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THE ROLE SPACE ASSETS CAN PLAY IN REMOTE HEALTHCARE DELIVERY DURING
PANDEMICS

Abstract

Pandemics can disproportionately affect areas that are remote and/or communities with fewer resources, from an over-strained healthcare system to a limited supply of resources like personal protective equipment (PPE). With social-distancing measures implemented by governments to reduce the spread of the virus, remote healthcare can be used to provide essential health services. A multi-disciplinary team came together to provide recommendations on how space technology and assets can be used to mitigate the effects of pandemics, with a focus on the current COVID-19 pandemic. Tele-consulting, medical supply coordination, remote diagnosis are examples of solutions that can be achieved using space-based technologies and some reverse-engineered counterparts for terrestrial application to support diagnoses, treatment, and reduction in patient visit times. Through Space technology transfer like the Bio-Monitor suit which monitors and analyzes health indicators, space-enabled capability can solve problems related to the health-care diagnosis. Remote areas can access telemedical services with communication infrastructure like satellites, enabling the presence of more medical specialties. While these space-enabled assets can be applied in multiple ways, a major consideration to privacy and data protection laws must be taken. Although the technology readiness level for Earth-based applications is ever developing, and the financial implementation uncertain for mass-manufacturing of these space spin-offs, they nevertheless suggest great potential benefit. Through comprehensive research and feasibility studies, this paper outlines how pre-existing technologies and systems can be applied contributing towards the United Nations Sustainable Development Goals (UN's SDGs), (3): Good Health and Well-Being, and (11): Sustainable Cities and Communities.