National Association of State EMS Officials

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Guidance Document

Blood Product Administration Documentation: Best Practice Guidance

This guidance document was created by the NASEMSO Data Managers Council and approved by the NASEMSO Board of Directors on January 16, 2025; Revised and reaffirmed on December 4, 2025.

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Introduction

Blood product administration in the out-of-hospital setting is gaining attention for its life saving potential, however, consistent and reliable data are necessary to fully capture its benefits in this setting. The purpose of this guidance document is to provide states with a standardized method for documenting blood product usage, which will facilitate more robust data collection and analysis. Improved documentation would support efforts to secure funding from federal and state partners to increase blood availability and use in prehospital acute care. Implementation of this guidance will ensure consistent and reliable documentation as well as parallel reporting at the local, state, and national level.

Blood Product Transfusion Documentation Recommendations

This guidance recommends that documentation be completed in both the Procedures and Medications elements. This provides complete reporting of blood product administration and minimizes the need to build additional custom fields (e.g., vascular access location, dosage, units).

Step 1: Document the blood transfusion in eProcedures.03 – Procedure and complete corresponding procedure elements.

The defined code list for eProcedures.03 (Procedure) is represented by SNOMED CT Procedure codes. The following procedure code should be documented in the electronic patient care report:

SNOMED CT	Source Label	EMS Suggested Label
116859006	Transfusion of blood product	Transfusion of blood

Step 2: Document the specific blood product transfused in eMedication.03 – Medication Administered and complete corresponding medication elements.

eMedications.03 – Medication Administered is typically represented by a selected group of values found in the RxNorm coding system (a standardized nomenclature for clinical drugs and drug delivery devices) used primarily in the out-of-hospital environment. Blood-related products specific to EMS use, however, are described through SNOMED CT codes. The NEMSIS v3.5.0 Medication Administered Defined List includes the most commonly used RxNorm medication codes and selected blood-related SNOMED CT codes. These can be accessed from the NEMSIS website. Each administration should be documented separately. One of the following SNOMED CT codes should be documented in eMedications.03:

SNOMED CT	Source Label	EMS Suggested Label
116795008	Transfusion of cryoprecipitate	Cryoprecipitate
116861002	Transfusion of fresh frozen plasma	Plasma
116865006	Administration of albumin	Albumin
180208003	Intravenous blood transfusion of platelets	Platelets
33389009	Transfusion of whole blood	Whole blood
71493000	Transfusion of packed red blood cells	Packed red blood cells (RBC)
116762002	Administration of blood product	Blood product*

* *Other blood products may be documented & mapped to the* 116762002 Administration of blood product *code*.

Recommended Schematron Rules for Blood Products Transfusion

If eProcedures.03 contains 116859006 Transfusion of blood product, eMedications.03 must include one or more of the following medications: 116795008 Transfusion of cryoprecipitate, 116861002 Transfusion of fresh frozen plasma, 116865006 Administration of albumin, 180208003 Intravenous blood transfusion of platelets, 33389009 Transfusion of whole blood, 71493000 Transfusion of packed red blood cells, 116762002 Administration of blood product.

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SUGGESTED BENCHMARK METRICS

This guidance utilizes subject matter expertise across multiple disciplines to expand beyond documentation requirements to focus on establishing national and state metrics for field blood product utilization. By implementing standardized metrics, EMS systems can evaluate performance, impact, and benchmark against similar agencies across the nation.

The following metrics are recommended for national and state evaluation of the performance and impact of blood product utilization in the field:

Metric	Description	Rationale
Agency Utilization Tracking	Number of agencies carrying blood products and utilization per 1,000 EMS transports	Provides a national snapshot of access, readiness and utilization.
Appropriate Patient(s) for Administration	Percent of patients that meet blood inclusion criteria receive blood products	Ensures appropriate implementation of blood transfusion program
Documentation Completeness	Percent required data elements captured in the ePCR for every transfusion event	Ensures accurate performance measurement and quality improvement.
Appropriate Patient Monitoring and Evaluation	Percent of PCRs where vitals are documented before, during, and after transfusion	Ensures appropriate monitoring of patient condition throughout treatment.
Time to Blood Product Initiation	Minutes from EMS notification or hemorrhage recognition to initiation of transfusion	Earlier transfusion improves survival outcomes in hemorrhaging patients.
Outcome Data Availability	Percent of PCRs where outcome data is documented.	Target system integration opportunities for improved continuity of care.
Change in Patient Status	Percent of patients whose status improved as a result of transfusion	Establish best practices for enhanced patient outcomes.
Adverse Reaction Reporting	Percent suspected transfusion reactions documented and reported	Protects patient safety and enables surveillance.

