

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Manisha Juthani, MD
Commissioner



Ned Lamont
Governor
Susan Bysiewicz
Lt. Governor

OFFICE OF EMERGENCY MEDICAL SERVICES

Date: January 4, 2023

To: Connecticut EMS Agencies and electronic patient care report (ePCR) vendors

From: Eliza Little, PhD^a
Epidemiologist, OEMS Data Coordinator

Raffaella Coler, RN, MEd, Paramedic^b
Director, Office of Emergency Medical Services

Subject: NEMSIS V3.5 Transition Information

Purpose: To outline the minimum data elements required Nationally and by the State of Connecticut to be documented in all patient care reports under the revised NEMSIS V3.5 data standard.

Background: Under [Connecticut State Statutes \(19a-177 \(8\)\)](#) The Office of Emergency Medical Services is charged with the timely collection and maintenance of patient care report data. NEMSIS, the National Emergency Medical Services Information System, has revised their data standard to version 3.5. The new version aims to improve the accuracy and efficiency of documentation with fewer nationally required elements, revised call dispositions, defined lists with fewer values, and expanded meanings of pertinent negatives. The new standard will also enhance health information exchange with elements harmonized with CARES and the addition of the UUID which will allow linkage for trauma and other registries.

Submission: EMS agencies can import data from third-party vendors that have passed NEMSIS V3.5 Compliance testing ([NEMSIS Website](#)). Alternatively, EMS agencies can request login credentials from OEMS and submit data directly ([Direct Entry Portal](#)).

Data Elements: Each NEMSIS V3.5 compliant ePCR shall at a minimum include **200** national and state required elements (See Appendix 1). The definitions, values and configuration information for most all of these elements is available in the online [NEMSIS V3.5 Data Dictionary](#) and more information in the



Phone: (860) 509-7975 • Fax: (860) 730-8384
Telecommunications Relay Service 7-1-1
410 Capitol Avenue, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph

Affirmative Action/Equal Opportunity Employer



[Extended V3.5 Data Definitions](#) document. An additional 17 Custom State Elements have been added to improve documentation on opioid suspected overdoses and motor vehicle accidents. Custom elements are identifiable in Appendix 1 with the prefix *it*, e.g. *itHistory.038*. A data dictionary for the 17 Custom State Elements is included in Appendix 2.

Data Values: Defined lists have been implemented for Procedures (eProcedures.03; n=117), Medication Administered (eMedications.03; n=87), Impressions (eSituation.11 and eSituation.12; n=111), Symptoms (eSituation.09 and eSituation.10; n=108), Cause of Injury (eInjury.01; n=76), and Incident Location Type (eScene.09; n=32). (See Appendix 3 for element values).

State Data Set: The StateDataSet XML is available [online](#).

State Validation Rules: The NEMSIS compliant Connecticut V3.5 schematron is available [online](#). 32 state validation rules are included (Appendix 4: State Validation Rules). All state validation rule names begin with “CT 3.5.” All state validation rules are warnings (will flag red) with a value of 1 point.

Timeline: OEMS will continue to accept NEMSIS version 3.4 data until June 30, 2023, the timeline for transition to report in new data standard

ImageTrend Agencies – by March 30, 2023

EmsCharts Agencies – by April 30, 2023

ESO, Sansio, Forte Holdings, and agencies that use another vendor – by May 30, 2023

If you have any questions or suggestions, please reach out to [Eliza Little](#) at 860-509-7431. Thank you.

Appendix 1. NEMSIS V3.5 Transition Information Appendix

	National	Element Number	Element Name
1		eAirway.03	Airway Device Being Confirmed
2		eAirway.04	Airway Device Placement Confirmed Method
3		eAirway.08	Airway Complications Encountered
4		eAirway.09	Suspected Reasons for Failed Airway Management
5	1	eArrest.01	Cardiac Arrest
6	1	eArrest.02	Cardiac Arrest Etiology
7	1	eArrest.03	Resuscitation Attempted By EMS
8	1	eArrest.04	Arrest Witnessed By
9	1	eArrest.07	AED Use Prior to EMS Arrival
10	1	eArrest.09	Type of CPR Provided
11		eArrest.10	Therapeutic Hypothermia by EMS
12	1	eArrest.11	First Monitored Arrest Rhythm of the Patient
13	1	eArrest.12	Any Return of Spontaneous Circulation
14	1	eArrest.14	Date/Time of Cardiac Arrest
15		eArrest.15	Date/Time Resuscitation Discontinued
16	1	eArrest.16	Reason CPR/Resuscitation Discontinued
17	1	eArrest.17	Cardiac Rhythm on Arrival at Destination
18	1	eArrest.18	End of EMS Cardiac Arrest Event
19		eArrest.19	Date/Time of Initial CPR
20	1	eArrest.20	Who First Initiated CPR
21	1	eArrest.21	Who First Applied the AED
22	1	eArrest.22	Who First Defibrillated the Patient
23		eCrew.01	Crew Member ID
24		eCrew.02	Crew Member Level
25	1	eDispatch.01	Dispatch Reason
26	1	eDispatch.02	EMD Performed
27		eDisposition.01	Destination/Transferred To, Name
28		eDisposition.02	Destination/Transferred To, Code
29		eDisposition.03	Destination Street Address
30		eDisposition.04	Destination City
31	1	eDisposition.05	Destination State
32	1	eDisposition.06	Destination County
33	1	eDisposition.07	Destination ZIP Code
34	1	eDisposition.16	EMS Transport Method
35	1	eDisposition.17	Transport Mode from Scene
36	1	eDisposition.18	Additional Transport Mode Descriptors
37	1	eDisposition.19	Final Patient Acuity
38	1	eDisposition.20	Reason for Choosing Destination
39	1	eDisposition.21	Type of Destination
40	1	eDisposition.22	Hospital In-Patient Destination
41	1	eDisposition.23	Hospital Capability
42	1	eDisposition.24	Destination Team Pre-Arrival Alert or Activation
43	1	eDisposition.25	Date/Time of Destination Prearrival Alert or Activation
44	1	eDisposition.27	Unit Disposition
45	1	eDisposition.28	Patient Evaluation/Care

46	1	eDisposition.29	Crew Disposition
47	1	eDisposition.30	Transport Disposition
48	1	eDisposition.31	Reason for Refusal/Release
49	1	eDisposition.32	Level of Care Provided per Protocol
50		eExam.01	Estimated Body Weight in Kilograms
51		eExam.02	Length Based Tape Measure
52		eExam.21	Stroke/CVA Symptoms Resolved
53	1	eHistory.01	Barriers to Patient Care
54	1	eHistory.17	Alcohol/Drug Use Indicators
55		eHistory.18	Pregnancy
56		eHistory.19	Last Oral Intake
57	1	eInjury.01	Cause of Injury
58		eInjury.02	Mechanism of Injury
59	1	eInjury.03	Trauma Triage Criteria (Steps 1 and 2)
60	1	eInjury.04	Trauma Triage Criteria (Steps 3 and 4)
61		eInjury.05	Main Area of the Vehicle Impacted by the Collision
62		eInjury.06	Location of Patient in Vehicle
63		eInjury.07	Use of Occupant Safety Equipment
64		eInjury.08	Airbag Deployment
65		eInjury.09	Height of Fall (feet)
66		eInjury.26	ACN Vehicle Seat Location
67		eInjury.27	Seat Occupied
68		eInjury.28	ACN Incident Seatbelt Use
69		eInjury.29	ACN Incident Airbag Deployed
70	1	eMedications.01	Date/Time Medication Administered
71	1	eMedications.02	Medication Administered Prior to this Unit's EMS Care
72	1	eMedications.03	Medication Administered
73	1	eMedications.04	Medication Administered Route
74	1	eMedications.05	Medication Dosage
75	1	eMedications.06	Medication Dosage Units
76	1	eMedications.07	Response to Medication
77	1	eMedications.08	Medication Complication
78		eMedications.09	Medication Crew (Healthcare Professionals) ID
79	1	eMedications.10	Role/Type of Person Administering Medication
80		eNarrative.01	Patient Care Report Narrative
81		eOther.01	Review Requested
82		eOther.08	Crew Member Completing this Report
83	1	eOutcome.01	Emergency Department Disposition
84	1	eOutcome.02	Hospital Disposition
85	1	eOutcome.09	Emergency Department Procedures
86	1	eOutcome.10	Emergency Department Diagnosis
87	1	eOutcome.11	Date/Time of Hospital Admission
88	1	eOutcome.12	Hospital Procedures
89	1	eOutcome.13	Hospital Diagnosis
90	1	eOutcome.16	Date/Time of Hospital Discharge
91	1	eOutcome.18	Date/Time of Emergency Department Admission
92	1	eOutcome.19	Date/Time Emergency Department Procedure Performed
93	1	eOutcome.20	Date/Time Hospital Procedure Performed

