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Electronic Vetting of Imaging Requests: Increasing Productivity and Patient Safety

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Dear Sir,

The advent of the electronic patient record (EPR) has brought both improvements[1,2] and challenges[3,4] to hospital workflow in recent years. An existing system of verbal discussion for inpatient imaging requests in our tertiary institution required non-consultant hospital doctors (NCHDs) to queue for variable amounts of time over a period of one hour each morning and afternoon to discuss all requests with a radiology specialist registrar (SpR). At the time of implementing an EPR in our institution, this procedure was identified as an inefficient use of NCHDs' working hours. To improve efficiency, an electronic vetting system was developed, implemented and audited.

NCHD time spent waiting to discuss requests was calculated using a survey administered to each discussing NCHD over a one-week period. The number of CT, MRI and ultrasound requests was recorded. An electronic method of accepting or cancelling requests was developed using an existing function on the hospital's picture archiving and communication system (PACS) which is integrated with an EPR, visible to all clinical staff. Feedback on accepted or cancelled requests was communicated to clinicians using a function on the EPR. Protocol information for imaging was communicated to radiographers in all modalities by the vetting radiology SpR. Lectures and emails for clinical staff regarding the use of electronic vetting were delivered prior to implementation by a radiology SpR and a Registrar in Health Informatics. The electronic vetting system applied to all inpatient diagnostic imaging requests, maintaining the need for NCHDs to verbally discuss procedure requests. One month following implementation, the wait time for NCHDs and number of requests were recorded in the same manner.

Prior to implementation of electronic vetting, the total wait time for verbal discussion of requests was 24.5 NCHD working hours per week. One hundred and seventy-four individual visits were made to the radiology department by NCHDs to verbally discuss 305 requests within one week. Mean NCHD wait time per request was 4.8 minutes.

Following implementation of electronic vetting, the total wait time for verbal discussion of requests was 0.9 NCHD working hours per week, representing a 96.3% decrease. Sixty-eight individual visits were made to the radiology department by NCHDs to verbally discuss 101 urgent or procedural requests within one week. Mean NCHD wait time per request was 0.9 minutes.

Implementation of electronic vetting resulted in a substantial decrease in NCHD wait times for discussion of urgent or procedural requests and a decreased number of NCHD visits to the radiology department. More time is therefore available to NCHDs to carry out essential clinical tasks. Interactions between the radiology department and clinician for each request are now electronically documented, enabling traceable communication. NCHDs use the EPR throughout the working day for many aspects of patient care and the status of radiology requests is easily monitored. NCHDs are required to supply a contact telephone or pager number for urgent communications. Within the radiology department, electronic communication of scan protocol information to radiographers has been a notable benefit. Overall, electronic vetting has improved patient safety, hospital efficiency and cost-effectiveness.

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