**Presenting Model-Based Systems Engineering Information to Non-Modelers**

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Abstract:

NASA’s Human Research Program’s (HRP) Exploration Medical Capability (ExMC) Element adopted Systems Engineering (SE) principles and Model Based Systems Engineering (MBSE) tools to capture the system functions, system architecture, requirements, interfaces, and clinical capabilities for a future exploration medical system. There are many different stakeholders who may use the information in the model: systems engineers, requirement engineers, clinicians (doctors, nurses, and pharmacists), scientists, and program managers. Many of these individuals do not have access to MBSE modeling tools or have never used these tools. Many of these individuals (clinicians, scientists, even program managers) may have no experience with SE in general let alone interpreting a systems model. The challenge faced by ExMC was how to present the content in the model to non-modelers in a way they could understand with limited to no training in MBSE or the Systems Modeling Language (SysML) without using the modeling tool. Therefore, from the model, ExMC created an HTML report that is accessible to anyone with a browser. When creating the HTML report, the ExMC SE team talked to stakeholders and received their feedback on what content they wanted and how to display this content. Factoring in feedback, the report arranges the content in a way that not only directs readers through the SE process taken to derive the requirements, but also helps them to understand the fundamental steps in an SE approach. The report includes links to source information (i.e., NASA documentation that describes levels of care) and other SE deliverables (e.g., Concept of Operations). These links were provided to aid in the understanding of how the team created this content through a methodical SE approach. This paper outlines the process used to develop the model, the data chosen to share with stakeholders, many of the model elements used in the report, the review process stakeholders followed, the comments received from the stakeholders, and the lessons ExMC learned through producing this HTML report.