**The First Modified Delphi Consensus Building Exercise on Surgical Ward Rounds in the United Kingdom National Health Service**

 **Original Article**

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**Abstract**

**Background**

The ward round is an integral part of everyday surgical practice. It is a complex clinical activity that requires both sound clinical management and communication skills. This study reports the results of a consensus-building exercise on the common aspects of the general surgical ward rounds.

**Methods**

The consensus-building committee involving a range of stakeholders from 16 United Kingdom (UK) National Health Service trusts took part in this consensus exercise.The members discussed and suggested a series of statements concerning surgical ward round. An agreement of ≥ 70% among members was regarded as a consensus.

**Results**

Thirty-two members voted on 60 statements. There was a consensus on fifty-nine statements after the first round of voting, and one statement was modified before it reached consensus in the second round. The statements covered nine sections: a preparation phase, team allocation, multidisciplinary approach to the ward round, structure of the round, teaching considerations, confidentiality and privacy, documentation, post-round arrangements, and weekend round.

There was a consensus on spending time to prepare for the round, a consultant-led round, involvement of the nursing staff, an MDT round at the beginning and end of the week, a minimum of 5 minutes allocated to each patient, utilisation of a round checklist, afternoon virtual round, and a clear handover and plan for the weekend.

**Conclusion**

The consensus committee achieved agreement on several aspects concerning the surgical ward rounds in the UK NHS. This should help improve the care of surgical patients in the UK.

**Keywords:** Ward Round, Surgical Care, Inpatient, General Surgery, Secondary Care, Delphi Consensus.

**Declaration of interests**

 ☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☐ The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

**Introduction:**

The ward round is an everyday clinical activity across hospitals. A properly conducted ward round can enhance patient safety and improve patient outcomes [2,3]. There is a wide variation in the current clinical practices concerning ward rounds [4] from one country to another and also amongst institutions within a country.

In many places, it is seen as a junior doctor activity [5] with no formal guidance on how it should be structured or conducted. Though attempts have been made to standardise the ward round with checklists, [6] ward round stickers [7], and ward round templates [8], authors are not aware of any formal consensus on the ward round, particularly concerning general surgeons.

The Delphi consensus-building exercise was first introduced by Olaf Helmer–Hirschberg and Norman Dalkey of the Research and Development (RAND) Corporation [9] for use in the defence industry of the United States of America. It is conducted by unbiased moderator(s) who collect anonymous responses with regular feedback to the group members regarding group thinking. The anonymous participation was meant to prevent the more assertive members from prevailing over the rest or influencing their responses. Several modifications of the original Delphi technique have been used in the biomedical literature. To the best of our knowledge, no attempt has been made thus far to perform a consensus-building exercise for general surgical ward rounds using the Delphi strategy.

This exercise aimed to achieve a consensus on different aspects of the general surgical ward round in the United Kingdom (UK) National Health Service (NHS) using the modified Delphi approach.

**Methods:**

We constituted a multidisciplinary General Surgical Ward Round Consensus Building Committee of 32 individual stakeholders from a cross-section of the UK NHS. The committee also included patient representatives (Appendix 1). The committee included a total of ten consultant surgeons (three with different managerial functions), seven registrars/fellows, three foundation doctors, three ward managers/matron of surgical departments, two patient advocates, one healthcare assistant, one care group manager, one health services researcher; one directorate lead pharmacist for general surgery and pre-assessment service, one medical student, one consultant dietitian, and one consultant physician.

The members were first individually asked to identify issues with current wards rounds based on their general surgical wards experience and make suggestions for improvement. These suggestions were then compiled in the form of voting statements that the committee members could agree or disagree with. They were extensively discussed within the group and modified as needed.

The consensus-building committee finally agreed on sixty statements for the members to vote on. All members were asked to either agree or disagree with each statement. An agreement of ≥ 70% between all members was used to indicate consensus on each voting statement. Voting was conducted virtually on Typeform®, with no attempt made to identify individual responses. The cumulative results of the first-round exercise were shared with all members.

The committee members were then invited to either modify statements that did not reach consensus in the first round (<70% agreement/ disagreement) or add new statements for clarification. The exercise was concluded after two rounds.

This work has been reported in line with the Standards for Quality Improvement Reporting Excellence (SQUIRE) criteria that are available from (www.squire-statement.org).

