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Review Article

A REVIEW ON PRESCRIPTION AUDIT: METHODS, BENEFITS AND CHALLENGES

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Article History	Abstract
Received: 26-02-2025 Revised: 01-03-2025 Accepted: 14-04-2025	Prescription auditing is a methodical review and evaluation of prescriptions to ensure that they conform to clinical guidelines, legal requirements, and rational drug use principles. It is a vital element in improving healthcare quality, preventing medication errors, reducing the incidence of adverse drug reactions (ADRs), and managing polypharmacy. Prescription audits not only enhance patient safety but also reduce healthcare costs by promoting the use of generics and eliminating irrational prescribing practices. Different types of audits, such as concurrent, retrospective, and prospective audits, can provide specific insights into prescribing behavior and facilitate corrective action. In India, challenges such as OTC drug availability, self-medication, and regulatory non-compliance make prescription auditing especially important. By identifying gaps, promoting adherence to standard.
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Keywords: Prescription Audit, polypharmacy, ADR, Rational drug use.	

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Introduction

Prescription audits refer to the thorough examination and assessment of prescriptions to confirm adherence with existing clinical requirements, legislation related to patient safety and concepts of rational drug usage. Across the health system, they are a cornerstone of performance and quality and are focused on reducing errors in prescribing, avoiding ADRs, and addressing the challenges of polypharmacy [1].

A prescription is a concrete medical record with legal standings, containing crucial information such as the patient's name, diagnosis, prescribed medication, dosage, number of times it will be administered and the duration of treatment. But studies show that many do not contain essential elements, increasing the chance of medication errors and decreasing patient adherence. Prescription audit helps address these issues as it encourages adherence to best practice prescribing and legal regulations [2].

Pharmacy, clinic, and hospital prescription audits are commonly performed to assess prescribing trends and advance patient outcomes. Prescription audit has been described by the World Health Organization (WHO) as a

good intervention to fight against antimicrobial resistance (AMR) and to preserve the use of antibiotics [3].

Another significant role of prescription audits is to reduce the financial burden of patients. And, as studies have shown, use of generics rather than brand-name drugs is associated with prices far lower. And in other areas, generic prescribing is lagging, often because of physician preference or the influence of the pharmaceutical industry [4].

Potential benefits of prescription audit are as follows:

- Identify and expand best practices
- Enhance quality standards and professional practice
- encourage staff and organization learning and development
- Recognize and eliminate ineffective or subpar practices
- Identify and eliminate waste
- Encourage collaboration with multidisciplinary teams
- Allocate resources (human and financial) to improve patient care [5].

The importance of prescription audits extends beyond ensuring medication safety. It plays a critical role in:

- Decrease unnecessary drug prescribing and identify areas of problematic prescribing: Studies have indicated irrational prescribing leads to unsafe treatment, economic burden, and increased risk of adverse drug reactions. Polypharmacy and excessive use of antibiotics are also responsible for resistance to medications and soaring healthcare costs.
- Optimizing the financial efficiency of healthcare systems by controlling drug expenses and reducing the abuse of medicines: research indicates that half of all pharmaceuticals are prescribed, delivered or sold incorrectly, creating unnecessary expenditure both for individuals and for healthcare establishments. [6]
- Compliance with standard treatment guidelines to ensure safe and effective use of medications: An analysis of prescription patterns in rural hospitals revealed that only 26.4% of prescriptions were compliant with standard treatment guidelines thus emphasizing the need for continuous audits and better regulatory enforcement [7].
- Ensuring prescriptions are legally and ethically written, since this is necessary for patient confidence and healthcare accreditation: 100% of prescriptions in a completeness review lacking the doctor's registration number, which causes concern around responsibility and medico-legal compliance [8].

Objectives

- To determine how many prescriptions are inaccurate or incomplete.
- To decrease the unnecessary use of injections, syrups, antibiotics, and other medications
- To find areas for facility-level improvement and benchmark-setting.
- To promote the best practice of service providers writing comprehensive, readable, and logical prescriptions [9].

