

WORKING DRAFT
(January 29, 2010)

Recommended

District/IWK Triage Protocol for Critical Care

*Prepared and Presented on Behalf Of the
Triage Protocol for Critical Care Working Group*

January 29, 2010

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Introduction

At the request of the Council of CEOs, a provincial interdisciplinary working group was established in May of this year to create a protocol for critical care triage should a mass critical care incident be declared in response to wave 2 of the H1N1 pandemic. Recognizing that the critical care system could become overwhelmed and that capacity within the province is variable in terms of access and scope of critical care service provided, the need to develop a standard approach to service delivery became essential to implementing a just, equitable and efficient H1N1 response plan for critical care.

Given the current critical care service reality, districts will be required to collaborate with neighboring authorities in providing critical care services during a mass critical care event to ensure that implementation of the protocol is consistent across the province. A critical care triage protocol offers leadership to establishing appropriate linkages between and among districts prior to and during a pandemic event.

The working group included representation and expertise from the tertiary and rural health services sectors, health ethics, infection control, maternal/child health, health law, emergency medicine, the armed forces, public communications, health information systems, hospice palliative care, and the Department of Health. Experienced public representatives also supported the development process.

The protocol development process was collaborative, based on best available medical evidence. An ethics-informed process to the establishment of a protocol-driven approach was fundamental to the development process and is reflected in the ethics content included in this draft report.

The protocol developed for application in Nova Scotia's critical care system has been adapted from the *Final Report of the Ontario Health Plan for an Influenza Pandemic (OHPIP)*, accomplished by the *Working Group on Adult Critical Care Admission, Discharge and Triage Criteria (2006)*. This work is referred to as the Ontario protocol and is cited in the literature as, "the first protocol for triage to critical care resources". (Christian, Farmer, Young, 2008, p.13-8). The working group endorsed the Ontario protocol based on its efficacy in application, the fact that it is based upon established medical criteria, and the extent to which it has been accepted in other Canadian provinces, the US and by the European Society of Intensive Care Medicine.

Application of the protocol requires the judgment of physicians and allied professionals at the point of service.

The purpose of the protocol-driven approach is to guide and support triage decision-making for the allocation and deployment of critical care resources when demand exceeds resource availability. Excessive demand may be experienced in one district more than in another, with a provincial systemic response required to support all districts/IWK should the H1N1 response escalate to a mass casualty experience.

The Protocol is established to offer a measure of evidenced-based support to the difficult decisions health providers will be required to make when resources are limited. The genuine distress and difficulty of implementing the protocol in extraordinary circumstances necessitates an approach guided by clinical protocols and support structures that are system-wide and focused on an ethical, equitable and fair distribution of scarce resources. Districts/IWK will be expected to provide sound

and consistent psychosocial support to both providers and patients/families in a critical care triage environment.

Throughout the process the district health authorities and the IWK Health Centre have reviewed the on-going work and included at various points throughout the development process to achieve in-process buy-in and congruency with district/IWK H1N1 response plans and capacity to provide triage support at the local level. The districts/IWK offered feedback and advice to assure that implementation of the triage protocol for critical care is practical, reasonable and flexible.

SECTION 1 - THE TRIAGE PROTOCOL

1.1 Summary Statement

District Health Authorities accept accountability for service delivery as mandated by the District Health Authorities Act 2000. Hence, the triage protocol must be congruent with and acceptable to the provincial health services delivery system at the local level to achieve the equity and standard of care required in a mass critical care environment. Districts will continue to accept this accountability when implementing the critical care triage protocol.

Districts/IWK have demonstrated the level of commitment required to ensure equity and fairness throughout the province by entering into an MOU designed to support collaboration and compliance with the protocol should a mass critical care event be declared.

The mission of establishing a protocol-driven approach to the allocation of critical care resources is to support a triage process that is ethically, legally and morally informed during a mass critical care experience. The protocol approach offers substantive support to clinicians as a clinical guideline dedicated to preventing inappropriate triage to critical care (referred to as “over-triage”) resulting in ineffective and inefficient resource expenditures at a time when they are needed most.

The protocol includes clinical guidelines for triage decision-making across the continuum of critical care, recommends local and central triage support structures and offer tools to guide triage officers and the triage process at the district/IWK level.

The protocol is founded on the fundamental principle that all patients presenting during a mass critical care event will receive care.

The process of selecting and adapting the protocols is ethics-informed and it is recommended that health ethics expertise continue to provide oversight should implementation of the protocol approach be required during wave 2 of the H1N1 response.

The protocol described in the report has received two ethics reviews. The Organization Ethics Committee of the Capital District Health Authority (CDHA) and the Advisory Council of the Nova Scotia Health Ethics Network (NSHEN) reviewed the protocol and offered constructive feedback. These reviews were requested by the Council of CEOs to ensure an expert analysis outside the working group, thus strengthening the work. This feedback was used by the working group to recommend the draft protocol for implementation as an interim protocol for the fall/winter 2009/10. Both reviews recognized and supported the working group’s fundamental ethos that, “the type of triage described below is only ethically, legally and morally justifiable in an overwhelming crisis.” OHPIP, April 2006, P. 3.

The protocol is comprised of three (3) main components: Inclusion Criteria (identifies patients who may potentially benefit from admission to critical care); Exclusion Criteria (identifies those who have a poor prognosis/chance of survival even with aggressive critical care treatment); and utilization of the Sequential Organ Failure Assessment (SOFA) score as the final filter in the triage assessment process to support initial and ongoing assessment.

Districts are expected to utilize the protocols exclusively to support admission for all patients who are being considered for critical care and to monitor appropriate utilization of critical care resources throughout the patient stay.

Districts/IWK will continue to create the clinical environment in which the triage protocol for critical care is to be applied. It is estimated that 20-30% of clinical staff could fall victim to H1N1. With this anticipated challenge, districts are expected to and will benefit from advanced planning around increasing existing capacity to off-set this potential staff loss. Consideration should also be given to dedicating critical care environments to ventilation and/or hemodynamic support as much as possible. Ventilation will be the greatest demand during a mass influenza casualty incident.

The triage protocol has been developed with the understanding that district accountabilities will be applied prior to and once the trigger for triage protocol implementation is activated. Pre-planning and awareness building at the local level is imperative to successful implementation of the triage protocol. Provincial triage training will also be dedicated to effective preparation for triage protocol implementation.

Establishing a trigger to determine when the critical care triage protocol should be applied is a critical feature of the protocol and takes into consideration the variability of resources and critical care environments throughout the provincial critical care system. Districts/IWK will be mandated to maintain consistent communication with the JHEOC alerting the central system when local capacity is approaching surge demand and potentially moving in the direction of mass admission requirement. **Constantly surveying unit utilization and applying every opportunity to move non-ventilated patients (if at all possible) to an area where their care can continue is critical to effective and efficient implementation of the triage protocol. The protocol will not be applied until every option has been explored to alleviate escalating demand locally and across the system.**

Once a mass critical care event is declared, central system awareness and control of critical care resources is required to ensure that, as much as possible, a consistent and equitable standard of care is accessible across the province. A Central Triage Committee (CTC) structure will provide support and leadership to this function. The CTC will be populated by critical care clinicians; health administrators, health ethics consultation, and IT staff to support effective and efficient decision-making. The CTC will have a bed availability and deployment function to maintain ongoing awareness of critical care demand and how best to deploy patients to the right care in the right setting. The CTC will have the level of broad system awareness to support the kind of flexibility and responsiveness needed to make decisions in a timely manner. (See Appendix B for CTC Terms of Reference).

Ethical values and principles, triage role clarity, triage training, public communication, local case review capacity, central critical care system awareness and control, and action planning to engage the health services sector and local ethics committees are outlined in this draft report.

The recommendations identified represent the collective thinking and expertise of the working group as well as established task groups for selected components of the protocol. Teleconferences were held with administrative and clinical leadership at critical junctures during the triage development process which proved very helpful in terms of maintaining congruency and acceptability with local system capacity.

1.2. Executive Ethics Summary

Executive Ethics Summary

*This summary does not substitute for the full content of the Ethics Considerations section.

The fair allocation of scarce health resources during pandemics and mass casualty events is a moral endeavor. What constitutes fairness in allocation decision-making during normal limited resources circumstances has to be modified in important ways during declared pandemic incidents. This is because of the necessary shift in the focus of care from the health of individual patients to the health and social interests of the whole population. In order to promote the 'social good', consequentialism becomes the dominant imperative during pandemics, i.e., we are to decide and act so as to provide the greatest good to the greatest number, which is interpreted in this particular context as: arrange access to critical care health care services so as to ensure the survival of as many people as possible.

It is recognized that the development of an alternative standard-of-care for use during pandemic incidents challenges the usual application of widely-valued/accepted ethical principles, including respect for individual autonomy and the 'patient welfare' principles of beneficence and nonmaleficence. Given this, other ethics considerations (beyond those of utility) should inform decision making in the development and subsequent implementation of a pandemic critical care triage protocol. Through deliberative dialogue, members of the protocol development working group collaboratively-established what these foundational principles and values should be (see relevant boxes). The working group, whose members include core stakeholders (health care receivers, health care providers and the public), relevant resource persons and health organizational leads, stewarded the protocol's development from its inception through to its final approval by the Deputy Minister of the Department of Health and the Council of (District/IWK) CEOs.

The **procedural/process values** that inform the content of the triage protocol are:

- ❖ Inclusiveness
- ❖ Collaboration
- ❖ Openness & transparency
- ❖ Consistency
- ❖ Accountability
- ❖ Responsiveness
- ❖ Revisability

2010-02-11

The **substantive values & principles** that act as criteria for decision making are:

Efficiency & promotion of the social good

- ❖ In the collective, shared interests of society and its public members, identify and consider actions that are anticipated to produce the best health outcomes for the province's residents
- ❖ Ensure that decisions are informed by the best available evidence* and practices (*includes evaluation of the level of knowledge certainty)
- ❖ Promote efficiencies in the use of scarce resources

Justice

- ❖ Distributive – distribute benefits and burdens fairly on the basis of legitimate health needs and available resources
- ❖ Formal – treat individuals and groups of persons the same unless there is a demonstrable *relevant* difference between/among them that justifies different treatment (basis of non-discrimination and consistency obligations)
- ❖ Social – identify and pay meaningful attention to the particular disadvantages and needs of 'the worst off' including members of vulnerable populations

Health equity

- ❖ Make concerted efforts to provide 'a fair chance for all'
- ❖ Reduce, as much as possible, disparities among individuals and groups of persons in their opportunities for (good) health

One of the challenging tasks of the working group was to explore and establish innovative and pragmatic ways to enhance the fairness of pandemic critical care triage. Some of the justice features that emerged from these deliberations and were incorporated into the triage protocol are:

'Blinded' triage – one way to reduce potential discrimination is to have the triage officer/lead make triage decisions on the basis of review of an anonymized triage form consisting of 'yes' or 'no' responses to straight-forward elements of the applied clinical tools (inclusion & exclusion criteria plus SOFA scores) that has been completed by the treating Emergency Department physician. In this manner, the conscious and unconscious biases of those who engage with and 'lay eyes' on patients do not influence triage outcomes.

