VENTILATOR ALLOCATION GUIDELINES

New York State Task Force on Life and the Law
New York State Department of Health

November 2015

"….provide an **ethical, clinical, and legal framework** to assist health care providers and the general public in the event of a severe influenza pandemic "

"….written to reflect the values of New Yorkers, and **extensive efforts were made to obtain public input during their development.** While these Guidelines are comprehensive, **they are by no means final**"

NYS Ventilator Allocation Guidelines

- Patients **deemed most likely to survive** with ventilator therapy have the **highest level of access** to this treatment.
- The Adult Guidelines apply to individuals **aged 18 years old and older.**
- Applies to **ALL acute care patients** in need of a ventilator, whether due to influenza or other conditions.
- (Ventilator-dependent chronic care patients are only subject to the clinical ventilator allocation protocol if they arrive at an acute care facility)

NYS Ventilator Allocation Guidelines

1) application of exclusion criteria …. patients who have a medical condition that will result in immediate or near-immediate mortality even with aggressive therapy

(2) assessment of mortality risk … patients who have a moderate risk of mortality and for whom ventilator therapy would most likely be lifesaving are prioritized for treatment

(3) periodic clinical assessments **("time trials")**. … assessments at **48 and 120 hours** after ventilator therapy has begun are conducted to determine whether a patient continues with this treatment.

NYS Ventilator Allocation Guidelines
Step 1 - **Exclusion Criteria** for Adult Patients Medical Conditions that Result in Immediate or Near-Immediate Mortality Even with Aggressive Therapy

- **Cardiac arrest**: **unwitnessed** arrest, **recurrent arrest** without hemodynamic stability, **arrest unresponsive** to standard interventions and measures; **trauma**-related arrest
- **Irreversible age-specific hypotension** unresponsive to fluid resuscitation and vasopressor therapy
- **Traumatic brain injury with no motor response to painful stimulus** (i.e., best motor response = 1)
- **Severe burns**: where predicted survival ≤ 10% even with unlimited aggressive therapy
- **Any other conditions resulting in immediate or near-immediate mortality even with aggressive therapy**

Step 2 – Mortality Risk Assessment Using SOFA[1]	
Color Code and Level of Access	**Assessment of Mortality Risk/Organ Failure**
Blue No ventilator provided. Use alternative forms of medical intervention and/or palliative care or discharge. Reassess if ventilators become available.	Exclusion criterion OR SOFA > 11
Red Highest Use ventilators as available	SOFA < 7 OR Single organ failure[2]
Yellow Intermediate Use ventilators as available	SOFA 8 – 11
Green Use alternative forms of medical intervention or defer or discharge. Reassess as needed.	No significant organ failure AND/OR No requirement for lifesaving resources

Sequential Organ Failure Assessment (SOFA) Score Scale

Variable	0	1	2	3	4	Score (0-4)
PaO_2/FiO_2 mmHg	> 400	< 400	< 300	< 200	< 100	
Platelets, x $10^3/\mu L$ (x $10^6/L$)	> 150 (> 150)	< 150 (< 150)	< 100 (< 100)	< 50 (< 50)	< 20 (< 20)	
Bilirubin, mg/dL (µmol/L)	< 1.2 (< 20)	1.2 - 1.9 (20 - 32)	2.0 - 5.9 (33 - 100)	6.0 - 11.9 (101 - 203)	> 12 (> 203)	
Hypotension	None	MABP < 70 mmHg	Dop < 5	Dop 6 - 15 or Epi < 0.1 or Norepi < 0.1	Dop > 15 or Epi > 0.1 or Norepi > 0.1	
Glasgow Coma Scale Score (see next page to calculate)	15	13 - 14	10 - 12	6 - 9	< 6	
Creatinine, mg/dL (µmol/L)	< 1.2 (< 106)	1.2 - 1.9 (106 - 168)	2.0 - 3.4 (169 - 300)	3.5 - 4.9 (301 - 433)	> 5 (> 434)	
				TOTAL (0 - 24):		

Step 3 - Ventilator Time Trials (48 Hour Assessment)[1]	
Color Code and Level of Access	**Assessment of Mortality Risk/Organ Failure**
Blue No ventilator provided.[2] Use alternative forms of medical intervention and/or palliative care or discharge. Reassess if resources become available.	Exclusion criterion OR SOFA > 11 OR SOFA 8 – 11 and No Change in SOFA Score Compared to the Initial Assessment[3]
Red Highest Use lifesaving resources as available.	SOFA < 7 and Decrease in SOFA Score Compared to the Initial Assessment[4] OR SOFA < 11 and Decrease in SOFA Score Compared to the Initial Assessment[5]
Yellow Intermediate Use lifesaving resources as available.	SOFA < 7 and No Change in SOFA Score Compared to the Initial Assessment
Green Use alternative forms of medical intervention or defer or discharge. Reassess as needed.	No longer ventilator dependent / Actively weaning from ventilator

NYS Ventilator Allocation Guidelines

- Attending clinician directs patient care but does NOT decide on allocation of ventilator
- Triage officer/triage committee compiles clinical information (SOFA score, response to therapies already initiated) to generate blue/red/yellow categorization
- Triage officer/committee receives real time information of availability of resources
- Triage officer will recuse when pre-existent relationship with patient.
- Triage officer makes ventilator allocation determination and informs attending clinician and appropriate family

NYS Ventilator Allocation Guidelines

Scenario ….An incoming red code patient(s) eligible for ventilator therapy and a triage officer/committee must remove a ventilator from a patient whose health is not improving**.**

1. **Patients in the blue category removed** … then
2. **Patients in the yellow category** are vulnerable for removal from ventilator therapy **if they fail to meet criteria for continued ventilator use.**
3. If the pool of ventilated patients vulnerable for removal consists of only adults or only children, **a randomization process, such as a lottery, is used each time to select the (blue or yellow) patient who will no longer receive ventilator therapy**
4. A patient may only be removed from **a ventilator after an official clinical assessment has occurred or where the patient develops a medical condition on the exclusion criteria list**.
5. **However, if all ventilated patients are in the red category (i.e., have the highest level access), none of the patients are removed from ventilation**

NYS Ventilator Allocation Guidelines

Efforts will be made to inform and gather feedback from the public before a pandemic (a LOST opportunity)

pandemic influenza is potentially fatal

health care providers are **doing our best with the limited resources**

The public must adjust to a different way of providing and receiving health care than is customary.

Patients and families should be informed that ventilator therapy represents a **trial of therapy** that may not improve a patient's condition sufficiently **and that the ventilator will be removed if this approach does not enable the patient to meet specific criteria.**

Ongoing Real-time data collection and analysis to modify the Guidelines based on new information.

Data collection must include **real-time availability of ventilators so that triage decisions are made to allocate resources most effectively**.