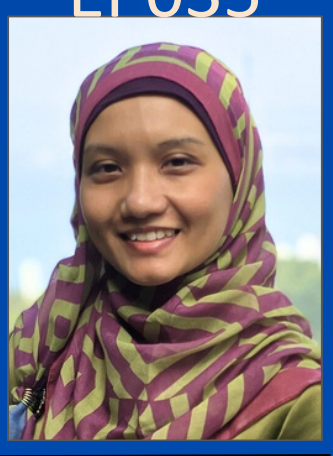
MINISTRY OF HEALTH MALAYSIA
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EP035

RESTRUCTURING CHOICE ARCHITECTURE: A WHATSAPP-BASED DIGITAL NUDGE TO OPTIMIZE HOSPITAL DESPATCHER TIME MANAGEMENT



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Introduction

- The lack of robust data capture in manual systems creates an accountability gap, allowing for undesirable behavioral patterns like 'task-stretching' and the artificial prolongation of duty cycles.
- Without formal timestamps, accountability diminishes. Behavioral technology, specifically digital nudging, can restructure the choice architecture to encourage more responsible time management.

Objectives

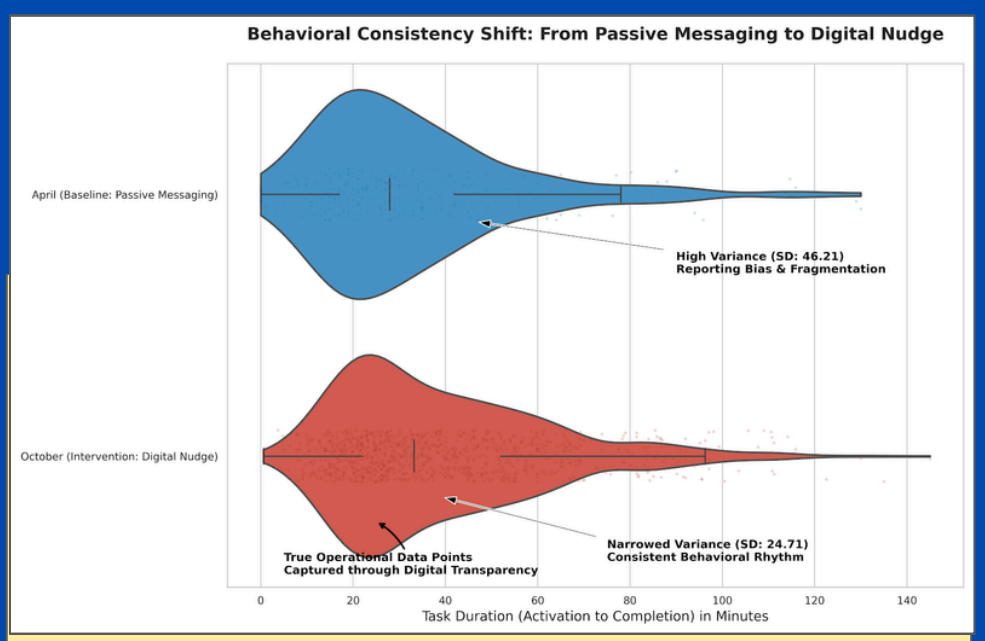
This study evaluates the impact of a "one-click" WhatsApp digital nudge on reporting compliance and task duration behavior among hospital despatchers.

Methodology

- A pre- and post-intervention study compared operational data in April 2025 (passive WhatsApp messaging) and October 2025 (intervention: active digital nudge).
- Unlike the unstructured broadcasts, the intervention utilized standardized WhatsApp messages containing task details and a "one-click" URL to "Accept Task."
- This innovative low-friction nudge triggered an automatic timestamp.
- Analysis focused on the "Send/Pickup" category (N_{total}=1,382), measuring behavioral consistency through the shift in standard deviation (SD) of task durations.

Results

- The digital nudge significantly increased behavioral compliance and data visibility. Task reporting rose from N=373 (April) to N=1,009 (October), a 170% increase in accountability.
- Evan, mean duration shifted from 35.04 to 39.41 minutes, the Standard Deviation (SD) dropped significantly from 46.21 to 24.71 minutes, 46% reduction in SD



The narrower Interquartile Range (shaded box) in October proves higher behavioral consistency. The longer whiskers (lines) reflect digital transparency which is true operational reality of the hospital, capturing complex tasks previously hidden by manual reporting bias.

Discussion and Conclusion

- **Restructuring Choice Architecture:** The WhatsApp interface acts as a "nudge" by altering the choice architecture for despatchers without forbidding options or changing economic incentives[3]. This shifted staff from passive recipients to active participants.
- **Digital Nudging for Behavioral Change**: By using specific user interface design elements, the "one-click" link, this digital nudge guided behavior in a digital environment[4]. This transparency eliminated the accountability gap of manual systems, resulting in a 170% increase in recorded tasks.
- **Low-Friction Mobile Intervention**: The single-click design follows key digital nudge principles by reducing cognitive effort and friction for the staff[1]. This ease of use is evidenced by the massive jump in data capture (N=1,009 in October compared to N=373 in April).
- **The Economics of Meaning**: The findings support the theory that accountability and transparency pull up motivation[2]. Providing digital transparency of their output, gave staff a clearer sense of accountability. This visibility acted as a psychological motivator, to reduce task-stretching, leading to a 46% reduction in timing variance and more consistent behavioral rhythm.

Acknowledgement

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2 Hospital Director, Hospital Sungai Buloh
3 Hospital Supervision Department, Hospital Sungai Buloh
4 Risk Management & Clinical Surveillance (Quality) Unit, Hospital Sungai Buloh

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