Reducing urban-rural resource disparities – one mechanism to reduce the usual disparity in access to critical care resources between rural and urban residents is to establish a Central Triage Committee which has real-time awareness of critical care resource availability and control over access to critical care beds throughout the province (in circumstances where there are existing, safe patient transportation services to assist in the transfer of patients between and among rural and urban areas).

Review mechanism – one of the basic tenets of procedural justice is that, for a procedure to be considered a *fair due* process, it must have an appropriate appeals/review mechanism. The challenge in the context of a pandemic incident is to make these reviews rapid and pragmatic. Two distinct types are appropriate and possible in this context, i.e., process and substantive reviews (see descriptions in Review Mechanism section).

Fair Chances for Vulnerable Populations – to ensure meaningful attention to social justice considerations, it is important for participants from vulnerable populations to participate directly as members of the working group, and for disadvantaged social groups to be engaged in the secondary stakeholder review phase of protocol development. Another way to be attentive to the particular needs of vulnerable populations is to ensure that district triage teams have the capacity to provide culturally-appropriate psychosocial support to disadvantaged patients and their families.

Substantive values & principles, cont'd:

Proportionality

- ❖ Ensure that temporary interferences with, and constraints placed on, a person's liberty/autonomy interests and his/her health care and treatment choices are proportional to the current level of health resources scarcity
- ❖ Ensure that such interferences and constraints are the least restrictive and intrusive ways/mechanisms to achieve appropriate, temporary pandemic goals

Trust & reciprocal obligation to care

- ❖ Individuals with health needs and the public should be able to expect, and rely on, the commitment of those working within health organizations to constructively collaborate, and be reasonably flexible, in the provision of appropriate health care
- ❖ Reciprocally, those working within health organizations should be able to expect, and rely on, the receipt of appropriate support from their organization and government to enable their work and to, as much as possible, keep them safe and healthy

1.3 Clinical Tools

Overview

This protocol has been designed for use by attending physicians in Nova Scotia hospitals during an H1N1 mass incident, either by the attending in the Emergency Department or within an inpatient unit when admission to a critical care bed is contemplated. Although the attending physician initiates this process, it is to be completed by a designated trained Triage Officer within the institution.

Any patient who demonstrates a clinical need to be assessed for possible admission/transfer to critical care will undergo the following steps in assessment:

- **Step 1:** Assess to see if patient meets inclusion criteria
 - ▶ If patient meets inclusion criteria, proceed to Step 2
 - ▶ If patient does NOT meet inclusion criteria, reassess patient in future if there is deterioration in clinical status
- **Step 2:** Assess for exclusion criteria
 - ▶ If no exclusion criteria, proceed to Step 3
 - ▶ If exclusion criteria PRESENT, do not admit or transfer to critical care. Provide best available alternative care.
- **Step 3:** Proceed to SOFA-initial assessment

Any patient occupying a critical care bed at the time of a declared mass incident must be assessed and managed according to the above inclusion/exclusion criteria. A decision not to initiate critical care and a decision to withdraw critical care is considered morally and legally equivalent in these circumstances. If the patient is excluded from critical care because exclusion criteria are present, they will receive appropriate medical or palliative care as indicated.

*Note: This triage protocol applies to **ALL** patients undergoing assessment for possible admission/transfer to critical care*

Part A – Admission Criteria

Assessment for Admission to Critical Care during a Declared H1N1 Mass Incident

Step 1

Inclusion Criteria

To be admitted to a critical care bed (or to continue to occupy a critical care bed) the patient must have one of **A or B**

A. Requirement for invasive ventilatory support (meets one of the criteria below):

- Refractory Hypoxemia (SpO₂ < 90% on non-rebreather mask/ FiO₂ > 0.85).
- Respiratory Acidosis with pH < 7.2.
- Clinical evidence of impending respiratory failure.
- Inability to protect or maintain airway.

B. Hypotension:

- Hypotension (SBP < 90 or relative hypotension) with clinical evidence of shock (altered level of consciousness, decreased urine output, or other end organ failure) refractory to volume resuscitation (40-50ml/kg) requiring vasopressor/inotrope support that cannot be managed on the ward.

Step 2

Exclusion Criteria

The patient is excluded from admission/transfer to Critical Care **if ANY** of the following pre-existing conditions are present. These exclusion criteria are based on an expected ICU mortality of 80% or greater. (Descriptors of some exclusion criteria are provided in the “Guide to Exclusion Criteria”)

- Severe trauma
- Severe burns with all 3 of the following:
 - i. Age > 60 years old.
 - ii. TBSA > 40%.
 - iii. Inhalation injury.
- Cardiac Arrest:
 - Unwitnessed cardiac arrest.
 - Recurrent cardiac arrest (excepting torsades de pointes).
- Severe dementia
- Advanced untreatable neuromuscular disease.
- Malignancy with known metastases and life expectancy less than 1 year.
- Advanced & irreversible immunocompromise.
- Severe and irreversible neurologic event/condition.
- Any chronic illness where the 1 year life expectancy is known to be less than 20%
- End stage organ failure meeting following criteria:
 - Cardiac:**
 - i. Chronic NYHA class III or IV heart failure.
 - Lung:**
 - i. COPD with FEV1 < 25% predicted, baseline PaO2 < 55 mmHg, or secondary pulmonary hypertension.
 - ii. CF with postbronchodilator FEV1 < 30% or baseline PaO2 < 55mmHg.
 - iii. Pulmonary fibrosis with VC or TLC < 60% predicted, baseline PaO2 < 55, or secondary pulmonary hypertension.
 - iv. Primary pulmonary hypertension with NYHA class III – IV heart failure, or right atrial pressure > 10 mmHg, or mean pulmonary arterial pressure of > 50 mmHg.
 - Liver:**
 - Child-Pugh Score – 7 or greater, where the patient is not a transplant candidate.

Step 3

SOFA

SOFA stratifies patients into 3 categories

1. Red – Highest priority for critical care (CC)
2. Yellow – Intermediate priority – once all patients in Red category, have access to CC
3. Blue – Expectant – Best available alternative care; not eligible for CC

Initial SOFA Score (at admission)

- < 7 or single organ failure – high priority (red)
- 8 to 11 – intermediate priority (yellow)
- > 11 or meets exclusion criteria – do not admit to Critical Care or discontinue from Critical Care

Part B – Ongoing Assessment of Critical Care Patients

48 Hour SOFA Score

- if score is <11 and decreasing – high priority (red)
- if score remains < 8 with no decrease from initial – intermediate priority (yellow)
- if score >11 **or** 8-11 with no decrease from initial – D/C from Critical Care (blue)

120 hour SOFA score

- if score is < 11 and decreasing progressively - high priority (red)
- if score is < 8 and showing a minimal decrease (< 3 points) - intermediate (yellow)
- if there has been no change in score and < 8 - expectant (blue)
- if score is greater than 11 at any point in first 120 hrs – expectant (blue)

After 5 days the 120 hour SOFA tool can be reapplied daily for a time period dependant on demand and resource availability

SOFA Triage Tool

SOFA Scale

| Variable | 0 | 1 | 2 | 3 | 4 |
|---|------------------|------------------------|------------------------|--|--|
| PaO ₂ /FiO ₂ mmHg | >400 | ≤ 400 | ≤ 300 | ≤ 200 | ≤ 100 |
| Platelets, x 10 ³ / μL (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 > 5, Epi ≤ 0.1, Norepi ≤ 0.1 | Dop > 15, Epi > 0.1 Norepi > 0.1 |
| Glasgow Coma Score | 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) |

Dopamine [Dop], epinephrine [Epi], norepinephrine [Norepi] doses in ug/kg/min

SI units in brackets

Adapted from: Ferreira FL, Bota DP, Bross A, Melot C, Vincent JL.

Serial evaluation of the SOFA score to predict outcome in critically ill patients. JAMA 2001; 286(14):1754-1758.

Initial SOFA Assessment Tool
(Color – Coded Priority Tool)

| Critical Care Triage Tool (Initial Assessment) | | |
|---|--|--|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria* <u>OR</u> SOFA > 11* | Medical Mgmt +/- Palliate & d/c from CC |
| Red | SOFA ≤ 7 <u>OR</u> Single Organ Failure | Highest |
| Yellow | SOFA 8 – 11 | Intermediate |
| Green | No significant organ failure | Defer or d/c, reassess as needed |

* If exclusion criteria or SOFA > 11 occurs at anytime from initial assessment to 48 hours change triage code to Blue and palliate.

CC = critical care

d/c = discharge

Ongoing SOFA Assessment

- Ongoing SOFA Assessment

| Critical Care Triage Tool (48 Hour Assessment) | | |
|---|--|------------------------|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria <u>OR</u> SOFA > 11 <u>OR</u> SOFA 8 – 11 no Δ | Palliate & d/c from CC |
| Red | SOFA score < 11 and decreasing | Highest |
| Yellow | SOFA < 8 no Δ | Intermediate |
| Green | No longer ventilator dependant | d/c from CC |

Δ = change

CC = critical care

| Critical Care Triage Tool (120 Hour Assessment) | | |
|--|---|------------------------|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria* <u>OR</u> SOFA > 11* <u>OR</u> SOFA < 8 no Δ | Palliate & d/c from CC |
| Red | SOFA score < 11 and decreasing progressively | Highest |
| Yellow | SOFA < 8 minimal decrease (< 3 point decrease in past 72h) | Intermediate |
| Green | No longer ventilator dependant | d/c from CC |

* If exclusion criteria or SOFA > 11 occurs at anytime from 48 – 120 hours change triage code to Blue and palliate.

