

# **Adherence to Modified Early Warning Scoring system, escalation and documentation protocol in the tertiary oncology hospital - A clinical audit**

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## Reason for Choice of Audit

- A RCT conducted to evaluate the effect of MEWS and Nursing Guide Action on postoperative patient outcome demonstrated a positive effect on preventing the development of complications, shortening the intervention time for complications, and decreasing ICU admissions.(Mert et al., 2024).
- MEWS system has been introduced to the nurses of the radiation oncology ward in the tertiary oncology hospital in 2021.
- A close loop audit was conducted at the end of 3 months and 6 months in the same year.
  - ❖ It showed improvement from 58.2% at 3 months to 88% at 6 months to compliance on escalation of care to primary team's on call doctor.
  - ❖ Documentation by the doctor on escalation rose from 57.1% to 88% at 6 months. The set target was 90% compliance.
- After 2 cycles of audit, the MEWS was introduced to the entire inpatient wards. Hence to assess the compliance rate and adherence the current clinical audit was planned.

## Criteria

- Criteria of audit are based on clinical significance.
- Literature review supported to develop the audit standards and criteria.
- Based on the previous 2 cycles of audit report the criteria are selected:
  1. Demographic characteristics: age, sex, department
  2. All nurses are expected to complete documentation in the MEWS chart while allocated to the patients as per predetermined criteria.
  3. All nurses are expected to follow strict Patient Care Escalation policy as per MEWS scoring.
  4. Complete documentation compliance by nurses and doctors during and after escalation of patient care following hospitals documentation policy.
  5. Impact on total number of code blue events, compared to previous year.

## Standard set and rational

1. Completion with appropriate color coding of vitals parameter in MEWS chart - To ensure completeness of patient's vital information - 100%
2. Escalation to Nurse - in - charge / senior nurse for every incident with MEWS score = 1/2/3 - To ensure timely escalation - 100%
3. Escalation to primary team on- call doctor for any incident with MEWS score  $\geq 2$  - To ensure timely escalation - 100%
4. Documentation by nurses for any incident with MEWS score  $\geq 2$  - To ensure timely documentation - 100%
5. Documentation by primary team on- call doctor for any incident with MEWS score  $\geq 2$  - To ensure timely documentation - 100%
6. Comparison of code blue events in 2 years -To reduce number of code blue events.

## Preparation and planning

1. Audit topic has been selected based on clinical problem and literature review
2. An Audit team has been formed comprising three members from the nursing quality and hospital quality team those who are involved in preparation, planning, implementation of MEWS tool from the beginning and also involved in the first cycle of audit.
3. The team members are trained in conducting clinical audit, hospital accreditation programs and doing the same for the last 10 years.
4. Audit tool was prepared.
5. Data collection tool in the form of a questionnaire has been made and expert opinion from team members have been taken and modified as per opinion.
6. Confidentiality of data collection and storing were ensured.
7. Concerned departments are informed.
8. Planning of data collection conducted based on predetermined criteria.

## Methodology

- Permission obtained
- Audit is conducted from Dec 2023 to Jan 2024 (5 days in a week)
- Departments selected for audit were Medical oncology, Radiation oncology, Hemat oncology
- Sampling criteria chosen as stratified proportionate random sampling of previous day's discharged patients
- Total sample taken were 70
- Data collected is quantitative in nature, included record analysis of MEWS chart, patient records from file, computer and clinical notes.
- 5 discharge files are selected each day for analysis. From the patient record demography has been collected (age, sex, MR no, department) and MEWS chart has been audited for required audit parameters.
- Confidentiality has been ensured.
- Data analysis was done by auditors in Microsoft excel

## Data collection

- Auditors visited the designated wards everyday during audit period.
- Patient files of previous day discharge inspected for audit.
- The ward senior has been informed. MEWS chart checked for patient parameter documentation Nursing care plan checked for nursing notes and HMS and doctors progress note checked for doctors notes.
- Audit criteria documented in excel sheet for future analysis

## Inclusion / Exclusion criteria:

### Inclusion

1. Patients from medical, radiation, hemato-oncology are being selected
2. Patient discharged from 15th Dec 2023 to 15th Jan 2024 has been taken for audit purpose

