HEALTH INNOVATION CHALLENGE FUND

FULL SCOPE FOR ROUND 11

Clinical applications of Trauma and critical care medicine

Early recognition of symptoms, prompt diagnosis and effective intervention can have a significant benefit for critically ill patients, who frequently suffer long-term physical and psychological complications. Prolonged stays in the intensive care unit are associated with impaired quality of life, functional decline and increased morbidity, mortality, cost of care and length of hospital stay. In England the average annual cost of critical care beds is £1.3 billion. Some 750,000 people are admitted to ICUs and HDUs annually.

The HICF is seeking early interventions and solutions that will tangibly improve the care and long-term outcomes of patients who experience acute illness or who have sustained severe injury or trauma. Proposals must demonstrate a clear plan on how the innovation will integrate into current pathways given the time pressures, complex logistics and multi-disciplines involved when responding to these emergencies. They should offer a step-change improvement of the immediate treatment, care, transport and recovery of patients.

Applications are invited that:

- Focus on care given in either pre-hospital settings, emergency departments, trauma centres, intensive care units or high dependency units
- Provide improved monitoring devices, innovative analytical or imaging modalities or rapid diagnostics
- Develop non-invasive, point-of-care diagnostic devices to support early treatment intervention
- Deliver better interventions for trauma or critically ill patients including e.g. optimising ventilation, pain control, more effective haemostatic therapies and devices, stabilisation of spinal, pelvic or limb injuries, better wound care and improved surgical and non-surgical treatments
- Offer solutions that will enable quick profiling and stratification of patients to allow targeted therapy to slow down or reverse secondary injuries
- Analysis of patterns in accumulated historical data and in newly acquired data to identify changes in a patient's condition in real time or provide early warning of any deterioration
- Use of data fusion techniques to produce 'smart' alerts for patients in high-dependency areas who are monitored using static, wired or wireless physiological monitoring

Specifically out of scope for this call are:

- Proposals focusing on hospital acquired infections
- Non-critical care delivery following discharge from an ICU to a general ward