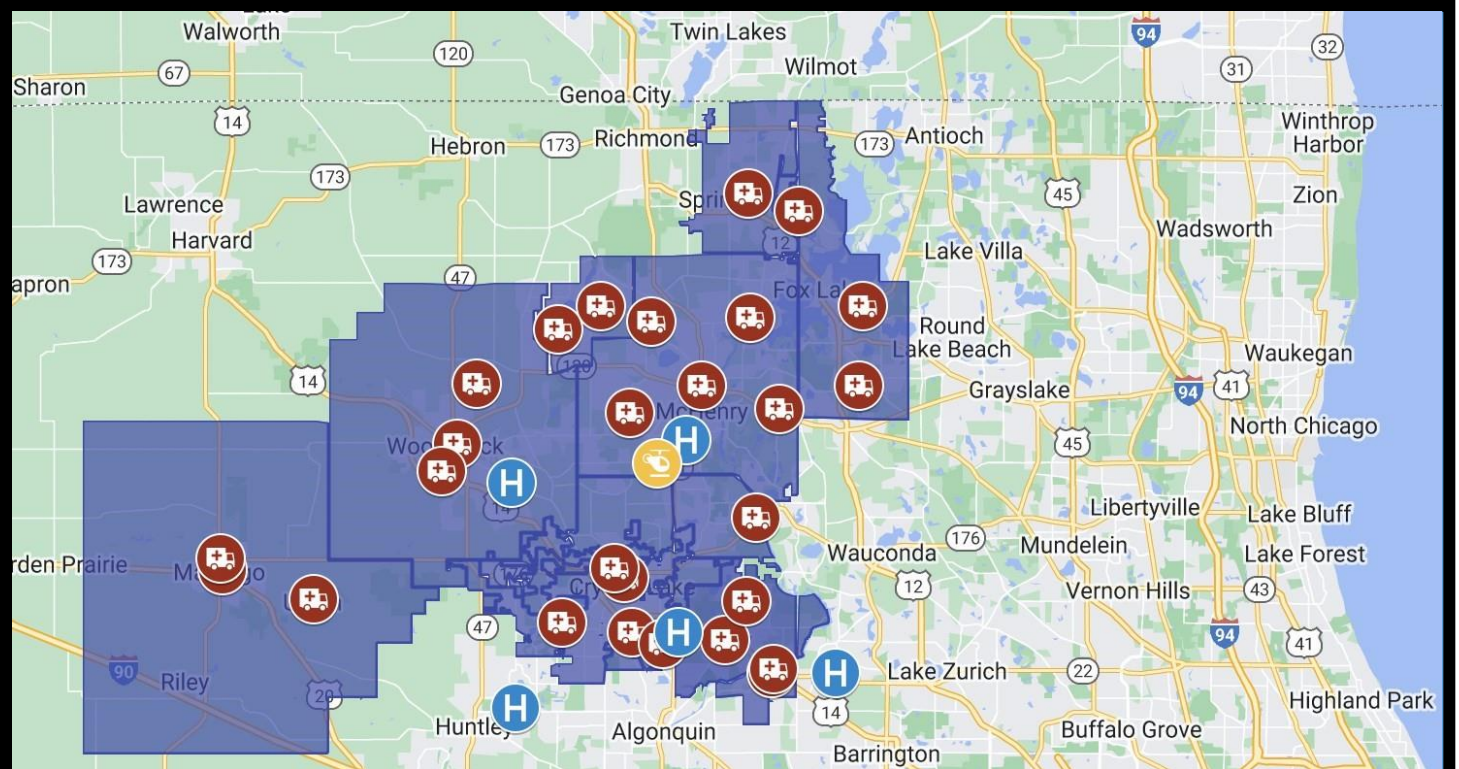





Continuous Quality Improvement Reviewers Handbook

Revised 8-2025



Introduction

	Title:	Introduction
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Purpose

Provide definitions and explanations for the process of reviewing patient care reports for providing feedback to EMS personnel and facilitate statistical review of system wide performance.


Goal

1. Provide both educational and reference tool for agency CQI Reviewers.
2. Support the responsibilities of CQI Committees.
3. Encourage consistency in CQI review activities throughout MWLC EMSS.
4. Generate reliable information for performance review.

