Treatment Errors in Ethiopia: Medication Errors and Delays in Care

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Every patient who enters a health facility expects treatment that benefits them. However, there are instances where the treatment provided may inadvertently lead to harm. This article uses the term Mismedicine, coined by Dr. Pooya Beigi and MARI, which encompasses everything from delayed diagnoses and errors in treatment or medication prescription and preparation to poor communication, administrative failures related to patient documentation, poor adherence to medical recommendations, and ethical lapses.

This article aims to summarise the main categories of medical errors reported in Ethiopia and their implications for patient safety. Sources were identified through searches of PubMed, Scopus, EMBASE, and related grey literature using terms such as "medical error," "medication administration error," "patient safety," "wrong dose," "treatment delay," and "Ethiopia," with studies published from the last 25 years considered.

What Is an Error?

A medication administration error is commonly defined as a mismatch between the treatment intended by the prescriber and the treatment actually received by the patient. This occurs during drug administration (Baraki et al., 2018). Reported categories in Ethiopian studies include wrong dose, wrong time, omission, wrong drug or medication, wrong route, wrong frequency, wrong indication, wrong combination, and wrong documentation (Sada et al., 2015).

Prevalence and Impact

Medication errors create substantial financial strain on healthcare worldwide, with an annual cost estimated at US$42 billion - equivalent to 9% of avoidable healthcare expenditure. Worldwide, 53% of harm associated with medication errors arises during the prescribing stage, compared with 36% at the reporting stage. In low- and middle-income countries (LMICs), medication errors occurring at the prescribing stage may account for as much as 80%. Globally, the African region has the largest share of preventable medication error-related harm (9%). Of these events, 57.4% occurred during prescribing, and 15.5% were related to incorrect doses (Wudu et al., 2025). The latest study, a meta-analysis of 18 Ethiopian studies, found that medication errors occurred in 57% of cases, indicating a substantial and persistent patient-safety problem (Wudu et al., 2025).

Clinical Settings with Documented Medication-Safety Concerns

Pediatrics, emergency medicine, and intensive care appeared to be the most affected specialties. Pediatric inpatient settings have shown high medication-error rates in Ethiopian hospital-based studies, likely reflecting the added complexity of weight-based dosing and age-specific prescribing (Bante et al., 2023). Similarly, 75% of patients admitted to the emergency ward encountered at least one medication error (Gebremariam et al., 2023). Intensive care units likewise appear vulnerable: single-site studies from Jimma reported frequent prescribing and

administration errors in ICU care, especially wrong drug combinations, wrong frequency, and wrong dose (Agalu et al., 2011).

Contributing Factors

The contributing factors fall mainly into three categories: cognitive, organizational, and technical.

For example, cognitive factors that weaken attention at the point of care, such as during drug rounds, and fatigue during night shifts were both associated with higher odds of medication errors (Wudu et al., 2025). Similarly, organizational factors affect the feasibility of safe practice. In the same study, Wudu stated that limited experience, absent guidelines, and a nurse-to-patient ratio of 1:10 increased the error risk. Technical errors appear less documented in the Ethiopian literature, but paper-based prescribing removes safeguards such as electronic alerts.

Similarly, treatment delays showed a comparable pattern, with patient-related, health system, and access barriers compounding each other. In this context, treatment delay refers to the time between diagnosis and the initiation of appropriate cancer care. Delays at this stage can arise when patients need time to decide on treatment, arrange transport or finances, or navigate referral pathways, and they can also reflect facility-level constraints such as scheduling bottlenecks, limited oncology capacity, or administrative inefficiencies. Therefore, the pattern can be best understood as the cumulative effect of care-seeking constraints, service responsiveness, and geographic accessibility on timely treatment initiation.

Consequences

These implications span the clinical, ethical, and psychological domains. For example, clinical errors may result in treatment failure, prolonged admissions, disability, and death, whereas delayed treatment markedly lowers survival chances.

From an ethical perspective, serious outcomes often lead to malpractice claims. A review from Ethiopia reported 39 cases of patient deaths and 15 cases of disabilities, with obstetrics/gynecology and general surgery being the most commonly affected specialties (Wamisho et al., 2015).

Finally, medical professionals experience psychological distress, including anxiety, fear of blame, and guilt. This discourages error reporting and opportunities for learning (Bifftu et al., 2016).

Prevention and Current Solutions

The WHO Surgical Safety Checklist is an established practical tool. Although it is primarily framed as a surgical safety intervention, it is relevant here because checklist use can strengthen communication, verification, and team coordination at key points of care, thereby helping reduce

medication-related mistakes and avoidable treatment delays. Ethiopia's Ministry of Health adopted the WHO Surgical Safety Checklist to reduce surgical complications. A national survey revealed substantial yet incomplete checklist adherence, demonstrating progress while pointing to ongoing implementation gaps (Sibhatu et al., 2022).

Sustained implementation requires more than training alone; it relies on cultivating a safety culture, improving communication, securing leadership commitment, and establishing effective feedback and supervision mechanisms. In terms of medication safety, practical interventions include medication administration guidelines, standard treatment protocols, and structured in-service training designed to reduce administration errors. Additionally, maintaining a low nurse-to-patient ratio and minimising night shifts contribute to lower error rates (Wudu et al., 2025).

A Real-World Example

Consider a de-identified composite scenario. During a night shift in a district hospital pediatric ward, a nurse responsible for ten children prepares an intravenous antibiotic. The child's weight was not recorded, and no dosing chart was available. A relative interrupted the preparation, after which the nurse estimated the dose and administered it. A pharmacist identified the discrepancy the following morning, and the child was closely monitored and recovered.

This scenario illustrates how risk can emerge from interacting system weaknesses rather than from a single individual's failure: night work, interruptions, absent guidelines, and limited staffing align in ways that mirror the risk factors described above (Wudu et al., 2025).

For clinicians, the lesson is to recognise how uncertainty, dismissal, or fragmented follow-up can compound delay; for managers, it is to identify where referral pathways and service capacity create bottlenecks; and for policymakers, it is to address the structural conditions that make such delays predictable rather than exceptional.

Conclusion

Treatment errors in Ethiopia are frequent, largely preventable, and shaped more by system-level weaknesses than by individual carelessness. Evidence indicates that medication administration errors affect more than half of the nurses studied, that surgical complications remain common despite many patients being classified as low risk, and that most breast cancer patients present only after diagnostic delay. Key priorities therefore include consistent checklist implementation, protection of medication rounds from interruptions, improved staffing, and reliable access to clinical guidelines in every ward. Policymakers should also support non-punitive error reporting and strengthen referral pathways at the primary-care level. Future research should establish national baseline rates of wrong-site surgery and evaluate quality-improvement bundles, including no-interruption zones, in Ethiopian hospitals.

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