

Zarina AG¹, Azlin Syazwani A¹, Ainunnadiah D², Halimatun Saadiah H³, Halimah N⁴, Azhani Haliyati AY², Selvanaayagam S²

¹ Medical Record Unit, Hospital Baling, Kedah, ² Administrative Department, Hospital Baling, Kedah, ³ IT Unit, Hospital Baling, Kedah, ⁴ Nursing Unit, Hospital Baling, Kedah

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

Daily submissions of manual ward census forms (PER-PD103) from the wards to the Medical Record Office (MRO) at Hospital Baling, Kedah, contained **errors at a rate of two to three censuses per week**, impacting **data accuracy** for national registry entries. These errors affect key hospital performance metrics and impose undue stress on staff, requiring manual and laborious error correction.

KEY MEASURES FOR IMPROVEMENT

Number of daily ward censuses containing errors submitted to the MRO, with the **standard set at zero**.

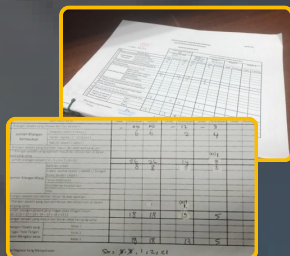
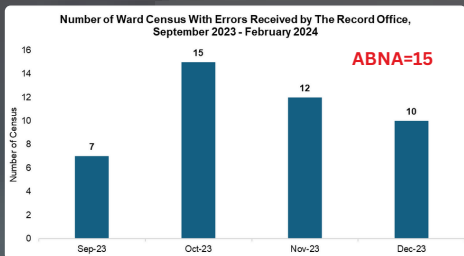
PROCESS OF GATHERING INFORMATION

A quality improvement study, including verification, strategy implementation, and post-intervention phases, was conducted from September 2023 to February 2024. Data on ward censuses, pre- and post-remedial, were gathered from departmental records. Interviews and discussions identified issues, while survey questionnaires measured intervention effectiveness.

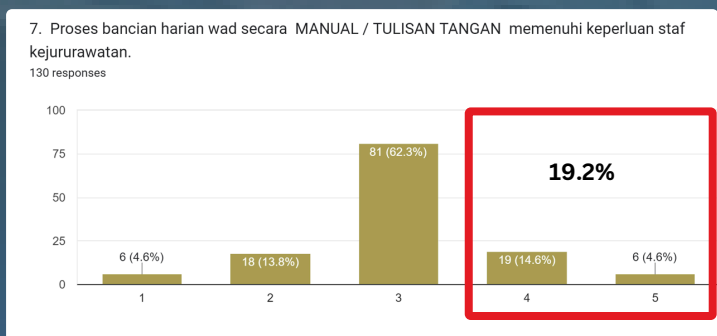
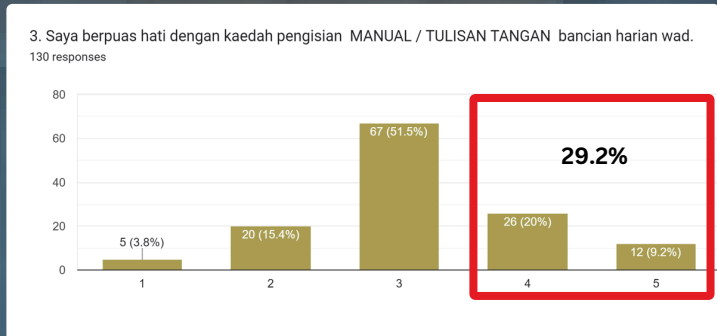


ANALYSIS AND INTERPRETATION

Pre-remedial, up to 15 ward censuses with errors were identified monthly (**ABNA=15**).



Errors were primarily caused by the **manual process** and **lack of verification** by the ward manager, leading to issues like **illegible handwriting**, **transfer errors**, **miscalculations**, and **misinterpretations**. Additionally, manual hardcopy census forms contributed to **transportation waste**.



A pre-survey questionnaire revealed that only **29.2%** of 130 respondents were satisfied with the current handwritten ward census collection process, and just **19.2%** agreed that it fulfilled the nursing task needs.