The Need for Prescription Auditing

The significance of evidence-based medicine is increasing globally, and prescription auditing is one significant method used to improve patient outcomes. The process ensures that medications are prescribed in the right manner, reducing the likelihood of drug interaction, polypharmacy, and medication error. It also serves to control antibiotic resistance, which is increasingly posing a greater menace to global health [10].

Background

Prescription audit has become an important component in health care administration, facilitating the rational use of drugs as well as maximizing patient safety. Prescription auditing is critical assessment of

prescribing practices to detect irrational consumption of drugs, drug errors, non-adherence to therapeutic guidelines [11]. The origin of the term prescription audit can be traced to clinical audits, which were first introduced in the first half of the 20th century as a method to enhance the quality of health care. Prescription auditing has, over the years, become a systematic method that helps minimize drug-related adverse reactions and health care expenditures [12].

Evolution of Prescription Auditing

Traditionally, medical prescriptions were tracked informally by experienced clinicians and pharmacists. Yet, with the increasing concerns surrounding polypharmacy, antimicrobial resistance, and drug safety, formalized audits were required [13].

Prescription Auditing in India

India also has considerable challenges in prescription practice, which are primarily caused by over-the-counter (OTC) availability of drugs, self-medication patterns, and a lack of compliance with prescription regulations [14]. A report from a West Bengal rural hospital documented the issue of polypharmacy, in which several drugs are prescribed inappropriately, with increased costs and a greater risk of adverse drug reactions (ADRs) [15].

Types of Prescription Audit

A systematic process known as prescription auditing assesses the quality and appropriateness of drugs prescribed. Various types of audits are performed based on their objectives, methodology, and scope. Prescription audit categorization helps to target specific areas of prescribing processes and ensures that healthcare professionals follow rational drug use practices. Concurrent audits, retrospective audits, prospective audits, focused audits, and electronic prescription audits are the main types of prescription audits.

1. Concurrent Prescription Audit

- A concurrent prescription audit is an on-going review of prescriptions during the time the patient is being treated.
- It helps healthcare practitioners detect and address medication errors in real-time, hence adherence to clinical standards and patient safety.
- This form of audit assists in maximizing drug therapy, minimizing adverse drug reactions (ADRs), and promoting rational drug use. A cardiac drug prescription audit study proved that simultaneous audits assist in maximizing polypharmacy and minimizing unnecessary prescriptions, resulting in better clinical outcomes [16].
- The approach is especially useful in intensive care units (ICUs), emergency departments, and chronic disease management [17].

2. Retrospective Prescription Audit

- A retrospective audit is conducted after patient treatment has been finished by examining previous prescriptions.
- This audit is important for ascertaining long-term trends, prescribing mistakes, and irrational drug use patterns [18].
Most important advantages of retrospective audits
- Evaluate trends in prescribing over a defined time.
- Ascertain antibiotic misuse and overuse, which is a reason for antimicrobial resistance.
- Assess adherence to standard treatment guidelines and WHO prescribing indicators.
A retrospective audit in a tertiary care hospital was found to be effective in identifying prescription errors and making policy interventions to enhance future prescribing behavior [19].

3. Prospective Prescription Audit

- In future audits, prescriptions are examined prior to dispensing the drug to the patient. This kind of audit is typically done in hospital pharmacies and clinical pharmacology units.
Most important benefits:
- Prevents ADRs prior to their occurrence.
- Ensures prescribed drugs comply with hospital formulary and treatment guidelines.
- Minimizes polypharmacy and wastage of drugs, making it cost-effective. A prospective audit study in an outpatient department revealed that pre-dispensing reviews decreased inappropriate use of antibiotics by 30%, showing its efficacy in antibiotic stewardship programs [20].

4. Targeted Prescription Audit

A targeted prescription audit focuses on a specific class of drugs, disease condition, or patient population. This method is useful for monitoring high-risk medications such as antibiotics, opioids, cardiovascular drugs, and psychotropic medications [21].

5. Electronic Prescription Audit

With the evolution of healthcare technology, most institutions have embraced electronic prescription (e-prescription) audits. The audit employs computerized prescribing systems and artificial intelligence (AI) tools to track and analyze prescribing trends in real-time [22]. A tertiary hospital review of e-prescribing systems revealed that electronic audits enhanced treatment guideline compliance by 40% and greatly minimized prescription errors [23].

