

## Improving Weekend Out Of hours Surgical Handover (WOOSH)

Melissa Boyer, Janine Tappenden, Mark Peter  
Scarborough General Hospital, UK

### Abstract

An effective surgical handover is imperative to optimise patient care and safety, whilst ensuring progression of clinical management and the delivery of an efficient service. The introduction of full-shift working, as a response to progressive implementation of the European Working Time Directive (EWTD), has placed the spotlight on patient and doctor safety. Effective handover between shifts is vital to protect patient safety and assist doctors with clinical governance. The weekend is a critical point where the transfer of patient care to the ongoing weekend team is efficient, thorough and informative, as this is a point in the patient journey where the patient is the most vulnerable. The weekend team is often not responsible for the management of the patient throughout the week and poor or incomplete information can have disastrous consequences on patient safety. (1,2,3)

There is a general consensus and anecdotal evidence that this process is variable, occasionally unsafe or of poor quality, and can be improved. (4,5,6,7,8,9,10,11) However, no standardised format is deemed optimal or available. The aim therefore, was to design and implement a weekend handover proforma, in order to deliver a more efficient and safer system for patient care over the weekend without increasing junior doctor workload. The Weekend Out Of Hours Surgical Handover (WOOSH) form was designed following consultation with medical, nursing and allied health professionals. All staff were instructed how to complete the form, with pre- and post-intervention questionnaires undertaken.

The results of the study enforce and advocate the permanent practice of the WOOSH form with 93.33% endorsing the permanent introduction of the form and 100% finding the form useful.

### Problem

Prior to the introduction of the WOOSH form, the weekend surgical handover for patients at Scarborough General Hospital was variable. The acute patients admitted over the past 24 hours were discussed twice daily at handover. However, for the remainder of the inpatients, there was no pre-determined manner in which this happened. Patient handover lists for the two general surgical teams were printed for the weekend ward round, along with a printed list from the hospital database of all patients under general surgical consultants and the last 24 hour surgical take, to ensure every patient was reviewed on the ward round. Thus, a total of four lists made it both unwieldy and inefficient. In addition, the team patient list itself caused issues as, more often than not, they were not up to date and occasionally lacked clarity. This was compounded by the absence of a standardised format for the patient list.

On the ward round itself, there was a significant amount of time lost locating the patients' last entry in the medical notes and ascertaining the main medical concerns. The resulting pressures of a EWTD compliant rota, has necessitated junior staff to cross cover several specialties at the weekend, including some specialties they are not familiar with. At SGH, 1 in 5 weekends are covered by a Urology F2 at the Senior House Officer (SHO) grade. They are unfamiliar with the patients, and this can be further compounded by lack of experience with general surgical patient management, a situation that is seen throughout the NHS and has been reported in other studies. (9) Furthermore, a factor affecting SGH, and indeed the general medical workforce, is the lack of permanent staff and

the reliability upon a locum workforce. This poses challenges itself, thus weekend reviews were identified as an area that could compromise patient safety and impede the effectiveness and efficiency of the on-call team. It was felt therefore that this was an area that could be streamlined, improved and transformed into a positive rather than negative experience for both the patient and staff.

### Background

There are many pressures placed on surgical teams at the weekend. The EWTD has resulted in a shift based medical workforce. Effective and safe transfer of clinical information is critical, as emphasised by the Royal College of Surgeons and further supported by the GMC parts "44 & 45" of Good Medical Practice (2) in addition to the BMA "Safe Handover: Safe Patients" (3). However, to date no ecumenical weekend handover system exists.

Weekend handover shortcomings are widespread. Various solutions have been proposed to address the matter including the development of electronic systems shared on hospital devices and the development of weekend proformas that are paper based or in sticker format. Both methods have been trialed with variable results, each having their own benefits and drawbacks. Proprietary or bespoke electronic databases have been used with great effect, with easy universal access and ability to audit progress. However, they rely upon technology being readily available and training users to utilise the programme to their best ability. (5,6,8,9) Moreover,

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there are usually costs associated with purchasing and ongoing product licensing. In comparison, paper handovers placed in patient's notes incur negligible cost, are accessible, easy to use and require no training. (4,7,10,11) The traffic light system has been used to state the medical stability of a patient or the grade of doctor to undertake a patient review. (6,7) Both systems have trialed the use of traffic light or colour-coded systems with variable results.