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Accessing Image Trend CQI

	Title:	Accessing Image Trend CQI
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Definitions

1. *Advanced Airway* is defined as: placement of adjuncts to manage a patients airway. Advanced airway adjuncts include endotracheal tube and iGel.
2. *CQI Reviewer* is defined as: MWLC EMSS personnel designated as a primary provider (according to the MWLC EMSS System Participation Policy) in good standing by MWLC EMSS serving to review certain PCRs selected by ImageTrend software for their agency.
3. *MWLC EMSS* is defined as: McHenry Western Lake County Emergency Medical Services System.
4. *PCR* is defined as: the MWLC EMSS approved patient care report that represents the prehospital medical record detailing EMS incident response and actions.


Procedure

EMS Personnel needing to familiarize themselves with the general process of performing CQI Reviews are encouraged to start with watching the “CQI Reviewer Introduction Training” video located on the MWLC EMSS website at: <https://www.nm.org/for-medical-professionals/training-for-emergency-medical-services/emergency-medical-services-northwest-suburbs/ems-education>.

ImageTrend access to CQI activities is based upon your user account in ImageTrend. If you do not have the ability to access the needed CQI as outlined in the “CQI Reviewer Introduction Training” video, a setting change is needed in your user account. The User Information page in ImageTrend, inside the Employment tab, has a switch under the heading “Other Duties as Assigned” labelled “CQI Reviewer”. This must be set to “Active” and the CQI Category Properties must include your name in the selected list for access. Please notify your agency EMS Coordinator who will work with the EMS Office to configure your access.

The completion of individual CQI reviews makes or breaks the informational value and benefit of Quality Improvement. CQI Reviewers are pivotal in the collection of information through documentation based upon the **standardized evaluation** of data in a PCR. CQI Reviewers must strive to adhere to the **standardized evaluation** of PCR data based upon definitions and expectations set by CQI Committees. This information is provided in this handbook as a reference.

Advanced Airway CQI

	Title:	NM McHenry Advanced Airway
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CQI Question Definitions / Explanations

1. What was the first airway attempt? (NM-A1) (Single Select)
 - a. Intubation
 - i. an intubation attempt was made.
 - b. iGel
 - i. an iGel attempt was made.
 - c. No attempt
 - i. an advanced airway was not attempted.
2. What was the second airway attempt? (NM-A2) (Single Select)
 - a. Intubation
 - i. a second intubation was attempted.
 - b. iGel
 - i. a second iGel attempt was made.
 - c. No attempt
 - i. a second advanced airway attempt was not made.
3. Which airway was successful? (NM-A3) (Single Select)
 - a. Intubation
 - i. Intubation was successful. (first or second attempt)
 - b. iGel
 - i. iGel was successful. (first or second attempt)
 - c. Not Successful
 - i. Advanced Airway placement was not successful.
 - d. No attempt
 - i. an advanced airway was not attempted.

4. Was suction used? (NM-A4) (Single Select)
- a. Yes
 - i. Suction was utilized as indicated on the MWLC EMSS Skills Sheet.
 - b. No
 - i. Suction was not utilized as indicated on the MWLC EMSS Skills Sheet -OR- No advanced airway was attempted.
5. Was a bougie used? (NM-A5) (Single Select)
- a. Yes
 - i. (For intubation only), a bougie was utilized for intubation attempt(s).
 - b. No
 - i. (For intubation only), a bougie was not utilized for intubation attempt(s).
 - c. Not indicated
 - i. No advanced airway attempted -OR- iGel attempt(s) only.
6. Was airway management indicated? (NM-A6) (Single Select)
- a. Yes
 - i. a need for *advanced airway* placement is evident per MWLC EMSS Region IX SOP (Page 11) and/or MWLC EMSS Skills Sheets (Endotracheal Intubation (Air Traq) Skills Sheet, I-GEL Skills Sheet) located on MWLC EMSS website at: <https://www.nm.org/for-medical-professionals/training-for-emergency-medical-services/emergency-medical-services-northwest-suburbs/ems-education>
 - b. No
 - i. no need for *advanced airway* placement is evident per MWLC EMSS Region IX SOP (Page 11) and/or MWLC EMSS Skills Sheets (Endotracheal Intubation (Air Traq) Skills Sheet, I-GEL Skills Sheet) located on MWLC EMSS website at: [https://www.nm.org/for-medical-professionals/training-for-emergency-medical-services-emergency-medical-services-northwest-suburbs/ems-education](https://www.nm.org/for-medical-professionals/training-for-emergency-medical-services/emergency-medical-services-northwest-suburbs/ems-education)
7. Was sedation problematic? (NM-A7) (Single Select)
- a. Yes
 - i. At any point during patient care, the PCR documents problem(s) with sedation.
 - b. No
 - i. At any point during patient care, the PCR does not document problem(s) with sedation.