CC = critical care

d/c = discharge

**Guide to Interpretation of Exclusion Criteria
Critical Care Triage Protocol**

1. **Severe Trauma** – the use of the Revised Trauma Score (RTS) is recommended. RTS is calculated using the Glasgow Coma Scale (GCS), Systolic Blood Pressure (SBP) and Respiratory Rate (RR)

$$\text{RTS} = 0.9368 \text{ GCS} + 0.7326 \text{ SBP} + 0.2908 \text{ RR}$$

Exclusion criteria met if the RTS is less than or equal to 2.0 **OR** GCS is 3 or less *in the absence of a rapidly reversible medical or surgical cause*. The RTS/GCS for this purpose is not to be derived from observations taken in the field.

| GCS | SBP | RR | Coded value |
|-------|-------|-------|-------------|
| 13-15 | >89 | 10-29 | 4 |
| 9-12 | 76-89 | >29 | 3 |
| 6-8 | 50-75 | 6-9 | 2 |
| 4-5 | 1-49 | 1-5 | 1 |
| 3 | 0 | 0 | 0 |

2) **Inhalation injury** – For the purposes of this protocol, inhalation injury in burn victims is determined by the presence of edema, tracheal erythema, and/or carbon deposit in the lower airway on bronchoscopy.

3) **Severe dementia** - Exclusion criteria met if patient suffers dementia that is:
 ► Severe - unable to name persons close to him/her when “well”*; requires significant assistance with personal ADL’s
 or
 ► Very severe – non-verbal and non-ambulatory status; anticipated to have a short (within months) life expectancy

4) Advanced untreatable neuromuscular disease – for example severe ALS with respiratory failure requiring mechanical ventilation.

5) Advanced and untreatable immunocompromise – not intended to include patients requiring steroids or other immune suppressant drugs for treatment of an underlying chronic disease or transplantation.

6) Severe and irreversible neurologic event/condition – for example large MCA or brain stem stroke, Grade IV subarachnoid hemorrhage

7) Chronic NYHA Class III or IV heart failure – must be present for at least the previous 6 months

*this refers to the patient's baseline status in the absence of intercurrent illness, i.e. prior to the event/illness resulting in their hospitalization, applying to severe or very severe categories.

Physician/Triage Officer Assessment Form

PART A: Assessment for Admission

Any patient requested to be assessed for possible admission/transfer to critical care will undergo the following steps in assessment:

Step 1: Assess to see if patient meets inclusion criteria

- ▶ If patient meets inclusion criteria, proceed to Step 2
- ▶ If patient does **NOT** meet inclusion criteria, do not admit to critical care. Reassess patient in future if there is deterioration in clinical status

Step 2: Assess for exclusion criteria

- ▶ If no exclusion criteria, proceed to Step 3
- ▶ If exclusion criteria **PRESENT**, do not admit to critical care. Continue current level of care or palliate as indicated

Step 3: Proceed to triage tool (SOFA-initial assessment)

Note: This triage protocol applies to ALL patients undergoing assessment for possible admission/transfer to critical care. At the point of initiation of critical care triage, this protocol also applies to patients currently occupying critical care beds.

Any patient occupying a critical care bed at the time Tertiary Triage is initiated must be assessed and managed according to the above inclusion/exclusion criteria. A decision not to initiate critical care and a decision to withdraw critical care is considered morally equivalent in a situation of Tertiary Triage

Physician Assessment Tool

Patient's Health Card #: _____

| STEP 1: Inclusion Criteria | Yes | No |
|---|------------|-----------|
| To be admitted to (or continue to occupy) a critical care bed, the patient must have 1 of criteria A or B | | |
| A. Requirement for invasive ventilatory support (meets one of the criteria below): <ul style="list-style-type: none"> • Refractory Hypoxemia (SpO₂ < 90% on non-rebreather mask/FiO₂ > 0.85) • Respiratory Acidosis with pH < 7.2 • Clinical evidence of impending respiratory failure • Inability to protect or maintain airway | | |
| B. Hypotension: <ul style="list-style-type: none"> • Hypotension (SBP < 90 or relative hypotension) with clinical evidence of shock (altered level of consciousness, decreased urine output, or other end organ failure) refractory to volume resuscitation (40-50 ml/kg) requiring vasopressor/inotrope support that cannot be managed on the ward | | |

If patient has A or B above, move to STEP 2 and complete section below. The patient is excluded from admission/transfer to Critical Care if ANY of the following pre-existing conditions are present:

| STEP 2 : Exclusion Criteria | Yes | No |
|--|------------|-----------|
| 1. Severe trauma* | | |
| 2. Severe burns <ul style="list-style-type: none"> • A patient with the all of the following: <ul style="list-style-type: none"> i. Age > 60 years old and ii. TBSA > 40% and iii. Inhalation injury* | | |
| 3. Cardiac arrest: <ul style="list-style-type: none"> • Unwitnessed cardiac arrest. • Recurrent cardiac arrest. (excepting torsades de pointes) | | |
| 4. Severe Dementia* | | |
| 5. Advanced untreatable neuromuscular disease* | | |
| 6. Malignancy with known metasases; life expectancy less than 1 year | | |
| 7. Advanced & irreversible immunocompromise* | | |
| 8. Severe and irreversible neurologic event/condition* | | |
| 9. Any chronic illness where the 1 year life expectancy is known to be less than 20% | | |

*refer to Guide to Interpretation of Exclusion Criteria

Physician Assessment Tool

Patient's Health Card #: _____

| STEP 2 : Exclusion Criteria (continued) | <u>Yes</u> | <u>No</u> |
|--|------------|-----------|
| <p>10. End stage organ failure meeting following criteria:</p> <ul style="list-style-type: none"> • Cardiac: <ul style="list-style-type: none"> i. Chronic NYHA class III or IV heart failure* • Lung: <ul style="list-style-type: none"> i. COPD with FEV1 <25% predicted, baseline PaO2 <55 mmHg, or secondary pulmonary hypertension. ii. CF with postbronchodilator FEV1 <30% or baseline PaO2 <55 mmHg. iii. Pulmonary fibrosis with VC or TLC <60% predicted, baseline PaO2 <55, or secondary pulmonary hypertension. iv. Primary pulmonary hypertension with NYHA class III – IV heart failure, or right atrial pressure >10 mmHg, or mean pulmonary arterial pressure of >50 mmHg. • Liver: <ul style="list-style-type: none"> i. Child Pugh Score ≥ 7, where the patient is not a transplant candidate. | | |

*refer to Guide to Interpretation of Exclusion Criteria

Physician Assessment Tool

Patient's Health Card #: _____

| | | |
|-------------------------------------|-----|----|
| Patient meets inclusion criteria | Yes | No |
| Patient meets an exclusion criteria | Yes | No |

If the patient meets any of the above exclusion criteria, the patient will receive medical or palliative care as appropriate. Please complete and sign this form below and forward it to the Triage Officer for review and signature.

If the patient meets *inclusion criteria (Yes)* and has no *exclusion criteria (No)*, proceed to Step 3 - Triage Officer Initial Assessment. To assist the Triage Officer, please complete the SOFA Raw Values in the table below.

| PaO ₂ | FiO ₂ | Platelet Count | Bilirubin | Blood Pressure/vaso-pressors | GCS | Creatinine |
|------------------|------------------|----------------|-----------|------------------------------|-----|------------|
| | | | | | | |

Signature (Attending Physician) _____

Date/Time _____

Signature (Triage Officer) _____

Date/Time _____

STEP 3

Critical Care Triage Officer Initial Assessment

Patient's Health Card #: _____

Note: Physician Assessment Tool must be completed prior to calculating SOFA initial assessment score.

SOFA Scale

| Variable | 0 | 1 | 2 | 3 | 4 | Raw Value | SOFA Score |
|---|------------------|------------------------|------------------------|--|--|------------------------|------------|
| PaO ₂ /FiO ₂ mmHg | >400 | ≤ 400 | ≤ 300 | ≤ 200 | ≤ 100 | | |
| Platelets, x 10 ³ /μL (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 > 5, Epi ≤ 0.1, Norepi ≤ 0.1 | Dop > 15, Epi > 0.1 Norepi > 0.1 | | |
| Glasgow Coma Score | 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) | | |
| Dopamine [Dop], epinephrine [Epi], norepinephrine [Norepi] doses in ug/kg/min SI units in brackets | | | | | | SOFA TOTAL: | |

| Critical Care Triage Tool (Initial Assessment) | | |
|---|---|--|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria* or SOFA > 11* | Medical Mgmt +/- Palliate & d/c from CC |
| Red | SOFA ≤ 7 or Single Organ Failure | Highest |
| Yellow | SOFA 8 – 11 | Intermediate |
| Green | No significant organ failure | Defer or d/c, reassess as needed |

* If exclusion criteria or SOFA > 11 occurs at anytime from initial assessment to 48 hours change triage code to Blue and palliate.

CC = critical care

d/c = discharge

Patient's Initial SOFA score: _____

Circle patient's triage colour code: GREEN YELLOW RED BLUE

Signature (Triage Officer) _____

Date/Time _____

Part B: Ongoing Assessment of Critical Care Patients

48 Hour SOFA Score Patient's Health Card #: _____

SOFA Scale

| Variable | 0 | 1 | 2 | 3 | 4 | Raw Value | SOFA Score |
|---|------------------|------------------------|------------------------|--|--|------------------------|------------|
| PaO ₂ /FiO ₂ mmHg | >400 | ≤ 400 | ≤ 300 | ≤ 200 | ≤ 100 | | |
| Platelets, x 10 ³ /μL (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 > 5, Epi ≤ 0.1, Norepi ≤ 0.1 | Dop > 15, Epi > 0.1 Norepi > 0.1 | | |
| Glasgow Coma Score | 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) | | |
| Dopamine [Dop], epinephrine [Epi], norepinephrine [Norepi] doses in ug/kg/min SI units in brackets | | | | | | SOFA TOTAL: | |

Initial SOFA Score _____ **Initial Triage Code** _____

| Critical Care Triage Tool (48 Hour Assessment) | | |
|---|---|-----------------------------------|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria <u>OR</u> SOFA > 11 <u>OR</u> SOFA 8 – 11 no Δ | Palliate & d/c from CC |
| Red | SOFA score < 11 and decreasing | Highest |
| Yellow | SOFA < 8 no Δ | Intermediate |
| Green | No longer ventilator dependant | d/c from CC |

Δ = change

CC = critical care

Patient's 48 hour SOFA score: _____
Circle patient's triage colour code: **GREEN** **YELLOW** **RED** **BLUE**

Signature (Attending Physician) _____
 Date/Time _____

120 hour SOFA Scale

Patient's Health Card #: _____

SOFA Scale

| Variable | 0 | 1 | 2 | 3 | 4 | Raw Value | SOFA Score |
|---|------------------|------------------------|------------------------|--|--|------------------------|------------|
| PaO ₂ /FiO ₂ mmHg | >400 | ≤ 400 | ≤ 300 | ≤ 200 | ≤ 100 | | |
| Platelets, x 10 ³ /μL (x 10 ⁹ /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 > 5, Epi ≤ 0.1, Norepi ≤ 0.1 | Dop > 15, Epi > 0.1 Norepi > 0.1 | | |
| Glasgow Coma Score | 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) | | |
| Dopamine [Dop], epinephrine [Epi], norepinephrine [Norepi] doses in ug/kg/min SI units in brackets | | | | | | SOFA TOTAL: | |

48 hour SOFA Score _____

48 hr Triage Code _____

| Critical Care Triage Tool (120 Hour Assessment) | | |
|--|--|------------------------|
| Colour Code | Criteria | Priority/Action |
| Blue | Exclusion Criteria* or SOFA > 11* or SOFA < 8 no Δ | Palliate & d/c from CC |
| Red | SOFA score < 11 and decreasing progressively | Highest |
| Yellow | SOFA < 8 minimal decrease (< 3 point decrease in past 72h) | Intermediate |
| Green | No longer ventilator dependant | d/c from CC |

* If exclusion criteria or SOFA > 11 occurs at anytime from 48 – 120 hours change triage code to Blue and palliate.

