

Improving patient care over weekends by reducing on-call work load and better time management

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Abstract

The Royal College of Physicians states that "handover, particularly of temporary 'on-call' responsibility, has been identified as a point at which errors are likely to occur."^[1] Working a weekend on-call covering medical wards is often busy and stressful for all junior doctors. The

high volume of routine and unplanned tasks make the situation even worse. In Nevill Hall hospital Abergavenny, we measured the workload on a junior doctor for medical ward cover on weekends by counting the number of times he/she was bleeped for routine tasks. Initial study demonstrated that on average 30-40% of time on a long day shift was spent on jobs which could have been done on the preceding Friday. The "FRIDAYS" checklist was introduced for clinical staff (particularly junior doctors) to identify these jobs.

According to this model, all the junior doctors were encouraged to review:

F: Phlebotomy

R: Rewriting drug charts

I: IV fluids

D: discharge summaries

A: Antibiotic review

Y: Yellow book/Warfarin dose

S: Status of resuscitation and escalation plans before leaving the wards on Friday afternoon.

This implementation successfully showed reduction in weekend workload, allowing the ward cover to be focused on care and safety of comparatively sick patients while at the same time reducing the stress for the on-call team.

Problem

The on-call team is primarily in place to tackle emergencies. However, a great deal of their time is spent performing routine and potentially avoidable jobs that have not been handed over. These tasks, such as rewriting drug charts, completing discharge summaries, and dosing warfarin can be easily predicted and they should be performed by the usual medical team before the on-call service takes over.^[2] Another significant aspect of handover is the documentation of escalation plans in case of deterioration over the weekend, which is best planned and discussed with families if possible by the respective team. These tasks add to the workload and stress on doctors covering the wards, which not only indirectly increases the burden on those doctors who are admitting new patients, but also includes the medical registrar, leading to higher stress levels among the whole on-call team. Not only did this work reduce our time available for direct patient care but it also meant that nursing staff were spending time bleeping us or waiting for a

response to bleeps. This is identified as an important risk factor compromising quality of patient care over weekends.

Background

Poor weekend handover has been implicated as one of the causes of observed higher mortality rates at weekends in UK hospitals. A study recently published in the Journal of the Royal Society of Medicine demonstrated that admission to hospital on a weekend is associated with an increased 30 day mortality in all cases compared to weekday admissions.^[3] The study attributes multiple factors to be responsible, including reduced or altered staffing, the impact of the shift system, reduced availability of diagnostics, less availability of senior staff, and less awareness of department policies. Although it is widely acknowledged that the problem exists in many hospitals, little published research on solutions exists.

One of the reasons for the increased mortality over weekends is

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suggested by Helen Macdonald in her BMJ blog post "juniors can cover many wards of unfamiliar patients, sometimes from specialties they have never experienced." [4] Poor handover is a major preventable cause of patient harm and is due to poor communication and systemic error. The GMC and the Foundation Programme consider handover so important that it has included it as a compulsory part of the curriculum. This has been expanded in the GMC's 2013 Good Medical Practice [5], and incorporated into the Foundation Program competencies as well. [6]

Data from Dr Foster recently demonstrated a 10% spike in weekend deaths in UK hospitals. [7] It was also recognized that quite often an on-call doctor who is unfamiliar with the patient is asked to do jobs like prescribing antibiotics, dosing warfarin, completing discharge summaries, deciding which blood tests to request, or implementing an unclear management and escalation plan. This further stretches the on-call service and distracts the doctors from more urgent emergency duties and increases the likelihood of error.

It is also well recognized that an on-call doctor has to interrupt patient care in order to answer a bleep. An American study documented that approximately 50% of bleeps interrupt doctors' patient care time. [8] In many cases these bleeps are for minor issues that ideally shouldn't be left for the on-call team. There have been many studies on improving the quality of weekend handover, but only a few of these actually target the need and strategies for reducing these handed over jobs.

Baseline measurement

We performed a prospective analysis of these potentially avoidable tasks by keeping a record of the bleeps an on call doctor (foundation/core trainee for ward cover) received over a weekend (Saturday and Sunday). This process was repeated for three consecutive weekends (six days) with three different teams of on-call doctors to reduce the chances of error. It was identified that on-call doctors were often asked to sort out simple jobs [Figure 1] which could have been done by the respective team on Friday rather than dealing with actual emergencies. Initial results of the study were as follows:

Taking bloods: 7

Rewriting drug charts: 9

Reviewing or writing IV fluids: 20

Writing discharge summaries: 4

reviewing medications: 10

Prescribing warfarin: 29

Reviewing resuscitation decisions/discussion with families: 4

These results represent the total number of bleeps recorded over three weekends for each different task. On average an on call doctor was estimated to spend 3 to 4 hours (30% of 12 hour shift)

each day performing these tasks in addition to handed over patients or tackling emergency situations. Below is a summary of average number of bleeps an on call junior doctor for ward cover received for fore mentioned avoidable tasks [Figure 2].*

* Note: emergency and pre-planned tasks related to above categories were not included.