8. Followup Notes for: "First airway attempt: iGel" (NM-A8) (Memo)
 - i. *If NM-A1 was "iGel", Reviewer documents details of why iGel attempt was made without first attempting intubation.
9. Followup Notes for: "Sedation Problematic: YES" (NM-A9) (Memo)
 - i. *If NM-A7 is answered "Yes", Reviewer documents details of what the problem(s) were with sedation.
10. If DAI utilized, what was the first sedation therapy administered? (NM-A10) (Single Select)
 - a. Ketamine
 - i. the first drug administration to facilitate drug assisted intubation was Ketamine.
 - b. Etomidate
 - i. the first drug administration to facilitate drug assisted intubation was Etomidate.
 - c. Versed
 - i. the first drug administration to facilitate drug assisted intubation was Versed (Midazolam).
 - d. Etomidate and Versed
 - i. the first drugs administered to facilitate drug assisted intubation were Etomidate AND Versed (Midazolam).
 - e. Not Applicable
 - i. Drug assisted intubation was not attempted.
 - f. Not Documented
 - i. Airway interventions were not documented.
11. If DAI utilized, was the dosing consistent with SOP? (NM-A11) (Single Select)
 - a. Yes
 - i. After reviewing the care provided as documented, the dose of the medication used complies with MWLC EMSS Region IX SOP OR orders received by OLMC.
 - b. No
 - i. After reviewing the care provided as documented, the dose of the medication used does not comply with MWLC EMSS Region IX SOP OR orders received by OLMC.
 - c. Not Applicable
 - i. Drug assisted intubation was not attempted.


12. What was the patient's outcome? (NM-A12)
- a. Resuscitation terminated in field.
 - i. Physician evaluation of advanced airway placement was not completed as the patient was not transported.
 - b. Transferred to ED – placement confirmed.
 - i. Physician evaluation of advanced airway placement confirmed proper placement.
 - c. Transferred to ED – placement not confirmed.
 - i. Physician evaluation of advanced airway placement was not performed. (This is specifically documented as such in the PCR)
 - d. Transferred to ED – misplaced airway identified.
 - i. Physician evaluation of advanced airway placement confirmed a misplaced advanced airway.
 - e. Unable to determine.
 - i. Information not documented.
13. Are any of these comorbidities documented: (Diabetes, Obesity, Oral Mass/Swelling/Trauma, Thyroid Disorders, Trismus)? (NM-A13)
- a. Yes
 - i. One or more of the comorbidities were documented.
 - b. No
 - i. One or more of the comorbidities were not documented.
14. If intubation attempted, was a 6.5 tube utilized? (NM-A14)
- a. Yes
 - i. Intubation was attempted at least once, and a size 6.5 endotracheal tube was utilized.
 - b. No
 - i. Intubation was attempted at least once, and a size 6.5 endotracheal tube was not utilized.
 - c. Intubation not attempted
 - i. Intubation was not attempted, therefore, no ET tube was used.

CQI Data Set Definitions

- A. **Number of CQI Reviews:** Advanced Airway Reviews that include one or more intubation attempts.
- B. **iGel Attempts:** The total number of iGel attempts made in the PCRs reviewed.
- C. **Intubation Attempts:** The total number of attempts to intubate.
- D. **Intubation Success Rate:** Total number of successfully intubated patients divided by the number of intubation attempts. (Two attempts resulting in successful intubation is treated as ONE attempt.)