**Results:**

A total of thirty-two members voted in both rounds on sixty statements covering nine aspects of a general surgical ward round; a preparation phase, ward round team allocation, structure of the round, teaching considerations, confidentiality and privacy, documentation, post-round arrangements, multidisciplinary approach to the ward round, and weekend round.

The voting statements and the results of both voting rounds are summarised in Table 1. A consensus agreement on fifty-nine statements was achieved after the first round of voting. Only one statement regarding who should communicate with patients' families and relatives did not reach a consensus. After discussion between the team members, this was amended to that any updates to family and/or carers should be carried out by an appropriate team member (as determined by the nature of the information). Members were then invited for the second round of voting on that statement.

**Preparation Phase**

The preparation phase section included seven different statements; there was a 100% agreement on allocating a protected time for the ward round that is built into the rota to avoid any conflict with other activities, 90.6% consensus on spending time from 8 – 8:30 AM preparing for the ward round (check results, update each other, prepare a plan), and 87.5% agreement on having a pre-ward round time out for introduction and communication of major patient issues.

**Team Allocation**

Section 2 included 12 statements on ward round team allocation. There was 87.5% agreement on specifying the minimum number of the round team at three persons with at least one consultant, one nurse, and one foundation doctor or core trainee, or specialty trainee. Additionally, 90.6% agreed on having the same team of doctors conducting the ward rounds for the whole week for continuity of care, and 90.6% consensus on allowing foundation doctors, core trainees, and speciality trainees to lead ward rounds (or parts of it) under direct consultant supervision. Regarding the ward round leader, 78.1% agreed on having the morning ward round led by a consultant surgeon.

**Multidisciplinary Approach to the Ward Round**

The following section included four statements relevant to the multidisciplinary approach to the ward round. 90.6% agreed that having a ward round MDT taking place at the beginning and end of the working week to ensure all team members are up to date. Moreover, 93.8% voted for the need for a geriatric consultant/nurse to review all patients with elderly care needs regularly.

**Structure of The Round**

The fourth section of the consensus was dedicated to the structure of the round and included nine statements. Five statements achieved 100% agreement among the voters and included; giving the patients enough time to ask and interact with the team, updating the patient about their most recent investigation results and their treatment plans, identifying patients who might need a further planned clinical review later in the day, allocating a team member for these further planned reviews. If further detailed discussion is needed, a team member should be allocated to come back to the patient after the ward rounds to answer questions and discuss any matters.

**Teaching Consideration**

The next section addressed the teaching consideration during the round. 93.8% of the voters agreed on taking the ward rounds as an opportunity for teaching and discussions, and 96.9% agreed on allocating enough time for teaching and assessment during or after ward rounds daily.

**Confidentiality and Privacy**

The committee agreed on six statements relevant to patient confidentiality and privacy during the round. There was a strong (96.9%) consensus on having curtains drawn to secure patients' privacy and on limiting the number of staff inside the curtain to the minimum needed. Moreover, there was 100% agreement on specifying a dedicated private room on the wards for private conversations with patients or family members.

**Documentation**

The seventh section of the consensus focused on the importance of documentation during the morning round. There were 96.9%, 90.6%, and 100% agreements on assigning a dedicated person or two to the documentation task before the start of the round, use of a dedicated pre-printed checklist or proforma for documentation purposes, and documentation of an individual escalation plan in the notes to help with out of hours emergencies respectively.

**Post-Round Arrangements**

The eighth section of the consensus-building exercise highlighted the importance of the post-round arrangements and included nine statements. There was a 90.6% agreement on the need for a post-round team discussion to ensure all members are updated with the current management plans and jobs are assigned appropriately. Additionally, 78.1% of the voters preferred to involve a pharmacist in the post-ward round briefing (if not present during the ward round), and 93.8% emphasised the need for an afternoon virtual ward round of all available team members for reviewing patients' conditions and available results.

**Weekend Round**

Finally, the last set of statements focused on the weekend round and included four statements. There was complete consensus on the need for a clear handover and documented plan on a proforma for the weekend from the treating teams and that all emergency patients be seen by the on-call team during the weekend or bank holidays.

