The Human Research Program for Civilians in Spaceflight and Space Habitation (HRP-C)

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Abstract:
Fewer than 700 people have flown into space. Although we know a great deal about the effects of spaceflight stressors, such as microgravity, space radiation, and confinement on career astronauts, we have very limited or no information about the effects of spaceflight and space habitation on average civilians, many with chronic health conditions and disabilities.

An international group of aerospace, medical, and behavioral experts has developed a comprehensive human research program called the HRP-C, aimed at solving the mysteries of how space travel might affect the health and well-being of civilian spaceflight participants. The goal is to better understand the interface between individual characteristics and the space environment, with a specific purpose to make space travel accessible and safe for everyone.

The HRP-C is intended to optimize human performance and thriving in space and minimize potential adverse effects of civilian space travel and habitation. Moreover, the Program will provide the information for informed, precision healthcare that is specific to the individual, including those with chronic illness and disability in short or long term spaceflight.

This internationally driven Program plan includes a set of comprehensive measures, targeted research, countermeasure development and testing, modeling, adverse event reporting, and accessible data and specimen repositories. This blueprint expands the scope of current efforts to inform and share information for all of humanity, irrespective of national borders, to promote space accessibility, identify unknown issues, minimize adverse effects, support human performance, and improve safety for space travelers and space inhabitants in low Earth orbital space, cislunar space, the Moon, and beyond.