Benefits of Prescription Audit

Identification and Minimization of Prescription Errors: To avert potential adverse drug events, consistent audits aid in the detection of common

prescription errors and prompting correction. A survey of a tertiary care hospital discovered that 67% of prescriptions did not include the duration of therapy, and 34% of prescriptions contained erroneous dosages. Utilizing audits to rectify these issues can significantly enhance prescription accuracy.

Sensitization of Healthcare Providers:

Prescription auditing is a teaching tool, sensitizing resident doctors to rational prescribing and drug use. There is evidence to suggest that medical personnel can be well-sensitized through such audits and, as a consequence, use drugs more judiciously [24].

Improved Multidisciplinary Teamwork: Prescription audits, which include clinical pharmacists as part of the healthcare team, promote teamwork among medical specialists. Patient safety is enhanced through this multidisciplinary team approach, which has been proven to reduce medication errors in pediatric intensive care units. [25].

Challenges and Limitations

- **Incomplete Documentation:** In a study conducted in a North India rural tertiary care hospital, most prescriptions lacked essential details such as the patient's history, family history, and the outcome of a clinical examination. Only 12% of the prescriptions showed the initials of the prescribing clinician clearly, and only 29.5% had a recorded diagnosis. Incomplete documentation can compromise patient treatment and effective audits.
- **Illegible Handwriting:** As stated in the same study, 20% of prescriptions were legible with some effort, and 11.5% were not. Unreadable handwriting may lead to errors during distribution or administration, which may produce adverse medication reactions or other adverse medical outcomes [26].
- **Insufficient Training and Experience:** Clinically effective prescription auditing needs pharmacology and data analysis expertise. It was noted in one study that insufficient expertise in project design and analysis remains a critical impediment to effective clinical audits.
- **Lack of Standardized Protocols:** Lack of standardized protocols for performing prescription audits may lead to varied practices and it will be hard to compare performance in various healthcare environments. There should be definite protocols for the reliability and comparability of audit results [27].
- **Incomplete Prescriber Information:** A study in a tertiary hospital revealed that while patient details were complete in 98.44% of prescriptions, prescriber details existed in just 88.75% of them.

Omissions like the prescriber registration number can make accountability and tracing difficult during audit [28].

- **Limited Use of Generic Names:** A study at a rural South Indian tertiary care hospital found that the use of generic names accounted for only 9.7% of the prescriptions. Excess use of brand names results in higher costs to healthcare and has the potential to influence prescription audit objectivity. [29]

Future Directions and Recommendations

- Regular Training Programs
- Implementation of Electronic Prescription Systems
- Regular Training and Continuous Medical Education (CME)
- Strengthening Policy Frameworks and Regulatory Oversight
- Integration with Pharmacovigilance and Drug Safety Programs
- Multidisciplinary Collaboration and Stakeholder Involvement
- Encouraging Research and Innovation in Prescription Auditing
- Expanding Prescription Audits Beyond Hospitals

Conclusion

Prescription audits are significant in enhancing the quality, safety, and efficiency of healthcare systems. Through methodical assessment of prescribing practices, these audits can determine medication errors, avoid drug side effects, and adhere to clinical guidelines. Prescription audits are critical in supporting rational use of drugs, polypharmacy reduction, and patient safety improvement. Although they are important, a number of challenges face the prescription audit's widespread use. Limited training, a lack of technology infrastructure, and provider resistance are among the challenges. Variability in the guidelines used for prescribing and the incompleteness of medical records also make the unification of audit standards across healthcare settings problematic.

These challenges can be addressed by incorporating electronic prescription systems, enhancing regulatory systems, and continuing medical education for medical personnel. Interdisciplinary collaboration among healthcare professionals, policy makers, and information technology specialists can further increase the effectiveness of prescription audits. Promoting research in this area and implementing new-age solutions, including artificial intelligence-based audit systems, can ensure greater accuracy and efficiency in prescription tracking.

As medical practices and technology change, prescription audits need to keep pace. Increasing audits from hospital settings to primary healthcare centers and telemedicine platforms will make them even more effective. A proactive strategy that integrates policy enforcement,

technological integration, and stakeholder involvement will make prescription audits an essential tool for maximizing medication use and patient outcomes worldwide.