- E. **Intubation Successful – 1st Attempt:** Successful first attempt intubations divided by the total number of successfully intubated patients.
- F. **Intubation Successful – 2nd Attempt:** Successful second attempt intubations divided by the total number of successfully intubated patients.
- G. **iGel Attempt without Intubation Attempt:** Successful iGel placements without any attempts to intubate.
- H. **Intubation AFTER iGel Attempt:** Successfully intubated patients AFTER an iGel attempt.
- I. **iGel Successful:** Total number of successfully placed iGels divided by the total number of iGel attempts.
- J. **Advanced Airway Success Rate:** Patients successfully managed with advanced airway (ETI or iGel).
- K. **Suction Utilized During Intubation:** Suction utilized during each intubation attempt.
- L. **Bougie Utilized with Intubation:** A bougie utilized with each intubation attempt.
- M. **Sedation Problematic:** DAI sedation was problematic in successfully facilitating intubation.

Cardiac Arrest CQI

	Title:	NM McHenry Cardiac Arrest
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CQI Question Definitions / Explanations

1. Was the patient defibrillated within five minutes of patient contact (if indicated)? (NM-CA1) (Single Select)
 - a. Yes
 - i. Defibrillation was indicated AND performed within five minutes of patient contact.
 - b. No
 - i. Defibrillation was indicated AND either:
 1. Not performed at all.
 2. Not performed within 5 minutes.
 - c. Not Applicable
 - i. Defibrillation was not indicated.
2. Was glucose level checked prior to epi administration? (NM-CA2) (Single Select)
 - a. Yes
 - i. Glucose was assessed prior to administering epinephrine.
 - b. No
 - i. Either:
 1. Glucose was not assessed prior to administering epinephrine.
 2. Glucose was not assessed at all.
 - c. Not indicated
 - i. Assessing glucose was not indicated.
3. Was Res-Q-Pod utilized (if indicated)? (NM-CA3) (Single Select)
 - a. Yes
 - i. Res-Q-Pod was indicated and utilized.
 - b. No
 - i. Res-Q-Pod was indicated AND not utilized.
 - c. Not Applicable
 - i. Res-Q-Pod was not indicated.

4. Was a chest compression device utilized? (NM-CA4) (Single Select)
- a. No
 - i. A mechanical chest compression device was not utilized during patient care.
 - b. Zoll Autopulse
 - i. The Zoll Autopulse chest compression device was utilized during patient care.
 - c. LUCAS
 - i. The LUCAS chest compression device was utilized during patient care.
 - d. Defibtech
 - i. The Defibtech chest compression device was utilized during patient care.
 - e. Not Applicable
 - i. Chest compressions were not performed. (Manually or otherwise)
5. Were medications appropriate per SOP? (NM-CA5) (Single Select)
- a. Yes
 - i. The medication(s) administered complies with Region IX MWLCEMS protocol. (this includes the drug, dose, and timing)
 - b. No
 - i. The medication(s) administered does NOT comply with Region IX MWLCEMS protocol. (this includes the drug, dose, and timing)
 - ii.
 - c. Not indicated
 - i. Medication therapy was not indicated per Region IX MWLCEMS protocol.
6. Was care provided compliant with SOP? (NM-CA6) (Single Select)
- a. Yes
 - i. The overall care (including medication administration) provided to the patient complies with Region IX MWLCEMS protocol.
 - b. No
 - i. The overall care (including medication administration) provided to the patient does not comply with Region IX MWLCEMS protocol.
 - c. Unsure (See Comments)
 - i. Reviewer is unable to determine if the care documented is compliant with Region IX MWLCEMS protocol. The reviewer must detail the issue in "Notes (NM-CA11)" for review by the Cardiac Arrest Committee.

