Telemedicine Use in Neurosurgery Patients

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Introduction

"Surgery was an early and highly adaptive user of clinical telemedicine as a method of transferring the highly visual nature of surgical events to other sites for collegial and educational consideration. The addition of robotics in recent years further extends the scope of telemedicine into a broad range of surgical specialties. Healthcare providers can apply telehealth to surgical care in the following ways: 1. Conducting pre- and post-operative surgical consultations 2. Administering remote monitoring 3. Providing surgical education to patient and provider alike. 4. ‘Patient experience’ as a front-runner metric, in both hospital reimbursement and grading, constantly redefines the methodologies of providers and adjacent personnel used to better serve patient populations."

Rural Telehealth Services

- Minimizes Rural Travel especially during inclimate weather
- Significant decrease in absences and re-scheduling
- Reinforces patient engagement and appertainment
- Provides immediate informational transference
- Assurances about present and prospective care and outcomes are reiterated.
- Strengthens the patient experience and ‘continuum’ of care for highly complex patients with geographic or morbidity challenges.

Privacy Issues

- Location and privacy will be issue with 5G.
- FaceTime calls are protected by end-to-end encryption so that only the sender and receiver can access them. Apple cannot decrypt this data. Vulnerabilities existed through FacePalm Virus but was corrected with iOS updates. Because of most patient/provider interactions being HIPPA regulated, information and transference of that information remains confidential.

Literature Review

<table>
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<tr>
<th>Author</th>
<th>Year</th>
<th>Study Design and Setting</th>
<th>Type of Surgery</th>
<th>Intervention</th>
<th>Result</th>
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<tr>
<td>Steiner, M. 2017</td>
<td>Prospective cohort study</td>
<td>Non-invasive</td>
<td>Non-invasive</td>
<td>Technology-enhanced</td>
<td>Technology-enhanced care improves patient satisfaction.</td>
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</table>

Current Uses in Rural Patients

- Idaho covers 82,747 square miles, with a 2018 estimated population of 1,754,208 people – 572,101 living in rural Idaho (USDA-ERS). Boise, the capital, is in the southwestern region of the state. The state’s largest cities include Boise, Nampa, Meridian, and Idaho Falls. SANI is a tertiary referral with a collective service patient populace of > 700,000 patients when eastern Oregon is included. In the complex spine clinic, twenty-five percent of patients seen for surgical consideration live in rural Idaho/Oregon.

Previously Data

Neurosurgical Care Management Continuum: Technologies as a Healthcare System Facilitator

References

3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3195911
5. https://www.hhs.gov/privacy/for-professionals/privacy-law/regulations