**Discussion:**

This first consensus-building exercise on the surgical ward round achieved agreement on 60 statements under nine different sections covering all the relevant aspects of general surgical ward care. The surgical ward round is an important part of the care provided to the patients during their hospital journey. Conducting a safe and effective ward round requires leadership, situational awareness, decision-making, communication, and teamwork. [10]

Recent studies have found that a significant proportion of surgical complications could have been diagnosed earlier or prevented through an efficient ward round.[11] It is now generally recognised that there is a need to reform the ward round, but there is a scarcity of evidence to guide the process. [4,12] Consensus statements can be useful to guide practice in areas of little robust evidence. In this consensus paper, we have attempted to develop guidance based on the broad experience of our multidisciplinary committee. There is a paucity of published literature on this topic and the authors have tried to gather a group that would be representative of all stakeholders. Given there is a lack of published data on this topic, authors do not believe there are enough experts out there for meaningful consensus-building among experts. That is why we embarked on this consensus amongst stakeholders. Our exercise should, therefore, be regarded as a consensus amongst stakeholders and not experts.

We achieved a consensus on conducting the ward round once daily in the morning, starting the round at 8:30 AM, and providing breakfast to the patients before the round. Having the round completed early in the morning would facilitate the workflow and allow for the jobs to be done in a timely fashion. [4] Additionally, providing breakfast before the round would avoid interrupting the patient's breakfast. A consensus was further achieved on having a pre-round preparation meeting between 8:00 – 8:30 AM to check results, update each other, and prepare a care plan. Pre-round meetings provide an opportunity for an interdisciplinary discussion, understanding different team members' roles, and facilitating consistent communication of information to the patient by all team members. [13]

There was a strong emphasis on the importance of the presence of the nursing staff during the ward round. At the same time, the group recognised barriers to the regular participation of the nursing staff in the ward round. These could be more than one round taking place simultaneously, a round starting early on during the nursing handover, and the workload overwhelming the capacity of the nursing team. [14]

Regarding the ward round lead, there was an agreement that the morning round has to be led by a consultant surgeon, and junior doctors should be encouraged to lead the ward round or parts of it under consultant supervision. The different guidelines have [4,15] emphasised the presence of a consultant leading the rounds as the available evidence points to an association between the consultant-led rounds and a shorter hospital stay and reduced risk of mortality. [15,16]

A recent multicentre study of surgical ward rounds [5] found that less than 50% were conducted by consultants. This might be attributed to the absence of sufficient dedicated time in the consultant job plan for ward rounds. It seems the current consultant job plan time allocations for ward rounds in most places are incompatible with sound practice and will need change at the organisational level. On many occasions, the consultants are committed to other clinical activities like morning clinics or theatre [elective or emergency] at the time of the ward round. That is why we recommend conducting the round by the same team, including one consultant during the full week, who should be free of other morning commitments, to facilitate continuity of care.

Modern medical practice implies shared responsibilities and wide participation among healthcare professionals from different disciplines. [17, 18] Undoubtedly, this care delivery model improves team collaboration and satisfaction, enhances interprofessional communication and inclusion of the patient in the decision-making process further creates teaching opportunities, and improves patient outcomes. [19-23] Additionally, there was an agreement that the ward round MDT should take place at the beginning and end of the working week to keep all of the team members updated on the patients' status and progress.

The surgical ward rounds are often swift [24] and shorter compared to other specialities ranging from less than 2.5 – 4 minutes per patient. However, the time spent on outlier wards patients is longer. [25-27] A multicentre study revealed that more than 22% of admitted surgical patients were on outlier wards.[5] In this consensus, we recommend a minimum of five minutes per patient.

With provisional diagnosis changing on the post-take ward round in up to 27% of cases [28], the ward round represents a real opportunity for junior doctors to enhance their clinical capabilities. Additionally, it provides an environment for near-peer teaching and mentorship development. [29]

Furthermore, the ward round is a platform for exchanging a huge amount of information between the patient and the treating team. Maintaining privacy and confidentiality is an established legal obligation and professional commitment. [30, 31]

The General Medical Council in the UK emphasises the importance of documentation in clinical practice, and guidance on documentation has been detailed in the Good medical practice released in 2013. [32] Proper documentation facilitates communication between the different teams, guarantees timely implementation of plans, and provides a medicolegal framework for any claim or litigation. However, accurate documentation of a considerable amount of data exchanged within a few seconds can be extremely challenging for junior doctors. We achieved a consensus on assigning a dedicated person or two to the documentation before starting the ward round and ensuring it is done promptly and as soon as possible. Moreover, 90.6% agreed on using a dedicated checklist or proforma for documentation purposes. The use of checklists or templates has been proven to improve documentation accuracy and completion. [8, 33, 34] Furthermore, there was a 100% agreement on documenting an individual escalation plan in the notes to help with out-of-hours emergencies, including the level of care.

