Memorandum

SUBJECT: CorHealth COVID-19 Cardiac Memo #3 – **RECOMMENDATIONS FOR AN ONTARIO APPROACH TO MANAGING STEMI DURING COVID-19**
TO: COVID-19 Cardiac Stakeholder Forum, Cardiac Hospital Administrators, Cardiac Program Medical Directors, Cardiac Leadership Council, Members of the Clinical Advisory Committee
FROM: Office of the CEO, CorHealth Ontario
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Recommendations for an Ontario Approach to Managing STEMI during COVID-19

PREAMBLE

COVID-19 is an unprecedented crisis and a poses significant risk to the community as the landscape is rapidly evolving. The Ministry of Health has requested that all hospitals ramp down non-essential services, elective surgeries and other non-emergent clinical activity. CorHealth Ontario has been engaging with cardiac experts and stakeholders across the province to discuss how best to preserve health care capacity, in light of increasing COVID-19 cases requiring health care. The following guidance and recommendations reflect advice from this engagement.

GUIDING PRINCIPLES

1. Keeping front line health care providers healthy and patients protected is vital.
2. Minimizing the impact of COVID-19 on the mortality and morbidity of patients with cardiac disease is a priority.
3. Aligning with province- and hospital-specific infection prevention and control policies and protocols exist is important.
4. Promoting clinical activities aimed at preserving hospital resources (i.e. health care human resources, personal protective equipment, procedure rooms, Intensive Care Units, Emergency Departments) is a priority.

RECOMMENDATIONS

CorHealth Ontario, in consultation with STEMI stakeholders, is making recommendations in the management of STEMI in the face of COVID-19, that aims to preserve the robust STEMI system in Ontario for as long and as safely as possible. In creating these recommendations, consideration was given around the risks to individual patients, the risks to healthcare providers and the risks to the system.

The STEMI system in Ontario is complex with regional systems of care incorporating cardiac centres, feeder hospitals and pre-hospital services including base hospital and paramedic services. An additional layer of complexity is related to varied patient presentation including: a) self-presentation to the cardiac centre; b) ambulance bypass to the cardiac centre for PPCI; c) self-presenter brought by ambulance to a feeder hospital. Since 2017 the STEMI Hospital Bypass Protocol for paramedics and the Emergency Department STEMI Algorithm have been in effect.

During COVID-19, it is important that all stakeholders work toward maintaining a consistent approach to STEMI care to ensure patients have equitable access. There is an expectation that teams are accountable to work together with partners at their local and regional levels to implement the following recommendations.

1. THE PRE-HOSPITAL PHASE

1.1. In an effort to reduce false positive STEMI activation, paramedic service operators and base hospital programs will reinforce paramedic adherence to the STEMI Hospital Bypass Protocol found in the current version of the *Basic Life Support Patient Care Standards* (i.e. chest pain or equivalent consistent with cardiac ischemia/myocardial infarction)

1.2. Following the identification of a STEMI-positive patient, paramedic service operators and base hospital programs will reinforce paramedics' focus upon the status and history of acute respiratory and febrile illness during COVID screening and ensure communication of this information to the receiving physician (i.e. interventional cardiologist).

2. ENHANCED COMMUNICATION OF STEMI STATUS

2.1. For all STEMI cases, bi-directional communication mechanisms should be in place to facilitate a dialogue between the pre-hospital settings (i.e. paramedic services) and the hospital settings (i.e. interventional cardiologists) to review STEMI status, COVID screening status, and the capacity of the Cardiac Catheterization Labs (CCL) to accept the patient (i.e. are they functional, or closed).

2.2. For those regions already with an established means of secure, **PHIPA-compliant** ECG transmission between paramedic services and physicians or between physicians (i.e emergency physician to interventional cardiologist), the transmission of ECG images should continue for all STEMIs, to help reduce the number of false positive STEMIs. Centres that are not currently transmitting ECGs **may** consider implementing ECG transmission, **if feasible**.

