

## Concept Clearance for Acute to Chronic Pain Signatures (A2CPS) Program Funding Opportunity Announcement Reissuance

*Multisite Clinical Center Common Fund Acute to Chronic Pain Signatures Program: Acute Pain from Musculoskeletal Trauma (UM1 Clinical Trial Optional) RFA-RM18-033*

*Multisite Clinical Center Common Fund Acute to Chronic Pain Signatures Program: Acute Peri-operative Pain (UM1 Clinical Trial Optional) RFA-RM-18-034*

The Common Fund's Acute to Chronic Pain Signatures (A2CPS) program aims to identify biosignatures (a combination of several individual biomarkers) predicting susceptibility or resilience to the development of chronic pain after an acute pain event by supporting longitudinal prospective studies on large cohorts of patients who experience acute pain from either a specific surgical procedure or a specific musculoskeletal trauma. The ability to predict which patients are more likely to be susceptible versus resilient to the development of chronic pain is a crucial step towards the development of personalized prevention strategies to transform acute pain treatment approaches and reduce or prevent chronic pain. Furthermore, if any of the predictive biomarkers identified through this program play a mechanistic role in the development of chronic pain, then the molecules, pathways, and/or brain circuits identified could serve as new potential therapeutic targets for reversing chronic pain or increasing patient resilience to chronic pain.

The A2CPS program plans to reissue one, both, or a combination of the two RFAs for the Multisite Clinical Centers: [Multisite Clinical Center Common Fund Acute to Chronic Pain Signatures Program: Acute Pain from Musculoskeletal Trauma \(UM1 Clinical Trial Optional\)](#), [Multisite Clinical Center Common Fund Acute to Chronic Pain Signatures Program: Acute Peri-operative Pain \(UM1 Clinical Trial Optional\)](#).

These Funding Opportunity Announcements (FOAs) aim to support one Multisite Clinical Center (MCC) each to implement the enrollment and multimodal longitudinal assessment of a large cohort of patients with acute pain from a musculoskeletal trauma or acute peri-operative pain to identify biosignatures for resilience to and/or the transition from acute to chronic pain. Applicants will develop a study enrolling patients from a single type of musculoskeletal trauma (e.g. bone fracture) or a surgical procedure (e.g. thoracotomy) with an expected and documented 30% to 60% rate of transition from acute to chronic pain and retain these patients for assessments at time = 0, 3 months, and 6 months post-trauma. MCC awardees will work with other program awardees to develop clinical protocols, EHR standardization, biospecimen collection protocols, and data deposition/sharing plans. The program will also support a Clinical Coordination Center, a Data Integration Resource Center, and one or more Omics Data Generation Centers.

The first issuance of these FOAs was August 2019. NIH Program staff did not feel that we received adequate numbers of meritorious applications to make the program a success. In order to achieve a better response, we plan to increase our outreach of these funding announcements to the orthopedic and emergency room communities. We would also strive to give the applicants more than the minimum 60 days to prepare these complex applications.

This award will use the UM1 mechanism for Research Projects with Complex Structure; the Common Fund intends to commit \$0.2M in FY20 (planning year) and \$3.2M in FYs21-22 to fund one award. This FOA falls within the scope of the original program concept cleared by the Council of Councils in September 2017.