

DEFINING MEDICAL LEVELS OF CARE FOR EXPLORATION MISSIONS

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ABSTRACT

NASA medical care standards establish requirements for providing health and medical programs for crewmembers during all phases of a mission. These requirements are intended to prevent or mitigate negative health consequences of long-duration spaceflight, thereby optimizing crew health and performance over the course of the mission.

Current standards are documented in the two volumes of the NASA-STD-3001 Space Flight Human-System Standard document, established by the Office of the Chief Health and Medical Officer. Its purpose is to provide uniform technical standards for the design, selection, and application of medical hardware, software, processes, procedures, practices, and methods for human-rated systems.

NASA-STD-3001 Vol. 1 identifies five levels of care for human spaceflight. These levels of care are accompanied by several components that illustrate the type of medical care expected for each. The Exploration Medical Capability (ExMC) of the Human Research Program has expanded the context of these provided levels of care and components. This supplemental information includes definitions for each component of care and example actions that describe the type of capabilities that coincide with the definition. This interpretation is necessary in order to fully and systematically define the capabilities required for each level of care in order to define the medical requirements and plan for infrastructure needed for medical systems of future exploration missions, such as one to Mars.