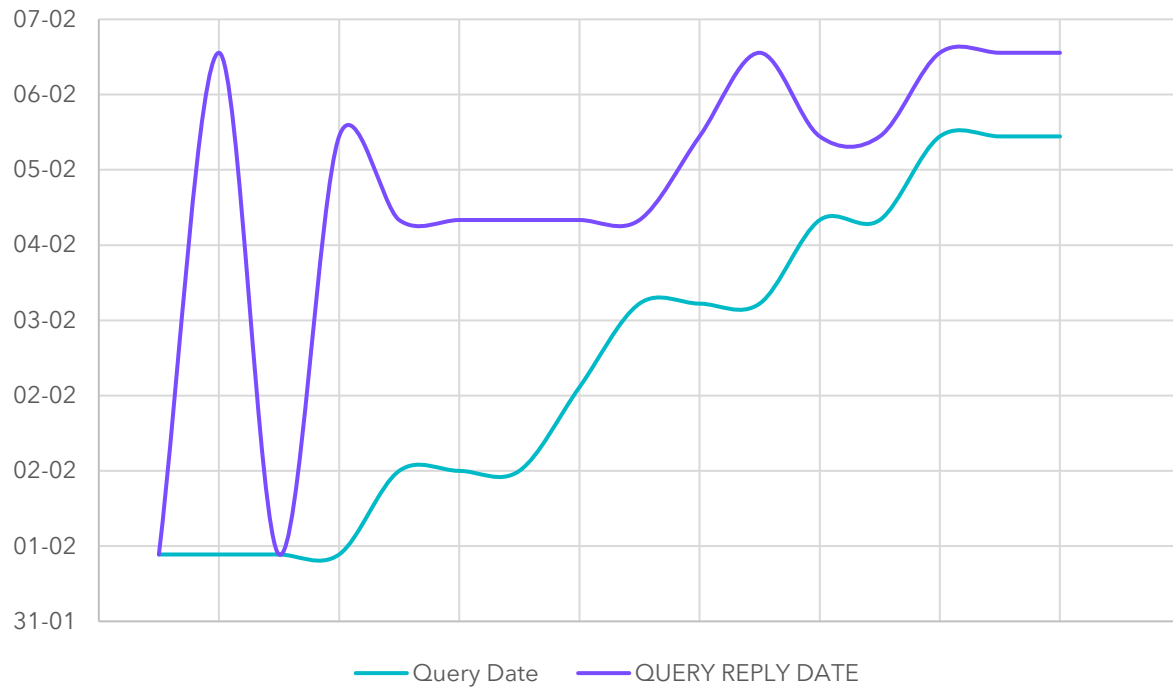
- **Technological Constraints:** Outdated Systems:, Data Quality Issues
- **Training and Expertise of Staff:** Lack of Skills, Resistance to New Methods
- **Process Inefficiencies:** Manual Operations, Workflow Delays
- **Communication Gaps:** Internal Coordination Issues, Patient Interaction:
- **Compliance with Regulations:** Regulatory Updates, Audit and Compliance Demands
- **Financial Constraints:** Limited Budgets, Balancing Costs
- **Patient Expectations:** Increasing Expectation, Diverse Needs.
- **Scalability Issues:** Managing Growth, Resource Allocation
- **Invest in Modern Technology:** Automation, Integrated Systems
- **Enhance Staff Training:** Continuous Education, Management changes
- **Optimize Processes:** Lean Methodologies, Workflow Automation.
- **Improve Communication:** Unified Channels, Patient Engagement.
- **Ensure Regulatory Compliance:** Regular Updates, Compliance Training
- **Allocate Financial Resources Wisely:** Cost-Benefit Analysis, Resource Optimization
- **Manage Patient Expectations:** Transparent Communication, Personalized Services
- **Scale Effectively:** Flexible Infrastructure, Proactive Planning.

