

# Chapter 12

## The E–Viewer Study: Epworth Virtual Ward Round Study

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### ABSTRACT

*For patients undergoing surgery in a multi-day admission, standard care requires that their surgeon review the patient post-operatively to check on their progress. This is usually done by the specialist attending in person. However, in the Australian setting, most specialists work at multiple institutions. As a result, review ward rounds, especially of post-operative patients, can be delayed, which can delay management decisions and discharge, which in turn may lower patient satisfaction. A telemedicine solution is designed, and results from a pilot test are examined to assess the benefits of incorporating an electronic discharge capability into the current process.*

### INTRODUCTION

Standard care around discharge typically requires that the patient's surgeon will review the patient post-operatively to check on their progress before the patient may go home. This is usually done by the specialist attending in person. However, in the Australian setting, most specialists work at multiple institutions. As a result, review ward rounds, especially of post-operative patients for example, can be delayed, which can delay management decisions and discharge, which in turn may lower patient satisfaction. To prevent such delays, an often-used alternative is a "phone round", where the specialist checks their patient by speaking with the patient's nurse by phone. However, a phone round does not allow the

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specialist to perform the clinically important end-of-the-bed inspection, and does not provide the patient with the reassurance that they have been reviewed by their doctor. Especially, in today's Digital Age, a technology solution that can both enable more effective and efficient care delivery as well as ensure a higher level of patient satisfaction should be embraced (Haddad, Schaffer, & Wickramasinghe, 2015) .

Telemedicine, whereby doctors consult outpatients via internet video, has been successfully practised in Australia for several years, and is reimbursed by Medicare (Cadilhac et al., 2014; EIKELBOOMa'b, 2012; Thaker, Monypenny, Olver, & Sabesan, 2013). Internet video, using Skype, for example, allows patient and doctor to see and hear each other, as if they were in a consulting room together. The video enables the doctor to perform inspection, but telemedicine cannot currently enable any other part of the physical examination. We contend that this technology could also be used in the inpatient post-operative setting as an adjunct to the current in-person ward rounds. The following outlines the design and initial results from a pilot study to assess the potential benefits of such a solution.

## **BACKGROUND**

To understand the opportunity this project affords for providing a better patient experience as well as supporting more effective and efficient healthcare delivery and addressing and thus support clinician needs, it is necessary to understand key aspects around Telemedicine as well as the Point-of-Care, bedside terminal that is currently in use. In particular, without the Point-of-Care system the proposed study would not have been possible. Hence, a key aspect of this study is also around leveraging existing technologies to provide a better patient and clinician experience.

### **1.1. Telemedicine**

Due to rapid developments in health informatics ((André et al., 2008; Basch, 2005; DesRoches, Painter, & Jha, 2013; Liu, Shih, & Hayes, 2011; Protti, Johansen, & Perez-Torres, 2009; Trudel, 2008), Telemedicine is becoming an important part of healthcare services and care delivery in both public and private hospitals (Zanaboni & Wootton, 2012; Wootton, 1998). Telemedicine enables healthcare organizations to expand their boundaries by using integrated and collaborative IT solutions.

Telemedicine uses and adoption in hospitals is considered as a major development not only at the technological level, but also at sociotechnical and cultural levels (Bashshur, Reardon, & Shannon, 2000; Mahmoud & Lenz, 1995; Perednia & Allen, 1995);. According to Bangert et al. (2000), implementation and adoption of telehealth in hospitals represents a “paradigm shift” and is likely to impact all levels of healthcare organizations. One of the largest telemedicine networks is the Cleveland Clinics on-line second opinion system<sup>1</sup> that enables individuals anywhere in the world to access the Cleveland Clinic to get a second opinion consult.

### **1.2. The Point of Care System**

The Point-of-Care (PoC) system is designed and developed by OneView. This system is a bedside computerized information system whose terminals provide patients with a range of entertainment, education and information services, and clinicians with a range of integrated clinical applications including electronic prescribing and administration, patient results, and electronic nurse rounding. In addition, the system

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