Background

- **NEUROCRITICAL CARE** deals with complex neurosurgical, neurological and medical problems in critically ill patients who suffered from brain injuries.
- The continuous, simultaneous evaluation of cerebral function and vital signs (MULTIMODAL MONITORING) has become standard of care.
- NeuroICUs have become data rich environments that would benefit from advanced informatics (e.g., automated event detection, clinical decision support), beyond EMRs.
  - The time-sensitive nature of brain injuries makes the rapid availability of information critical.
  - However, multiple barriers still exist to the integrated use of data in a scalable or adaptable way.

**OUR EFFORT:**
- Production of recommendations for medical device connectivity in neurocritical care.
  - Recognized standards
  - Digital output, to enhance transmitted information and reduce potential errors
  - Include device identifier, error conditions, protocol version, patient identifier, events and alarms, units and labels.
  - Thorough V&V and documentation.
- Repository of information about neurocritical care devices, to educate the community while recommendations are disseminated and adopted.
- Promote user feedback to manufacturers
  - FDA quality systems require manufacturers to respond to customer complaints.

**LACK OF MEDICAL DEVICE CONNECTIVITY** due to the heterogeneous nature of device interfaces:
- Lack of adherence to manufacturer’s protocol specification documents
- Undocumented behaviors
- No widely adopted standards (communication/nomenclature)
- Lack of version control

References


Acknowledgement

For more information, contact Anna Rodriguez at anna@moberg.com or visit the Working Group on Neurocritical Care Informatics as www.SmartNeuroICU.org.

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