### Exclusion

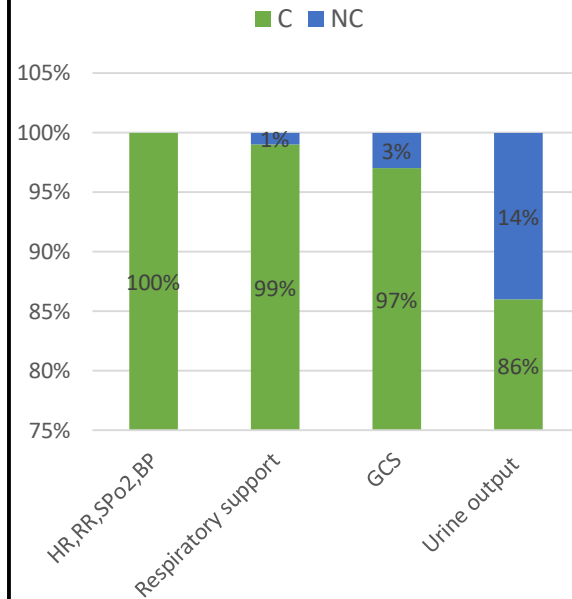
1. The patients for whom do not resuscitate decision has been taken by primary team
2. The patients transferred to other surgical department
3. Pediatric age group.

# Result

## Demographic analysis

- Mean age of the patients are 57
- 36% of the sample belongs to the age group of (61-70) years
- 53% are female, 47% are male
- 63% of the sample belongs to the medical oncology department, haemato-oncology 26%, radiation oncology 11%.

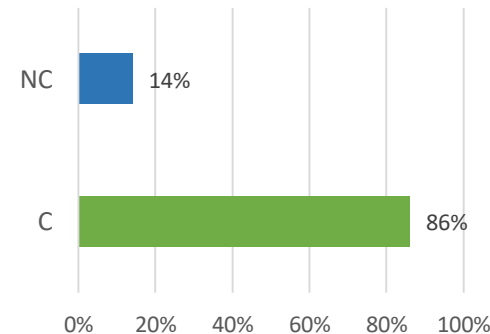
## Analysis of Completion of MEWS sheet with appropriate color coding



Overall, 89% MEWS sheet is complete, 11% is incomplete and among that 3% stands for wrong color coding of MEWS

## Analysis of escalation of care based on MEWS

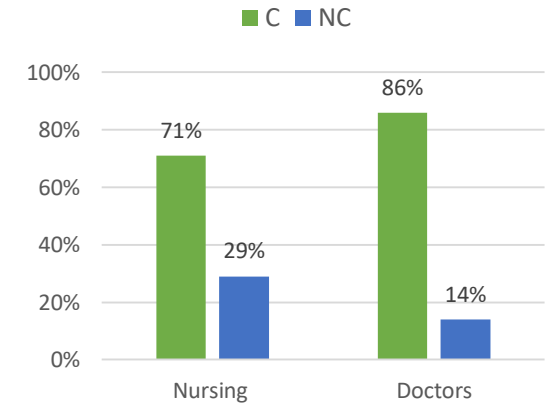
Escalation to nurse incharge was not required in 80% (n=70) occasions as per colour coding of individual parameters when MEWS score is 1/2/3.



Escalation of patient care (n=14) to ICU not required for 97% occasions, 3% patient's condition was decided not for escalation based on prognosis

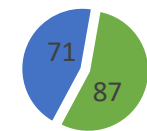
## Analysis of documentation on escalation when MEWS >= 2

- Documentation on escalation is not applicable in 80% occasions (n=70)



## Code blue events

Legend: 2022 (Green), 2023 (Blue)



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## Recommendations

- Awareness of right documentation of patient status and escalation of patient
- Training and education to the nurses about proper documentation and pathway of escalation in intradepartmental and in-service education
- Inclusion of MEWS as a topic in nurses induction training
- Awareness of doctors regarding importance of timely documentation
- Awareness of newly recruited doctors about patent escalation pathway during induction training
- Increasing sample sizes for subsequent audit of effectiveness of MEWs
- Inclusion of all inpatient areas including emergency department
- Further analysis of code blue events in association with MEWS can be audited.

## Follow up Evaluation change:

- This audit reflected improvement needed in right documentation for nurses, doctors and proper escalation in patient care.
- Rigorous training and education, documented information shall be checked and supervised by the senior nursing professionals.
- Endorsement by the senior nursing professional

## Impact of Audit

- This audit has contributed to improving the organization's operations through creating awareness about the protocolized patient escalation pathway, re emphasis on established processes, and controls.
- Stakeholders are informed about the set target of incomplete documentation and not escalating patient care when required.
- Finally, the impact of the audit emphasized the empowerment of nurses and improved decision making on patient escalation following MEWS which also ensured patient safety for the organization.
- Actual code blue events can also be reduced through rapid response following timely escalation of patient status.

## Conclusion

- It has been noticed that the rate of incompleteness of MEWS was 11% among that majority noticed in GCS and urine output documentation.
- Compared to the previous audit, noncompliance rate increased to 14% from 12% in escalation of patient care, whereas non compliance in documentation has increased to 29% from 12% for the nurses and increased to 14% from 12% for doctors.