true data fusion. This data includes a suite of information management tools essential to clinical decision-making, triage, and successful intervention. Additionally, telemedicine and information management tools must be integrated within, and exercised as, a core resource of routine mission rehearsal and accident/contingency operations planning.

In summary, challenges to remote telemedicine operations may be addressed and prioritized employing a systems analysis methodology. Critical tasks revealed using Antarctic operations as a template were:

- Perform needs and information requirements analyses.
- What are the mission-critical tasks and can telemedicine support these tasks?
- Perform integrated environmental and human factors assessment.
- What are the requirements for sustained operations?
- What impact can operator failure through medical events have on the operations and what is the logical temporal and geographical support requirement considering potential human failure?
- Emplace robust telecommunications infrastructure (hardware, software).
- What are the requirements for redundancy which will enable continuous system operations, if necessary?
- What are the opportunities for intermittent or sporadic system operation which will not impact mission completion?
- What are the contingency plans for system operation?

Apply focused, mission-oriented technology insertion (telepresence, sensors, intelligent algorithms; information analysis tools; data fusion tools).

What are the potential performance enhancement and degradation issues imposed by technology?

When is human intervention and non-technologically assisted action desirable?

Perform iterative operator feedback of deployed system.

What are the system chokepoints?

When and where in the operation is human-system failure most likely?

This methodology provides a framework for the system architecture and may be used as a guideline for support to other challenging environments such as space and underwater operations.