CC = critical care

d/c = discharge

Patient's 120 hour SOFA score: _____

Circle patient's triage colour code: GREEN YELLOW RED BLUE

Signature (Attending Physician)

Date/Time _____

1.4 District/IWK Triage Roles and Support Structure

- District Triage Support

A *District Triage Support Team* reporting to the District Emergency Operations Committee (EOC) is the recommended body to be established to support the triage process and triage officer/s locally. Districts may choose that this support be undertaken by the District EOC itself. **The District EOC should also consider opportunities to offer support to patients/families facing the difficult reality that critical care will be denied to them or their loved one and provide support and advice around available alternate care options.**

The District Triage Support teams:

- Include physicians, nurses, allied health professionals and health administrators
- Support the Triage Officer/s and others in the execution of their duties; available to support discussions with patients/families
- Have access to ethics support at the local level
- Maintain good two-way communication with central support processes (CTC)
- Assume a role in the local case review process
- Ensure that documentation is inclusive and consistent across the triage process

- **Triage officer**

An intensivist, internist, or other physician/surgeon with appropriate critical care experience who applies the triage criteria to decide the disposition of critically ill and injured patients during a declared mass incident.

- The Triage Officer (TO) should be a specifically trained intensivist, internist or other physician/surgeon with critical care experience
- Applies the triage protocol and makes the decisions for disposition
- Completes and signs the Triage Protocol Form for each patient triaged; completes all related documentation ensuring accurate notation of date and time of the disposition decision
- Decisions are to be made by document review –clinical contact by the TO with the patient is unnecessary and not recommended
- Has at least one identified backup at all times

Triage is expected to be challenging both clinically and psychologically. This indicates the need for proper training and ongoing support if needed. The ideal Triage Officer is a senior physician with substantial clinical experience. Triage Officers need not be internists or intensivists.

The Triage Officer has the ultimate responsibility and authority for making decisions as to how patients will be prioritized to receive critical care, and is empowered to make decisions regarding the reallocation of critical care resources. He/she is expected to make decisions that benefit the greatest number of patients given limited resources. This requires considerable discipline in moving from the usual paradigm of first assisting those in greatest need and the usual obligations involved in the doctor-patient relationship.

The Triage Officer is not expected to examine patients and if necessary can consult with the first treating physician without seeing the patient. It is expected that the DHA will need to appoint Triage Officers to operate in 12- 24 hr shifts and that a backup Triage Officer always be on standby.

It is further recommended that psychosocial support be provided the triage officer should he/she deem such support necessary.

- **Psychosocial Support**

Providing support to front line providers involved in the triage process and to patients and families cannot be underestimated.

Providers at the point of service will be directly involved in delivering triage officer decisions to patients and families. Advising patients and loved ones that admission to critical care is being denied and alternate options for care are available requires significant emotional stamina deserving of ample support by the host organization.

Emergency room physicians and/or others at the point of service should not find themselves alone in these circumstances and should, at the very least, be able to refer patients and families to readily available support services.

1.5 Central (System-Wide) Triage Support Structure

- **Central Triage Committee**

The Central Triage Committee functions to provide oversight and direction to the provincial critical care system during a mass critical care event. While district health authorities and the IWK hold accountability for implementation of the protocol, central awareness and control over critical care resources will be required to ensure that there is an equitable, fair and accountable process in place for distribution of scarce resources.

The CTC will also provide leadership to ongoing modifications to the protocol as the pandemic evolves. The committee will be populated with expert clinicians, health ethics consultation, patient care leadership, DOH liaison and have ready access to legal counsel, infection diseases expertise, and emergency services advice.

The CTC will have immediate access to critical care bed utilization and availability and will approve all admissions across the province to critical care ensuring that the right patient receives the right care under the right conditions. There will be a bed manager function assigned by CTC with direct reporting responsibilities to the committee.

A direct consult line will be established connecting directly with the field thus supporting all clinicians in the execution of their responsibilities. This consult line will be directly accessible to the CTC, thus maintaining central intelligence during the mass event.

The CTC becomes activated when all funded critical care beds are utilized with the only option available to provide critical care is utilization of surge (ectopic) beds created to increase capacity in a mass casualty event. (Note : This is not when the trigger for implementation of the protocol will be activated.)

The CTC is activated at this juncture to initiate provincial monitoring of critical care bed utilization. This allows the CTC to advise and support the critical care system and to apply every conceivable opportunity with the ultimate aim to prevent declaration of mass critical care and full implementation of the triage protocol.

See Appendix B for the CTC Terms of Reference. (Functional chart under development)

- **CTC and the IWK Health Centre**

The IWK Health Centre provides the only critical care service in the Maritime Provinces. This mandate does not change during an influenza pandemic. In keeping with this sole responsibility, the IWK will be the only centre offering ventilation and related critical care interventions during wave 2 of the H1N1 response.

Maintaining constant and consistent awareness of maternal and child critical care performance throughout the province will be managed by the central triage support structure established at the IWK Health Centre.

The IWK will continue to work collaboratively with the adult critical care system to ensure consistent application of a criteria-based triage process and to align with the ethics-informed process applied in the critical care triage protocol development and implementation process.

The IWK Health Centre Triage Protocol is included in this protocol in keeping with its alignment with the ethical considerations supporting protocol development. The clinical and administrative expertise of the IWK has been integral to the guidelines recommended by the working group.

- **The IWK Health Center**

Pandemic Influenza and ICU Triage Guidelines – Draft (to be developed further)

(To be initiated under the Issuing Authority of the DOH/HPP Command and Control EOC for Nova Scotia)

PART A: ADMISSION CRITERIA

Inclusion Criteria for Critical Care Unit (NICU/ PICU) Admission

Infants and pediatric patients will be assessed by the attending physicians for need for admission to one of the critical care units.

Current arrangements for management of transferred in patients will continue with the MCP's determining the need for transfer to the IWK.

Exclusion Criteria for Critical Care Unit (NICU/PICU) Admission*:

*Utah Criteria

The patient is excluded from admission or transfer to critical care if ANY of the following is present:

1. Known "Do Not Resuscitate" (DNR) status
2. Persistent coma or vegetative state
3. Severe acute trauma with a REVISED TRAUMA SCORE <2
4. Severe burns with < 50% anticipated survival
5. Cardiac arrest not responsive to PALS interventions within 20-30 minutes
6. Short anticipated duration of benefit e.g. underlying condition with >80% mortality at 18-24 months. Some examples include:

- a. Known chromosomal abnormalities such as Trisomy 13 or 18
- b. Known metabolic diseases such as Zellweger syndrome
- c. Spinal muscular atrophy (SMA) type 1
- d. Progressive neuromuscular disorder
- e. Severe end-stage pulmonary hypertension

Other Considerations

- Resuscitation of extremely premature infants with anticipated mortality rates greater than 80% should not be offered
- The use of ECMO will be decided on an individual basis by the Chief Medical Officer (with input from the attending physician, nursing supervisor and ECMO representative) based on prognosis, suspected duration of ECMO run, and the availability of personnel and other resources, Patients should have an estimated survival of >70% with an estimated ECMO run of <7-10 days.

PART B: ONGOING ASSESSMENT OF CRITICAL CARE PATIENTS

A single validated score to assess outcome in newborn and pediatric patients is not available. The critical care physicians most familiar with their patient populations provide the best assessment of expected patient outcome and estimated duration of the need for critical care support and will therefore act as the Triage Officers for each unit.

All patients admitted to the critical care units will be assessed on a daily basis by the attending critical care physician (Intensivist or Neonatologist) and the Triage Officer. Each patient will be assigned a triage level reflecting the best assessment of outcome and the expected duration of requirement for intensive care.

The triage levels are colour coded and reflect the current estimated probability of survival:

- Green >80% survival
- Yellow 51-79% survival
- Red 21-50% survival
- Black <20% survival

During a declared mass incident the following will occur:

The Triage Officers will:

- Review assigned triage levels for each patient
- Jointly meet to determine resource requirements
- Make decisions for disposition of patients
- Provide documentation of the triage of all patients reviewed
- Forward documentation to the Triage Support Team

The Triage Support Team will:

- Include....
- Report to the Emergency Operations Committee (EOC) of the IWK Health Center
- Support the Triage officers in the execution of their duties
- Will have access to ethics support
- Will maintain communication as required
- Will assume a role in the appeals process

1.6 Declaration of Mass Critical Care

- **Authority to Declare Mass Critical Care**

Mass Critical Care will be declared by the DOH/HPP EOC in consultation with the Council of CEOs and the Central Triage Committee

- **Criteria for Declaration**

The trigger established to declare mass critical care is based on the following considerations:

1. Activating the trigger is an option of last resort.
2. The trigger is activated with particular reliance on the values/principles of efficiency, equity and proportionality.
3. Every effort is expended to ensure that activating mass critical care is done in an environment where critical care units have dedicated current resources to those patients in legitimate need of critical care, with emphasis on the need for ventilation. In other words, the trigger should/will not be activated in an environment of inappropriate critical care unit utilization.
4. Districts will have utilized reasonable options for the care of coronary care patients not requiring vasopressors or ventilation, i.e. step-down, telemetry, intermediate care units, co-horting of this population to designated site/unit, etc.
5. Mass critical care will not be declared until all non-essential services have ceased, i.e. elective surgeries canceled, ambulatory non-urgent services and clinics closed, non-acute hospital-based patients deployed to alternate care areas/sites/home/ etc.
6. Districts will have expended every available opportunity to assist each other in meeting the critical care needs of patients presenting for care, i.e. implementation of the “good neighbor” policy.
7. Central system awareness and management of critical care beds is required to support equity and fairness across the provincial system of critical care.
8. Mass critical care will not be declared with any critical care capacity available within the provincial system.