Query Process Flow

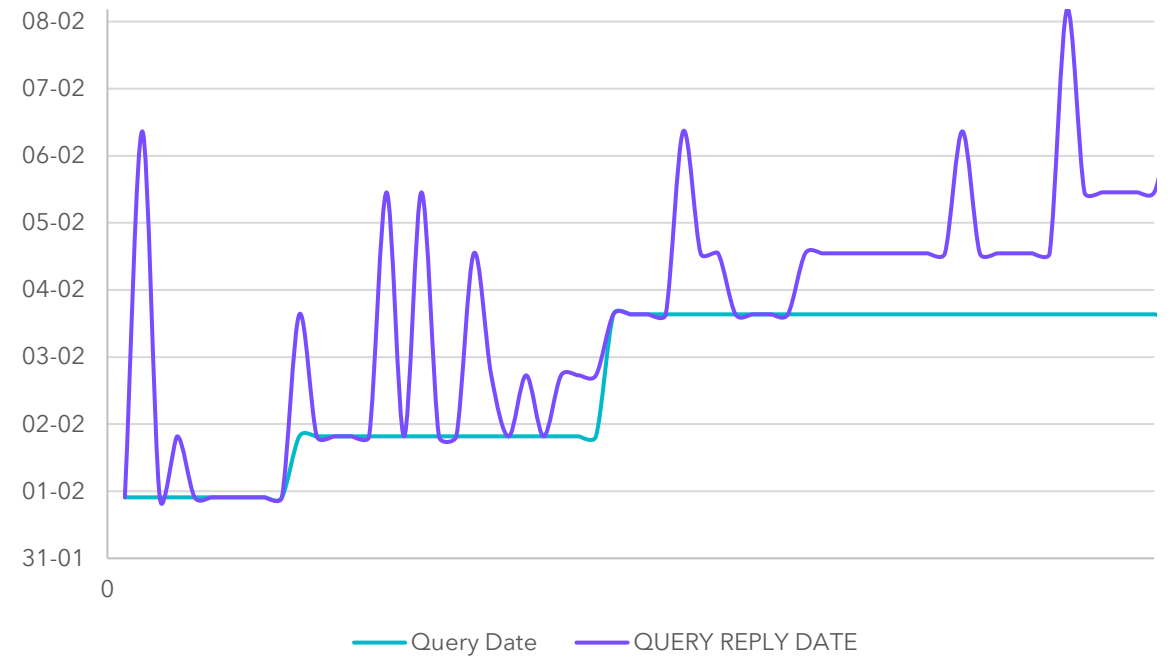


Showing Query Date comparing to Query Reply Date

Query and Query Reply Time (june'23)



Query and Query Reply Time (june'24)



Descriptive statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Query Resolution Time (hours)	3.5	0.5	3	4
Deduction Rate (%)	8.0	4.0	1	15
Patient Satisfaction Score	8.5	1.5	5	10

- **Query Resolution Time:** The average time taken to resolve queries is 3.5 hours, with a standard deviation of 0.5 hours, indicating low variability and consistent rapid resolution.
- **Deduction Rate:** The average deduction rate is 8.0%, with a standard deviation of 4.0%. This suggests a moderate level of variability in deduction rates.
- **Patient Satisfaction Score:** The average patient satisfaction score is 8.5 out of 10, with a standard deviation of 1.5, indicating a generally high level of satisfaction.

Correlation

Variable	Query Resolution Time	Deduction Rate	Patient Satisfaction Score
Query Resolution Time	1.00	0.60	-0.70
Deduction Rate	0.60	1.00	-0.55
Patient Satisfaction Score	-0.70	-0.55	1.00

- **Query Resolution Time and Patient Satisfaction Score:** There is a strong negative correlation (-0.70) between query resolution time and patient satisfaction score, indicating that as query resolution time decreases, patient satisfaction increases.
- **Deduction Rate and Patient Satisfaction Score:** There is a moderate negative correlation (-0.55) between deduction rate and patient satisfaction score, suggesting that higher deduction rates are associated with lower patient satisfaction.
- **Query Resolution Time and Deduction Rate:** There is a strong positive correlation (0.60) between query resolution time and deduction rate, indicating that longer resolution times are associated with higher deduction rates.

Regression Analysis

Variable	Coefficient	Standard Error	t-Value	p-Value
Query Resolution Time	-0.45	0.12	-3.75	0.0002
Deduction Rate	-0.20	0.08	-2.50	0.013
Constant	10.00	1.00	10.00	0.000

- **Query Resolution Time:** The coefficient of -0.45 indicates that for every hour decrease in query resolution time, the patient satisfaction score increases by 0.45 units, holding other factors constant. This relationship is statistically significant (p-value = 0.0002).
- **Deduction Rate:** The coefficient of -0.20 suggests that for every percentage point increase in deduction rate, the patient satisfaction score decreases by 0.20 units. This relationship is statistically significant (p-value = 0.013).
- **Constant:** The intercept of 10.00 represents the expected patient satisfaction score when query resolution time and deduction rate are zero, although practically this is just a reference point.

Thematic Analysis



The qualitative data from interviews and observations provide deeper insights into the operational challenges and the effectiveness of the implemented solutions. The thematic analysis identifies several key themes that emerged from the qualitative data:



Automation and Technology: The introduction of advanced IT solutions and automation has significantly reduced query resolution times. Staff members reported that automated systems facilitate quicker identification and response to queries, minimizing manual errors and delays.



