

BRIDGING THE ENGINEERING AND MEDICINE GAP

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A primary challenge NASA faces is communication between the disparate entities of engineers and human system experts in life sciences. Clear communication is critical for exploration mission success from the perspective of both risk analysis and data handling. The engineering community uses probabilistic risk assessment (PRA) models to inform their own risk analysis and has extensive experience managing mission data, but does not always fully consider human systems integration (HSI). The medical community, as a part of HSI, has been working 1) to develop a suite of tools to express medical risk in quantitative terms that are relatable to the engineering approaches commonly in use, and 2) to manage and integrate HSI data with engineering data. This talk will review the development of the Integrated Medical Model as an early attempt to bridge the communication gap between the medical and engineering communities in the language of PRA. This will also address data communication between the two entities in the context of data management considerations of the Medical Data Architecture. Lessons learned from these processes will help identify important elements to consider in future communication and integration of these two groups.