RE: Transformative Research Letter of Intent
Creation of the Colorado Collaborative Critical Care Center (C5)

Dean John J. Reilly, Jr. M.D.
Richard D. Krugman Endowed Chair
Vice Chancellor for Health Affairs and
Dean, School of Medicine
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University of Colorado

Dear Dr. Reilly:

This letter of intent is in response to your request for transformative research applications. Spanning the current division, department, school, and institutional structure, we will create a collaborative home for critical care that will unify and transform the existing research and educational efforts.

The intensive care unit is a geographical location in the hospital, where patients have one unifying factor; they are critically ill. Each year, more than 5 million patients are admitted to an ICU in the United States, at a cost of over $81 billion dollars. By definition, the ICU is multidisciplinary, and many of the common disorders that result in ICU admission are associated with dysfunction of multiple organ systems. The University of Colorado has a long standing interest in critical illness. For example nearly 50 years ago, the Acute Respiratory Distress Syndrome (ARDS), one of the classic critical care diagnoses, was first described at our institution. Currently, the University of Colorado has multiple innovative NIH funded research groups that study critical illness. For example, we are a member of the NHLBI sponsored Prevention and Early Treatment of Acute Lung Injury (PETAL) network. The existing Organ Protection Program examines basic pathways that are unraveling many of the core mechanisms responsible for critical illness. Additional innovative translational critical care research is being conducted at our affiliate hospitals. However, these current efforts are performed in a siloed manner.

The goal of this proposal is to build a synergistic critical care research consortium: the Colorado Collaborative Critical Care Center (C5). The C5 would have unprecedented access to the vast majority of ICU beds in the Denver metropolitan area. For example, we could perform our own multi-center clinical trials in the Denver metropolitan area and along the Front Range. By necessity, the C5 program will initially focus on two hallmark systemic critical care diagnoses: sepsis and ARDS. The C5 program will integrate clinical, translational and basic research efforts to define novel mechanisms and treatment approaches for sepsis and ARDS, with an emphasis of research training and mentoring, and collaborative research approaches. Over time, the C5 program would strategically expand its efforts to study other critical care conditions.
The Center will be co-directed by Dr. Marc Moss (Department of Medicine, Division of Pulmonary Sciences and Critical Care Medicine) and Dr. Holger Eltzschig (Department of Anesthesia). The C5 program will be structured into four programs:

1. Early Diagnosis and Prevention
2. Development of Novel Therapies
3. Long Term Outcomes
4. Education and Mentoring

The C5 program has the strong support and representation of the key stakeholders across the University of Colorado system. The following individuals (listed in alphabetical order) are committed to the development of the C5 program:

Drs. Eric Clambey, Tobias Eckle, Chris Evans, Sarah Faubel, Adit Ginde, Bill Janssen, Richard Johnson, Rob MacLaren, Eoin McNamee, Dianna Quan, Margaret Schenkman, David Schwartz, Phil Simonian, Kurt Stenmark, and Christine Vohwinkel.

In summary, the C5 program would create a unique and innovative research structure that would attract and retain key leaders in the field of critical care research. As a result, the C5 program would immediately position the University of Colorado as one of the preeminent critical care research centers in the United States.

Sincerely,

Marc Moss, MD
Roger S. Mitchell Professor of Medicine
Vice Chair of Clinical Research
Department of Medicine

Holger K. Eltzschig, MD, PhD
Professor of Anesthesia, Medicine, Cell Biology, and Immunology
Director, Organ Protection Program
Chief, Anesthesia Service for Oncologic Surgery
Department of Anesthesiology