94		ePatient.02	Last Name
95		ePatient.03	First Name
96		ePatient.05	Patient's Home Address
97		ePatient.06	Patient's Home City
98	1	ePatient.07	Patient's Home County
99	1	ePatient.08	Patient's Home State
100	1	ePatient.09	Patient's Home ZIP Code
101	1	ePatient.13	Gender
102	1	ePatient.14	Race
103	1	ePatient.15	Age
104	1	ePatient.16	Age Units
105		ePatient.17	Date of Birth
106		ePatient.22	Alternate Home Residence
107	1	ePayment.01	Primary Method of Payment
108	1	ePayment.50	CMS Service Level
109	1	eProcedures.01	Date/Time Procedure Performed
110	1	eProcedures.02	Procedure Performed Prior to this Unit's EMS Care
111	1	eProcedures.03	Procedure
112	1	eProcedures.05	Number of Procedure Attempts
113	1	eProcedures.06	Procedure Successful
114	1	eProcedures.07	Procedure Complication
115	1	eProcedures.08	Response to Procedure
116		eProcedures.09	Procedure Crew Members ID
117	1	eProcedures.10	Role/Type of Person Performing the Procedure
118	1	eProtocols.01	Protocols Used
119	1	eRecord.01	Patient Care Report Number
120	1	eRecord.02	Software Creator
121	1	eRecord.03	Software Name
122	1	eRecord.04	Software Version
123	1	eResponse.01	EMS Agency Number
124	1	eResponse.03	Incident Number
125	1	eResponse.04	EMS Response Number
126	1	eResponse.05	Type of Service Requested
127		eResponse.06	Standby Purpose
128	1	eResponse.07	Unit Transport and Equipment Capability
129	1	eResponse.08	Type of Dispatch Delay
130	1	eResponse.09	Type of Response Delay
131	1	eResponse.10	Type of Scene Delay
132	1	eResponse.11	Type of Transport Delay
133	1	eResponse.12	Type of Turn-Around Delay
134	1	eResponse.13	EMS Vehicle (Unit) Number
135	1	eResponse.14	EMS Unit Call Sign
136	1	eResponse.23	Response Mode to Scene
137	1	eResponse.24	Additional Response Mode Descriptors
138	1	eScene.01	First EMS Unit on Scene
139	1	eScene.06	Number of Patients at Scene
140	1	eScene.07	Mass Casualty Incident
141	1	eScene.08	Triage Classification for MCI Patient

142	1	eScene.09	Incident Location Type
143		eScene.10	Incident Facility Code
144		eScene.13	Incident Facility or Location Name
145		eScene.15	Incident Street Address
146		eScene.17	Incident City
147	1	eScene.18	Incident State
148	1	eScene.19	Incident ZIP Code
149	1	eScene.21	Incident County
150		eScene.24	First Other EMS or Public Safety Agency at Scene to Provide Patient Care
151	1	eSituation.01	Date/Time of Symptom Onset
152	1	eSituation.02	Possible Injury
153		eSituation.03	Complaint Type
154		eSituation.04	Complaint
155	1	eSituation.07	Chief Complaint Anatomic Location
156	1	eSituation.08	Chief Complaint Organ System
157	1	eSituation.09	Primary Symptom
158	1	eSituation.10	Other Associated Symptoms
159	1	eSituation.11	Provider's Primary Impression
160	1	eSituation.12	Provider's Secondary Impressions
161	1	eSituation.13	Initial Patient Acuity
162		eSituation.14	Work-Related Illness/Injury
163	1	eSituation.18	Date/Time Last Known Well
164		eSituation.19	Justification for Transfer or Encounter
165	1	eSituation.20	Reason for Interfacility Transfer/Medical Transport
166	1	eTimes.01	PSAP Call Date/Time
167	1	eTimes.03	Unit Notified by Dispatch Date/Time
168	1	eTimes.05	Unit En Route Date/Time
169	1	eTimes.06	Unit Arrived on Scene Date/Time
170	1	eTimes.07	Arrived at Patient Date/Time
171		eTimes.08	Transfer of EMS Patient Care Date/Time
172	1	eTimes.09	Unit Left Scene Date/Time
173	1	eTimes.11	Patient Arrived at Destination Date/Time
174	1	eTimes.12	Destination Patient Transfer of Care Date/Time
175	1	eTimes.13	Unit Back in Service Date/Time
176		eTimes.14	Unit Canceled Date/Time
177		eTimes.17	Unit Arrived at Staging Area Date/Time
178	1	eVitals.01	Date/Time Vital Signs Taken
179	1	eVitals.02	Obtained Prior to this Unit's EMS Care
180	1	eVitals.03	Cardiac Rhythm / Electrocardiography (ECG)
181	1	eVitals.04	ECG Type
182	1	eVitals.05	Method of ECG Interpretation
183	1	eVitals.06	SBP (Systolic Blood Pressure)
184	1	eVitals.10	Heart Rate
185	1	eVitals.12	Pulse Oximetry
186	1	eVitals.14	Respiratory Rate
187	1	eVitals.16	End Tidal Carbon Dioxide (ETCO2)
188	1	eVitals.18	Blood Glucose Level
189	1	eVitals.19	Glasgow Coma Score-Eye

190	1	eVitals.20	Glasgow Coma Score-Verbal
191	1	eVitals.21	Glasgow Coma Score-Motor
192	1	eVitals.22	Glasgow Coma Score-Qualifier
193		eVitals.24	Temperature
194	1	eVitals.26	Level of Responsiveness (AVPU)
195	1	eVitals.27	Pain Scale Score
196		eVitals.28	Pain Scale Type
197	1	eVitals.29	Stroke Scale Score
198	1	eVitals.30	Stroke Scale Type
199	1	eVitals.31	Reperfusion Checklist
200		eVitals.32	APGAR
201		itHistory.035	Delivery Method
202		itHistory.036	Use period
203		itHistory.037	Source
204		itHistory.038	Estimated usage
205		itHistory.039	Substance
206		itHistory.044	Form of Drug?
207		itHistory.045	recreational substance container description
208		itSituation.019	Was this a possible opioid related incident?
209		itSituation.020	Reasons for suspected opioid overdose
210		itSituation.024	Was a (leave behind) Naloxone overdose kit left at the scene?
211		itSituation.025	Is a motor vehicle involved?
212		itSituation.026	Is a pedestrian involved
213		itSituation.027	Was a report made to Poison Control?
214		itSituation.028	What is the poison control case number?
215		itMedications.030	Was Naloxone administered prior to EMS arrival?
216		itMedications.031	Who administered Naloxone prior to EMS arrival
217		itMedications.032	How many doses of Naloxone were administered prior to EMS arrival