The Trigger

Mass critical care will be declared when 80% of surge capacity (includes total of funded and ectopic critical care bed capacity) is utilized. The remaining capacity of 20% carries significant risk of being rapidly utilized signaling the need to apply provincial triage to critical care access as an option of last resort. Denying access to critical care is a dreaded environment; activating a trigger at this point represents a system in crisis.

Should the CTC determine that activating the trigger is required before utilization of 80% total surge capacity, a recommendation to declare mass critical care will go forward to the DOH EOC to activate the trigger prior to 80% utilization. Such a recommendation will be based on the level and time frame of increased demand for critical care. Expedient demand will be the significant indicator for activation of the trigger prior to 80% utilization.

1.7 Narrative Account of the Pandemic Critical Care Triage & Review Processes

Working draft: 08 January 2010

Section I: Triage

A. Clinical Evaluation at Presentation for Care and Initial Triage

Primary responsibility for: Treating Physician

When a person/patient presents for care (for any reason) to a district/IWK emergency department (ED), he or she is clinically evaluated by an ED treating physician¹. For those patients who the treating physician considers to be possible candidates for critical care², the treating physician fills out the critical care Triage Form as part of the clinical evaluation. As appropriate, one or more sections of the Triage Form³ are completed by the treating physician. The only identification of the patient on the Triage Form is his or her health card number. No other identifying or personal information is documented on the form. For patients who are being considered for critical care, the patient and/or substitute decision maker/family (pt/sdm/family) is provided with an educational brochure or laminated document that fully describes the critical care triage and review processes in language that is understandable to the majority of those presenting for care⁴. Copies of these brochures/documents are available in the ED's waiting room(s). In addition, appropriate supplemental educational information about the triage and review processes is available in poster-form in the ED and its waiting room(s). Once the Triage Form (one or more sections, including, as appropriate for adult patients, the investigative information necessary for the Triage Officer to derive an initial SOFA score) is appropriately filled-out by the treating physician, it is submitted by fax to the on-call Triage Officer (TO).

The above described clinical evaluation and initial triage process is the same for:

- 1) Patients who are being considered for initiation of critical care treatment while they are admitted to hospital during a pandemic incident – the treating physician in these circumstances is the most responsible physician in the clinical unit at the time that initiation of critical care treatment is being considered.
 - 2) Patients who are currently receiving critical care at the time that a pandemic incident is declared – the treating physician in these circumstances is the most responsible, available physician in the critical care unit; all patients occupying critical care beds at the time of declaration of a pandemic incident are formally assessed for triage purposes within 24 hours of such declaration.
1. In the very unusual circumstances that a patient is admitted directly to an ICU from outside the province without being triaged in accordance with the protocol beforehand, the most responsible, available physician in the ICU becomes the treating physician for initial triage purposes. This is most likely to occur in pediatric ICU settings and, in these circumstances, the relevant IWK medical control officer functions as the treating physician.
 2. Relevant pre-protocol consideration – when a person/patient presents for care who, under normal ‘limited resources’ circumstances, would not be considered a candidate for critical care, the treating physician manages the patient, which may include respecting an existing ‘do-not-resuscitate’ order or other available, valid advance directive(s). (Within Capital Health only, decision making regarding the use of potentially life-sustaining treatments and interventions is guided by Capital Health’s *Decision Making About Life-sustaining Treatment Policy*.) In circumstances where attempted ‘shared decision making’ breaks down and the pt/sdm/family decision maker does not agree with the treating physician’s recommended care plan, i.e., there is a sustained request/demand for critical care treatment that has not been offered, the patient is managed during a pandemic incident as though he or she is a possible candidate for critical care, i.e., the patient is assessed by the treating physician for the meeting of the protocol’s inclusion and exclusion criteria and a triage form is completed for submission to the on-call TO.
 3. There are three sections of the adult patient Triage Form, i.e., an inclusion criteria section, an exclusion criteria section and a SOFA investigation results section. The pediatric patient Triage Form does not contain a SOFA section.

4. The content of the brochure/document is developed in English and French versions by CTC Communications. As required and as possible with the use of available resources, the understanding of the brochure's/document's content by the pt/sdm/family may be enhanced by reducing existing barriers to communication through the use of language and cultural interpreters in the ED. It is recognized that such resources are not currently available in all of the province's health districts. The brochure's/document's content regarding the review process includes understandable, clear descriptions of the two possible types of reviews and the (different) information/evidence that is required to support them (see footnote #7 for descriptions of the two types of reviews).

B. Formal Triage Process

Primary responsibility for: Triage Officer

Through a blinded triage process, the on-call TO assesses the patient's eligibility for critical care treatment by evaluating the information contained in one or more sections of the completed Triage Form. As appropriate in some adult patient circumstances, the TO uses the investigative information on the form to determine the initial SOFA score. The TO may choose to contact the patient's treating physician in order to clarify objective information that is necessary to make an informed triage decision. During such a conversation with the treating physician, the TO does not ask for or receive any personal or identifying information about the patient. At the bottom of the form, the TO records his or her decision, i.e., whether the patient is: 1) triaged for critical care or 2) triaged for best available, supportive care. The TO signs the Triage Form and indicates the time in hours and minutes when the triage decision was made. The TO communicates his or her decision to the patient's treating physician and submits the completed Triage Form by fax to the Central Triage Committee (CTC). The time that the original triage decision was made by the TO is used to establish the position of the patient in the queue of those triaged for critical care who are waiting for a critical care bed.

C. Post-triage Decision Making Dialogue with the Patient/SDM/Family

Primary responsibility for: Treating Physician & Psychosocial Supporter

Once the treating physician is informed that the patient has not been triaged for critical care, he or she and the on-call psychosocial supporter (a designated member of the triage team⁵) meet and communicate with the pt/sdm/family to inform he/she/them of the triage decision in a respectful and supportive manner. As appropriate, the psychosocial supporter assists the patient/sdm/family in his/her/their understanding of the triage and review processes. During the initial dialogue, the patient or (identified, available in-person or by telephone) legitimate substitute decision maker (sdm)⁶ is informed/reminded that he or she is required to make a decision regarding whether or not to request a review within thirty minutes of communication of the triage decision and that, if a request for review is made, the review process must be completed within one hour of the time of the initial request. If the patient or sdm decides to initiate a review, the psychosocial supporter and/or the treating physician, on behalf of the patient or sdm (now 'the requestor'), completes a Request for Review Form which has separate sections for requests for process and substantive reviews⁷. The same submission process is used for process and substantive reviews up until the formal review by the on-call Review Officer (RO). The only identifying information on the Request for Review Form is the patient's health card number. The time in hours and minutes of the initial request for review is recorded on the form. Once the form is completed, it is faxed to the Review Coordinator of the CTC.

5. Examples of a qualified psychosocial supporter are a social worker, a clinical psychologist, another mental health practitioner/counselor and a spiritual care provider. Other qualified retired or community-based individuals could be recruited to assume this role during a declared pandemic incident.

6. The review decision maker is the patient or, if the patient lacks capacity to make this decision, the available legitimate substitute decision maker. If the patient lacks capacity and there is no available (in-person or by telephone) substitute decision maker, an automatic process review is initiated by the treating physician with, as appropriate, the assistance of the psychosocial supporter. Further description of this special-instance automatic review process is contained in the Review section.

7. A process review request is made on the basis of a claim that there was an error in application of the triage protocol. A substantive review request is made on the basis of a claim that application of the protocol-established triage tools misrepresents the patient's actual health status and prognosis for functional recovery. Requests for substantive reviews must be accompanied by new medical/health information that is available at the time of completion of the Request for Review form or within an hour after the request was initiated. It is anticipated that this new information will consist primarily of existing, available medical/health documentation at the relevant district/IWK site. A substantive review may also be requested by the treating critical care specialist (while the patient is occupying a critical care bed) on the basis of emerging medical/health information that was not available at the time the decision was made to triage the patient for critical care, where it is possible that, if the TO had pre-decision knowledge of the emerging information, it may have affected the triage decision.

Narrative Account of the Pandemic Critical
Care Triage & Review Processes

Working draft: 08 January 2010

Section II - Review

Formal Review Process

Primary responsibility for: Review Officer

A review may be requested by the pt/sdm/family, the treating physician or another health care provider who was in a position to observe the relevant clinical evaluation and/or triage process up until the triage decision was made. When the CTC Review Coordinator receives a completed Request for Review Form from a district/IWK, he or she contacts the on-call Review Officer (RO)⁸ to inform him or her of the request for review of a triage decision⁹. The RO reviews the information on the Request for Review Form and, as appropriate, may contact the treating physician and/or the requester (e.g., in the case of an 'eye witness' health care provider who has observed what he or she believes to be a process error) by telephone to obtain further relevant information¹⁰. In circumstances where an automatic process review is initiated by the treating physician because the patient does not have an available legitimate substitute decision maker, the RO contacts the relevant treating physician and TO in order to ascertain/check that the protocol-established clinical evaluation and triage processes were correctly followed. Within an hour of the time of the initial request for review (which is recorded on the Request for Review Form), the review process is completed and a review decision is rendered by the RO, i.e., the RO indicates at the bottom of the Request for Review form that: 1) the original triage decision is maintained or 2) the original triage decision is overturned. The RO's review decision determines the clinical outcome, i.e., the decision

is final. The RO signs and dates the Request for Review form. The results of the review are communicated (by the RO or the Review Coordinator) to the treating physician and, as appropriate in the case of an overturned original triage decision, to the CTC components that are responsible for: 1) queue positioning (the patient's position in the queue is determined by the time of the original triage decision), and 2) quality/consistency monitoring and assurance. The CTC maintains a copy of the completed Request for Review Form.

8. Review officers are qualified physicians from across the province (sourced from multiple health districts/IWK) who have agreed to serve as adjudicators for the review process. They operate on an on-call basis and, when on-call, are notified of requests for review by the CTC's Review Coordinator. At any one time, there is one RO on-call for the province (assuming that this availability meets the demand for reviews). Review officers are not members of the CTC.
9. If it is very obvious to the (trained) Review Coordinator that the information necessary to support a review has not been provided, the review process is not initiated and this decision is communicated to the treating physician.
10. The RO does not ask for or receive any personal or identifying information about the patient from the contacted treating physician or requestor (this should be reinforced during the relevant training of treating physicians, other ED health care providers and ROs). As time and resources allow, the individual(s) providing the additional medical information to support a substantive review and/or the Review Coordinator eliminate/redact any personal or identifying information contained in these documents.

