In this issue of Critical Care and Resuscitation, we continue to challenge dogma, develop new questions, explore new topics, propose new therapies, and reflect on how we can improve care.

In his editorial, Paul Young and the ICU-ROX team reflect on the issue of oxygen therapy in the post ICU-ROX era. In doing so, they set out the research agenda that is to follow ICU-ROX in order to more clearly understand the impact of the most common therapy delivered to ICU patients. Stand ready for MEGA-ROX!

In another editorial, Michael Reade reflects on the survey by Holley and colleagues highlighting the high self-reported practice variability in Australian and New Zealand burn centres. These findings represent a call to action in investigating what actually happens in the care of these vulnerable patients and beginning a process to improve this so far completely unexplored area of Australian and New Zealand intensive care medicine.

Do patients with sepsis shock really have low levels of vitamin C in blood and does high dose vitamin C therapy deliver expected changes in ICU patients? These questions are addressed by a substudy of the eagerly awaited VITAMINS study.

How should patients having major abdominal surgery be ventilated? Should they also receive low tidal volume ventilation? A study of more than 1000 Australian and New Zealand patients is coming to completion and its statistical analysis plan is presented in this issue of the Journal.

Several pilot studies published in this issue of CCR provide new insights. Small volume phlebotomy is both possible and accurate and can attenuate changes in haemoglobin; comparing furosemide with acetazolamide provides new ideas for combined therapy; assessing self-reported antibiotic allergy highlights its poor accuracy and its consequences; studying changes in toxicity in the early treatment of diabetic ketoacidosis highlights the potential importance of a slow decrease in glycaemia and the impact of high volume fluid therapy; understanding the way surrogate decision makers use the internet tells us how they make themselves less likely to understand and trust doctors; and finally, the first data science report provides data on the necessary first step in the exploration of natural language processing of electronic nursing and medical notes to study the epidemiology of delirium.

In closing, changes in the PLUS study protocol are presented, and the most comprehensive assessment of therapeutic hypothermia to date explores a treatment in search of a target and raises concerns that decades later its role remains undefined.

In the last issue of the year, CCR continues to showcase outstanding local and now international research and, we hope, also continues to provoke, challenge and inform the Australian and New Zealand ICU community, which in October put on the most extraordinary display of achievement, innovation and openness at the World Congress of Intensive Care in Melbourne.

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References