See supplementary file: ds3479.docx - "Baseline measurements"

Design

A check list with the acronym FRIDAYS [2] was used to easily identify these routine jobs and encourage junior doctors of respective teams to review this before leaving on Friday afternoon:

F: Phlebotomy (bloods to be reviewed over weekend, requesting those in advance)

R: Rewrite drug charts which are nearly finished

I: Intravenous fluids prescription for weekend identifying patients with risks for fluid status assessment in hand over

D: Discharge summaries (completing discharge letters for potential weekend discharges)

A: Antibiotic/medications to be reviewed over weekend

Y: Yellow book (warfarin dosing and INR checks). Our trust has a specific warfarin prescription proforma with full guidance for individual circumstances making it much easier

S: Status of Resuscitation and escalation plans for critical patients and communication with families in advance.

Strategy

PDSA cycle 1:

This programme was mostly lead by junior doctors (foundation trainees/core trainees). In the initial phase, posters were made to raise awareness and specifically ask for junior doctor's attention. These were pasted on all medical wards including doctor rooms and nursing stations. The same study was repeated and the impact was noted. Though there was some improvement, it was identified that not all doctors noticed the posters for various reasons (size limitations, presence of lots of other posters, and busy ward work).

PDSA cycle 2:

In phase 2 all junior doctors were made aware of the above checklist face to face, with this phase also involving the nursing staff. The FRIDAYS model was verbally explained to everyone along with the intended benefits and goals.

PDSA cycle 3:

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In phase 3, the education centre assisted in circulating a flyer among the entire medical staff, including clinical nurse practitioners, registrars, and consultants via email, with the aim of introducing the project and emphasizing on its importance.

Results

After the implementation of PDSA cycles, the same study was repeated over three consecutive weekends (six days). The number of bleeps received by junior doctors covering the wards were counted and stratified for each task. Approximate results of the re-audit were as follows [figure 3 to 6]:

F: Phlebotomy: over a period of six days junior doctors received only bleep to take bloods

R: On-call doctors were asked to rewrite drug charts six times

I: For IV fluids prescription there were six bleeps in total. This doesn't include patients who needed a review of their fluid status

D: For discharge summaries the on-call team was contacted only once

A: There were no bleeps for review of antibiotics

Y: Warfarin dosage was still a major issue though slightly better than the baseline measurements, with almost 17 bleeps received specifically for this (even though there are specific warfarin prescription charts with full guidance on dosage)

S: On-call team had to be involved in family discussion and review resuscitation decision/escalation plans for one patient (this doesn't include sudden /unexpected deterioration).*

*Note: emergency and pre-planned tasks related to above categories were not included

See supplementary file: ds3478.docx - "Results of intervention & comparison"

Lessons and limitations

Improving weekend handover is a complex endeavor. The project highlighted the importance of utilizing a structured approach when attempting to launch a new initiative. Initially it was not as effective, but improved after involvement for nursing staff and more senior clinical staff (consultants and registrars). In our trust, the weekend ward cover was mostly the responsibility of core trainees rather than foundation doctors, so increased effort was required to make them realize the needs of these amendments. For this reason face to face awareness program was quite useful.

Reducing the workload and stress level is predicted to have a significant impact on the quality of care given by the on-call team. If a job was handed over to the on-call team formally with a plan, then the on-call doctors felt more confident in dealing with the task rather

than being asked to do so without any prior plan. Though the project was quite useful, the workload on junior doctors in wards on Fridays significantly increased when one of their colleagues was off the ward. No separate proforma was included in the project at this moment, and the checklist was pasted on most visible places in wards and doctor rooms. However, a recommendation was made to include the checklist box in clerking proforma pending approval.

Conclusion

The aim of this project was to improve the quality of care given to patient on weekends while at the same time reducing the workload and stress for on-call team. The FRIDAYS checklist was successfully implemented and showed encouraging results. This project is very simple and doesn't need any special resources or expertise. It can easily be implemented by junior doctors (foundation trainees and core trainees) and can make a significant impact on patient care and time management.

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Declaration of interests

No competing interests.

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