Naloxone Performance Measures (Backgound Information) - January 28, 2019

Outcome Measure	Numerator	Denominator	Comments
Clinical Improvement			
1) % of Patients with initial pulse ox ≤ 94%, increased after EMS initiated care *(This measure was ranked #1 of the 3 clinical improvement measures)*	# of Patients with primary or secondary impression of (suspected) opioid OD with initial pulse ox of 94% or less AND had a final pulse ox of > 94% Distinct eRecord.01 Where Chronologicallty_Last(SpO2) > 94	# of Patients with primary or secondary impression of (suspected) opioid OD with initial pulse ox of 94% or less (eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4") and Chronologically_First(SpO2) < 94	RH: Complex Measure calculation requiring Vital Sign Aggregation at the level of the patient but feasible.
2) % of patients with GCS of less than 15 improved after EMS initiated care	# of Patients with primary or secondary impression of (suspected) opioid OD with initial GCS less than 15 AND had a final GCS higher than initial Distinct eRecord.01 Where Chronologicallty_Last (GCS_Total) > 15	# of Patients with primary or secondary impression of (suspected) opioid OD with initial GCS less than 15 eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4") and Chronologically_First (GCS_Total) < 15	RH: Complex Measure calculation requiring Vital Sign Aggregation at the level of the patient but feasible.
3) % of patients with respiratory rate less than 10 increased to 12 or more after EMS initiated care *(Ranked as #2 clinical improvement measures)*	# of Patients with primary or secondary impression of (suspected) opioid OD with initial RR less than 10 AND had a final RR equal or greater than 12 Distinct eRecord.01 Where Chronologicallty_Last (RR) > 15	# of Patients with primary or secondary impression of (suspected) opioid OD with initial RR less than 10 eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4") and Chronologically_First (RR) < 10)	RH: Complex Measure calculation requiring Vital Sign Aggregation at the level of the patient but feasible.
Identification / Treatment	**Numerator**	**Denominator**	**Comments**

Patient Disposition	Numerator	Denominator	Comments
4) % of patients with signs and symptoms of possible opioid OD who did not receive naloxone (under treatment) Probably most important to know when patient was under treated	# of Patients with altered LOC (GCS less than 15), and respiratory depression (RR less than 10), and/or pin point pupils, AND did not receive intervention of naloxone *Need to verify language related to pinpoint pupils*	# of Patients with altered LOC (GCS less than 15), and respiratory depression (RR less than 10), and/or pin point pupils	Potentially a balancing measure RH: This is possible with the data but assessment data for pupils inconsistent- if denominator is an "and" between the pupils and these other indicators it won't be many patients.
5) % of patients treated with Naloxone as suspected opioid overdose but did not exhibit signs and symptoms (over treatment) Measure added to address naloxone tunnel vision	# of patients who received naloxone AND DID NOT HAVE altered LOC (GCS less than 15), and respiratory depression (RR less than 10), and/or pin point pupils, OR Primary or Secondary Impression of (suspected) opioid OD or (eSituation.11 or eSituation.12 = ("T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4"))	# of patients who received naloxone	
6) % of patients who were treated as suspected naloxone overdose and exhibited signs and symptoms (appropriate treatment) Measure added to balance other 2 measures	# of patients who received naloxone AND had altered LOC (GCS less than 15), and respiratory depression (RR less than 10) and/or pin point pupils; OR Primary or Secondary Impression of (suspected) opioid OD	# of Patients with altered LOC (GCS less than 15), and respiratory depression (RR less than 10), and/or pin point pupils; OR Primary or Secondary Impression of (suspected) opioid OD	
Patient Disposition	**Numerator**	**Denominator**	**Comments**

	Numerator	Denominator	Comments
7) **% of patients treated with Naloxone refused transport** Could be considered an outcome measure since condition must have improved to be able to refuse transport. NEW QUESTION- Do protocols allow refusals of suspected opioid OD due to the potential of deterioration since duration of naloxone is shorter than most opioids?	# of Patients with primary or secondary impression of (suspected) opioid OD AND who received Naloxone either prior to EMS arrival or by EMS AND signed refusal for ambulance transport	# of Patients with primary or secondary impression of (suspected) opioid OD and Naloxone was administered either Prior to EMS arrival or by EMS eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4")	RH: Easy
~~% of patients transported to hospital by ambulance~~ Determined to be more of Informational metric and recommended we do not include	# of Patients with primary or secondary impression of (suspected) opioid OD AND who were transported to hospital by ambulance	# of Patients with primary or secondary impression of (suspected) opioid OD eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4")	Possible dispositions include refused, transported, deceased (?) RH: Easy

Supporting Measure	Numerator	Denominator	Comments
8) % of patients received airway support prior to administration of Naloxone *This measure was determined to be not as important as time to initiate assisted airway measure*	# where artificial assisted airway ventilation intervention preceded Naloxone intervention	# of Patients with primary or secondary impression of (suspected) opioid OD eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4")	RH: Easy
~~% of patients received Naloxone within x (7) minutes from the time EMS arrived on scene~~ 9) **% of patients received artificial assisted airway ventilation within 5 minutes from first responding EMS unit at scene time.** This measure was ranked as #1 of Support measures	# with At-Scene time to assisted airway intervention = 5 min or less	# of Patients with primary or secondary impression of (suspected) opioid OD eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4")	DV: On-scene versus at-patient because not all agencies capture at-patient time. At-scene captured by CAD which automatically imports into ePCR. Five minutes chosen based on theory that on average

			it takes EMS 2-3 minutes to access patient once on scene and then allows up to 2 more minutes to begin ventilations. RH: Easy
~~% of patients receive Naloxone via IN route during care~~ *Why focus on route? Some providers do not have IV as option. Group recommends not including this one.*	~~# receive Naloxone via IN~~	~~# of Patients with primary impression of (suspected) opioid OD~~ eSituation.11 or eSituation.12 = "T40.0X4", "T40.2X4", "T40.4X4", "T40.1X4")	Does it matter if they started with IN? RH: Easy
10) % of patients who exhibit adverse effects (agitation, vomiting, aspiration) after administration of Naloxone. This measure was added to capture occurrences of when treatment overshoots the goal of improving hypoxia and mental status (rather than full reversal with adverse reactions and need to re-medicate) Ranked as #2 support measure	# of patients who receive naloxone AND exhibit adverse effects (agitation, vomiting, aspiration) after administration of Naloxone	# of patients who receive naloxone	

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