Appendix 2: Data Dictionary for the 17 State Custom Elements

Custom Element	Code	Value	
itHistory.035	itHistory.035.012	Oral	
itHistory.035	itHistory.035.015	Smoked	
itHistory.035	itHistory.035.001	Electronic Cigarette (Vaping, Vape Pens, e-cigarettes)	
itHistory.035	itHistory.035.009	Inhalation - Nasal	
itHistory.035	itHistory.035.010	Injection	
itHistory.035	itHistory.035.004	Gum	
itHistory.035	itHistory.035.006	Chewing/Loose Leaf/Smokeless Tobacco Product	
itHistory.035	itHistory.035.003	Patches	
itHistory.035	itHistory.035.011	Rectal	
itHistory.035	itHistory.035.007	Refused	
itHistory.036	itHistory.036.008	First Time Use	
itHistory.036	itHistory.036.002	Rarely	
itHistory.036	itHistory.036.003	Some Days	
itHistory.036	itHistory.036.004	Everyday	
itHistory.036	itHistory.036.006	Unable To Complete	
itHistory.036	itHistory.036.005	Refused	

itHistory.037	itHistory.037.002	Family or Relative	
itHistory.037	itHistory.037.004	Friend or Acquaintance	
itHistory.037	itHistory.037.001	Licensed Point Of Sale	
itHistory.037	itHistory.037.003	Online	
itHistory.037	itHistory.037.005	Refused	
itHistory.038	itHistory.038.002	100 or More Times	
itHistory.038	itHistory.038.001	Less Than 100 Times	
itHistory.038	itHistory.038.004	None	
itHistory.038	itHistory.038.003	Refused	
itHistory.039	itHistory.039.020	Alcohol	
itHistory.039	itHistory.039.008	Ketamine	
itHistory.039	itHistory.039.009	Heroin	
itHistory.039	itHistory.039.010	Fentanyl	
itHistory.039	itHistory.039.004	Benzodiazepines	
itHistory.039	itHistory.039.013	Methamphetamine	
itHistory.039	itHistory.039.017	Cocaine	
itHistory.039	itHistory.039.019	Mushrooms	
itHistory.039	itHistory.039.015	LSD	
itHistory.039	itHistory.039.016	MDMA/Ecstasy	
itHistory.039	itHistory.039.002	Cannabis	
itHistory.039	itHistory.039.045	Spice/K2,Synthetic Marijuana	
itHistory.039	itHistory.039.024	PCP	
itHistory.039	itHistory.039.026	Prescription Drugs	
itHistory.039	itHistory.039.023	Methadone	
itHistory.039	itHistory.039.029	Oxycodone	
itHistory.039	itHistory.039.011	Polysubstance - Multiple drugs	
itHistory.039	itHistory.039.006	Other	
itHistory.039	itHistory.039.005	Unknown	
itHistory.044	itHistory.044.001	Pill	
itHistory.044	itHistory.044.002	Powder	
itHistory.044	itHistory.044.003	Liquid	
itHistory.044	itHistory.044.004	Gas/Vapor	
itHistory.044	itHistory.044.005	Crystal/Rock	
itHistory.045	itHistory.045		string
itSituation.019	itSituation.019.101	No	
itSituation.019	itSituation.019.100	Yes	
itSituation.020	itSituation.020.003	Blue lips and/or fingertips	
itSituation.020	itSituation.020.004	Deep snoring and/or gurgling	
itSituation.020	itSituation.020.008	Notified by bystander of possible opioid drug use	
itSituation.020	itSituation.020.002	Pale, clammy skin	
itSituation.020	itSituation.020.006	Pinpoint pupils	
itSituation.020	itSituation.020.007	Scene/surroundings suggest opioid drug use	
itSituation.020	itSituation.020.001	Unresponsive to stimuli	
itSituation.020	itSituation.020.005	Very infrequent or no breathing	
itSituation.020	itSituation.020.009	Improved Responsiveness Upon Naloxone Admin	
itSituation.024	itSituation.024.100	Yes	
itSituation.024	itSituation.024.101	No	
itSituation.024	itSituation.024.102	Unknown	

itSituation.025	itSituation.025.100	Yes	
itSituation.025	itSituation.025.101	No	
itSituation.026	itSituation.026.100	Yes	
itSituation.026	itSituation.026.101	No	
itSituation.027	itSituation.027.100	Yes	
itSituation.027	itSituation.027.101	No	
itSituation.028	itSituation.028		string
itMedications.030	itMedications.030.002	No	
itMedications.030	itMedications.030.003	Unknown	
itMedications.030	itMedications.030.001	Yes	
itMedications.031	itMedications.031.001	Bystander/Layperson	
itMedications.031	itMedications.031.002	Emergency Medical Services	
itMedications.031	itMedications.031.006	Fire Department	
itMedications.031	itMedications.031.003	Law Enforcement	
itMedications.031	itMedications.031.004	Other Health Care Professional	
itMedications.031	itMedications.031.005	Unknown	
itMedications.032	itMedications.032.001	1 dose	
itMedications.032	itMedications.032.002	2 doses	
itMedications.032	itMedications.032.003	3 doses	
itMedications.032	itMedications.032.004	4 doses	
itMedications.032	itMedications.032.005	5 or more doses	
itMedications.032	itMedications.032.006	Unknown	

Appendix 3a: Incident Location Type (eScene.09) values (n=32)

Code	Value	Label
7701001	Not Applicable	Not Applicable
7701003	Not Recorded	Not Recorded
Y92.0	Non-institutional (private) residence as the place of occurrence of the external cause	Private Residence
Y92.02	Mobile home as the place of occurrence of the external cause	Mobile home
Y92.03	Apartment as the place of occurrence of the external cause	Apartment/condo
Y92.09	Other non-institutional residence as the place of occurrence of the external cause	Other non-institutional residence
Y92.1	Institutional (nonprivate) residence as the place of occurrence of the external cause	Other Institutional Residence
Y92.12	Nursing home as the place of occurrence of the external cause	Nursing home
Y92.13	Military base as the place of occurrence of the external cause	Military installation or base
Y92.14	Prison as the place of occurrence of the external cause	Prison
Y92.16	School dormitory as the place of occurrence of the external cause	School dorm
Y92.2	School, other institution and public administrative area as the place of occurrence of the external cause	Public area
Y92.21	School (private) (public) (state) as the place of occurrence of the external cause	School
Y92.210	Daycare center as the place of occurrence of the external cause	Daycare
Y92.22	Religious institution as the place of occurrence of the external cause	Religious institution
Y92.23	Hospital as the place of occurrence of the external cause	Hospital
Y92.24	Public administrative building as the place of occurrence of the external cause	Public administrative building
Y92.3	Sports and athletics area as the place of occurrence of the external cause	Sports area
Y92.34	Swimming pool (public) as the place of occurrence of the external cause	Pool
Y92.39	Other specified sports and athletic area as the place of occurrence of the external cause	Gym

Y92.4	Street , highway and other paved roadways as the place of occurrence of the external cause	Roadway (Street or Highway)
Y92.480	Sidewalk as the place of occurrence of the external cause	sidewalk
Y92.481	Parking lot as the place of occurrence of the external cause	Parking lot
Y92.51	Private commercial establishments as the place of occurrence of the external cause	Retail building
Y92.511	Restaurant or cafe as the place of occurrence of the external cause	Restraunt/café
Y92.520	Airport as the place of occurrence of the external cause	Airport
Y92.531	Health care provider office as the place of occurrence of the external cause	Health care provider office
Y92.532	Urgent care center as the place of occurrence of the external cause	Urgent care
Y92.538	Other ambulatory health services establishments as the place of occurrence of the external cause	Ambulatory care
Y92.6	Industrial and construction area as the place of occurrence of the external cause	Industrial or construction site
Y92.7	Farm as the place of occurrence of the external cause	Agricultural site/Farm
Y92.82	Wilderness area	Wilderness area
Y92.83	Recreation area as the place of occurrence of the external cause	Recreation area
Y92.89	Other specified places as the place of occurrence of the external cause	Other place

Appendix 3b: Cause of Injury (eInjury.01) values (n=76)

