Online Appendix

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Appendix to: Austin Health Critical Care Outreach Physician (CCOP) Investigators. Features and perceptions of a critical care outreach physician role. *Crit Care Resusc* 2021; 23: 248-53.
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Table 1: Daily schedule for critical care outreach physician (CCOP)

Time	Event	Major aims
8:00	Oversee night → day CCO handover (see checklist for overnight handover)	Hear about MET calls and other referrals from overnight Identify which patients are: • The most at risk • In need for follow-up Direct day MET Reg to follow-up unwell patients ICNC adds appropriate patients to CCO list Ensure night MET reg does all VHIMS entries
8:20	Meet with ICU flow coordinator + SR	Discuss elective bookings & other patients
8:30	Liaise with EDs with SR = "ED check-in #1"	Meet with day-shift ED medical staff so that they know who the CCOP is for the day Identify ED patients needing ICU review ICU SR reviews these patients CCOP takes sticker
8:45	Attend org-huddle with ICU NUM	Inform executive of the 1-5 most at-risk patients and strategies for management
9:00	Attend ICU huddle with ICNC, MET staff ± SR	Inform ICU huddle of at-risk patients that might need ICU admission
9:15-11:30	Liaise with ICU flow coordinator + SR Liaise with COVID-19 Doctors Triage and review outreach patients	Coordinate ICU admissions Follow-up and triage at-risk patients outside ICU Discussions about at-risk patients with suspected or confirmed COVID
11:30-12:00	Liaise with EDs with SR = "ED check-in #2"	Identify patients needing ICU review ICU SR reviews these patients CCOP takes sticker
12:00-15:00	Liaise with ICU flow coordinator + SR Triage and review outreach patients	Coordinate ICU admissions Follow-up and triage at-risk patients outside ICU Assist with assessment + stabilization of unplanned ICU admissions to protect ward round
15:00-15:30	Liaise with EDs with SR = "ED check-in #3"	Identify patients needing ICU review ICU SR reviews these patients CCOP takes sticker
16:00	Attend ICU huddle with ICNC, MET staff ± SR	Inform ICU huddle of at-risk patients that might need ICU admission
16:15 – 18:00	Triage and review outreach patients Protect evening ICU handover	Coordinate ICU admissions Ensure there is a follow-up plan for patients going into the evening Follow-up and triage at-risk patients outside ICU Ensure MET reg has completed all VHIMS Handover outstanding and pending patients to on-call consultant

MET = Medical Emergency Team; CCO = critical care outreach; VHIMS – Victorian hospital incident management system; ICU = intensive care unit; SR = senior registrar; ED = emergency department; ICNC = intensive care nurse consultant; COVID = corona virus disease

Table 2: Stated aims for critical care outreach physician (CCOP) and how they will be achieved

Aim	How will we achieve this
To improve the timeliness of assessment and admissions from the ED to ICU	The CCOP ± SR will attend the ED (in SSU) to identify and review patients that need ICU review. This will occur at 8:30, 11:30 and 15:00 ED staff can refer patients to the SR (8409) between these times The CCO staff (may include MET Reg and nurse) may need to admit and initially stabilize ED admissions if ICU pod staff are busy
To assist with triage and timely admission of COVID patients	Liaise with the COVID doctors regarding suspected and confirmed COVID patients Provide advice about goals of care and suitability for ICU
To provide support and oversight for patients reviewed by the MET to: • Reduce repeat MET calls • Improve timeliness of ICU admission of MET calls • Improve outcomes of MET patients • Improve goals of care setting for some patients	Oversee handover from night → day MET registrar Discuss MET patients with MET staff to: • Ensure there is a provisional diagnosis, management plan, handover, and dedicated person to follow-up • Identify and review (in person) repeat MET calls, or patients with altered calling criteria (ACC) who are for active care • Attend and review patients who may need ICU admission or goals of care discussions • Provide feedback and educational opportunities The CCO staff (may include MET Reg and nurse) may need to admit and initially stabilize MET admissions if ICU pod staff are busy
To provide support for ICNCs	Follow-up and review patients seen by the ICNCs at their request
Provide an organizational awareness of the most at-risk patients in the hospital	Identify at-risk and deteriorating patients during the course of: • Night → day CCO handover • ED scheduled reviews • ICU huddles Communicate these patients with the hospital executive during the organizational huddle ICNCs will maintain the CCO list on Cerner
Coordinate all referrals of patients potentially requiring intensive care admission	Attend all huddles and scheduled meetings Meet regularly with the ICU flow coordinator Liaise with MET staff, ICNCs, and ICU SR

MET = Medical Emergency Team; CCO = critical care outreach; VHIMS – Victorian hospital incident management system; ICU = intensive care unit; SR = senior registrar; ED = emergency department; ICNC = intensive care nurse consultant; COVID = corona virus disease; SSU = short stay unit

Table 3: Frequency and nature of themes around critical care outreach physician (CCOP) participation in education of ward or intensive care staff

Theme	Number times recorded
Assessment and feedback of clinical staff	16
Multidisciplinary team training	14
Didactic teaching	10
Clinical skills teaching	7
Personnel support	4

A response was provided in 48 CCOP shifts
A total of 51 issues were identified
A third investigator was required to create the themes in this domain

Table 4: Important issues identified during supervision of handover by critical care outreach physician (CCOP)

Theme	Number times recorded
Setting and guiding goals of care	14
Identifying at-risk and Deteriorating patients	11
providing direct (in-person) patient care	7
Supervising critical care outreach team and providing clinical advice	6
Initiating and coordinating intensive care admission	3

A response was provided in 32 CCOP shifts
A total of 41 issues were identified

Table 5: Clinical important encounters and/or patient outcomes during critical care outreach physician (CCOP) shifts

Theme	Number times recorded
Providing direct (in-person) patient care	34
Patient triage and decisions around disposition	28
Coordinating patient flow and/or expediting care	26
Setting and guiding goals of care	25
High level communication	24

A response was provided in 64 CCOP shifts
A total of 137 issues were identified

Table 6: Perceptions around the best aspects of the critical care outreach physician role

Theme	Number times recorded
High level communication and expediting care	60
Support and supervision critical care outreach staff	56
Senior decision making	40
Decisions around appropriateness for intensive care including goals of care	29
Clinical care provision and protecting intensive care pod staff	24

54 respondents provided comments about the best aspect of the role
There was a total of 147 comments with 209 themes

Table 7: Perceptions around areas for improvement in the critical care outreach physician role

Theme	Number times recorded
Consistency and clarity of roles and responsibility of critical care outreach physician	32
More proactive approach and enhanced integration into the hospital	25
Communication within and outside the critical care outreach team	23
Education / supervision and feedback to critical care outreach Registrar	17
Patient flow and coordination of care	15
Increased hours of service	6

45 respondents provided comments about the best aspect of the role
There was a total of 71 comments with 118 themes