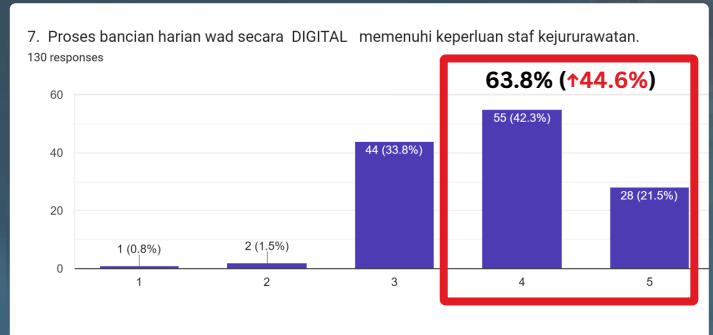
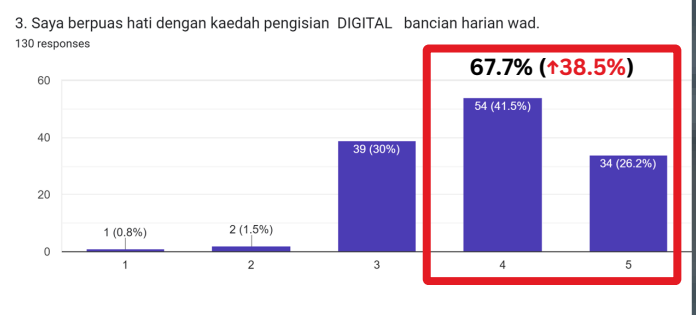
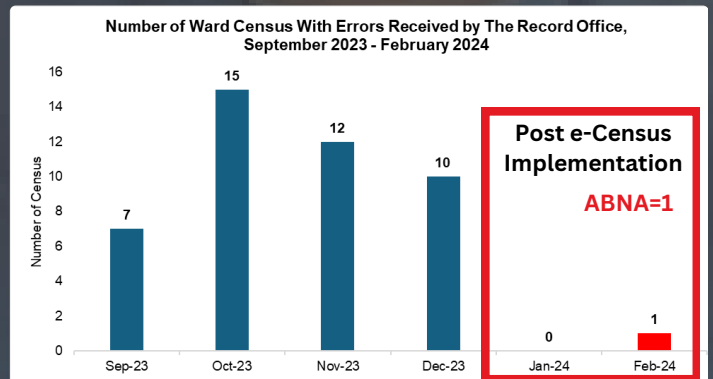
STRATEGIES FOR CHANGE

The **e-Census system** was implemented in all wards starting in December 2023. This system uses **Google Workspace MyGovUC Excel sheets**, allowing for **real-time data access**, **comprehensive guidelines**, and **auto-calculations**. Serial briefing sessions were conducted to educate ward managers and nurses.



EFFECT OF CHANGE

Post-implementation, errors were reduced to zero in January 2024 and to one in February 2024, resulting in an **ABNA of 1 (93.3% improvement)**. The error was mainly due to data transfer issue from the electronic record to the e-Census system.



Post-implementation, **67.7%** of 130 respondents were satisfied with the digital ward census, reflecting a 38.5% increase. Additionally, **63.8%** agreed that the e-Census met nursing task needs, representing a 44.6% improvement compared to the manual census.

THE NEXT STEP

We plan to offer refresher courses and ongoing support to ensure staff proficiency with the e-Census system. The system, using the Google Workspace MyGovUC application at no additional cost, can also be replicated in other hospitals still using manual processes.

REFERENCES

- Gliklich, R. E., et al. (2014). Data collection and quality assurance. Registries for Evaluating Patient Outcomes: A User's Guide [Internet]. 3rd edition, Agency for Healthcare Research and Quality (US).
- Nwagbara, V., et al. (2016). "An approach toward public hospital performance assessment." *Medicine* 95: e4688.
- Pembangunan, P. I. K. B. P. D. Buku Panduan Sistem Maklumat Perawatan Perubatan (Rawatan Pesakit Dalam Dan Rawatan Harian).
- Sidi, F., et al. (2012). Data quality: A survey of data quality dimensions. 2012 International Conference on Information Retrieval & Knowledge Management, IEEE.