Author Contributions

All authors are contributed equally

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References

1. Siyamala Devi T, Kumutha A, Renuka A, Ashraf Ali H. A cross-sectional study of prescription audit in outpatient departments of tertiary care hospital. National Journal of Physiology, Pharmacy and Pharmacology [Internet]. 2024 Jan 2 [cited 2024 Jun 5];14(1):164–4.
2. Ahsan DrM, Shaifali DI, Khurram Mallick DA, Kumar Singh DHO, Verma DS, Shekhar DA. Prescription auditing based on World Health Organization (WHO) prescribing indicators in a teaching hospital in North India. International Journal of Medical Research and Review. 2016 Oct 31;4(10):1847–52.
3. Sharma M, Nikhil Payal, Devi LS, Gautam D, Manisha Khandait, Kapil Hazarika, et al. Study on Prescription Audit from a Rural Tertiary Care Hospital in North India. Journal of Pure and Applied Microbiology [Internet]. 2021 Oct 15 [cited 2025 Mar 25];15(4):1931–9.
4. Kandula PK, Rao SB, Sangeetha K, Reddy Y, Gudi SK. A study of prescription audit in outpatient department of a tertiary care teaching hospital in india: an observational study. Journal of Drug Delivery and Therapeutics. 2017 May 15;7(3).
5. Janardhan Marupaka, Laxmipathi Kodam, Naveen Kumar Tamma, Srinivasu Karedla. Prescription audit of patients in a tertiary care hospital. International Journal of Basic & Clinical Pharmacology. 2020 Oct 16;9(11):1650–0.
6. Siyamala Devi T, Kumutha A, Renuka A, Ashraf Ali H. A cross-sectional study of prescription audit in outpatient departments of tertiary care hospital. National Journal of Physiology, Pharmacy and Pharmacology [Internet]. 2024 Jan 2 [cited 2024 Jun 5];14(1):164–4.
7. Halder s, gangopadhyay t, mondal s, das ak. Prescription audit from the outpatient department of a rural hospital in west bengal, india: a cross-sectional study. Asian Journal of Pharmaceutical and Clinical Research. 2022 Dec 7;126–9.