Code	Value
W65	Accidental drowning and submersion while in bath-tub
W69	Accidental drowning and submersion while in natural water
W74	Unspecified cause of accidental drowning and submersion
W67	Accidental drowning and submersion while in swimming-pool
T71.16	Asphyxiation due to hanging
T71.13	Asphyxiation due to being trapped in bed linens
W51	Accidental striking against or bumped into by another person
W50	Accidental hit, strike, kick, twist, bite or scratch by another person
Y09	Assault by unspecified means
Y00	Assault by blunt object
Y04	Assault by bodily force
X95.9	Assault by unspecified firearm discharge
X99.9	Assault by unspecified sharp object
Y08	Assault by other specified means
V86.99	Unspecified occupant of other special all-terrain or other off-road motor vehicle injured in nontraffic accident
V86.31	Unspecified occupant of ambulance or fire engine injured in traffic accident
V79.9	Bus occupant (driver) (passenger) injured in unspecified traffic accident
V49.3	Car occupant (driver) (passenger) injured in unspecified nontraffic accident
V49.9	Car occupant (driver) (passenger) injured in unspecified traffic accident
V43	Car occupant injured in collision with car, pick-up truck or van
V40.9	Unspecified car occupant injured in collision with pedestrian or animal in traffic accident
V49.6	Unspecified car occupant injured in collision with other and unspecified motor vehicles in traffic accident
Y32	Crashing of motor vehicle, undetermined intent
V19.3	Pedal cyclist (driver) (passenger) injured in unspecified nontraffic accident
V19.9	Pedal cyclist (driver) (passenger) injured in unspecified traffic accident
V69.9	Occupant (driver) (passenger) of heavy transport vehicle injured in unspecified traffic accident
V29.3	Motorcycle rider (driver) (passenger) injured in unspecified nontraffic accident
V29.9	Motorcycle rider (driver) (passenger) injured in unspecified traffic accident
V89.0	Person injured in unspecified motor-vehicle accident, nontraffic

V03.9	Pedestrian injured in collision with car, pick-up truck or van, unspecified whether traffic or nontraffic accident
V03.1	Pedestrian injured in collision with car, pick-up truck or van in traffic accident
V99	Unspecified transport accident
V59.9	Occupant (driver) (passenger) of pick-up truck or van injured in unspecified traffic accident
V89.9	Person injured in unspecified vehicle accident
W23	Caught, crushed, jammed or pinched in or between objects
Y29	Contact with blunt object, undetermined intent
W54	Contact with dog
W45	Foreign body or object entering through skin
W26	Contact with knife, sword or dagger
W31.9	Contact with unspecified machinery
W64	Exposure to other animate mechanical forces
W25	Contact with sharp glass
Y28.9	Contact with unspecified sharp object, undetermined intent
W22.8	Striking against or struck by other objects
W20	Struck by thrown, projected or falling object
X31	Exposure to excessive natural cold
X30	Exposure to excessive natural heat
X00	Exposure to uncontrolled fire in building or structure
W17	Other fall from one level to another
W01	Fall on same level from slipping, tripping and stumbling
W00.9	Unspecified fall due to ice and snow
W06	Fall from bed
W07	Fall from chair
W08	Fall from other furniture
W11	Fall on and from ladder
W09	Fall on and from playground equipment
W18.1	Fall from or off toilet
W05	Fall from non-moving wheelchair, nonmotorized scooter and motorized mobility scooter
W18.2	Fall in (into) shower or empty bathtub
W18.30	Fall on same level, unspecified
W10.9	Fall (on) (from) unspecified stairs and steps
Y30	Falling, jumping or pushed from a high place, undetermined intent
W18	Other slipping, tripping and stumbling and falls
W18.4	Slipping, tripping and stumbling without falling
W19	Unspecified fall
Y35	Legal intervention
X74.9	Intentional self-harm by unspecified firearm discharge
X83	Intentional self-harm by other specified means
X78.9	Intentional self-harm by unspecified sharp object
T14.91	Suicide attempt
T50.90	Poisoning by, adverse effect of and underdosing of unspecified drugs, medicaments and biological substances
T51.9	Toxic effect of unspecified alcohol
T65.9	Toxic effect of unspecified substance
T14.90	Injury, unspecified
T75.89	Other specified effects of external causes
Y33	Other specified events, undetermined intent
7701001	Not Applicable

7701003	Not Recorded
---------	--------------

Appendix 3c: Symptoms (eSituation.09 and eSituation.10) Values (n=108)

Code	Value
R14.0	Abdominal distension (gaseous)
Z00.00	Encounter for general adult medical examination without abnormal findings
F10.92	Alcohol use, unspecified with intoxication
I48.91	Unspecified atrial fibrillation
Z00	Encounter for general examination without complaint, suspected or reported diagnosis
S09.90	Unspecified injury of head
I10	Essential (primary) hypertension
S89.90	Unspecified injury of unspecified lower leg
G50.1	Atypical facial pain
R73.9	Hyperglycemia, unspecified
R10.81	Abdominal tenderness
S69.9	Unspecified injury of wrist, hand and finger(s)
R25.8	Other abnormal involuntary movements
F10.9	Alcohol use, unspecified
I46.9	Cardiac arrest, cause unspecified
J44.9	Chronic obstructive pulmonary disease, unspecified
E16.2	Hypoglycemia, unspecified
M54.2	Cervicalgia
N19	Unspecified kidney failure
R10.0	Acute abdomen
I20.9	Angina pectoris, unspecified
S09.93	Unspecified injury of face
G40.89	Other seizures
S49.9	Unspecified injury of shoulder and upper arm
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
R40.4	Transient alteration of awareness
F41.9	Anxiety disorder, unspecified
M25.55	Pain in hip
R06	Abnormalities of breathing
R41.82	Altered mental status, unspecified
I95.9	Hypotension, unspecified
T57.9	Toxic effect of unspecified inorganic substance
R10.9	Unspecified abdominal pain
M79.6	Pain in limb, hand, foot, fingers and toes
I49.9	Cardiac arrhythmia, unspecified
F32.9	Major depressive disorder, single episode, unspecified
E13.8	Other specified diabetes mellitus with unspecified complications
I63.9	Cerebral infarction, unspecified
R45.82	Worries
R06.81	Apnea, not elsewhere classified
R46.3	Overactivity
R69	Illness, unspecified
R46.4	Slowness and poor responsiveness

R46.2	Strange and inexplicable behavior
R40.20	Unspecified coma
R45.6	Violent behavior
R41.0	Disorientation, unspecified
K59.00	Constipation, unspecified
R05	Cough
R25.2	Cramp and spasm
R19.7	Diarrhea, unspecified
R40.0	Somnolence
R06.00	Dyspnea, unspecified
R30.0	Dysuria
R60.9	Edema, unspecified
R45.7	State of emotional shock and stress, unspecified
R04.0	Epistaxis
R29.810	Facial weakness
R53.83	Other fatigue
R50.9	Fever, unspecified
R26.2	Difficulty in walking, not elsewhere classified
R26.89	Other abnormalities of gait and mobility
K92.0	Hematemesis
R58	Hemorrhage, not elsewhere classified
R42	Dizziness and giddiness
R53.81	Other malaise
R11.0	Nausea
R45.0	Nervousness
R10.3	Pain localized to other parts of lower abdomen
R10.1	Pain localized to upper abdomen
R10.84	Generalized abdominal pain
R07.89	Other chest pain
M54.9	Dorsalgia, unspecified
R07.9	Chest pain, unspecified
R07.1	Chest pain on breathing
H57.10	Ocular pain, unspecified eye
R51	Headache
R07.82	Intercostal pain
R10.2	Pelvic and perineal pain
R07.0	Pain in throat
R52	Pain, unspecified
R00.2	Palpitations
R06.3	Periodic breathing
R29.6	Repeated falls
R09.2	Respiratory arrest
R45.1	Restlessness and agitation
R56.9	Unspecified convulsions
R56.0	Febrile convulsions
G40.3	Generalized idiopathic epilepsy and epileptic syndromes
R06.02	Shortness of breath
R20.0	Anesthesia of skin

R23.8	Other skin changes
R21	Rash and other nonspecific skin eruption
R22	Localized swelling, mass and lump of skin and subcutaneous tissue
R47.81	Slurred speech
R45.851	Suicidal ideations
R55	Syncope and collapse
R33.9	Retention of urine, unspecified
N93.9	Abnormal uterine and vaginal bleeding, unspecified
R11.10	Vomiting, unspecified
R53.1	Weakness
R06.2	Wheezing
F99	Mental disorder, not otherwise specified
R06.89	Other abnormalities of breathing
R68.89	Other general symptoms and signs
R99	Ill-defined and unknown cause of mortality
T07	Unspecified multiple injuries
T14	Injury of unspecified body region
7701001	Not Applicable
7701003	Not Recorded

Appendix 3d: Impressions (eSituation.11 and eSituation.12) Values (n=111):

