

Abstract

Developing a Robotic and Autonomic Medical Evacuation (RAS MEDEVAC) capability for remote and rural populations

Part of Special Series: WONCA World Rural Health Conference Abstracts 2022 

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PUBLISHED

10 January 2023 Volume 23 Issue 1

HISTORY

RECEIVED: 20 September 2022

ACCEPTED: 20 September 2022

CITATION

McGrath M, Maitland-Knibb S, Sanders T. Developing a Robotic and Autonomic Medical Evacuation (RAS MEDEVAC) capability for remote and rural populations. Rural and Remote Health 2023; 23: 8172. <https://doi.org/10.22605/RRH8172>

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Abstract

Introduction: The inherent clinical risks associated with remote and rural environments are potentially mitigated by timely air ambulance transfer, yet this involves other costs, operational constraints and limitations. The development of a RAS MEDEVAC capability may present the opportunity to enhance clinical transfers and outcomes across remote and rural areas as well as more conventional civilian and military environments.

Methods The authors propose a multi-phase approach to assist RAS MEDEVAC capability development.

Results RAS MEDEVAC capability development could be enhanced by a step-wise approach that: (a) incorporates a clear understanding of related clinical (including aviation medicine), vehicle and interface principles; (b) understands opportunities and limitations of related technology advancements; and (c) develops a new glossary and taxonomy to describe echelons of care and phases of medical transfer.

Discussion RAS MEDEVAC presents the opportunity to exploit a number of potential capability characteristics – speed, flexibility, safety (including sparing/avoidance of human escorts), persistence,

availability, reliability, expendability and acceptability. The application of a staged, multi-phase approach could allow for a structured review of relevant clinical, technical, interface and human factors that would be matched to product availability to

inform future capability development. Particular consideration will need to be played to balancing new concepts of risk as well as considering ethical and legal factors.

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