7. Was ETCO2 monitored within five minutes of starting CPR? (NM-CA7) (Single Select)
- a. Yes
 - i. Capnography was assessed within five minutes of beginning CPR.
 - b. No
 - i. Capnography was not assessed within five minutes of beginning CPR.
 - c. Not indicated
 - i. Utilizing capnography in patient assessment was not indicated.
8. Was a 12-lead obtained within 8 minutes of ROSC? (NM-CA8) (Single Select)
- a. Yes
 - i. If ROSC achieved, a 12-lead was obtained within eight minutes.
 - b. No
 - i. If ROSC achieved, a 12-lead was NOT obtained within eight minutes.
 - c. Not Applicable
 - i. ROSC was not achieved.
9. Was a pulse lost after ROSC? (NM-CA9) (Single Select)
- a. Yes
 - i. ROSC was achieved, and a pulse subsequently lost.
 - b. No
 - i. ROSC was achieved, and sustained a pulse through delivery to the ED.
 - c. Not Applicable
 - i. ROSC was not achieved.
10. Was blood pressure appropriately managed post ROSC? (NM-CA10) (Single Select)
- a. Yes - Fluids
 - i. A need for blood pressure management was managed with fluid administration.
 - b. Yes – Fluid & Pressors
 - i. A need for blood pressure management was managed with fluid administration AND medication.
 - c. No
 - i. A need for blood pressure management was NOT managed.
 - d. ROSC Not Achieved
 - i. ROSC not achieved; therefore, blood pressure management was not indicated.
 - e. Not Applicable
 - i. ROSC was achieved; however, blood pressure management was not needed.


11. Notes (NM-CA11) (Memo)
- a. *This is a comment space for the reviewer and not statistically evaluated. Information in this field can help the Cardiac Arrest Committee to understand unique circumstances, or details to answering “Unsure (See Comments) in NM-CA6.*
12. Comorbidities include: (NM-CA12) (Memo)
- a. *This is a comment space for the reviewer to list comorbidities helping to explain challenges in resuscitation.*
13. What was the patient’s disposition? (NM-CA13) (Single Select)
- a. Expired in field
 - i. Resuscitation terminated in field.
 - b. Expired in ED
 - i. Patient treated, transported, and transferred to ED where the patient expired.
 - c. Admitted
 - i. Patient treated, transported, and transferred to ED where patient treated and admitted (but eventually expired).
 - d. Admitted and Discharged
 - i. Patient treated, transported, and transferred to ED where patient treated, admitted, and discharged. ****This is a save****
 - e. No resuscitation attempted
 - i. Resuscitation not attempted.
14. What was the patient’s neuro status on hospital discharge? (NM-CA14) (Memo)
- a. *This is a comment space for the reviewer to report on the patient’s neuro status at discharge from the hospital.*
15. Was resuscitation attempted? (NM-CA15) (Single Select)
- a. Yes
 - i. Resuscitation was attempted.
 - b. No
 - i. Resuscitation was not attempted.

CQI Data Set Definitions

- A. **Total Reviews:** The number of reviews completed.
- B. **Defib within five minutes of patient contact (if indicated):** Percentage of reviewed calls that achieved defib within 5 minutes of patient contact (if indicated).
- C. **Glucose level checked prior to epi administration:** Percentage of reviewed calls that checked glucose prior to epi (if indicated).
- D. **Res-Q-Pod utilized (if indicated):** Percentage of reviewed calls that utilized Res-Q-Pod (if indicated).