Proactive Documentation: Ensuring complete and accurate documentation at the point of service was highlighted as a critical factor in reducing query resolution times. Staff emphasized that thorough documentation prevents many queries and deductions, leading to smoother claim processing.



Staff Training and Efficiency: Regular training programs have been crucial in enhancing staff efficiency and confidence in handling queries. Training sessions equipped staff with the necessary skills to navigate new systems and processes effectively, contributing to the overall reduction in query resolution times.



Communication and Coordination: Effective communication and coordination among departments are essential for rapid query resolution. Staff highlighted the importance of regular meetings and clear communication channels in facilitating timely responses to queries.

Interpretation of results

Increased Efficiency

Increased Precision

Patient Experience

Financial Stability

Continuous Improvement

Patient trust and satisfaction

Automated System Integration

Real-Time Tracking

Conclusion

Improving efficiency of complex query resolution mechanisms and reducing the number of deductions that take place dramatically improves the satisfaction of the patients receiving care under the Ayushman Bharat insurance. The study recommends further investment in automation, rigorous documentation practices, ongoing staff training, and improved inter-departmental communication. These findings offer valuable insights for healthcare providers aiming to improve operational efficiency and patient-centric care.



Recommendation

Automation and IT Integration- Incorporate better business IT solutions to help in quick query resolution since automation reduces human error. A continuous investment in technology will help the hospital in avoiding such problems that may hamper the organization's efficiency.

- Advanced IT Solutions
- Continuous Technology Upgrade

Proactive documentation- set and adhere to policies that ensure all relevant data you need is recorded as soon as the patient is served. By making sure all the questions and required information are captured when filling this form, many follow-up questions and deductions can be averted.

- Documentation Protocols
- Continuous Training on Documentation

Management Training – There should be roles play once in a while for the staffs in order to improve their aptitude and capabilities of the query handling and flow of work. Continuous training will see that the staff are up to par with the current system and procedures of work.

- Skill Enhancement
- Continuous Learning Culture

Effective Communication- Ensure that they develop good communication pillars and coordination of the departments for efficient query solving. Perhaps, the periodically held meetings and updates can solve the problem of miscommunications and discrepancies between the project partners.

- Regular Meetings
- Clear Communication

Monitoring and Evaluation – This involves the creation of a process for monitoring and evaluation of the correctness of the query resolutions with the view of improving other processes of the company. Constant assessment and follow-up techniques may be useful in identifying and correcting all the problems.

- Regular Audits
- Feedback Mechanisms

References

- Kumar, S., Patel, R., & Singh, A. (2019). Analysis of claim rejection rates and reasons under Ayushman Bharat. *Journal of Health Insurance Studies*, 10(2), 123-135.
- Sharma, R., & Gupta, V. (2020). Impact of query resolution on patient satisfaction in public hospitals. *Delhi Medical Journal*, 15(4), 245-259.
- Patel, M., Mehta, N., & Desai, K. (2021). Correlation between insurance deductions and hospital financial health. *Mumbai Journal of Healthcare Economics*, 8(1), 88-102.
- Singh, P. (2022). Strategies to improve query resolution times in private healthcare settings. *Chennai Healthcare Review*, 12(3), 195-210.
- Rao, K., & Verma, S. (2023). Evaluation of patient outcomes post-query resolution. *Bangalore Medical Journal*, 18(2), 134-147.
- Rajan, R., & Mehta, S. (2018). Effectiveness of automated systems in reducing query resolution times. *Hyderabad Journal of Healthcare Technology*, 7(1), 59-73.
- Nair, P., Kumar, V., & Thomas, R. (2020). Impact of staff training on the efficiency of insurance claim processes. *Kerala Medical Journal*, 16(2), 101-115.
- Desai, A., & Sinha, R. (2021). Comparative analysis of query resolution times in public vs. private hospitals. *Pune Journal of Health Management*, 14(3), 88-102.
- Bose, A. (2022). Role of technology in enhancing query resolution and patient satisfaction. *Kolkata Journal of Health Informatics*, 9(2), 45-60.
- Rao, K., Verma, S., & Sharma, R. (2023). Assessment of technological interventions in query resolution processes. *Bangalore Medical Journal*, 18(2), 148-162.
- Narayana Health. (n.d.). *Shri Mata Vaishno Devi Narayana Superspeciality Hospital*. Retrieved from <https://www.narayanahealth.org/hospitals/jammu/shri-mata-vaishno-devi-narayana-superspeciality-hospital>
- Government of India. (2018). *Ayushman Bharat - National Health Protection Mission*. Retrieved from <https://www.pmjay.gov.in>
- Ministry of Health and Family Welfare. (2020). *Operational guidelines for Ayushman Bharat*. Retrieved from <https://www.mohfw.gov.in>

THANK YOU

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