

QATAR CRITICAL CARE CONFERENCE EDITORIAL

Critical Care Network in the State of Qatar

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EDITORIAL

Critical care is a multidisciplinary and interprofessional specialty providing comprehensive care to patients in an acute life-threatening, but treatable condition.¹

The aim is to prevent further physiological deterioration while the failing organ is treated. Patients admitted to a critical care unit normally need constant attention from specialist nursing and therapy staff at an appropriate ratio, continuous, uninterrupted physiological monitoring supervised by staff that are able to interpret and immediately act on the information, continuous clinical direction and care from a specialist consultant-led medical team trained and able to provide appropriate cover for each critical care unit, and artificial organ support and advanced therapies which are only safe to administer in the above environment. It is an important aspect of medical care within a hospital as it is an underpinning service without which a hospital would not be able to conduct most or all of its planned and unplanned activities. As such, critical care requires a very intensive input of human, physical, and financial resources.² It occupies a proportionately large fraction of a hospital's estate and infrastructure for a small number of patients. The resources that are invested into a critical care bed should therefore be valued against the activities and care throughout the hospital that the availability of that bed allows to happen. Given that

demand for critical care beds will continue to grow, providing more critical care beds is unlikely to work on its own since experience has shown that additional capacity is soon absorbed within routine provision.³ Attention must therefore be given to maximising the efficient and effective use of existing critical care beds, necessitating an ability to cope with peaks in demand.

Historically the world over, the development of critical care units has been unplanned and haphazard and largely relied on the interest of local clinicians to drive development. However, there is now an eminent body of opinion that supports an alternative approach to critical care provision – namely through a managed Critical Care Network with an agenda of integrated working and the focus on facilitating safe quality care that is cost-effective and patient-focused for acutely and critically ill patients across the various constituent organisations of a healthcare system.

The Critical Care Service in Hamad Medical Corporation (HMC) has developed rapidly to address the increasing demand linked to the population growth in the State of Qatar with the aim of meeting the vision of the National Health Strategy (NHS). It is paralleled with HMC's vision to improve the delivery of critical care to patients and their families in a way that meets the highest international standards such as those set by the Joint Commission International by whom the Corporation has been accredited since 2007.⁴ For this reason, the organisation took the lead to perform a gap analysis with expert auditors from the United States of America and the United Kingdom who have experience in critical care service provision. The aim was to assess the Critical Care Service within HMC and identify potential short-term, medium-term, and long-term opportunities for improvement. This assessment focused on a very broad range of aspects such as: bed capacity, facilities and equipment, medical, nursing and

allied healthcare staffing levels and their education, career development pathways, patient safety, quality metrics, clinical governance structure, clinical protocols and pathways, critical care outreach, and future planning for critical care at HMC.

As a result of extensive review for the Critical Care Services at HMC, the Critical Care Network (CCNW) in the State of Qatar was established in 2014. It is a strategic and operational delivery network, which includes 12 hospitals across the country. The network functions through a combination of strategic programmes, working groups, and large multidisciplinary governance and professional development events. Through collaborative working with the leadership of the various facilities and critical care clinicians, the network reviews services and makes improvements where they are required, ensuring delivery of patient-focused care by appropriately educated and trained healthcare professionals as well as the appropriate utilisation of critical care beds for those patients who require such care. Detailed involvement and engagement from the clinical membership at every event and in the various working groups ensures that all decisions, reports, and improvement programmes are clinically-focused and benefit from a diversity of opinions that can be considered for implementation. All of this is carefully aligned to the requirements of the latest Qatar National Health Strategy.⁵

It aims to adopt evidence-based best practices to deliver the safest, most effective and most compassionate care to our critical care patients by setting the most appropriate care pathway to transform Critical Care Services across HMC hospitals. The key aims of the CCNW as stated in its Terms of Reference document are listed in Table 1.⁶ This enhances the quality and safety of patient care across HMC, promotes staff satisfaction, and improves customer

Table 1. Strategic aims set by the Hamad Medical Corporation Critical Care Network.⁶