- E. **Chest compression device utilized:** Percentage of reviewed calls using mechanical chest compression (unless not applicable).
- F. **Medications appropriate per SOP:** Percentage of reviewed calls administering correct medications (if indicated).
- G. **Care compliant with SOP:** Percentage of reviewed calls demonstrating SOP compliant care (if indicated).
- H. **ETCO2 monitored within 5 minutes?:** Percentage of reviewed calls where ETCO2 used within 5 minutes of patient contact. (if indicated)
- I. **12-lead obtained within 8 minutes of ROSC:** Percentage of reviewed calls with 12-lead obtained within 8 minutes of ROSC. (unless not applicable)
- J. **Pulse lost by EMS:** Percentage of reviewed calls where pulse was lost in the field. (unless not applicable)
- K. **Blood pressure appropriately managed post ROSC:** Percentage of reviewed calls where B/P managed per SOP post-ROSC. (unless not applicable)
- L. **Comorbidities include:** Notes field allowing the CQI Reviewer to communicate comorbidities involved with a patient. *This field does not contribute to statistical analysis.*
- M. **Patient's Disposition, Admitted and Discharged:** Percentage of resuscitated patients who were later admitted and discharged.
- N. **Patient's Disposition, Admitted:** Percentage of resuscitated patients who later expired in ED.
- O. **Patient's Disposition, Expired in ED:** Percentage of resuscitated patients who later expired in ED.
- P. **Patient's Disposition, Expired in Field:** Percentage of resuscitated patients who expired in the field.
- Q. **Neuro status on hospital discharge:** Percentage of reviewed calls where ROSC was achieved AND date/time documented.
- R. **Cardiac Arrest ROSC Date Time documented:** Number of reviewed calls where ROSC was achieved.
- S. **Sustained ROSC to ED:** Percentage of reviewed calls where ROSC was achieved AND sustained to ED.
- T. **Number of ROSC Achieved:** Number of reviewed calls where ROSC was achieved.

Controlled Substance Committee (EMS Office)

	Title:	NM McHenry CS Administration
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CQI Question Definitions / Explanations

1. Was the dose correct per SOP? (CSCare1) (Single Select)
 - a. Yes
 - i. After reviewing the care provided as documented, the dose of the controlled substance complies with standing orders OR orders received by OLMC. *SOP states to round fentanyl dose to the nearest 5 mcg.
 - b. No
 - i. After reviewing the care provided as documented, the dose of the controlled substance does not comply with standing orders OR orders received by OLMC.
2. Vitals signs 5 minutes after each dose? (CSCare2) (Single Select)
 - a. Yes
 - i. Vitals are assessed within 5 minutes of each dose of controlled substance. *Partial vitals documented must be appropriate based upon subjective opinion of reviewer. Reviewer may use subjective judgement when partial vitals are documented. (i.e. did a monitor export partial vitals data. The reviewer should consider the time interval between full sets of vitals)*
 - b. No
 - i. Vitals are not assessed within 5 minutes of each dose of controlled substance.
3. Continuous pulse oximetry documented? (CSCare3) (Single Select)
 - a. Yes
 - i. Pulse oximetry is documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration. *Reviewer may use subjective judgement when partial vitals are documented. (i.e. did a monitor export partial vitals data. The reviewer should consider the time interval between full sets of vitals)*
 - b. No
 - i. Pulse oximetry is not documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration.

4. Continuous capnography documented? (CSCare4) (Single Select)
 - a. Yes
 - i. Capnography is documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration. *Reviewer may use subjective judgement when partial vitals are documented. (i.e. did a monitor export partial vitals data. The reviewer should consider the time interval between full sets of vitals)*
 - b. No
 - i. Capnography is not documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration.
5. Continuous ECG interpretation documented? (CSCare5) (Single Select)
 - a. Yes
 - i. ECG rhythm is documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration. *Reviewer may use subjective judgement when partial vitals are documented. (i.e. did a monitor export partial vitals data. The reviewer should consider the time interval between full sets of vitals)*
 - b. No
 - i. ECG rhythm is not documented consistently with each set of vitals beginning with a baseline prior to controlled substance administration.
6. Notes? (CSCare6) (Memo)
 - a. Use this field for thoughts that may contribute to an improved review.

CQI Data Set Definitions

- A. **Total Reviews:** Total number of reviews completed.
- B. **Dose Correct?:** Controlled substance dose administered evaluated against SOP for accuracy. *This question was added on June 25, 2024. *SOP states to round fentanyl dose to the nearest 5 mcg.
- C. **% Continuous ETCO2:** How often ETCO2 was documented with EVERY set of vitals PREFERABLY with a baseline prior to controlled substance administration.
- D. **% Continuous SPO2:** How often SPO2 was documented with EVERY set of vitals PREFERABLY with a baseline prior to controlled substance administration.
- E. **% Continuous ECG:** How often ECG was documented with EVERY set of vitals PREFERABLY with a baseline prior to controlled substance administration.
- F. **% Vitals within 5 minutes:** How often vitals were documented within five minutes of each controlled substance administration.