EP074

MAPPING "SLUDGE" FACTORS: THE PSYCHOLOGICAL & OPERATIONAL FRICTIONS IN NATIONAL EMERGENCY TRIAGE SERVICES

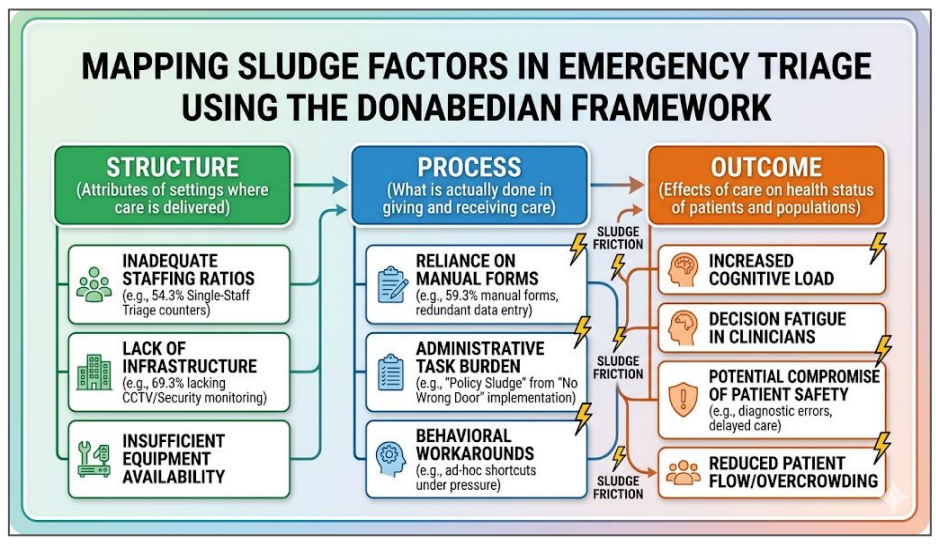
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Introduction

"**Sludge**" refers to **administrative frictions** and **cognitive burdens** that complicate human interactions with systems. In emergency triage, sludge acts as a **negative** "**nudge**," increasing the **cognitive load** on healthcare providers, fostering **decision fatigue**, and potentially compromising **patient safety** through **behavioral workarounds**.



Objectives

This study aimed to **identify and map** "Sludge" factors that create **psychological and operational bottlenecks**, influencing staff **behavior and efficiency** within national **emergency triage** services.

Methodology

Findings were derived from a **national survey** of **140 Ministry of Health (MOH) hospitals** in **2025**. Using the **Donabedian** quality framework, **qualitative feedback** and **statistical data** were mapped to identify **critical areas** where **systemic friction triggers suboptimal behavioral responses** among clinical staff.

Results

Critical sludge factors include **infrastructure-driven anxiety and cognitive overload**. Notably, **69.3%** of **primary triage counters lack CCTV monitoring**, contributing to a **diminished sense of safety** and **increased occupational stress**. Regarding **human capital**, **54.3%** of hospitals face **high patient volumes** with **only one staff** member at Primary Triage; this environment **facilitates decision fatigue** and **hurried clinical judgments**. **Documentation frictions** persist, with **59.3%** of hospitals relying on **manual forms** — a high-friction task that promotes **data silos** and **administrative burnout**. Furthermore, the "**No Wrong Door Policy**" creates a behavioral "**moral hazard**," where the lack of friction for **non-emergency cases** leads to **system overcrowding**, further taxing the **mental resilience** of triage officers.

Discussion and Conclusion

Dominant sludge factors in **infrastructure** and **human resources** significantly **hinder triage efficiency** by **depleting the psychological resources of staff.**

Addressing these frictions requires a transition toward **behaviorally-informed digitalization** and **optimized staffing ratios** to **reduce cognitive taxing** and **improve Emergency Medical and Trauma Services (EMTS) outcomes**.

Recommendation:

Institutionalizing Sludge Audits- Systematically **identify and eliminate** "unjustified" friction via **Frontline-Led** "**Sludge-Busting**." This empowers **triage officers** to audit workflows and remove **behavioral workarounds** that compromise **patient safety**.

Acknowledgement

- National Technical Committee for EMTS Triage Services

References

1. **Sunstein, C.. (2021)**. Sludge: What Stops Us from Getting Things Done and What to Do about It. 10.7551/mitpress/13859.001.0001.
2. **Maier, M., Powell, D., Murchie, P., & Allan, J. L. (2025)**. Systematic review of the effects of decision fatigue in healthcare professionals on medical decision-making. Health Psychology Review, 19(4), 717–762.
3. **Donabedian A. (1966)**. Evaluating the quality of medical care. The Milbank Memorial Fund quarterly, 44(3), 166–206.
4. **Hodson, N., Parker, J., Sobolev, M., & de Bruin, W. B. (2024)**. 'Sludge audits' are needed to reduce barriers to care. The British journal of general practice : the journal of the Royal College of General Practitioners, 74(741), 182–183.