The Hamad Medical Corporation Critical Care Network aims to:
1. Establish a baseline of critical care operational services
2. Standardise governance agreements for critical care across the system
3. Monitor and report progress against the implementation and delivery of the Joint Commission and the Institute for Healthcare Improvement requirements
4. Monitor access to, and the quality of services across the State of Qatar and to advise stakeholders accordingly
5. Provide clinical advice to stakeholders regarding the planning and delivery of critical care services to guide their investment decisions
6. Review and implement, where applicable, national and other guidance in relation to critical care services and provide advice to stakeholders regarding its application in the State of Qatar
7. Produce a clear strategy for the future delivery of critical care services to the residents of Qatar
8. Review access to all critical care services
9. Establish and monitor 'best practices' e.g. bundles of care and pathways of care to support the effective delivery of services and efficient use of tertiary care resources
10. Propose and direct service and workforce re-design, monitoring, and evaluation
11. Identify future trends and developments in all hospitals that may influence the delivery of critical care or may enhance the quality of care provided to patients
12. Approve the work programme and priorities for the Critical Care Network including, and where appropriate, changes between organizations and providers
13. Identify new and monitor existing forums which support the work of the Critical Care Network
14. Determine standards of education and training required with the purpose of facilitating service re-design across Qatar
15. Manage the performance of Critical Care Services, in particular performance against the objectives set in the National Health Strategy
16. Improve utilization of critical care bed capacity across the entire system, reduced length of stay and improved outcomes

service and patient outcome. The CCNW is structured in a way that involves all Critical Care Service stakeholders to maintain the stability and sustainability of delivering the best care to critically ill patients.

The CCNW is steered by a multidisciplinary committee (Figure 1) that is empowered with the generative, managerial, and fiscal responsibilities to enable the required changes to take place. The committee oversees the HMC Critical Care Services through coordinating and standardising their

activities and governance arrangements across the complete HMC healthcare system. It provides HMC clinical and managerial leadership at a corporate and local level, the opportunity to jointly develop critical care standards, policies, and operating procedures. In doing so, the CCNW decides on and implements recommendations on how to best plan and deliver critical care services using evidence-based practice set against the context of national and international practices. The HMC CCNW gives

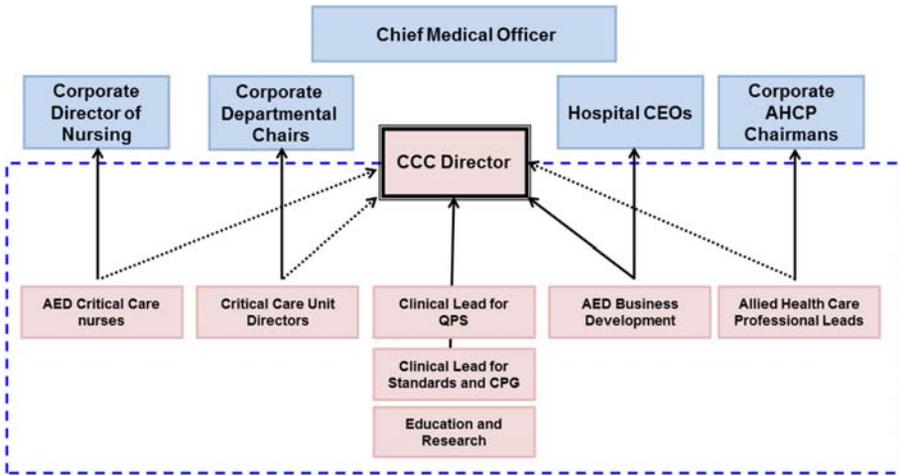


Figure 1. Structure of the Hamad Medical Corporation Critical Care Network (CCC: Critical Care Centre).

recommendations to various committees to improve the services in the following areas:

1. *Defining the level of care and critical care core standards for HMC:* The CCNW standardises critical care across the Corporation regardless of where it is being delivered. As such it develops the critical care core standards for the critical care units and gives recommendations regarding future critical care core facility planning within HMC. The CCNW helps the Ministry of Public Health (MoPH) develop the National Critical Care Core Standards.
2. *Quality and safety:* The CCNW works collaboratively with HMC leaders to ensure a culture of quality is embedded within all critical care services delivered within HMC. There is a continuous evaluation process in place to measure the quality of care for high performance critical care which is the goal. This is based upon ongoing observations, robust data collection and analysis, and a change management strategy implemented as required.
3. *Clinical pathways, guidelines, and protocols:* The CCNW develops, according to international best practice, clinical care pathways, guidelines, and protocols that govern critical care units throughout HMC. Critical care clinical practice is audited against these standards, compared with the international benchmark, and updated as required to ensure currency of all patient care aspects.
4. *Transfer and transportation of critically ill patients:* The CCNW develops HMC-wide criteria for patient intramural, extramural, and international transfers, and sets standards of care during transportation in collaboration with the HMC Ambulance Service Transfer and Retrieval team. This includes HMC-wide bed management consideration with the senior consultants on call, review of the patient's condition and medical needs, and assessment of the mission associated risks and mitigating strategies. This involves significant planning on the part of the team, clear communication and handovers, and the use of checklists at several stages to

ensure the provision of safe and efficient patient transfers.

5. **Education:** The CCNW develops educational plans and ensures corresponding courses accredited by the Qatar Council for Healthcare Practitioners (QCHP) are designed and delivered to address the training needs of clinicians. The portfolio of courses is regularly reviewed to meet identified needs so clinicians always possess the appropriate knowledge and skills to manage critically ill patients.
6. **Research and Critical Care Data Registry development:** Being a key player in an Academic Health System, HMC fosters a relatively young but growing research environment⁴ of which the CCNW forms an integral part. Creating opportunities for epidemiological research and also fulfilling the needs for quality monitoring and benchmarking, the CCNW has enabled the creation of critical care data registries. Such registries provide a valuable source of information and have already been exploited at HMC to better understand the

type of patients a service cares for and patient outcomes with respects various factors.⁷

The establishment of a CCNW at a corporate level (with membership from local leaders across HMC) has provided a level of oversight and leadership which has significantly contributed to optimizing and reshaping the way acutely ill patients are cared for. It has enabled the adoption of evidence-based best practices across the various critical care services of HMC as well as created a multidisciplinary forum for dialogue and collaboration. Innovative work focusing on providing effective, up-to-date, and patient-focused care are ongoing as well as HMC's pursuit of various international accreditation awards by prestigious organisations and professional bodies.

Keywords: Qatar Critical Care Network, intensive care unit, healthcare, multidisciplinary, clinical pathway

REFERENCES

1. Marshall JC, Bosco L, Adhikari NK, Connolly B, Diaz JV, Dorman T, et al. What is an intensive care unit? A report of the task force of the World Federation of Societies of Intensive and Critical Care Medicine. *Journal Crit Care*. 2017;37:270–276.
2. Khandelwal N, Kross EK, Engelberg RA, Coe NB, Long AC, Curtis JR. Estimating the effect of palliative care interventions and advance care planning on ICU utilization: a systematic review. *Crit Care Med*. 2015;43(5):1102–1111.
3. Wallace DJ, Angus DC, Seymour CW, Barnato AE, Kahn JM. Critical care bed growth in the United States. A comparison of regional and national trends. *Am J Respir Crit Care Med*. 2015;191(4):410–416.
4. Goodman A. The Development of the Qatar Healthcare System: A Review of the Literature. *Int J Clin Med*. 2015;6(3):177–185.
5. State of Qatar Ministry of Public Health. National Health Strategy 2018–2022 [Online]. Available from: <https://www.moph.gov.qa/HSF/Pages/NHS-18-22.aspx> [Accessed 6 Oct 2019].
6. HMC. Hamad Medical Corporation Critical Care Network Board Terms of Reference. Version 2.0, 2017. HMC, Doha, Qatar.
7. Ibrahim AS, Akkari AR, Raza T, Hassan IF, Akbar A, Alatoum I. Epidemiological and Clinical Profiles of Patients with Acute Respiratory Distress Syndrome Admitted to Medical Intensive Care in Qatar: A Retrospective Analysis of the Data Registry for the Year 2015. *Qatar Med J*. 2019;2019(1):3.