Medication Error Interventions in Health Facilities: A qualitative Study of healthcare providers' Experiences, Strategies and Challenges in Eastern region of Ghana

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Introduction

Medication errors are a leading cause of preventable adverse drug events globally, presenting significant clinical and economic challenges. Effective interventions are essential to mitigating these risks.

Aim

To explore the experiences, strategies and challenges healthcare providers encounter in managing medication error in Ghana's public health facilities.

Methods

Design: Qualitative, in-depth interviews.

Setting: 9 districts selected from the 3 zones (Northern, Central and Southern) in Eastern Region

Study Population: 27 participants (Prescribers, Nurses, Pharmacists and Pharmacy Technicians).

Sampling: Random selection of District Hospitals and Purposive selection of participants from district hospitals.

Data Collection: Audio-recorded interviews, thematic analysis based on key themes.

Ethics: Confidentiality ensured, Regional permissions obtained from ERHD.

Results

Hybrid Error Detection:

- **LHIMS (digital) + Manual checks**

"Using electronic prescribing has significantly reduced handwriting errors, but we still manually verify each order before dispensing" (P21).

- **Introduces inefficiencies into the error resolution process (2-hour resolution time per error).**

"We usually detect errors when preparing to issue medications. The entire process from the doctor writing the prescription to the correction can take one to two hours, depending on the pharmacy workflow." (P6)

Underreporting Culture:

- **Fear of blame -** *"My supervisor still asks 'who messed up? rather than 'what failed?" (P18).*
- **Hindrance by hierarchical communication barriers** - *"There is fear that reporting errors might affect performance evaluations, so some staff choose to remain silent."(P22).*
- **Informal resolution** - *"We do not have a standardized reporting system. Sometimes, minor errors are corrected immediately, but only life-threatening ones are documented."*(P14)
- **Lack of patient-friendly reporting mechanisms -** *"Patients sometimes notice errors, like incorrect dosages, but they don't know how to report them."(P14),*

Root Causes:

- **Service Delivery: Workloads and Staffing Shortages**

"When the workload is too high, we tend to rush through prescriptions, and that's where mistakes happen." (P7).; "With 100+ patients daily, thorough checks become impossible by afternoon" (P7).

- **Health Commodities: look-alike drugs and poor labeling**

"Some medication names resemble each other, and if you're not vigilant, you could mistakenly dispense the wrong one, especially when you're under pressure" (P4,).

- **Health Information Systems: Hybrid Digital-Manual Workflows**

Introduces significant bottlenecks when technical failures occur. Adaptive tech use (paper backups) - *"A medical officer remarked, "When LHIMS crashes, we revert to paper, and errors spike" (P19).*

- **Leadership: Punitive Cultures**

The absence of safety in error reporting(peer safeguarding) prevents organizational learning from near-misses and minor errors.

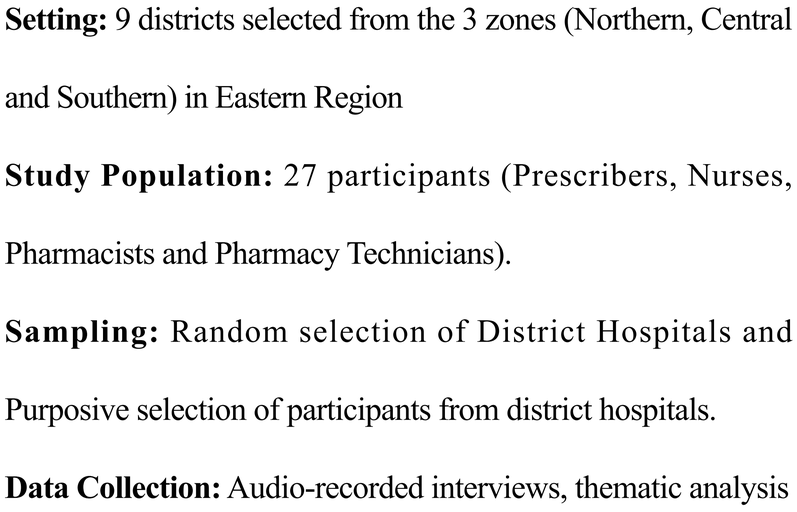

Fig1. Adapted from the Reason's Swiss-cheese framework

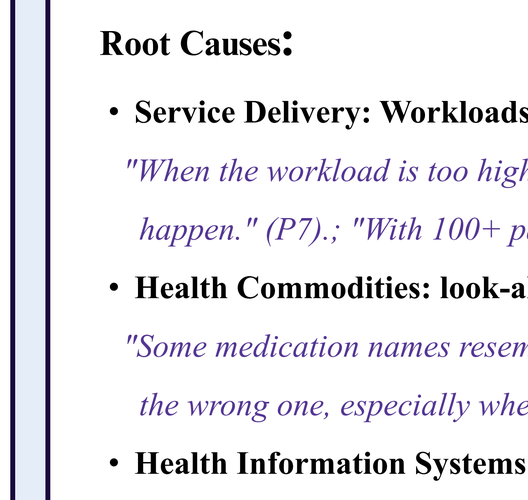

Fig2. Medication Error Process Map

Conclusion

Hybrid systems improved legibility but introduced delays making the error detection reactive rather than preventive.

Fear of blame and weak reporting structures discourage open communication and learning from errors.

High workloads and similar-looking medications increase error risks, highlighting the need for staffing support and better labeling.

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