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Older adults show biomarker evidence of PICS after sepsis

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OBJECTIVES/GOALS: Many older sepsis survivors develop chronic critical illness (CCI) with poor outcomes. Sepsis is caused by a dysregulated immune response and biomarkers reflecting PICS. The purpose was to compare serial PICS biomarkers in a) older (versus young) adults and b) older CCI (versus older RAP) patients to gain insight into underlying pathobiology of CCI. METHODS/STUDY POPULATION: Prospective longitudinal study with young (â‰¤ 45 years) and older (â‰¥ 65 years) septic adults who were characterized by a) baseline predisposition, b) hospital outcomes, c) serial SOFA organ dysfunction scores over 14 days, d) Zubrod Performance status at three, six and 12-month follow-up and e) mortality over 12 months. Serial blood samples over 14 days were analyzed for selected biomarkers reflecting PICS. RESULTS/ANTICIPATED RESULTS: Compared to the young, more older adults developed CCI (20% vs 42%) and had markedly worse serial SOFA scores, performance status and mortality over 12 months. Additionally, older (versus young) and older CCI (versus older RAP) patients had more persistent aberrations in biomarkers reflecting inflammation, immunosuppression, stress metabolism, lack of anabolism and anti-angiogenesis over 14 days after sepsis. DISCUSSION/SIGNIFICANCE: Older (versus young) and older CCI (versus older RAP) patient subgroups demonstrate early biomarker evidence of the underlying pathobiology of PICS. The population of older sepsis survivors is need of interventions to lower systemic inflammation and stimulate anabolism to prevent skeletal muscle wasting and disability.

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Assessment of Learning Modules Promoting Team Science Practices to the Translational Scientist

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OBJECTIVES/GOALS: The overarching objective is to assess the value of promoting team science practices across a diverse clinical translational science community through the development of learning modules. We aim to share lessons learned to help inform best practices for CTSA hubs interested in promoting team science. METHODS/STUDY POPULATION: We recently created a series of self-paced learning modules focused on the science of team science, which include a variety of text and multimedia content. A preliminary assessment was conducted to determine the perceived value of six video team science Learning Shots and to identify areas for improvement. Significant content revisions are underway based on respondent feedback. In early 2022, a follow up survey will solicit feedback from a larger sample of researchers to reassess the learning modules and to ensure that desired improvements were achieved. We will incorporate continuous improvement cycles to gather future feedback, track improvements, and identify potential future direction for new content. RESULTS/ANTICIPATED RESULTS: The preliminary assessment identified the most effective aspects of the modules to be the variety and knowledge of speakers, diversity of topics, organization of the content, and appropriateness of length. Least effective aspects included a desire for more information in some content areas and not enough focus on the challenges of team science for junior faculty. Suggested areas for improvement include a desire for supplemental descriptive text, links to tools that enable teams to be productive, and additional examples from researchers. The follow up study is expected to yield more detailed information on the impacts of the improvements and the overall effectiveness of the modules. DISCUSSION/SIGNIFICANCE: This project provides insights for CTSA Hubs interested in promoting team science and best practices when developing learning modules. Results contribute to what is known about researchers interest in learning about team science and the effectiveness of using online formats for delivery.

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A Team-based Approach to an Integrated Model of Diabetes Care

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OBJECTIVES/GOALS: Diabetes is related to risk for heart disease, stroke, high blood pressure, and COVID-19. It is exacerbated by built/social environment issues, e.g., food insecurity, access to healthy foods and health care, and other poverty-related factors. Our goal is to assess the efficacy of an integrated care model for patients with poorly controlled diabetes. METHODS/STUDY POPULATION: We utilize an integrated, team-based approach to diabetes treatment. In a traditional care model, too little focus is on social determinants and their impacts on health and well-being. Our project involves enrollment of patients with diabetes in an intervention whereby their medical care is integrated with intensive diabetes education and provision of social and other health services, including diet and nutrition, exercise, provision of foods and nutritional supplements, and other support services as needed to achieve optimal health and to reduce morbidity and unnecessary hospitalization and emergency room visits. Subjects are underserved patients treated through our non-profit community clinic partners. We track metrics including individual outcomes, organizational outcomes, and collective impact. RESULTS/ANTICIPATED RESULTS: We anticipate that patients enrolled in this study will demonstrate significant improvements in diabetes control and management. Clinical improvements will include better glycemic control, improved hypertension and dyslipidemia management, reduced complications, and increased preventive measures including foot, eye and oral health exams and monitoring of microalbuminuria. Overall, we anticipate decreased frequency of hospitalizations and readmissions as well as decreased frequency of emergency care visits for treatment of diabetes-related issues. We expect patients to experience enhanced self-efficacy, increased physical activity, and improved quality of life. Their outcomes will be compared to controls receiving the standard medical regimen, matched on age, race, gender, and time of onset. DISCUSSION/SIGNIFICANCE: These activities will improve understanding of factors influencing diabetes