Informal Medical Photography: Picture Perfect?

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Abstract

Aim: Photography is increasingly used in healthcare and now forms part of guidelines for managing conditions such as open lower limb fractures. It allows improved communication between health care staff, and forms a record of progress. Until recently this was performed by formal medical photography or a departmental camera, but we are now able to use smart phones to take clinical photos directly to electronic healthcare records.

The number of photos taken worldwide is increasing dramatically, approaching an estimated 2 trillion annually. We aim to study how this might be affecting the quality of photography within healthcare.

Methods: Fifty patients on CUH plastic surgery trauma list in January 2018. Notes reviewed for injury, presence of photography and patient consent for this to be performed. Photos were reviewed for photographer, angles, lighting, focus, image name, clutter and inclusion of staff members.

Results: Fifty patients studied with an average age 43.7 years. 68% of injuries were to the upper limb. Smartphone photography was performed in 76% of patients, with an average of 1.9 views taken. 50% of views were direct AP, with less common use of other angles. Lighting was good in 66% of images, and 82% were in focus. Other people in addition to the patient were seen in 29% of images.

Consent for photography was only documented in 8% of notes, and only 37% of images were titled with a site and side.

Conclusion: There are many advantages to facilitating medical photography, but it is important to maintain the quality of these photos. In this study we found that many photos are inadequate to inform care due to poor quality.

In addition, patients are generally older than their healthcare provider. They may therefore not have the same experience of smart phone use; including encrypted image uploads as their provider. Explanation and consent should therefore be documented.

Keywords: Electronic healthcare records; Photography; Assessment

Introduction

Photography has become a key part of modern culture; used for illustration, memory and communication. Over one trillion photographs are now taken each year, facilitated by rapid advances in technology particularly in smart phones [1]. With the upsides of this surge come downsides, including impact on self-esteem or bullying due to images shared through social media.

Medical photography has similarly become more frequent. While previously restricted to a departmental camera or professional clinical photographers, both of which might be difficult to access, modern electronic healthcare record systems allow staff to use their own smart phones to upload photography directly [2,3]. This allows illustration of a patient’s progress through their healthcare journey, enhanced communication within the multidisciplinary team, and (with suitable permission) used as a teaching aid. Photos are also useful in telemedicine, where their use has been particularly shown in burns but also telemedicine more generally [4,5].

An example of this is the HAiku® smart phone application, which is part of the epic systems corporation electronic healthcare records package. Registered HAiku® users have smart phone access to parts of the records kept in their ‘Trust’s main EPIC® system, and have the ability to upload images taken with their smart phone camera without these being stored locally. Images are previewed before upload and can be titled to provide further information.

Despite the apparent advantages of such informal medical photography, there may also be downsides. Professional clinical photographers are trained and use guidelines to allow standardized...
images, particularly for procedures such as Rhinoplasty [6]. Casualisation of this process could result in photos that are less useful or worse [7]. At present there are no guidelines for how best to produce images, potentially relying on either an individual’s own interest in photography or trial and error. It is therefore important to assess the quality of the photography we are currently performing.

**Methods**

Cambridge University NHS Foundation Trust has used the EPIC® system since October 2014, and through this staffs are able to use the HAIKU® application. Within the Plastic Surgery department images are used to plan elective and emergency surgery, and to track the progress of wounds. This reduces the need to remove dressings on multiple occasions, improving patient care and flow.

A patient search was performed on the Plastic Surgery emergency list in January 2018, and notes of these patients were reviewed for their demographics, injury, photography and treatment. Photographs from initial A&E presentation were reviewed for photographer, image title, image number, image angles, focus, lighting and documented consent. Approval for this study was obtained from the Clinical Audit department, and the study was conducted in accordance with the STROBE statement.

As multiple clinical factors determine further management of a given wound, including functional effect and patient choice, we did not study whether the images in their own right affected patient care.

**Results**

50 patients were identified on the emergency list over a 22 day period. 68% were male, and they had an average age of 43.7 years (range 9 months to 94 years). 76% had photography performed during their period. 68% were male, and they had an average age of 43.7 years.

A further review of the notes indicated that consent for photography was poorly documented. Although this is a small single centre study, the finding that informal medical photography may be of a low quality is likely to be generalisable to other centres, due to similar settings, electronic systems and smart phone technology. However, the extent of this is likely to be variable.

Informal medical photography offers many benefits to patients and providers; careful use can increase these benefits further while avoiding the pitfalls.

**References**

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