


PERSPECTIVE

Emergency medicine's COVID future: Facing the triple challenge after flattening the curve

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Abstract

After successfully avoiding the situations experienced by some countries, Australasian EDs now face a future in which the ongoing threat of COVID-19 is added to the traditional challenges in providing quality emergency care. The contribution of emergency medicine to the national containment strategy adds a new dimension to the demands placed on emergency medicine in Australia and similarly, to the elimination strategy employed in New Zealand. These demands will best be met by a considered, planned and resourced approach that will challenge traditional measures of 'ED efficiency'.

Key words: *coronavirus, COVID-19, pandemic containment.*

Introduction

Australia and New Zealand have been very successful in 'flattening the curve' in the response to the COVID-19 pandemic. Currently, very few cases are being managed in Australasian hospitals and the number of deaths attributable to COVID-19 is very low when compared to the international situation. Community transmission of the virus is estimated to be low.^{1,2}

This has resulted in Australia and New Zealand being in the enviable position of commencing a recovery phase where healthcare and societal activities that had been suspended can be recommenced in a gradual manner. In this phase, the healthcare system COVID response is directed at disease suppression and containment in Australia,³ and elimination in New Zealand.²

EDs are facing the establishment of a new normal in the setting of an ongoing threat by COVID-19.

The triple challenge for Australasian EDs

The current COVID-19 strategy involves increased hygiene, social distancing measures, widespread testing, rapid identification and isolation of cases.³ In the absence of a widely available vaccine or treatment, a new normal will face EDs for years.

In this new normal, EDs face the triple challenge of:

1. Management of COVID-19 patients

EDs will continue to contribute to the management of confirmed COVID cases which are expected to occur as part of low-level community transmission and localised outbreaks and clusters. This will require constantly updated and maintained clinical knowledge and skills, disaster

management plans, research and knowledge translation into local emergency practice.

The diagnosis and management of the initial and critical care aspects of COVID-19 will become core requirements for the practice of emergency medicine.

Responses to outbreaks of confirmed cases will continue to require sophisticated, networked responses of which the ED will remain a critical hub.⁴

2. Return of 'normal' ED function

During the early response to the pandemic, the majority of elective healthcare activity was suspended in anticipation of large numbers of COVID-19 cases. This strategy saw significant reductions in hospital occupancy and presentations to EDs, as well as temporary increased resourcing for many EDs.

As elective activities recommence, there will be pressure for this additional ED resourcing to be returned to pre-COVID levels. At the same time, ED attendances are beginning to return to pre-COVID levels.

The pre-existing challenges of meeting increasing demand for emergency care with limited resources will be compounded by the economic, social and health challenges that are as yet unquantified but are predictable consequences of Australia and New Zealand's initial (and so far, successful) responses to the pandemic.

3. COVID-19 containment

EDs will be faced with sustained additional requirements to maintain patient and public safety from COVID-19.

Emergency medicine does not deal in confirmed cases. It deals in presentations

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of an unfiltered patient cohort, many of whom will have presentations consistent with COVID-19 and are thus potential COVID-19 cases. Additional precautions and testing are recommended for any patient with undifferentiated respiratory symptoms, fever, and an increasing range of other symptoms.⁵ Given the broad nature of symptoms attributable to the disease, this is a significant proportion of ED presentations, and every ED will be subject to this situation.

The COVID-19 Australian National Guidelines mandate immediate placement of potential COVID patients in a single room or physically separated closed area when they arrive at an ED.⁵ These patients require a level of isolation and personal protective equipment (PPE) utilisation that is the same as for confirmed COVID-19 patients until a detailed clinical assessment (with or without testing as appropriate) can exclude COVID-19, or the patient is able to leave the ED.

To meet the requirement of immediate availability of suitable isolation and assessment spaces, many EDs have established 'COVID Streams' with dedicated physical areas and staff. These separated areas facilitate the physical requirements of precautions used for suspected and confirmed COVID cases and enable more rational use of PPE. The segregation of this group from the main ED also minimises disruption to 'non-COVID' emergency care.^{4,6}

Fortunately, the concurrent reductions in 'normal' emergency demand and elective hospital activity have enabled adequate resourcing of COVID streams in most EDs to date.

As we move to a normalisation of ED attendances and the re-introduction of elective hospital activity, increased pressure on the available physical and human resources required to meet the demand of potential COVID cases will be felt.

Meeting the triple challenge for EDs

A return to 'Business as Usual' (BAU) where COVID-19 suppression and management becomes

incorporated into existing pre-COVID ED clinical and business models is problematic.

A 'back to BAU approach' where the assessment and management of any potential COVID cases is undertaken using existing ED isolation rooms and staff would have minimal impact on the planning for resumption of activities in other areas of the hospital. Challenges in terms of increased demand and surges in presentations would be met by rapid reaction and modulation of other hospital activities.

However, the reality is likely to be very different. ED overcrowding and queuing of patients (ramping and access block) are sadly an everyday occurrence for EDs.⁷ In the new COVID future, ramping of patients with potential COVID-19 in shared areas will present an unacceptable risk to patient and staff safety. ED overcrowding and performance against key performance indicators are likely to worsen as significant numbers of suspected COVID patients requiring admission wait for access to limited suitable inpatient spaces.

To successfully meet the triple challenge, hospitals and their EDs will need to develop refined dedicated 'potential COVID' capability with appropriate staffing and physical resourcing. A planned approach to this new clinical need is required if we are to maximise patient, staff and community safety in response to COVID-19.

With appropriate planning and resourcing, potential, suspect and confirmed COVID cases can continue to have the immediate access to appropriate facilities and skilled assessment that they require. The use of PPE for patients and staff can be minimised in a well-structured, dedicated environment.⁴ Physical separation of at-risk patients and structured evidence-based use of PPE will reduce the risk of cross-infection to patients presenting with other conditions. 'Mixed ramping' would be avoided. Adequate staffing recruitment is more likely to be achieved with a planned strategy than as a short-term reaction to a crisis. Planning enables the most

appropriate physical space to be decided, thus minimising unnecessary disruption to ongoing hospital function.

However, there are some uncomfortable truths to meeting this triple challenge. Additional physical space to accommodate this expanded role for the ED is likely to impact on other areas of hospital function as very few facilities have redundant space within their ED footprints. There will necessarily be a degree of 'inefficiency' in a traditional ED budget and patient flow sense. Meeting a 'zero-queuing' requirement means resourcing to cater for peak demand which is different to the usual ED and hospital efficiency expectations, where a degree of queuing for low acuity presentations is inherent.

The best way to meet this challenge is in a planned and agreed fashion with ED and hospital executives identifying the best options based on the learnings of the past 4 months.

Conclusion

Australia and New Zealand's response to the COVID-19 pandemic has been world-leading in its success. As we move into the next phase, additional demand will be placed on EDs to sustain these early successes and support a safe and sustainable health-care system.

These demands can be met in a considered planned fashion, or as a reaction to predictable challenges as they arise.

Hospital Executive and planning cells should engage with EDs to rapidly identify requirements and commence sustained implementation of dedicated ED COVID capability.

Author contributions

The authors are the co-chairs of the Queensland Emergency Department Strategic Advisory panel and have both contributed to the development of this manuscript.

Competing interests

None declared.

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