Section 2

Ethics Considerations

Preamble: Health Resources Allocation Challenges

Most people would acknowledge that health care resources are presently limited and will remain so in the future. There are insufficient resources to meet all the identified, legitimate health care needs of Nova Scotian citizens and residents. Given this reality, there are, and will be, competing claims for the use of resources from (and within) the preventive, curative, restorative and health maintenance health sectors. A choice by society's political and health administration proxies to allocate resources for the meeting of one set of legitimate health needs will necessarily reduce the amount of resources available to meet other sets of legitimate health needs.

The allocation of limited resources poses significant challenges for health care decision makers. This is because there is no shared conception of justice for determining what health resources a person has a just claim to. Further, there is no existing social consensus regarding which ethics principles and values should inform health resources allocation. Norman Daniels, an influential liberal justice theorist, has posed the following fundamental resource allocation question: when should an aggregation of modest benefits to larger numbers of people (the consequentialist goal of 'the greatest good for the greatest number') outweigh more significant benefits to a smaller number of people? There are two possible, polarized responses to this question:

1. Give priority to the treatment of 'the worst off' – usually referred to as prioritizing 'fair chances' of deriving some health benefits, or
2. Give priority to whatever treatment(s) produces the greatest net benefit (regardless of which individuals end up receiving health benefits) – usually described as prioritizing 'best outcomes'

When faced with such alternatives in the real world, most people favor some health benefits aggregation but reject the full-on, unrestricted aggregation called for in position # 2, which may significantly disadvantage individuals with the greatest health needs. Unfortunately, there is no satisfactory theoretical characterization of an intermediary position.

In practice, the attempted allocation of limited health resources 'at the bedside' has proven problematic. It is psychologically burdensome to patients/'families' and their attending health care providers, who are trained to consider the interests of their individual patient 'first'. There is also a real and predictable danger with 'beside' rationing that health care decision makers, as normal human beings, will be influenced in conscious and unconscious ways by their personal biases, e.g., by taking into account social utility factors rather than making allocation decisions strictly on the basis of health care need(s). Because of these significant challenges, it is important to consider how to best develop policies and protocols that attempt to address the fair allocation of limited health resources (see section III).

Triaging of Critical Care Resources

The term 'triage' refers to a decision making process for the allocation of health resources in circumstances of dire scarcity (as opposed to the allocation of limited resources in normal health care circumstances). Examples of these are mass casualty incidents involving large sectors of the population, when usual emergency and critical care surge/augmentation strategies are overwhelmed.

The first use of a triage process is attributed to the surgeon general of Napoleon's armies, Baron Dominique Jean Larrey, who developed a system of "prompt and methodical succor" in response to his concern and outrage about the unnecessary loss of life caused by the haphazard management of battlefield casualties. In the triage system developed by Larrey, wounded soldiers were transported by designated comrades to mobile medical stations just inside the frontlines. Field surgeons at these stations were required to sort or triage the wounded by assigning them treatment priorities. Larrey, who was influenced by the principles of French egalitarianism, commanded that the dangerously wounded were to be assessed and treated first "without regard for rank or distinction." This was intended to partially counterbalance the advantage of superior transportation that his officers had over his foot soldiers. In this early French version of triage, there was no prioritization of the health care needs of those soldiers who could be most easily restored to fighting function.

The best known version of triage was introduced in the 18th century by the British military. Its development was influenced by the views of two prominent physicians-hospitalists, John Aitken and Thomas Percival. The goal of the British system of triage is to achieve maximal utility and efficiency in warfare. Its application over time led to the development of a care priority hierarchy that was used by the Allies during World War II and continues to be utilized in modern theatres of war. In accordance with this hierarchy, the wounded are treated in accordance with the following lexical priority:

- First - medics with disabling injuries that can be patched up to facilitate a return to duty
- Second – the seriously injured where delay in treatment puts them in serious danger, but where they are expected to survive
- Third – the less injured who require emergent treatment that can wait for a while
- Fourth – those who are not seriously injured
- Fifth – 'the hopeless' – those for whom no available treatment is expected to be effective in preserving life

In modern critical care health care settings, triage has come to be practiced quite differently from the British warfare version. Typically, when critical care resources are intermittently limited under relatively normal conditions, efforts are made to restrict intensive care unit admissions and to accelerate the discharges of less severely ill patients in order to give priority to very sick patients who are expected to benefit the most from critical care intervention. In practice, this is essentially a modified version of the early French model of triage.

Since the wake-up experience with SARS, the primary focus of preparedness planning for resource allocation in circumstances of temporarily scarce critical care resources, such as declared mass casualty incidents, has been systematic attention to the goals of consequentialism, i.e., putting into place triage protocols and structures that are expected to produce the greatest good for the greatest number. This has essentially involved modification of the British military system of triage for application in non-warfare circumstances. The major clinical tools developed and promoted in the aftermath of the SARS health crisis have as their primary goal the survival of as many people as possible from mass casualty incidents (excluding those who had very poor prognoses prior to the mass casualty incident).

Potentially Compromised Ethics Principles

In the application and implementation of critical care triage protocols, important ethics principles that guide the delivery of health care services in normal circumstances are compromised in the interests of promotion of the social/public good. One of these is 'respect for individual autonomy' which, in the health care context, translates to: a person has the right and should have the opportunity to make meaningful decisions about his or her health care and treatment. This principle is the basis for the modern, widely valued and accepted concepts and practices of informed consent/choice and patient-centered care. During declared mass casualty incidents, some of those presenting for care who would be offered critical care services in normal circumstances are not eligible for such care in scarce resources circumstances in which a critical care triage protocol constitutes the temporary standard-of-care. As in normal circumstances, individuals and their legitimate substitute decision makers maintain the right to refuse consent for any offered care treatment/intervention during mass casualty incidents.

Two other ethics principles, which are sometimes jointly referred to as 'patient welfare' principles, may be compromised during mass casualty incidents. The principle of beneficence refers to the obligation of health care providers and health organizations to provide health benefits to persons presenting for care, and the principle of nonmaleficence refers to the obligation of health care providers and health organizations to do as little as possible harm to such persons. During mass casualty incidents, health care providers and health organizations are hampered/restricted in their fulfillment of these normal obligations. Some persons presenting for care do not receive critical care treatment benefits that they would receive in normal circumstances, and predictable harms/burdens resulting from such lack of critical care treatment accrue to them.

Integration of Justice Elements

Given that social consensus does not support the full-on utilitarian principle of: 'act only in accordance with what is anticipated to produce the greatest good for the greatest number' in health care decision making in normal circumstances, and that the application of this principle in scarce resources circumstances compromises ethics principles of individual autonomy, beneficence and nonmaleficence, it is important to consider what role justice could and should play in the development of a critical care triage protocol. In this section, four types/forms of justice of relevance to health care and

delivery, i.e., distributive justice, formal justice, social justice and procedural justice are considered in terms of their potential, pragmatic application to the development of a mass casualty critical care triage protocol.

Traditional distributive justice, as articulated by influential liberal health theorists, calls on us to allocate/distribute health benefits and burdens fairly/properly on the basis of legitimate health care needs and available health resources. Considered by itself, this justice conception only takes us so far. It is obviously important to distribute resources fairly but what constitutes fairness in the context of a declared mass casualty incident in which critical care services are extraordinarily scarce is less clear. In this context, it is helpful to consider what other conceptions of justice have to offer.

Formal justice, first attributed to Aristotle, requires us to treat individuals and groups of persons the same unless we can demonstrate a *relevant* difference(s) between/among them that justifies different treatment. So, if we are to treat groups of persons/patients differently during a mass casualty incident, what would constitute a legitimate *relevant* difference(s) between them? Developers of triage systems in the past considered and assumed as foundational assumptions that there are legitimate *relevant* differences between: 1) having an expected very low probability of survival of the mass casualty incident and having a better-than-this probability of survival, and 2) having a preexisting very poor prognosis and not having such a prognosis prior to the incident. In modern times during mass casualty incidents, these two differences are the usual rationales for not offering critical care services to those presenting for care with one or more established exclusion criteria while offering such treatment to those who do not fall within these categories and, in addition, meet established critical care inclusion criteria. In alignment with this assumption, one could argue that there is a *relevant* difference between the having of an advanced age and the having of a younger-than-this age if there is good evidence to demonstrate that being of an age above the established age threshold means that a person presenting for care has a very low probability of survival of the incident.

From a formal justice perspective, the determination of what does not constitute a *relevant* difference in decision making regarding allocation of critical care resources during a mass casualty incident is of equal importance to what does constitute one. Most Canadians (consistent with section 15 of the Canadian Charter of Rights and Freedoms) would likely agree that the list of factors/variables that should not constitute a *relevant* difference between/among individuals for the purposes of allocating scarce health resources include: gender, race, ethnicity, religion, sexual orientation, income and disability, the latter considered independently of the meeting of illness-related exclusion criteria. Many others would consider social utility factors, such as vocational and parental status, to not be legitimate *relevant* differences in this regard. Further, if one assumes that one of the primary goals of resource allocation during mass casualty incidents is survival of as many people as possible regardless of their disability status, differences in the preexisting quality-of-life of those presenting for care (independent of the meeting of illness-related exclusion criteria) should not be considered as legitimate *relevant* differences for the purposes of triage protocol development.

Given these formal justice considerations, how could such antidiscrimination commitments be actualized in a triage protocol? Taking into account that most individuals have conscious and unconscious biases pertaining to these and other factors/variables by virtue of being culturally-situated human beings, one pragmatic way to reduce discrimination is to ensure that those designated to make triage decisions, e.g., triage officers, do not 'lay eyes' on the persons/patients they are triaging and do not have access to information that would identify such individual factors/variables. The latter could be accomplished by requiring that triage officers make decisions on the basis of (carefully) limited information contained on a paper or electronic triage form that is completed by the first emergency department responders. For example, if age was not a protocol-established exclusion criterion, age should not be indicated on the triage form. Similarly, if exceeding an established age threshold is determined through the protocol development process to be an exclusion criterion, the triage form should simply ask for a 'yes' or 'no' response to the question: is the patient this threshold age or older?

Another characteristic of individuals that most would not consider to be a *relevant* difference for triage decision making is their geographic location/residence. In terms of access to critical care resources during a mass casualty incident, most would likely agree that it should not matter whether one lives in an urban or rural area within an appropriate geographic domain such as a small Canadian province. An inequity reality that exists across Canada is that critical care resources are largely concentrated in tertiary care centers which are located in far-apart cities. A pragmatic way to reduce inequities/disparities on this basis is to set up a central triage committee which has (as close to real-time as possible) 'command and control' over the access of patients to all critical care services within the specified geographic domain, while ensuring that there are appropriate medical transportation mechanisms in place to support reasonable access to such critical care services by all.

