Neurosurgical Care Management Continuum: Technology as a Healthcare System Facilitator

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Introduction

Ninety-five percent of adults over the age of 18 living in the industrialized world own a mobile phone or personal digital device. Seventy-five percent of these adults own a smart phone. (Pew Research Center: Internet and Technology, 2017) This technological advantage can be applied to the surgical continuum of care especially in the post-operative phase. By facilitating patient awareness and decreasing postoperative visits, the formidable time and cost savings with better implementation. We propose the use of cell phone usage for post-op patient interactions especially the post-op setting. We propro the better use of mobile devices by healthcare adjuncts and patients as better method of neurosurgical surveillance especially in the immediate post-operative phase of follow-up and continum.

Methods

- Multiple rural case studies utilized smart phone technology as a method to manage wound care and follow-up appointments. Since these patients resided in mountain communities and many miles from the operating facility, we present three cases utilizing available technology for review.

Results

- The immediate and long term result of technological use in a neurosurgical practice is noted as a cost and time containment exercise for all provider/patients involved.
- There are HIPPA considerations and privacy concerns that adjourn to the use transmitted healthcare information, but adherence to non-social medium or use of secure avenues are the pathways to better communication.
- Our clinical experience, especially utilizing the mobile phone and its telemedicine capabilities was uniquely advantageous in the rural setting. Since the practice of complex spine had many concentric lines of referral, the ongoing delivery of the continuum of care was more readily realized.

Transmitted Information Post Operative via Secure E-Mail

Telemedicine via Mobile Phone Use

<table>
<thead>
<tr>
<th>Illustrative Case</th>
<th>First Post-op Visit</th>
<th>Telephone Conversations</th>
<th>Secondary Follow-up</th>
<th>Re-Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient X</td>
<td>Reproducible imagery from Primary Care Office</td>
<td>Usually in the office, unless in climate weather precede follow up</td>
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<tr>
<td>Patient Y</td>
<td>Post-op conditions discussed and supplemented with routine incisonal photos following wound care. Telemedicine an active part of this care/patient experience.</td>
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<tr>
<td>Patient Z</td>
<td>Secondary follow-up initiated and completed entirely through the use of telemedicine using mobile devices of both patient, patient’s family, and the nursing staff within the clinic.</td>
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</table>

Conclusions

Mobile Devices and Smart phones allow for an increased transmission of information between patient and neurosurgeon, prompting less in-person postoperative appointments, travel time and expense...

References

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC155910