NATIONAL REQUIRED DATA ELEMENTS

Consistent and reliable documentation is critical to the evaluation of blood product utilization in the out-of-hospital setting. To accurately define and measure national benchmarks, identify target populations, and justify the utilization of this precious resource, the following standardized NEMSIS data elements must be captured in the ePCR or EMS blood tracking system:

- **Time Stamps**
  - Time of dispatch / call receipt - ***eTimes.03*** (Unit Notified by Dispatch Date/Time) or ***eTimes.01*** (PSAP Call Date/Time)
  - EMS Time on Scene - ***eTimes.06*** (Unit Arrived on Scene Date/Time) and ***eTimes.09*** (Unit Left Scene Date/Time
  - Time of first blood product initiation - ***eMedications.01*** (Medication Date/Time for Blood Product Administration)
  - End of transfusion time – ***eMedications.908*** (CUSTOM[1] Date/Time Administration Stopped)

- **Patient and Clinical Data**
  - Unique patient identifier - ***eRecord.01*** (Patient Care Report Number)
  - Age - ***ePatient.15*** (Age)
  - Sex – ***ePatient.25*** (Sex)
  - Weight (measured or estimated) - ***eExam.01*** (Patient Weight)
  - Mechanism of injury or clinical indication for transfusion – ***eSituation.11*** (Provider Primary Impression) and ***eInjury.01*** (Cause of Injury)
  - Location of incident – ***eScene.09*** (Incident Location Type)

- **Blood Product Details**
  - Type of product (whole blood, PRBC, plasma, platelets) - ***eMedications.03*** (Medication Administered), ***eMedications.906*** (CUSTOM Donor Blood Type (ABO)), and ***eMedications.907*** (CUSTOM Donor Rh Factor)
  - Unit ID or lot number – ***eMedications.905*** (CUSTOM Blood Product Unit Number), **eMedications.909** (CUSTOM Blood Facility Id Number)
  - Number of units and total volume administered - ***eMedications.05*** (Medication Dosage) and ***eMedications.06*** (Dosage Units)
  - Route of administration - ***eMedications.04*** (Medication Administration Route)

- **Safety and Outcome Monitoring**
  - Vital signs before, during and after transfusion - ***eVitals.01*** (Date/Time Vitals Signs Taken), ***eVitals.03*** (Cardiac Rhythm / Electrocardiography (ECG)),

[1] CUSTOM refers to National Custom Elements implemented by NEMSIS, configuration information is available here: https://nemsis.org/technical-resources/version-3/version-3-national-custom-element-library/

eVitals.06 (SBP Systolic Blood Pressure), ***eVitals.10*** (Heart Rate), ***eVitals.12*** (Pulse Oximetry), ***eVitals.14*** (Respiratory Rate), ***eVitals.16*** (End Tidal Carbon Dioxide (ETCO2))

- Additional interventions performed – ***eProcedures.03*** (Procedure), and ***eMedications.03*** (Medications Administered)
  - Documentation of any transfusion reaction or adverse event - ***eMedications.08*** (Medication Complication)
  - Cardiac arrest details when applicable - ***eArrest.01*** (Cardiac Arrest), ***eArrest.04*** (Arrest Witnessed By), ***eArrest.18*** (End of EMS Cardiac Arrest Event) and ***eArrest.20*** (Who First Initiated CPR)
  - Patient status upon hospital discharge – ***eOutcome.02*** (Hospital Disposition) or ***eOutcome.01*** (Emergency Department Disposition)
  - Hospital length of stay or time of death – ***eOutcome.11*** (Date/Time of Hospital Admission) and ***eOutcome.16*** (Date/Time of Hospital Discharge *or Death*)

Data Reporting and Benchmarking

Allow with providing guidance on appropriate blood product documentation, state EMS offices should:

- Review completeness and accuracy blood product administration data.
- Strengthen interoperability infrastructure to support robust, comprehensive tracking of patient care and outcomes.
- Share findings with medical directors, quality committees, and other state EMS officials.
- Encourage agencies to follow industry and accreditation standards such at the AABB reports at minimum: time-to-initiation, verification compliance, vital-sign set completion, handoff completeness, cold-chain integrity, adverse reaction rate, traceability/final disposition, waste rate.

Summary

Standardizing data collection and performance metrics for blood product use in EMS settings ensures that patients with life-threatening hemorrhage receive rapid, safe, and well-documented care. By capturing the right data elements and comparing them to national data, EMS systems can improve survival, enhance impact, and strengthen accountability.