



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Hemorrhage Control and Resuscitation Launch of Massive Transfusion Protocol (Clinical Trial)

Massive transfusion in a short period of time has numerous potential complications. Determining whether a massive transfusion is required is often difficult for the bedside clinician. Doing so requires codification and at times, synthesis of many complex data points that vary over time. Because massive transfusions are resource-intensive and expensive, they require quick and accurate decision-making. Researchers sponsored by USUHS and supported by SC2i partners at Emory University began work in FY14 on a massive transfusion protocol (MTP) Smartphone application to prospectively evaluate accuracy in predicting the need for massive transfusion in critically injured patients. As such, this clinical scenario is uniquely suited for a Clinical Decisions Support (CDS) application, since accuracy and efficiency can result in improved patient outcomes and cost savings to the institution. The MTP Smartphone application allows for the accurate prediction of massive transfusion based on a sophisticated statistical model created using admission variables readily available to the clinician at the bedside. As part of a damage control resuscitation paradigm, MTPs have improved patient outcomes in multiple military and civilian series. The coordination of a MTP is a complex and multi-disciplinary effort that requires both significant oversight as well as the use of a large amount of human and blood bank resources. This protocol application has the potential to make this process less complex and more accurate, thereby improving outcomes for Service Members. Additionally, it is estimated that the MTP app will reduce the number of patients receiving a massive transfusion by 15%, saving resources and time.