

# EHMRG Score Implementation Checklist

## INTRODUCTION

The Emergency Heart Failure Mortality Risk Grade (EHMRG) score is a clinical decision support tool designed to assess the risk of mortality in patients presenting to the emergency department with acute heart failure (HF). The score is calculated using routinely collected parameters such as vital signs, patient history, and lab values. It predicts 7-day and 30-day mortality as a percentage ratio. The EHMRG score is important for supporting clinical judgment and guiding decision-making related to patient disposition - whether to admit, discharge, or apply further diagnostic or therapeutic measures - thereby improving patient outcomes and personalizing care plans for heart failure patients presenting to emergency departments (EDs).

## Purpose and Implementation Considerations

This checklist is meant to guide organizations in implementing the score in their EDs. It provides a structured approach to integrating the EHMRG score into emergency department workflows, ensuring a smooth and effective transition that enhances patient care and outcomes. Addressing these considerations systematically will help guide your organization in the implementation of the EHMRG score, to the benefit of HF patients. **Note this list is not exhaustive**; rather, it is reflective of the important components of the implementation of the EHMRG score at the University Health Network in Toronto, Ontario. For an in-depth description of that implementation, please refer to the case study, [published on the Ted Rogers Centre for Heart Research web page](#).

## 1. Workflow

- ✓ **Where and When:** Determine the best “moment” for the calculation of the EHMRG score for patients presenting in the Emergency Department with suspected cardiac involvement and hallmark heart failure symptoms such as shortness of breath, edema, and fatigue. Assess when the patient’s data will be available to calculate the score (e.g., at triage, or after triage, when the patient has been assigned a room in the ED) and confirm sources of 10-13 patient parameters required for 7- and 30-day scores.
- ✓ **Who:** Identify who will have responsibility for generating the score (i.e., dedicated role or individual, shared responsibility depending on triage/patient workflow). Consider having a dedicated Integrated Care (IC) Lead or ED registered nurse calculate the score using the web-based calculator or automated EMR system.
- ✓ **Process:** Map out the steps in the workflow, illustrating each aspect of EHMRG score generation and consideration, as well as final clinical decision-making. Identify how the score will be brought forward (e.g., the dedicated role or other identified responsible parties) and when/how the score will be considered in the disposition decision. One scenario could be a dedicated role to bring the calculated score and recommendations to the attention of the EM physician through secure messaging within the Electronic Medical Record (EMR) or in-person discussions.
- ✓ **Record-keeping:** Determine how the EHMRG score, and recommendation, will be recorded as well as the disposition decision (i.e., to enable evaluation and quality improvement).

## 2. Technical Components

- ✓ **Connectivity:** Ensure reliable internet access for web-based calculator usage; secure network connectivity for EMR integration.
- ✓ **Building into EMR:** Determine suitability for integration of EHMRG score calculation into the electronic medical record (such as Epic). Create project team with technical and clinical participants, reach out to UHN Epic team for shareable code. Build within organizational ED Epic workflow, with appropriate build and testing cycles to ensure it automatically triggers based on predetermined parameters (such as HF symptoms or diagnosis). Integration availability may be limited based on EMR or may only be possible for 7-day calculations.
- ✓ **Placement in EMR:** Position the score in a logical place in your organization's EMR for easy access by clinicians, ensuring it integrates seamlessly into existing workflows.

## 3. Health Human Resource Requirements

- ✓ **Clinical Champion:** Seek a champion(s) within the ED leadership who can advocate and support the integration and use of EHMRG within the emergency department.
- ✓ **Role Assignment:** Consider naming a dedicated role or incorporating EHMRG calculation/consideration into existing roles to ensure continuous support for EHMRG score calculation and integration.
- ✓ **Education:** Identify roles requiring thorough training on EHMRG score usage, interpretation and access; deliver to EM physicians, nurses, learners, fellows, and locums, as appropriate.

## 4. Education

- ✓ **Resources and Materials:** Develop and distribute detailed guides, tip-sheets, and infographics on the EHMRG score. Upload into EMR or ED resource site and ensure they are regularly updated to reflect current practices and integration processes. Physical copies can be posted where applicable.
- ✓ **Understanding and interpreting the EHMRG Score:** Conduct training sessions and live demonstrations to ensure comprehensive understanding among clinical staff.
- ✓ **Placement and integration within ED workflow:** Ensure ED team members (e.g., learners) are aware of location of EHMRG score and routinely consider and integration into decision-making.

## 5. Communication

- ✓ **Engage Clinical Leadership:** Involve clinical leaders in championing the EHMRG score and incorporating it into standard practice.
- ✓ **Effective Communication Strategy:** Develop a robust communication plan to promote the EHMRG score, including announcements via email, staff meetings, and internal publications.
- ✓ **Channels and Vehicles:** Utilize various communication channels such as departmental rounds, online platforms, and printed materials at physician terminals to disseminate information.

## 6. Evaluation and Quality Improvement

- ✓ **Sensitivity and Fidelity Evaluations:** Monitor the percentage of eligible patients for whom the EHMRG score is calculated and evaluate whether the disposition decision aligns with the score recommendations.
- ✓ **Evaluate Utilization:** Conduct quality improvement projects to assess the impact of the EHMRG score on clinical decision-making and patient outcomes, identifying areas for improvement and adjustment which reflect your institutional needs and priorities.

**Additional Information:** for additional information, including an in-depth case study of the integration of the EHMRG score in University Health Network's emergency department, please review this informative webpage at the Ted Rogers Centre for Heart Research: <https://tedrogersresearch.ca/ehmrq/>