Code	Impression
A41.9	Sepsis, unspecified organism
D49	Neoplasms of unspecified behavior
E13.64	Other specified diabetes mellitus with hypoglycemia
E13.65	Other specified diabetes mellitus with hyperglycemia
E16.2	Hypoglycemia, unspecified
E86.0	Dehydration
F10.9	Alcohol use, unspecified
F10.92	Alcohol use, unspecified with intoxication
F11	Opioid related disorders
F13	Sedative, hypnotic, or anxiolytic related disorders
F19	Other psychoactive substance related disorders
F41.9	Anxiety disorder, unspecified
F99	Mental disorder, not otherwise specified
G40.89	Other seizures
G40.901	Epilepsy, unspecified, not intractable, with status epilepticus
G40.909	Epilepsy, unspecified, not intractable, without status epilepticus
G89.1	Acute pain, not elsewhere classified
G89.11	Acute pain due to trauma
G89.2	Chronic pain, not elsewhere classified
I10	Essential (primary) hypertension
I20.9	Angina pectoris, unspecified
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I46.9	Cardiac arrest, cause unspecified
I49.9	Cardiac arrhythmia, unspecified

I50.9	Heart failure, unspecified
I63.9	Cerebral infarction, unspecified
I95.9	Hypotension, unspecified
I99.9	Unspecified disorder of circulatory system
J00	Acute nasopharyngitis [common cold]
J11	Influenza due to unidentified influenza virus
J18.9	Pneumonia, unspecified organism
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation
J80	Acute respiratory distress syndrome
J81.0	Acute pulmonary edema
J96.9	Respiratory failure, unspecified
J98.01	Acute bronchospasm
J98.9	Respiratory disorder, unspecified
K59.00	Constipation, unspecified
K59.1	Functional diarrhea
K92.2	Gastrointestinal hemorrhage, unspecified
M54.5	Low back pain
M54.9	Dorsalgia, unspecified
M62.81	Muscle weakness (generalized)
N17.8	Other acute kidney failure
N18.6	End stage renal disease
N39.0	Urinary tract infection, site not specified
O26.90	Pregnancy related conditions, unspecified, unspecified trimester
O80	Encounter for full-term uncomplicated delivery
R04.0	Epistaxis
R06.00	Dyspnea, unspecified
R06.02	Shortness of breath
R07.9	Chest pain, unspecified
R10.0	Acute abdomen
R10.2	Pelvic and perineal pain
R10.84	Generalized abdominal pain
R11.0	Nausea
R11.1	Vomiting
R40.4	Transient alteration of awareness
R41.0	Disorientation, unspecified
R41.82	Altered mental status, unspecified
R42	Dizziness and giddiness
R45.851	Suicidal ideations
R45.89	Other symptoms and signs involving emotional state
R50.9	Fever, unspecified
R51	Headache
R52	Pain, unspecified
R53.81	Other malaise
R53.83	Other fatigue
R56.9	Unspecified convulsions
R58	Hemorrhage, not elsewhere classified
R69	Illness, unspecified
R73.9	Hyperglycemia, unspecified

S06.0X9	Concussion with loss of consciousness of unspecified duration
S09.90	Unspecified injury of head
S09.93	Unspecified injury of face
S19.9	Unspecified injury of neck
S29.9	Unspecified injury of thorax
S39.92	Unspecified injury of lower back
S39.93	Unspecified injury of pelvis
S49.9	Unspecified injury of shoulder and upper arm
S59.91	Unspecified injury of forearm
S69.9	Unspecified injury of wrist, hand and finger(s)
S79.91	Unspecified injury of hip
S79.92	Unspecified injury of thigh
S89.9	Unspecified injury of lower leg
S99.91	Unspecified injury of ankle
S99.92	Unspecified injury of foot
T14.90	Injury, unspecified
T30.0	Burn of unspecified body region, unspecified degree
T78.40	Allergy, unspecified
Z00	Encounter for general examination without complaint, suspected or reported diagnosis
Z00.00	Encounter for general adult medical examination without abnormal findings
Z00.129	Encounter for routine child health examination without abnormal findings
Z03.89	Encounter for observation for other suspected diseases and conditions ruled out
Z04.6	Encounter for general psychiatric examination, requested by authority
Z04.9	Encounter for examination and observation for unspecified reason
Z71.1	Person with feared health complaint in whom no diagnosis is made
Z74.01	Bed confinement status
Z74.09	Other reduced mobility
T14.91	Suicide attempt
R55	Syncope and collapse
G45.9	Transient cerebral ischemic attack, unspecified
B99.9	Unspecified infectious disease
N93.9	Abnormal uterine and vaginal bleeding, unspecified
R53.1	Weakness
R68.89	Other general symptoms and signs
R99	Ill-defined and unknown cause of mortality
S06.0	Concussion
T07	Unspecified multiple injuries
Z51.89	Encounter for other specified aftercare
7701001	Not Applicable
7701003	Not Recorded

Appendix 3e: Medication Administered (eMedications.03) Values (n=87):

Code	Medication	Label
161	Acetaminophen	Acetaminophen (e.g., Tylenol, Anacin)
296	Adenosine	Adenosine (e.g., Adenocard)
435	Albuterol	Albuterol (e.g., Proventil, Ventolin, Accuneb)
703	Amiodarone	Amiodarone (e.g., Cordarone)

1191	Aspirin	Aspirin
1223	Atropine	Atropine
1399	Benzocaine	IFT - Benzocaine (e.g., Cetacaine)
1901	Calcium Chloride	Calcium Chloride
1908	Calcium Gluconate	Calcium Gluconate (e.g., Calgonate)
2193	Ceftriaxone	IFT - Ceftriaxone (e.g., Rocephin)
3264	Dexamethasone	Dexamethasone (e.g., Decadron)
3322	Diazepam	Diazepam (e.g., Valium)
3423	Hydromorphone	Hydromorphone (e.g., Dilaudid)
3443	Diltiazem	Diltiazem (e.g., Cardizem)
3498	Diphenhydramine	Diphenhydramine (e.g., Benadryl)
3628	Dopamine	Dopamine
4177	Etomidate	Etomidate (e.g., Amidate)
4337	Fentanyl	Fentanyl
4603	Furosemide	Furosemide (e.g., Lasix)
4832	Glucagon	Glucagon
4850	Glucose	Glucose
4917	Nitroglycerin	Nitroglycerin
5093	Haloperidol	Haloperidol (e.g., Haldol)
5224	Heparin	IFT - Heparin
5492	Hydrocortisone	Hydrocortisone (e.g., Solu-Cortef)
5514	Hydroxocobalamin	Hydroxocobalamin (e.g., Cyanokit)
5640	Ibuprofen	Ibuprofen (e.g., Advil)
6130	Ketamine	Ketamine (e.g., Ketalar)
6185	Labetalol	Labetalol (e.g., Normodyne)
6387	Lidocaine	Lidocaine
6470	Lorazepam	Lorazepam (e.g., Ativan)
6585	Magnesium Sulfate	Magnesium Sulfate
6902	Methylprednisolone	Methylprednisolone (e.g., Solu-Medrol)
6915	Metoclopramide	Metoclopramide (e.g., Reglan)
6918	Metoprolol	Metoprolol (e.g., Lopressor)
6960	Midazolam	Midazolam
7052	Morphine	Morphine
7213	Ipratropium	Ipratropium (e.g., Atrovent)
7242	Naloxone	Naloxone (e.g., Narcan)
7396	Nicardipine	IFT - Nicardipine (e.g., Cardene)
7512	Norepinephrine	Norepinephrine (e.g., Levophed)
7806	Oxygen	Oxygen
8163	Phenylephrine	IFT - Phenylephrine (e.g., Sudafed, Neo-Synephrine)
8591	Potassium Chloride	IFT - Potassium Chloride
8700	Procainamide	IFT - Procainamide
8704	Prochlorperazine	Prochlorperazine (e.g., Compazine)
8745	Promethazine	Promethazine (e.g., Phenergan)
8782	Propofol	IFT - Propofol (e.g., Diprivan)
10154	Succinylcholine	Succinylcholine (e.g., Anectine)
10368	Terbutaline	IFT - Terbutaline (e.g., Brethine)
10391	Tetracaine	Tetracaine (e.g., Altacaine)
10454	Thiamine	Thiamine