Social justice requires us to pay particular attention to the health needs of 'the worst off' and those who are members of disadvantaged/oppressed social groups in our society. It also calls on us to make meaningful efforts to address and reduce such injustice. Disadvantaged individuals, such as the poor and victims of historical discrimination within a geographical area, are often hampered in their presentation for care at appropriate times in their illness trajectory. To reduce the effects of such disadvantage over time, creative ways could be explored and implemented to improve the access of such individuals to care during normal and mass casualty circumstances. For those who, despite such measures, end up presenting for care to emergency departments significantly late due to demonstrable disadvantage, adjustments could be made to the official time of presentation for care for triage purposes, e.g., it could be adjusted by emergency department responders to an estimated time when the averagely-situated person would have presented in their illness trajectory. This is of importance because the time of presentation for care may be the determining factor in deciding when individuals who are triaged to receive critical care services are actually able to access it (with the probability that there will be more candidates triaged to receive critical care than available critical care beds during a mass casualty incident).

Procedural justice is constituted by the careful incorporation of ‘fair, due process’ into decision making procedures and structures. The use of an inclusive, accountable decision making process that meaningfully engages the ‘right’ stakeholders, including members of the public, helps to justify (and make defensible) the outcomes of such processes. See Section III for description of a procedurally fair protocol development process. One important instantiation of procedural justice in accountable and responsive decision making processes and frameworks is the incorporation of appropriate, meaningful appeals mechanisms. See Section ___ for description of possible appeals mechanisms for a critical care triage protocol. Another procedural justice feature of triage protocols is the requirement for all persons presenting for care to be handled the same in terms of the application of legitimately-established clinical assessment tools, including critical care inclusion and exclusion criteria.

Guiding Values & Principles

An important foundational step in the ethics-informed development of health policies and protocols is the collaborative establishment by relevant stakeholders of guiding procedural/process values and substantive values and principles.

Procedural/process values inform the development of the content of a health policy/protocol and are incorporated in a dynamic way into its procedures and processes. Ideally, these values are identified by members of the policy/protocol development working group prior to the building of specific content. This important preliminary work helps to ensure that these values are consciously reflected on, and pragmatically incorporated, during the policy/protocol development phase.

The following procedural/process values were collaboratively established by the membership of the protocol development working group:

- ✚ **Inclusiveness** – ensuring the legitimate interests of all relevant stakeholders are acknowledged and addressed through the engagement of participants from these stakeholder groups
- ✚ **Collaboration** – creating the right conditions and ‘spaces’ to enable individuals and groups to act collectively in a constructive manner
- ✚ **Openness and transparency** – incorporating mechanisms to ensure meaningful transparency of established decision making processes and their decisional outcomes
- ✚ **Consistency** – ensuring that persons and groups of persons affected by the protocol are treated the same or in a relevantly similar manner unless there is a demonstrable *relevant* difference that would justify different treatment; ensuring that outcomes are reasonably consistent
- ✚ **Accountability** – ensuring that there are reliable, effective built-in mechanisms for designated actors to account, and be responsible, for their protocol-directed actions
- ✚ **Responsiveness** – incorporating workable ways to respond to predictable and unforeseen developments/events and to identify and address concerns in a timely and responsible manner
- ✚ **Revisability** – incorporating a process for review and critical appraisal that informs appropriate change(s) to the protocol’s content.

Substantive values and principles are collaboratively established by the policy/protocol development working group early on in its work to inform, and act as criteria for, decision/recommendation making and/or the ranking of choices/options that are called for in the 'living' of a policy/protocol. They are important components of frameworks that guide the process of reaching and making important health decisions and recommendations.

The following substantive values and principles were collaboratively established by the membership of the protocol development working group:

Efficiency

- Identify and consider actions that are anticipated to produce the best health (and other relevant) outcomes
- Ensure that decisions are informed by the best available evidence and practices (includes evaluation of the level of knowledge certainty)
- Promote efficiencies in the use of scarce resources

Justice

- Distributive – distribute benefits and burdens fairly on the basis of legitimate health needs and available resources
- Formal – treat individuals and groups of persons/patients the same unless there is a demonstrable *relevant* difference between/among them that justifies different treatment (the basis of non-discrimination and consistency obligations)
- Social – identify and pay meaningful attention to the particular disadvantages and needs of 'the worst off' including members of vulnerable populations

Health equity

- Make concerted efforts to provide 'a fair chance for all'
- Reduce, as much as possible, disparities among individuals and groups of persons in their opportunities for (good) health and access to health care

Proportionality

- During declared pandemics:
 - Ensure that temporary interferences with, and constraints placed on, a person's liberty/autonomy interests are proportional to the current level of health resource scarcity
 - Ensure that such interferences and constraints are the least restrictive and intrusive ways/mechanisms to achieve appropriate, temporary goals

Trust & obligation to care

- Individuals with health needs and the public should be able to expect, and rely on, the commitment of those working within health organizations to constructively collaborate, and be reasonably flexible, in the provision of appropriate health care
- Reciprocally, those working within health organizations should be able to expect, and rely on, the receipt of appropriate support from their

organization and government to enable their work and to, as much as possible, keep them safe and healthy

Working Assumptions

The following are a list of working assumptions that have been developed and endorsed by the membership of the protocol development working group. They have arisen out of careful consideration of: 1) the above guiding values and principles, 2) the application of existing clinical, ethical and legal norms to the scarce resources context, and 3) the existing literature on critical care resource allocation during mass casualty incidents:

During a declared mass casualty incident,

- ✚ All the legitimate health needs of patients presenting for care cannot be met, and it is necessary to use a procedurally-fair process to allocate temporarily scarce health resources.
- ✚ Individuals presenting for care who are not triaged to receive critical care services will be offered the best available alternative care.
- ✚ Collective, coordinated efforts are made to maximize the survival of affected individuals in the interest of the public good while bearing in mind the other ethics-related obligations of health care providers and health organizations to individuals and society as-a-whole
- ✚ Triage is initiated (only) when critical care resources are overwhelmed and all efforts to extend available resources and to obtain appropriate, additional resources have been maximized.
- ✚ Restrictions in access to treatment are proportional to the realized or imminently expected shortfall in health resources.
- ✚ The triage protocol is consistently implemented across the unified geographic domain of the province of Nova Scotia.
- ✚ Triage protocol application does not discriminate on the basis of gender, race, ethnicity, religion, sexual orientation, income and disability, the latter considered independently of the meeting of illness-related exclusion criteria. In addition, triage decisions are not informed by subjective assessments of a patient's preexisting quality of life and/or value to society, i.e., his or her social utility.
- ✚ The triage protocol applies to all patients presenting for care whether or not their health care needs are attributable to the underlying cause(s) of the mass casualty incident.
- ✚ Critical care triage decisions about individual patients are made independently of their direct clinical care.
- ✚ Clinical triage tools, including exclusion criteria, are clearly stated and evidence-based.
- ✚ The withdrawing and withholding of critical care treatments/interventions are morally equivalent practices. A triage decision to begin the use of critical care treatments/interventions does not entail an obligation to continue such treatments/interventions. A triage decision to withhold or withdraw critical care has no bearing on decision making regarding the provision of other appropriate care to the patient.

- ✚ When two or more patients have the same claim to indivisible critical care resources on the basis of the application of triage criteria, the provision of such resources is prioritized in accordance with the time of presentation for care, i.e., the 'first presenting ... first treated' principle, except where the timing of a patient's presentation for care is hampered by demonstrable disadvantage.
- ✚ The standard of care is constituted by treatment decisions made in accordance and in compliance with the critical care triage protocol, which may be modified, as required, over the course of the incident by the membership of an appointed provincial central triage committee on the basis of evolving resource availabilities and care demands.
- ✚ Normalization to the pre-existing standard of care occurs as soon as possible and, as appropriate, such normalization may be graduated in nature.

The Protocol Development Process

Preamble

According to Ruth Malone, "policy ... has an irreducibly moral dimension insofar as it involves a decision about how to act toward affected others who are not involved (or only indirectly involved) in actually deciding what to do about an identified problem". In the health arena, policy (defined to be inclusive of protocols) provides concrete direction as to how we, as a society, manage the crucially important moral goods of health and health care. Within health organizations, policies/protocols direct how healthcare providers, staff and patients treat each other; how patients are cared for; and how, and to whom, limited health resources are delivered. In Malone's view, the essential 'deciding for affected others' aspect of policy making and the significant implications of health policy development for persons and society, make it a moral endeavor, and those that participate in it, moral actors. This conception has particular relevance to meso-level health policy/protocol development, i.e., policy making within health organizations that broadly directs health care practice and shapes the structural processes of health care delivery.

A procedurally fair process is a crucial element of just and accountable decision making. Such processes are inclusive and incorporate: 1) the supported engagement in deliberations of the relevant key stakeholders including the public and 'care-receivers', 2) the collaborative development of process/procedural values and substantive principles/values to inform, and act as criteria for, decision making, and 3) the establishment and use of a relevant appeals mechanism(s). The decisional outcomes of such processes are morally defensible and publicly accountable. Procedurally fair policy development works to reduce the influence of personal biases which are problematic in rationing/allocation 'at the bedside'. For these reasons, the outcomes of such processes have the potential to gain/earn the acceptance and support of an appropriately informed and engaged public.

Outline of Protocol Development Elements/Steps:

1. Initiation of the protocol development process
 - a. *Identification of the need for protocol development by the Issuing Authority* – the Issuing Authority for the critical care triage protocol is (jointly) the Pandemic Leads for the Nova Scotia Department of Health and the Department of Health Promotion and Protection in partnership with the Council of CEOs.
 - b. *Determination of the Sponsor for protocol development* – the Issuing Authority designated the Department of Health’s Acute and Tertiary Care Branch as the protocol’s Sponsor, which is responsible and accountable for the development of the protocol. The Lead for the Sponsor is Sheila Scaravelli.
 - c. *Establishment of the protocol’s Final Approver* – the Final Approver of the critical care triage protocol is (jointly) the Office of the Deputy Minister of Health and the Council of CEOs.
2. Establishment of the Protocol Development Working Group

The Sponsor, in collaboration with the Issuing Authority, established a Protocol Development Working Group which collaboratively functions as the ‘steward’ of the protocol development process and the ‘author’ of the working group’s final Report with Recommendations. The Working Group membership is inclusive of primary/key stakeholders, relevant resource persons and appropriate organizational leads. Members include participants from those social and vocational groups that will be directly affected by implementation of the triage protocol including critical care receivers, direct health care providers and the public.

