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DEVELOPMENT OF STANDARD OMICS MEASURES FOR ASTRONAUTS AND ACCOMPANYING  
BIOBANK FOR PRIVATELY CREWED HUMAN SPACEFLIGHT**Abstract**

Private crewed missions offer new opportunities to follow a more diverse cohort of individuals across multiple missions and flight trajectories. Such missions allow a broader pool of potential fliers to participate, but also means we will be less certain of the effects of spaceflight on their body without a more expansive and standardized means of studying and supporting biomedical research in commercial human spaceflight. The ability to support the health and wellness of private astronauts across the commercial space sector requires a robust multi-omic platform that suits the needs of commercially-backed missions.

Beginning with the Inspiration 4 mission, which took place in September of 2021, we developed the first iteration of a battery of Standard Omics Measures for Astronauts (SOMA) and an accompanying biobank of specimens to make available to the human spaceflight community. Here we present a summary and initial findings of this work and goals for future missions.