11124	Vancomycin	IFT - Vancomycin
11149	Vasopressin (USP)	Vasopressin
26225	Ondansetron	Ondansetron (e.g., Zofran)
34345	Pralidoxime	Pralidoxime (e.g., Protopam)
35827	Ketorolac	Ketorolac (e.g., Toradol)
36676	Sodium Bicarbonate	Sodium Thiosulfate (e.g., Nithiodote [Cyanide] Kit)
68139	Rocuronium	Rocuronium (e.g., Zemuron)
71535	Vecuronium	Vecuronium (e.g., Norcuron)
214199	Albuterol / Ipratropium	Albuterol / Ipratropium (e.g., Combivent, Duoneb)
227778	Proparacaine Hydrochloride	Proparacaine Hcl (e.g., Alcaine)
237159	Levalbuterol	Levalbuterol (e.g., Xopenex)
237653	dextrose 50 % Injectable Solution	D50 (Dextrose 50% Solution)
260258	dextrose 250 MG/ML Injectable Solution	D25 (Dextrose 25%)
313002	Sodium Chloride 9 MG/ML Injectable Solution	IFT - Sodium Chloride 0.45% Injectable Solution (NaCl 0.45%)
309778	Glucose 50 Mg/ML Injectable Solution	D5 Injectable Solution (Dextrose 5%)
313002	Sodium Chloride 0.154 Meq/ML Injectable Solution	Normal Saline 0.9% Infusion Solution (Sodium Chloride 0.9%)
314610	Epinephrine, Racemic Hydrochloride	Epinephrine, Racemic
317361	Epinephrine 0.1 MG/ML	Epi 1:10,000 (Epinephrine 0.1 mg/ml)
328316	Epinephrine 1 MG/ML	Epi 1:1,000 (Epinephrine 1 mg/ml)
377980	Glucose Oral Gel	Glucose Oral Gel (e.g., Glucose, Insta-Glucose)
727316	0.3 MI Epinephrine 0.5 mg/ml Auto-Injector	Epinephrine Auto-Injector, Junior (0.3 MI Of Epi 0.5 mg/ml)
727345	0.3 MI Epinephrine 1 mg/ml Auto-Injector	Epinephrine Auto-Injector, Adult (0.3 ml Of Epi 1.0 mg/ml)
1008377	Calcium Chloride / Lactate / Potassium Chloride / Sodium Chloride	Lactated Ringers (e.g., LR, RL)
1605101	insulin, isophane	IFT - Insulin (e.g., Humulin)
1659108	Atropine / Pralidoxime Auto-Injector	Atropine / Pralidoxime Auto-Injector (e.g., Duodote)
1795346	D5/Normal Saline (0.9%)	IFT - D5/Normal Saline (0.9%)
1795480	250 MI Glucose 100 Mg/ML Injection	D10 (Dextrose 10%)
1868194	Sodium Bicarbonate	Sodium Bicarbonate
33389009	Transfusion of whole blood	Transfusion of whole blood
71493000	Transfusion of packed red blood cells (procedure)	Transfusion of packed red blood cells
116762002	Administration of blood product (procedure)	Administration of blood product
116795008	Transfusion of cryoprecipitate (procedure)	Transfusion of cryoprecipitate
116861002	Transfusion of fresh frozen plasma (procedure)	Transfusion of fresh frozen plasma
116865006	Administration of albumin (procedure)	Administration of albumin
180208003	Intravenous blood transfusion of platelets (procedure)	Intravenous blood transfusion of platelets
7701001	Not Applicable	Not Applicable
7701003	Not Recorded	Not Recorded
8801001	Contraindication Noted	Contraindication Noted
8801003	Denied By Order	Denied By Order
8801007	Medication Allergy	Medication Allergy
8801009	Medication Already Taken	Medication Already Taken
8801027	Order Criteria Not Met	Order Criteria Not Met
8801019	Refused	Refused
8801023	Unable to Complete	Unable to Complete

Appendix 3f Procedures (eProcedures.03) Values (n=115):

Category	label	code	description
Administration (Drug, fluid, gas)	Drug administration	18629005	Administration of drug or medicament (procedure)
Administration (Drug, fluid, gas)	Drug administration via IV	386358000	Administration of drug or medicament via intravenous route (procedure)
Administration (Drug, fluid, gas)	IV fluid bolus	431393006	Administration of intravenous fluid bolus (procedure)
Administration (Drug, fluid, gas)	IV fluids	103744005	Administration of intravenous fluids (procedure)
Administration (Drug, fluid, gas)	Nebulizer therapy	56251003	Nebulizer therapy (procedure)
Administration (Drug, fluid, gas)	Oxygen therapy, NOS	57485005	Oxygen therapy (procedure)
Administration (Drug, fluid, gas)	Oxygen via cannula	371907003	Oxygen administration by nasal cannula (procedure)
Administration (Drug, fluid, gas)	Oxygen via mask	371908008	Oxygen administration by mask (procedure)
Airway, Advanced	BiPAP	243142003	Dual pressure spontaneous ventilation support (regime/therapy)
Airway, Advanced	CPAP	47545007	Continuous positive airway pressure ventilation treatment (regime/therapy)
Airway, Advanced	ET tube, check placement	225718003	Checking position of endotracheal tube (procedure)
Airway, Advanced	ETCO2 digital capnography	425543005	Digital respired carbon dioxide monitoring (regime/therapy)
Airway, Advanced	Intubation, combitube	429705000	Insertion of esophageal tracheal combitube (procedure)
Airway, Advanced	Intubation, double lumen supraglottic	427753009	Insertion of esophageal tracheal double lumen supraglottic airway (procedure)
Airway, Advanced	Intubation, laryngeal mask airway (LMA)	424979004	Laryngeal mask airway insertion (procedure)
Airway, Advanced	Intubation, NOS	232674004	Orotracheal intubation (procedure)
Airway, Advanced	Intubation, orotracheal	450601000124103	Orotracheal intubation using bougie device
Airway, Advanced	Intubation, rapid sequence intubation (RSI)	241689008	Rapid sequence induction (procedure)
Airway, Advanced	Intubation, single lumen supraglottic	450611000124100	Insertion of single lumen supraglottic airway device
Airway, Advanced	PEEP	45851008	Positive end expiratory pressure ventilation therapy, initiation and management (procedure)
Airway, Advanced	Ventilator care/adjustment	385857005	Ventilator care and adjustment (regime/therapy)
Airway, advanced	Cricothyroidotomy	173067007	Cricothyroidotomy (procedure)
Airway, Basic	Airway suction	230040009	Airway suction technique (procedure)
Airway, Basic	Assist ventilations via BVM	425447009	Bag valve mask ventilation (procedure)
Airway, Basic	Assist ventilations, intubated	243140006	Lung inflation by intermittent compression of reservoir bag (procedure)
Airway, Basic	ETCO2 monitoring	284029005	Respired carbon dioxide monitoring (regime/therapy)
Airway, Basic	Heimlich maneuver	23690002	Heimlich maneuver (procedure)
Airway, Basic	Nasal airway insertion (NPA)	182692007	Nasopharyngeal airway insertion (procedure)
Airway, Basic	Open airway manually	232664002	Manual establishment of airway (procedure)
Airway, Basic	Oral airway insertion (OPA)	7443007	Insertion of oropharyngeal airway (procedure)
Assessment	Assessment, adult	408994004	Adult care assessment (procedure)
Assessment	Assessment, continuous	422618004	Continuous physical assessment (procedure)
Assessment	Assessment, initial	315639002	Initial patient assessment (procedure)
Assessment	Assessment, neurological	225398001	Neurological assessment (procedure)
Assessment	Assessment, pediatric	423850004	Pediatric continuous physical assessment (procedure)
Assessment	Evaluation/observation	386053000	Evaluation procedure (procedure)
Assessment	Exam, medical	270352002	Medical examinations/reports (procedure)
Assessment	Exam, medical, suspected condition	171397002	Medical examination for suspected condition (procedure)