### Baseline measurement

The project was carried out on the general surgical inpatients (acute and elective) at SGH, a district general hospital in North Yorkshire and part of the York Teaching Hospitals Trust.

The aim of this project was to ultimately improve the quality of surgical handover to the weekend team, improve communication, save time on the ward round and improve patient safety and transform what is deemed a negative experience into a positive one. Three baseline measurements were carried out: A pre-intervention survey was disseminated amongst the two General Surgical firms from FY1 to Consultants and the nursing staff amongst the surgical wards. There were 29 initial respondents out of 33 [87.8%]. The results showed that 75.86% [22] felt that the time it takes to navigate patient notes to locate the current admission delayed the ward round. 4% [1] felt that the weekend plan for a patient was always clear and 0% [0] felt it was always clear what jobs including investigations or bloods that need to be chased for the patients at a weekend. Furthermore, 79.17% [19] felt that it would be beneficial to have a standard weekend summary sheet in front of the notes. Five sets of patients' surgical notes were selected at random and audited against The RCS Weekend Safe handover criteria (1). The time taken to ascertain this information was calculated. This was achieved by using a stopwatch, and the average time of two FY1's over 5 sets of notes calculated. The project was deemed achievable and to be completed over a maximum of a 6 week period.

See supplementary file: ds6438.pdf - "Weekend Out Of hours Surgical Handover Form"

### Design

Following analysis of the questionnaire, discussion and consultation with senior colleagues and researching methods already used, a weekend handover proforma was developed. It was imperative not to further overburden weekday teams an important element that has been a crucial factor in other weekend handover studies. (4) The finalised WOOSH form was standardised for every surgical patient, included sections for all weekend ward rounds, jobs to chase, bloods to chase and DNAR status. It is printed on bright yellow paper to allow it to be easy to identify a surgical patient from the notes trolley and placed at the front the patients' notes on a Friday morning. This allows easy access to the necessary clinical information over the weekend. On week 2 of the project, the initial results from the survey and newly designed weekend proforma were presented at the clinical governance meeting. The comments taken from the initial consultations with regards to the design of the

form were taken into consideration. It was explained in a presentation, e-mail and one-to-one discussions on how to complete the handover form and junior doctors were encouraged to complete the form alongside the registrar leading the ward round on a Friday morning. Furthermore, the form was advertised and supported by the consultant body.

### Strategy

PDSA cycle 1: On week 3, the first weekend the form was introduced, feedback via an informal survey was taken from the consultant, two registrars, a core trainee and FY1 who had used the form. This allowed identification of aspects of the form that required improvement and how the form was being utilised by the day team.

PDSA Cycle 2: After discussion, adjustments were made to the form and it was re-marketed as the WOOSH form. The sections for the ward rounds to be documented on a Saturday and a Sunday were made larger and the section enabling the team to circle the weekend bloods required was removed. The form was then made available on Week 4. See additional supplement WOOSH BMJ. On Week 6, after the WOOSH form had been used for three consecutive weekends, a survey was then disseminated as before. The form received positive feedback, with no major areas of concern regarding the form design, use or concept. The form was placed on the surgical drive and was made readily available on all surgical ward, with a biannual review plan.

### Results

The five sets of patients' surgical notes that were selected at random and audited against the RCS Weekend Safe handover criteria (1) indicated that the average time taken to collate this information was 2 minutes and 7 seconds. On a typical ward round of 25 beds the time saved equates to 53 minutes. The time saved can be translated back into patient care as reported in other studies. (4)

A questionnaire was sent out to all surgical department members from FY1 to consultant as before in addition to the nursing and team members including the ward clerk. There were 15 respondents out of 33. 86.67% [13] had used the form, 93.3% [14] found the form easy to complete and 100% [15] felt that it made the ward round quicker and more efficient. 93.33% [14] found it easier to review patients outside of the ward round and 100% [15] found the sheet useful. Additional informal feedback included that the forms are useful for a quick reference point to ascertain patient medical details, especially the FY1's when completing the patient discharges. Furthermore, general opinion suggested that the ward round efficiency was improved.