After the ward round, there should be another stage of coordinated teamwork to implement the treatment plans and the tasks assigned. A consensus was achieved on arranging an afternoon virtual ward round to review patients' conditions and available results. The same consensus was achieved on having a consultant or speciality trainee attend the virtual afternoon ward. The committee believes these arrangements would ensure timely task completion, prompt decision-making, finalising all the tasks within working hours, avoiding out-of-hours emergencies, and reducing the workload on the on-call teams dealing with emergencies after working hours.

The care of surgical patients during the weekend represents a challenging area and a potential for adverse incidents. There is some evidence suggesting an increased risk of mortality among emergency surgical admissions during the weekend and patients who undergo elective procedures at the end of the working week [35, 36]. This is attributed to the lack of proper handover, care delivery by another team over the weekend, understaffing of the surgical team, and lack of full facilities over the weekend. There was 100% consensus on preparing a clear handover and documented plan on a proforma for the weekend from the treating teams and getting all emergency patients seen by the on-call team during the weekend and bank holidays. Additionally, 93.8% agreed on a dedicated team for reviewing all other patients (non-emergency) during the weekend and bank holidays.

**Generalisability:**

The surgical ward rounds vary hugely from one country to another and also amongst institutions within a country. We hope our work will pave for others to embark on similar projects in their areas and be ultimately followed by a global consensus. Although some of our recommendations might only be applicable within the NHS and not extrapolatable to healthcare systems outside the UK, our work could provide the necessary framework for others to embark on similar exercises in their healthcare systems. The recommendations of this consensus-building exercise need to be examined by other groups for both reproducibility and also further development.

**Dissemination:** We plan to present this work in scientific meetings and publish it in high-quality peer-reviewed scientific journals. We further hope that this will pave the way for international guidelines on this topic in the future.

**Strengths and limitations:**

To our knowledge, this is the first consensus-building exercise looking at different aspects of the general surgical ward round. The consensus team included thirty-two stakeholders with a variety of roles across various NHS hospitals, giving the consensus a holistic, multidimensional overview. This includes surgeons, doctors in training, physicians, pharmacists, dietitians, nurses, medical students, patients, physiotherapists, managers, and health care assistants. Therefore, this consensus statement can genuinely be regarded as a multidisciplinary effort.

The weaknesses of this exercise lie in the arbitrary choice of the members and the threshold of 70% for the consensus agreement. However, this threshold has been adopted in many previous Delphi consensus exercises in the surgical field. [37, 38]

The selection of participants in any consensus-building group is always arbitrary, but our group members do represent a wide variety of practising NHS professionals with varied experience and credentials, and also patient representatives. The threshold of 70% has been used in several consensus-building exercises in biomedical literature, and the authors, therefore, feel it to be an appropriate cut-off.

Finally, some of our statements are rather obvious. Authors however had to make sure they covered all aspects of surgical ward rounds. This was the only way we could include all aspects as often there can be disagreement amongst people on what is obvious and what is not.

**Conclusions:**

The consensus committee achieved agreement on several aspects concerning the surgical ward round in the UK NHS. This consensus exercise's outcome is meant to guide the surgical teams on the important aspects of ward round. Hopefully, it will pay for others to conduct similar exercises in their healthcare settings, and in due course lead to the development of robust international guidelines on this topic.

**Author Contribution:** BA and IO contributed equally to this work and shared the first authorship. BA and IO analysed the results and wrote the manuscript. KM conceived the idea, formulated the statements, moderated the consensus building, and overall supervised the whole project. All other authors helped with determining the methodology of the exercise, provided feedback at every stage, took part in the online voting, critically reviewed the draft of the manuscript, and provided robust leadership. All authors have seen the final draft and approve of it.

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