Assessment	Patient monitoring	182777000	Monitoring of patient (regime/therapy)
Assessment	Initial patient assessment	315639002	Initial patient assessment (procedure)
Assessment, Cardiac	Cardiac monitoring	23852006	Cardiac monitoring (regime/therapy)
Assessment, Cardiac	ECG, 12 lead	268400002	12 lead electrocardiogram (procedure)
Assessment, Cardiac	ECG, 4 lead	428803005	3 lead electrocardiographic monitoring (procedure)
Assessment, Cardiac	ECG, monitoring	46825001	Electrocardiographic monitoring (procedure)
Assessment, Cardiac	ECG, NOS	29303009	Electrocardiographic procedure (procedure)
Cardiac	Cardioversion	250980009	Cardioversion (procedure)
Cardiac	Chest compressions, mechanical	429283006	Mechanically assisted chest compression (procedure)
Cardiac	CPR, manual	89666000	Cardiopulmonary resuscitation (procedure)
Cardiac	Defibrillation, AED	450661000124102	Defibrillation using Automated External Cardiac Defibrillator
Cardiac	Defibrillation, manual	426220008	External ventricular defibrillation (procedure)
Cardiac	LVAD monitoring	386237008	Circulatory care: mechanical assist device (regime/therapy)
Cardiac	Pacing	18590009	Cardiac pacing (procedure)
Cardiac	Vagal maneuver	128968000	Vagal stimulation physiologic challenge (procedure)
Environmental	Environmental control	228621007	Provision of environmental control system (procedure)
Environmental	Patient cooling	431774007	Active external cooling of subject (procedure)
Environmental	Patient warming	431949004	Active external warming of subject (procedure)
Gastrointestinal	Nasogastric tube insertion (NG)	87750000	Insertion of nasogastric tube (procedure)
Gastrointestinal	Orogastric tube insertion (OG)	235425002	Insertion of orogastric tube (procedure)
Glycemic Management	Blood glucose measurement	33747003	Glucose measurement, blood (procedure)
Glycemic Management	Hypoglycemia management	386328006	Hypoglycemia management (procedure)
Glycemic Management	Provision of food	710925007	Provision of food (procedure)
Glycemic Management	Giving oral fluid	225285007	Giving oral fluid (procedure)
Immobilization	Cervical collar	49689007	Application of cervical collar (procedure)
Immobilization	Extraction splint	284394000	Immobilization using extraction splint
Immobilization	Long board	450591000124106	Immobilization using long board
Immobilization	Pelvic sling	182556001	Pelvic sling (procedure)
Immobilization	Splinting, general	79321009	Application of splint (procedure)
Immobilization	Splinting, traction	302488007	Application of traction using a traction device (procedure)
Other	Holding patient	78086002	Holding patient (procedure)
Other	Isolation precautions	409582008	Isolation precautions (procedure)
Other	Needle decompression	182705007	Tension pneumothorax relief (procedure)
Other	Vaginal delivery	22633006	Vaginal delivery, medical personnel present (procedure)
Pain	Pain assessment, adult	423184003	Adult pain assessment (procedure)
Pain	Pain assessment, NOS	225399009	Pain assessment (procedure)
Pain	Pain assessment, pediatric	423401003	Pediatric pain assessment (procedure)
Pain	Pain management	278414003	Pain management (procedure)
Patient Positioning	Moving patient to stretcher	58715004	Moving a patient to a stretcher (procedure)
Patient Positioning	Moving patient, NOS	56469005	Moving a patient (procedure)
Patient Positioning	Patient positioning, support	225287004	Procedures relating to positioning and support (procedure)
Patient Positioning	Physical restraint	386423001	Physical restraint (procedure)

Spinal Procedures	Spinal stabilization, c-spine	398041008	Cervical spine immobilization (procedure)
Spinal Procedures	Spinal stabilization, manual	449199004	Manual inline stabilization of cervical spine (procedure)
Spinal Procedures	Spinal stabilization, NOS	426498007	Stabilization of spine (procedure)
Spinal Procedures	Spinal, advanced assessment (spinal clearance)	445828009	Assessment using functional capacity evaluation (procedure)
Spinal Procedures	Spinal, c-spine exam	284405008	Examination of cervical spine (procedure)
Spinal Procedures	Spinal, exam	284394000	Examination of spine (procedure)
Transfer of Care	Contact Medical Control	304562007	Informing doctor (procedure)
Transfer of Care	Transfer of care to hospital	429202003	Transfer of care to hospital (procedure)
Transfer of Care	Transfer of care, NOS	308292007	Transfer of care (procedure)
Vascular Access	Arterial cannulation	392247006	Insertion of catheter into artery (procedure)
Vascular Access	Central line care	226005007	Care of central line (procedure)
Vascular Access	Convert IV to saline lock	425074000	Conversion of intravenous infusion to saline lock (procedure)
Vascular Access	IO cannulation	430824005	Intraosseous cannulation (procedure)
Vascular Access	IV, insertion	392230005	Catheterization of vein (procedure)
Vascular Access	IV, monitoring	353008	Intravenous/irrigation monitoring (regime/therapy)
Vascular Access	IV, removal	424287005	Removal of peripheral intravenous catheter (procedure)
Vascular Access	Vein, blood draw	396540005	Phlebotomy (procedure)
Vascular Access	Vein, external jugular access	405427009	Catheterization of external jugular vein (procedure)
Vital Signs	Blood pressure	46973005	Blood pressure taking (procedure)
Vital Signs	Capillary refill	248753002	Capillary refill (finding)
Vital Signs	Glasgow Coma Scale (GCS)	68664003	Glasgow coma testing and evaluation (procedure)
Vital Signs	Pulse	65653002	Pulse taking (procedure)
Vital Signs	Pulse oximetry	252465000	Pulse oximetry (procedure)
Vital Signs	Respiratory rate	408867002	Taking respiratory rate (procedure)
Vital Signs	Temperature	56342008	Temperature taking (procedure)
Vital Signs	Vital signs, NOS	61746007	Taking patient vital signs (procedure)
Vital Signs	Vital signs, orthostatic	425058005	Taking orthostatic vital signs (procedure)
Wound Care	Apply pressure to wound	447686008	Application of pressure to wound (procedure)
Wound Care	Bandage	182555002	Application of bandage (procedure)
Wound Care	Bandage, pressure	373675000	Application of pressure bandage (procedure)
Wound Care	Burn care	133901003	Burn care (regime/therapy)
Wound Care	Dressing	182531007	Dressing of wound (procedure)
Wound Care	Dressing, occlusive	22206003	Application of dressing, occlusive plastic (procedure)
Wound Care	Dressing, pressure	26906007	Application of dressing, pressure (procedure)
Wound Care	Hemostatic agent (i.e. QuikClot)	372045002	Application of chemical hemostatic agents (procedure)
Wound Care	Irrigation	225116006	Irrigation of wound (procedure)
Wound Care	Tourniquet	20655006	Application of tourniquet (procedure)
Wound Care	Wound care, NOS	225358003	Wound care (regime/therapy)
Not Values & Pertinent Negatives	Not Applicable	7701001	Not Applicable
Not Values & Pertinent Negatives	Not Recorded	7701003	Not Recorded
Not Values & Pertinent Negatives	Contraindication Noted	8801001	Contraindication Noted
Not Values & Pertinent Negatives	Denied By Order	8801003	Denied By Order

Not Values & Pertinent Negatives	Order Criteria Not Met	8801027	Order Criteria Not Met
Not Values & Pertinent Negatives	Refused	8801019	Refused
Not Values & Pertinent Negatives	Unable to Complete	8801023	Unable to Complete