See supplementary file: ds7291.xls - "Results Table"

### Lessons and limitations

One of the limitations of this study was that in PDSA 1, the survey was only given to those who had used the handover form; therefore

numbers were small and not representative of the whole surgical department. Response rates for the questionnaire in the second PDSA cycle were low which may have affected results.

When implementing a service improvement it is imperative to engage the team in order to establish success of a project. It is important, as has been found with other projects, not to add additional work to the teams already caring for the patients. It was crucial to keep the form simple, user friendly and easily improved upon, to work for the service it was intended. The easy accessibility of the form and ease of use has contributed to the success of the form, which has now been in progress for 6 months. Ideally further measurements should be undertaken to show sustainability, as this project has only measured across a short time period.

The importance of an accurate handover was confirmed. A factor that was not intended by this project, but was one that was fed back from the FY1's was that communication improved from the registrars to consultants. They felt more empowered as they felt able to ask a diagnosis and further management plan for a patient, without the apprehension of asking a question that they felt they should have known. This ultimately improved the quality of medical information available, a factor widely reported (4, 5, 10)

Although the time taken to complete the weekend handover forms may increase the workload of the Friday ward round, the actual time taken is negligible.

SGH is part of the York Teaching Hospitals. There are current talks regarding the dissemination of the form throughout the trust.

## Conclusion

All of the studies have shown that the format of the intervention whether it is a hospital database, electronic system, sticker or weekend proforma all improve the handover on a weekend and ultimately patient safety. (4,5,6,7,8,9,10,11) One study that used an electronic system reported up to 2 months before implementation of the new handover system could occur (6), with other studies failing to comment how electronic systems affected the implementation of a new handover process. (5,8,9). Furthermore, the cost of implementation of these systems has also failed to feature in analysis of these studies. The introduction of the WOOSH was easily implemented in less than 2 weeks, required minimal technology and was easily accessible to reproduce and make adjustments, without the need to use a third party. It is readily available on the shared surgical drive, with paper copies on all surgical wards. Thus, it did not discriminate in areas where computer systems were not available. Nor did it add additional work, as it did not require individuals to allocate time to complete a computer handover, this was done on the go with the surgical team on the ward round, enabling the team to clarify any issues immediately for the form.

Furthermore, as the form has now been developed, the time taken to ascertain the pertinent information as depicted in the RCS Safe Handover equates to zero, as the form developed contains all the relevant sections as required by the college. In addition to the

supplementary sections that were deemed necessary for it to work in the trust. These included sections for each ward round, resuscitation plan and jobs to chase. Another salient feature was the cost-effectiveness of the WOOSH form. The NHS is already stretched financially and this required no outsourcing from third party companies or other in-hospital services to provide the IT skills to proceed with the project as found in other studies (5,6,8,9). Nor did it require the production of stickers (11) that would have to be monitored for stock levels. All the equipment needed was available on every ward. Furthermore, the rotation system of junior doctors can vary between 4, 6 and 12 months. Thus, the ease of implementation allowed the juniors to follow, improve and adjust the form as needed, efficiently and before moving on to their next post, allowing continuity.

The use of a weekend handover proforma is supported by the findings of this study. The project is unique in comparison to other studies, as the WOOSH form is used as a replacement for the Friday ward round with additional components to complete, rather than a further additional task to the ward round as found with other studies. (4,5,6,7,8,9,10,11) It improved the efficiency of the weekend team, transfer of patient information in a clear and standardised fashion and team morale making the handover process a positive experience; a factor advocated by other studies (12). The introduction of the standardised WOOSH form improved patient safety. It prompted the day team on a Friday to look ahead for any issues that may arise over the weekend with regard to patient care or areas where the patient may deteriorate and thus forward think any plan should the eventualities arise. This allows the weekend team to implement any deterioration plan. Furthermore, it prompted forward thinking regarding any weekend discharges and organising the necessary paperwork to facilitate a smooth discharge, reducing the workload on the weekend team. Informal feedback also suggested that it fostered a greater sense of ownership of the patients. The time that was not spent finding the necessary paperwork to conduct the ward round was translated back into patient care, a feature that has been reported by other studies. (4, 7, 11)

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## Declaration of interests

None

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## Ethical approval

Not required