 - 🚩 A small Core Planning Group of working group members was established to:
 - 1) assist in evidence/information gathering between working group meetings,
 - and 2) manage the logistics of protocol development.
3. Designation of a professional facilitator by the Sponsor
4. Establishment of relevant procedural/process values (see Section II)
5. Development of relevant substantive values and principles (see Section II)
6. Gathering and critical appraisal of relevant evidence and information
7. Use of a facilitated deliberative dialogue approach to progressively and iteratively build protocol content
8. Development of a ‘straw dog’ critical care triage protocol (draft Report with Recommendations)
9. Development of a relevant, inclusive list of secondary stakeholders

10. Preliminary review of progress by the Issuing Authority and solicitation of its approval of the secondary stakeholders
11. Solicitation of time-limited secondary stakeholder review and input/feedback (primarily by electronic distribution means but inclusive of selective presentations)
12. Working group review of collated secondary stakeholder input with incorporation of feedback that adds value and/or addresses legitimate stakeholder concerns
13. Presentation of penultimate Report with Recommendations to the Final Approver
14. Incorporation of revisions required by the Final Approver to the triage protocol and Report with Recommendations
15. Formal approval of the triage protocol by the Final Approver
16. Important post development phases: Education, Implementation, Evaluation and Iterative Revision

APPENDIX – A:



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Health

Working Group - Critical Care Triage (Response to Mass Critical Care in an Influenza Pandemic)

Terms of Reference

Purpose

To develop an ethics-informed triage protocol (with recommended tools for application) and a system-wide implementation strategy for prioritizing access to critical care resources in acute care facilities for all patients presenting during an influenza pandemic.

Accountable to: Pandemic Leads Table (DOH/HPPD/HEMS)

Lead Branch: Acute Tertiary Care Branch (DOH)

Functions

1. Utilize expertise of ethicists, clinicians, infection control practitioners, and administrative leaders in identifying the values and principles upon which the protocols are to be based;
2. Examine the applicability of existing work to identify criteria for inclusion, exclusion, and minimal qualifications for survival to inform the prioritization protocol for provincial application;
3. Include criteria for access to and discontinuation of ventilation;
4. Recommend central (system -wide) and local clinical and administrative support for decision-making at the point of service;
5. Ensure that the critical care protocol is aligned with the draft *Ethical Considerations and Decision-making Framework*, Reference 1 of the Nova Scotia Health System Pandemic Influenza Plan;
6. Establish a strategy for dissemination, review, and acceptance of the protocol by DHAs/IWK for province-wide application;
7. Detail a triage training strategy and schedule utilizing a multi-modality approach;
8. Recommend aligned initiatives to support application of the triage protocols across the provincial health system (e.g. bed availability, ventilator inventory, critical care resource supply chain, etc.);
9. Maintain consistent communication with and provide updates to pandemic leads within DOH;

10. Provide recommendations in support of effective and efficient implementation of the protocols for public and provider engagement/awareness;
11. Ensure that recommendations include strategies for indemnification and/or like support for licensed practitioners at the point of service;
12. Recommend terms of reference for central and local triage support committees.

Membership

Department of Health Representatives:

Sheila Scaravelli
Lewis Bedford
Rachelle O'Sullivan
Patricia Murray
Dr. Andrew Travers
Heather MacDonald

Districts / IWK Representatives:

Dr. Ward Patrick (CDHA); Alternate Dr. Stephen Beed
Kate Mahon (IWK)
Dr. Lynn Johnston CDHA/Dalhousie)
Dr. Lynne Harrigan (AVDHA)
Dr. Chris Soder (IWK)
Dr. Carl Jarvis (CDHA, ERP)
Karen MacRury-Sweet (CDHA)
Martha MacLean (CBDHA)

Public Representatives:

Leanne Cochran
Kathy MacDonald

Dalhousie:

Dr. Jeff Kirby

College Physicians and Surgeons Nova Scotia:

Dr. William Lowe

Armed Forces:

Major (Dr.) Scott Malcom

APPENDIX – B:

TERMS OF REFERENCE

Central Triage Committee

Purpose

To provide, on a 24/7 schedule of availability, provincial oversight and support to implementation of ethics-informed triage protocols for critical care during an influenza pandemic at the district/IWK level. The committee achieves its purpose by building capacity within the committee prior to the declared incident to be prepared to support implementation of triage protocols. During the actual event, as declared by the provincial DOH/HPPD Emergency Operations Centre (EOC), the committee provides advice to district/IWK providers, triage officers, organizational leadership, communications staff and administrative support staff as needed/ requested and acts as an approved appeals body for adjudication of triage decisions that are contested at the district/IWK level.

Accountable to: Pandemic Provincial EOC

Functions

1. Offer advice to the health services system for effective implementation of a provincially approved pandemic critical care triage protocols.
2. Assure alignment with the education and training that has been provided to districts/IWK.
3. Maintain broad system and situational awareness around critical care resource availability and the evolving critical care health needs of patients within the province, supported by access to real-time critical care resource data.
4. Mobilize and allocate required critical care resources (critical care beds, ventilator placement, etc.) between and among districts/IWK once all critical care resources are declared and/or designated as provincial resources available for deployment to areas of greatest need.
5. Modify, as evidence supports, triage criteria and processes on the basis of emerging, relevant contingencies.
6. Establish rapid access to critical care clinical consultation in keeping with or aligned with the current trauma consultation process activated and monitored by EHS.
7. Implement an approved appeals process for contested triage decisions at district/IWK level.

Required Resources and Data Access

- Access to real-time critical care resource information including , but not limited to, medical and critical care bed availability
- Access to rapid critical care clinical consultation process with recording capability to monitor and track consultations and to support QM mandate
- Access to critical care beds and relevant resources throughout the system, i.e. critical care beds declared as a provincial resource
- Administrative assistance to support committee work and to facilitate tele-communications as needed, etc.

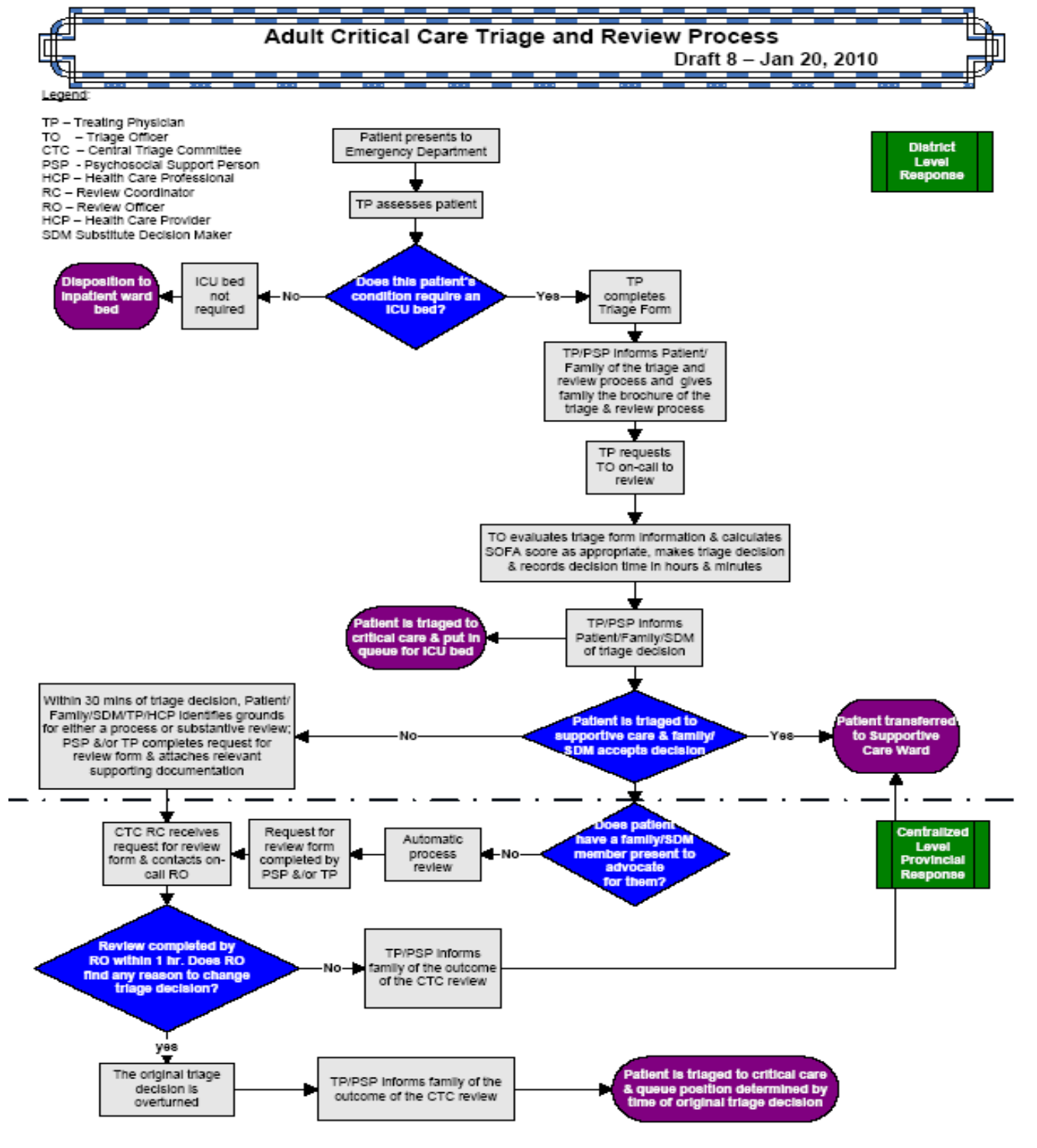
Membership (Alternates to be named)

1. Co-Chairs - Adult critical care intensivist – Dr. Ward Patrick, CDHA; Dr Lynne Harrigan, AVDHA, VP Medicine
2. Rural intensivist – Dr. Dave Brake, CBDHA
3. Health ethicist consultant – Dr Jeff Kirby, Dalhousie
4. Emergency Room Physician – Dr Carl Jarvis, CDHA
5. College of Physicians and Surgeons – Dr Bill Lowe, CPSNS
6. DOH Liaison/Partner – Sheila Scaravelli, Director, ATC Branch
7. Administrative support
8. Other **

** Access to legal counsel, infectious disease expertise, emergency services management, public relations expertise, etc available upon request.

APPENDIX – C:

Algorithm of Triage Process



APPENDIX – D:

Memorandum of Understanding

(to be developed upon approval)

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