3. REPERFUSION STRATEGIES

3.1. To preserve the current STEMI system of care for as long and as safely as possible in the face of COVID-19, performance of PPCI should continue in alignment with the 2020 CAIC-AICC Guidance for the Management of Coronary and Structural Procedures, as per below:

i. For **Level 1** (minor restriction in regular service)
"Patients with low probability of COVID-19 receive PPCI OR pharmacoinvasive as per current regional practice. Patients with **moderate/high** probability or **COVID-19 positive** receive PPCI with Aerosol Level PPE and N95 mask OR pharmacoinvasive at discretion of the treating team. If pharmacoinvasive with successful fibrinolysis, consider emergent COVID-19 testing with planned PCI within 24hrs." (CAIC, 2020)

ii. For **Level 2** (Major restriction in regular services)
"Most patients now considered **moderate/high** probability or **COVID-19 positive** – pharmacoinvasive OR PPCI with Aerosol Level PPE and N95 mask at discretion of the treating team. If pharmacoinvasive with successful fibrinolysis, consider emergent COVID-19 testing with scheduled PCI within 24 hours." (CAIC, 2020)

iii. For **Level 3** (Complete inability to provide services due to staff/resource limitation)
"Complete inability to provide PPCI. All patients will be treated with fibrinolysis as per regional protocols." (CAIC, 2020).
Additional consideration at Level 3: In cases where the usual cardiac centre is not able to receive patients, feeder hospitals should consider engaging with CritiCall as needed to identify an alternative, appropriate hospital to receive the patient.

3.2. To prepare for a Level 3 response (i.e. pharmacoinvasive approach for all STEMI patients), STEMI care providers (i.e. paramedic services, emergency departments) should ensure appropriate equipment, medication, policies and procedures are in place locally to support a pharmacoinvasive approach to STEMI management.

4. PRESERVATION OF CATH LAB PPCI

4.1. For patients with a **negative COVID screen** (based on current screening protocols) and are an obvious STEMI-positive (i.e. accepted by the interventional cardiologist), consideration should include bypassing the ED and sending the patient straight to the CCL for PPCI (NOTE: this recommendation may soon become irrelevant if COVID screening criteria change).

4.2. Patients with a **positive or probable COVID screen** (based on current screening protocols) and are an obvious STEMI-positive (i.e. accepted by the interventional cardiologist) should be sent directly to the CCL for PPCI, to reduce unnecessary spread of COVID-19 in the ED setting. In situations where the CCL requires time to prepare to receive the COVID positive/probable patient (as determined through communication between paramedic services and the interventional cardiologist), a stop in the ED **may** be necessary.

4.3. Regardless of the COVID screening status, patients with a STEMI status that is unclear, even after dialogue between paramedic services and the interventional cardiologist, should be diverted to the ED of the PPCI hospital to confirm STEMI status.

5. USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

5.1. Due to the unpredictable nature of a STEMI patient presentation, measures to ensure the safety of all staff is required. As the screening of COVID-19 evolves, STEMI care providers (i.e. Paramedic Services, Emergency Departments, CCL staff) should follow the policies and procedures for use of PPE (i.e. what type, when to use) in accordance with their local hospital PPE and IPAC (Infection Prevention and Control) protocols and policies. Specific guidance around appropriate use of PPE is out of scope for this document.

6. ONGOING REVIEW AND REVISION OF PROVINCIAL STEMI GUIDANCE DURING THE COVID-19 PANDEMIC

6.1. At the regional level, teams should continue to closely monitor the impact of COVID-19 on regional STEMI care, and communicate new and emerging issues that require provincial guidance to CorHealth Ontario.

6.2. As the COVID-19 pandemic evolves, CorHealth Ontario along with STEMI stakeholders should continue to closely monitor the situation, and regularly meet and make revisions as needed to current recommendations.

7. ADDITIONAL CONSIDERATIONS

7.1. As COVID-19 increasingly places stress on paramedic services resources, each region will need to monitor the impact of COVID-19 on the ability of paramedic services to continue supporting repatriation/transfers from the cardiac centres back to partner hospitals, and may need to explore alternatives such as early discharge from the cardiac centre.

7.2. For STEMI patients that have received PPCI and have multivessel disease, a heart team approach should be considered to guide decision-making regarding staged PCI/CABG.