8. Ahsan DrM, Shaifali DI, Khurram Mallick DA, Kumar Singh DHO, Verma DS, Shekhar DA. Prescription auditing based on World Health Organization (WHO) prescribing indicators in a teaching hospital in North India. *International Journal of Medical Research and Review*. 2016 Oct 31;4(10):1847–52
9. Piyali Pal et al. Prescription Audit of a Teaching Hospital in Eastern India using a Step By-Step Methodology. *International Journal of Pharmaceutical and Clinical Research* 2024; 16(8); 1310-1316
10. Palanisamy PR. Stop antibiotic resistance – A roller coaster ride through “antibiotic stewardship,” “prescription auditing” and “AWaRe” assessment tool. *Journal of family medicine and primary care*. 2023 Sep 1;12(9):1796–801.
11. Sharma M, Nikhil Payal, Devi LS, Gautam D, Manisha Khandait, Kapil Hazarika, et al. Study on Prescription Audit from a Rural Tertiary Care Hospital in North India. *Journal of Pure and Applied Microbiology* [Internet]. 2021 Oct 15;15(4):1931–9.
12. Kandula PK, Rao SB, Sangeetha K, Reddy Y, Gudi SK. A study of prescription audit in outpatient department of a tertiary care teaching hospital in india: an observational study. *Journal of Drug Delivery and Therapeutics*. 2017 May 15;7(3).
13. Siyamala Devi T, Kumutha A, Renuka A, Ashraf Ali H. A cross-sectional study of prescription audit in outpatient departments of tertiary care hospital. *National Journal of Physiology, Pharmacy and Pharmacology* [Internet]. 2024 Jan 2 [cited 2024 Jun 5];14(1):164–4.
14. Halder s, gangopadhyay t, mondal s, das ak. Prescription audit from the outpatient department of a rural hospital in west bengal, india: a cross-sectional study. *Asian Journal of Pharmaceutical and Clinical Research*. 2022 Dec 7;126–9.
15. Oppenheimer M, Rezwani N. CQUIN audit for prescription of antibiotics for urinary tract infections in an acute medical assessment unit. *BMJ Quality Improvement Reports*. 2015;4(1):u208446.w3374.
16. Chung GW, Wu JE, Yeo CL, Chan D, Hsu LY. Antimicrobial stewardship. *Virulence* [Internet]. 2013 Feb 15 [cited 2019 Oct 25];4(2):151–7.
17. Gautam P, Chaudhary K, Chaudhary M, Mustafa M, Kumar Y. Prescription Audit of Cardiac Drugs in Cardiac Outpatient: A Prospective Study. 2020 Apr 22;5(4):304–18.
18. Patel P, Bhora M, Vishwe A, Nyati P, Tripathi S, Gupta K. Prescription audit to evaluate the pattern and errors in a tertiary care hospital. *International Journal of Basic & Clinical Pharmacology*. 2019 Nov 25;8(12):2650.
19. Numan Farooq Kawa, Rohul Jabeen Shah, Anjum Bashir Fazili, Hanna Zahoor Hamdani, Sheikh Mushtaq. Prescription Audit in Outpatient Department of a District Level Government Hospital in Northern Kashmir: An Observational Study. *Journal of Cardiovascular Disease Research*. 2023;6(14).
20. Tuti T, Aluvaala J, Malla L, Irimu G, Mbevi G, Wainaina J, et al. Evaluation of an audit and feedback intervention to reduce gentamicin prescription errors in newborn treatment (ReGENT) in neonatal inpatient care in Kenya: a controlled interrupted time series study protocol. *Implementation Science*. 2022 May 16;17(1).
21. Selvaraj N, Meenakshi R, Anandabaskar N, Dhamodharan A, Badrinath A, Rajamohammad M. Prescription audit of a teaching hospital in South India using World Health Organization core prescribing indicators – A cross-sectional study. *Perspectives in Clinical Research*. 2021;0(0):0.
22. Saha A, Bhattacharjya H, Sengupta B, Debbarma R. Prescription audit in outpatient department of a teaching hospital of North East, India. *International Journal of Research in Medical Sciences*. 2018 Mar 28;6(4):1241.
23. Rai S, K B, C S, HV S, Yaseen M. Prescription audit at a tertiary care teaching hospital. *National Journal of Physiology, Pharmacy and Pharmacology* [Internet]. 2018 [cited 2023 Aug 7];8(9):1271.
24. Dhavalshankh AG, Rajadnya VA, Patil KL. Prescription auditing: an important tool for sensitization of resident doctors for rationale prescription and utilization of drug. *International Journal of Basic & Clinical Pharmacology*. 2019 Sep 25;8(10):2237.
25. Maaskant JM, Tio MA, van Hest RM, Vermeulen H, Geukens VGM. Medication audit and feedback by a clinical pharmacist decrease medication errors at the PICU: An interrupted time series analysis. *Health Science Reports*. 2018 Jan 19;1(3):e23.
26. Sharma M, Nikhil Payal, Devi LS, Gautam D, Manisha Khandait, Kapil Hazarika, et al. Study on Prescription Audit from a Rural Tertiary Care Hospital in North India. *Journal of Pure and Applied Microbiology* [Internet]. 2021 Oct 15 [cited 2025 Mar 25];15(4):1931–9.
27. Kumar DR. Prescription Audit In Outpatient Department Of A Tertiary Care Teaching Hospital Of North India. *African Journal Of Biomedical Research* [Internet]. 2024 Sep 29 [cited 2025 Mar 26];1270–5.
28. Patel P, Bhora M, Vishwe A, Nyati P, Tripathi S, Gupta K. Prescription audit to evaluate the pattern and errors in a tertiary care hospital. *International Journal of Basic & Clinical Pharmacology*. 2019 Nov 25;8(12):2650.
29. N. N, Manchukonda R. Prescription audit for evaluation of present prescribing trends in a rural tertiary care hospital in South India: an observational study. *International Journal of Basic and Clinical Pharmacology*. 2016;2094–7.