

# Implementation of a New Protocol for High-Risk Patients in the Exercise Physiology Laboratory

Kelli M. Teson<sup>1,2</sup>, Jessica S. Watson<sup>1</sup>, David A. White<sup>1,2</sup>, Megan E. Jensen<sup>1</sup>, Christopher W. Follansbee<sup>1,2</sup>, Lindsey E. Malloy-Walton<sup>1,2</sup>

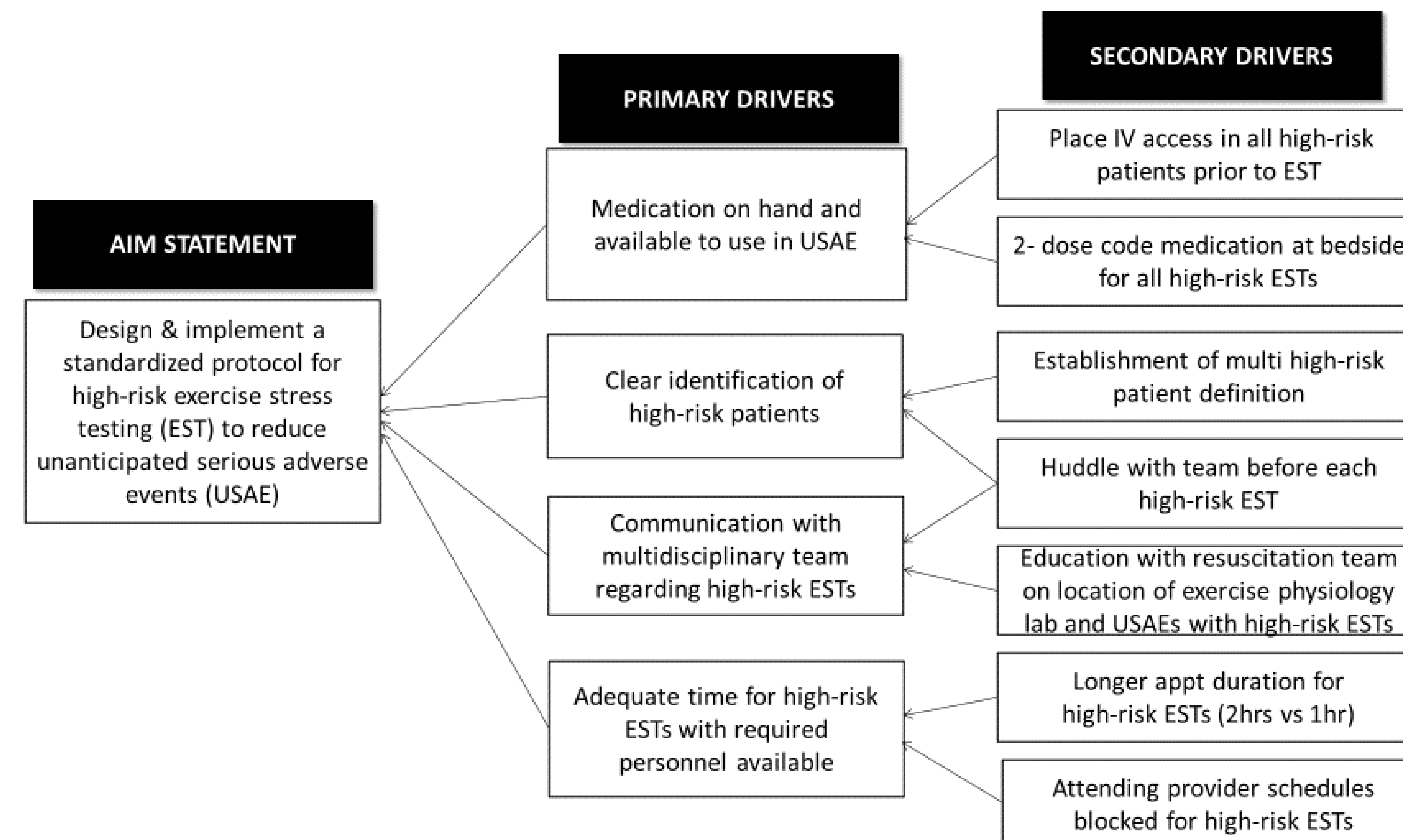
Children's Mercy Kansas City<sup>1</sup>, University of Missouri Kansas City<sup>2</sup>

## BACKGROUND

- An unanticipated serious adverse event (USAE) occurred during exercise stress testing (EST) in Children's Mercy's (CM) exercise physiology lab in September 2020
- At that time, there were no modifications to EST protocols or procedures for high-risk patients at CM
- Inconsistencies have been noted regarding establishment and practice of high-risk EST protocols at institutions performing pediatric EST
- Aims: Design and implement a standardized protocol for high-risk EST focused on enhanced preparedness and increased safety over a 12-month time period by establishing criteria for identification of high-risk patients, standardizing processes for enhanced communication, specifying scheduling standards, and ensuring emergency medication readiness

## METHODS

- Project team of exercise physiologists, cardiologists, CM intensive care and resuscitation committee members, and pharmacy designed a high-risk EST protocol (9/2020)
- Patient safety gaps were identified and guided primary and secondary driver development: lack of IV access prior to EST, insufficient knowledge of EST location by emergency response teams, poor communication within clinic/hospital of high-risk EST, limited practice and familiarity of drawing up emergency medications
- Process map was developed to visualize current state and delineate future state for the high-risk EST protocol.
- Multiple PDSA cycles revealed improvement opportunities such as: refining education and communication, defining roles within time-out huddle, establishing pre-defined locations for transport following USAEs



## RESULTS

- Since 11/2020, 54 patients (10 inpatients and 44 outpatients) were identified as high-risk and underwent EST utilizing the new protocol
- No USAEs have occurred since implementation
- Balancing measures revealed no change in EST appointment wait times or exercise physiologist workload utilizing the new protocol
- Unintended consequences of the high-risk protocol revealed longer appointment duration (2 hr vs 1 hr) and increased workload for attending physician
- There has been positive feedback received from attending physicians and emergency response teams regarding increased communication and awareness of high-risk EST

## CONCLUSIONS

- Improvements generated from high-risk EST protocol include increased communication and collaboration throughout the hospital
- Sustaining gains by continual refinement of protocol
- Limitations: no USAEs have occurred since implantation of new protocol but results include enhanced preparedness and increased patient safety
- Future directions could include dissemination of protocol to regional institutions for benchmark standard for high-risk EST