Appendix 4. State Validation Rules

Name	Error Message	Field to Flag	Will Flag Red if
CT 3.5 Crew Member Completing this Report (eOther.08)	Crew Member Completing this Report Must Sign	Crew Member Completing this Report(eOther.08)	(Crew Member Completing this Report(eOther.08) is blank)
CT 3.5 itHistory.039	Please enter one drug at a time	Substance(itHistory.039)	(The number of Substance is greater than 1)
CT 3.5 itSituation.019	You've left this blank OR indicated that this is not a possible overdose but you've documented administering Naloxone. Are you sure this is not a possible overdose?	Was this a possible opioid related incident?(itSituation.019)	((Was this a possible opioid related incident?(itSituation.019) is equal to No AND The number of Medications where (Medication Given(eMedications.03) is one of these values: Naloxone) is greater than 0) OR Was this a possible opioid related incident?(itSituation.019) is blank)
CT 3.5 itSituation.020	Because this is a possible overdose you need to fill out the opioid overdose supplemental questions	Reasons for suspected opioid overdose(itSituation.020)	(Was this a possible opioid related incident?(itSituation.019) is equal to Yes AND Reasons for suspected opioid overdose(itSituation.020) is blank)
CT 3.5 itSituation.028	Please provide the poison control case number if a report was made to poison control.	What is the Poison Control Case Number?(itSituation.028)	(Was a Report made to Poison Control?(itSituation.027) is equal to Yes AND What is the Poison Control Case Number?(itSituation.028) is blank)
CT 3.5 Incident Street Address (eScene.15) Required	Incident Street Address should be recorded unless Unit Disposition is "Cancelled Prior to Arrival at Scene".	Incident Street Address(eScene.15)	(Incident Street Address(eScene.15) is blank)
CT 3.5 Incident City (eScene.17) Required	Incident City should be recorded unless Unit Disposition is "Cancelled Prior to Arrival at Scene".	Incident City(eScene.17)	(Incident City(eScene.17) is blank)
CT 3.5 last known well (eSituation.18)	You must document LKW when provider's primary or secondary impression was stroke	Date/Time Last Known Well(eSituation.18)	((Provider's Primary Impression(eSituation.11) is one of these values: 129672; TIA; Stroke AND Date/Time Last Known Well(eSituation.18) is blank) OR (Provider's Secondary Impressions(eSituation.12) includes one of these values: 129672; Stroke; TIA AND Date/Time Last Known Well(eSituation.18) is blank))
CT 3.5 Mechanism of Injury (eInjury.02)	Mechanism of Injury must be documented when "possible injury" is yes.	Mechanism of Injury(eInjury.02)	(Possible Injury(eSituation.02) is equal to Yes AND Mechanism of Injury(eInjury.02) is blank)
CT 3.5 is a motor vehicle involved (itSituation.025)	this field must be filled out because you've indicated that the cause of injury includes a motor vehicle.	Is a Motor Vehicle Involved?(itSituation.025)	(Is a Motor Vehicle Involved?(itSituation.025) is blank AND Cause of Injury(eInjury.01) includes one of these values: Vehicle accident, NOS; Collision with unspecified motor vehicles, NOS; Crashing of motor vehicle, NOS; Heavy transport vehicle accident; Motorcycle accident, NOS; Car accident, NOS; Collision with car/truck/van, car occupant injury; Collision with pedestrian/animal, car occupant injury)
CT 3.5 Time Resuscitation Discontinued (eArrest.15)	Must document because you've indicated that resuscitation was attempted Enter not applicable if patient was transported w/resuscitation	Date/Time Resuscitation Discontinued(eArrest.15)	(Date/Time Resuscitation Discontinued(eArrest.15) is blank AND Resuscitation Attempted By EMS(eArrest.03) includes one of these values: Attempted Defibrillation; Attempted Ventilation; Initiated Chest Compressions)
CT 3.5 Time Initial CPR (eArrest.19)	Must document because you've indicated that resuscitation was attempted	Date of First CPR(eArrest.19)	(Date of First CPR(eArrest.19) is blank AND Resuscitation Attempted By EMS(eArrest.03) includes one of these values: Attempted Defibrillation; Attempted Ventilation; Initiated Chest Compressions)
CT 3.5 Role of person administering meds (eMedications.10)	You must enter the role of the person administering medication if a medication has been given	Role/Type of Person Administering Medication(eMedications.10)	(Medication Administered(eMedications.03) is not blank AND (Role/Type of Person Administering Medication(eMedications.10) is blank OR Role/Type of Person Administering Medication(eMedications.10)(NV) is equal to Not Applicable OR Role/Type of Person Administering Medication(eMedications.10)(NV) is equal to Not Recorded))
CT 3.5 eProcedures.05	Each procedure attempted must be entered individually.	Number of Procedure Attempts(eProcedures.05)	(Number of Procedure Attempts(eProcedures.05) is not equal to 1)
CT 3.5 ACN Vehicle Seat Location (eInjury.26)	When a motor vehicle is involved, this field must be documented.	ACN Vehicle Seat Location(eInjury.26)	(Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes AND ACN Vehicle Seat Location(eInjury.26) is blank)
CT 3.5 Seat Occupied (eInjury.27)	When a motor vehicle is involved, this field must be filled out.	ACN Vehicle Seat Location(eInjury.26)	(ACN Vehicle Seat Location(eInjury.26) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)

CT 3.5 ACN Incident Seatbelt Use (elnjury.28)	When a motor vehicle is involved, this field must be documented	ACN Incident Seatbelt Use(elnjury.28)	(ACN Incident Seatbelt Use(elnjury.28) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 ACN Incident Airbag Deployed (elnjury.29)	When a motor vehicle is involved, this field must be documented.	ACN Incident Airbag Deployed(elnjury.29)	(ACN Incident Airbag Deployed(elnjury.29) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 Main Area of the Vehicle Impacted by the Collision (elnjury.05)	Because a motor vehicle is involved, this field must be documented	Main Area of the Vehicle Impacted by the Collision(elnjury.05)	(Main Area of the Vehicle Impacted by the Collision(elnjury.05) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 Location of Patient in Vehicle (elnjury.06)	Because a motor vehicle was involved, this field must be documented	Location of Patient in Vehicle(elnjury.06)	(Location of Patient in Vehicle(elnjury.06) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 Use of Occupant Safety Equipment (elnjury.07)	Because a motor vehicle was involved, this field must be documented	Use of Occupant Safety Equipment(elnjury.07)	(Use of Occupant Safety Equipment(elnjury.07) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 Airbag Deployment (elnjury.08)	Because a motor vehicle was involved, this field must be documented	Airbag Deployment(elnjury.08)	(Airbag Deployment(elnjury.08) is blank AND Is a Motor Vehicle Involved?(itSituation.025) is equal to Yes)
CT 3.5 itSituation.024	Because this is a possible overdose you need to fill out the opioid overdose supplemental questions	Was a (leave behind) Naloxone Overdose Kit left at this scene?(itSituation.024)	(Was this a possible opioid related incident?(itSituation.019) is equal to Yes AND Was a (leave behind) Naloxone Overdose Kit left at this scene?(itSituation.024) is blank)
CT 3.5 itSituation.027	Because this is a possible overdose you need to fill out the opioid overdose supplemental questions	Was a Report made to Poison Control?(itSituation.027)	(Was this a possible opioid related incident?(itSituation.019) is equal to Yes AND Was a Report made to Poison Control?(itSituation.027) is blank)
CT 3.5 Delivery Method (itHistory.035)	You've indicated that this is a possible opioid overdose, so delivery method must be recorded.	Delivery Method(itHistory.035)	(Delivery Method(itHistory.035) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Use Period (itHistory.036)	You've indicated that this is a possible opioid overdose, so use period must be recorded.	Use Period(itHistory.036)	(Use Period(itHistory.036) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Source (itHistory.037)	You've indicated that this is a possible opioid overdose, so source must be recorded.	Source(itHistory.037)	(Source(itHistory.037) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Estimate Usage (itHistory.038)	You've indicated that this is a possible opioid overdose, so estimated usage must be recorded	Estimated Usage(itHistory.038)	(Estimated Usage(itHistory.038) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Substance (itHistory.039)	You've indicated that this is a possible opioid overdose, so substance must be recorded	Substance(itHistory.039)	(Substance(itHistory.039) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Form of Drug (itHistory.044)	You've indicated that this is a possible opioid overdose, so form of drug must be recorded	Form of Drug?(itHistory.044)	(Form of Drug?(itHistory.044) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)
CT 3.5 Recreational Substance Container Description (itHistory.045)	You've indicated that this is a possible opioid overdose, so recreational substance container description must be recorded. If unknown, document as such.	Recreational Substance Container Description(itHistory.045)	(Recreational Substance Container Description(itHistory.045) is blank AND Was this a possible opioid related incident?(itSituation.019) is equal to Yes)