QUALITY IMPROVEMENT

Omitting repetitive clerking does not disadvantage cardiology patients and reduces duplication

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ABSTRACT

Nottingham University Hospital's cardiology department receives an average of 320 admissions via the emergency department (ED) monthly. The majority are out-of-hours. In ED, admissions are clerked by ED doctors as well as the specialist cardiology advanced nursing team (CATS). Upon transfer to cardiology, they are then re-clerked by an on-call junior doctor (JD). Our aim in this quality improvement project was to investigate the benefit of re-clerking cardiology patients by the JD. The CATS team clerking and plan were directly compared to the JD's plan across 100 patients by two reviewers. Data were also collected on the time spent performing a clerking by nine JDs. An alternative form of reviewing patients, which involved the JD reviewing the CATS clerking, bloods, observations and discussing with nursing staff, was performed in 29 cases. In 5% of cases a JD changed the management plan. Three cases were flagged to doctors by nursing staff, and two cases involved starting oral antibiotics. The average time spent clerking patients previously was 49.5 +/−12 minutes (mean+/−SD). In the new method, this was 12.5 +/−3 minutes. We conclude that 0mitting repetitive clerking does not disadvantage patients, while saving time for on-call JDs. Patients are also not woken up unnecessarily overnight, which may reduce the risk of delirium. We plan to rationalise our admission system.

KEYWORDS: clerkings, admissions, quality improvement, junior doctors

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Introduction

Cardiology at Nottingham University Hospitals (NUH) City Campus receives an average of 320 admissions monthly via the emergency department (ED) at Queens Medical Centre. Patients are clerked by ED doctors and reviewed by the specialist cardiology advanced nursing team (CATS). Upon transfer to cardiology, they are then re-clerked by a junior doctor (JD) before on-call consultant review. Due to the timing of transfer, the majority of these clerkings are left to a JD overnight, which is common across many specialties.[1]

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Overnight, the JD has a range of other important demands, including unwell patients, to manage.[2,3]

The medical team felt this practice added little to the management plan. A previously published QI project showed that a combined clerking from ED and specialty teams reduced overall clerking time and led to more rapid review by senior medical staff.[4]

Moreover, we felt re-clerking patients overnight was potentially harmful. Previous studies have identified the association between poor sleep in hospital and many adverse features, including risk of delirium and metabolic disturbances.[5,6] This quality improvement project, conducted by this team of JDs and a supervising consultant cardiologist, aimed to identify the impact of omitting repetitive clerking of cardiology patients.

Methods

The medical records of all cardiology admissions were retrospectively accessed over a 3-month period from 18 November 2021 to 18 February 2022. This timeline spanned two cohorts of rotating juniors, improving the generalisability of the results. The timing of patient admission and general demographics were recorded. From these patients a random number generator was used to create a list of 100 admissions. The CATS team clerking and management plan were directly compared to the JD's management plan across these 100 patients by two separate reviewers. A subsection of each reviewer's data was cross checked by the other reviewer.

Nine JDs were also asked to measure the time they spent performing a clerking. They were also interviewed in focus group discussions about whether they felt repetitive clerking was useful to the patient, and asked whether the amount of work on call was manageable. Qualitative data were also taken from patients involved in repetitive clerking via in-depth interviews.

An alternative form of reviewing patients, which involved the JD reviewing the CATS clerking, bloods, observations and discussing with nursing staff if they had any concerns, was performed in 29 cases. The time spent on this alternative form of clerking was measured and compared to the original method. An independent t-test was used to compare the means of the two forms of clerking. This was used to calculate an estimated number of hours that could potentially be saved.

Results

There were a total of 624 medical admissions to cardiology via the ED in the 3-month period. The mean age of the cohort was

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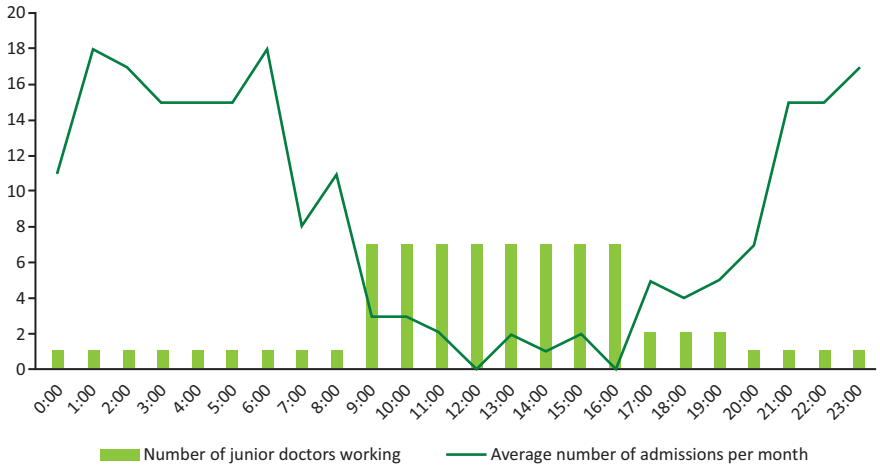

Fig1. Number of admissions received on average per month against the number of junior doctors working within cardiology across 24 hours.

65.4 years, with 58% being male. Only 21% of these patients had been seen by the day team, with 28% being seen by the evening on-call doctor and 51% being seen by the night on call doctor, which consisted of an average of 3.3 clerkings per night shift. The graph in Fig 1 highlights how the number of admissions across the day correlate with the number of JDs working at the time.

Out of the nine JDs interviewed, only one of the nine felt repetitive clerking changed patient management at all. Only two of the nine felt they were able to cope adequately with the quantity of work they faced on call.

Out of 100 cases reviewed by two separate reviewers, there were five cases where the JD had changed the management plan. Reviewing these cases, three were flagged to the doctor by concerned nursing staff, which means a new method avoiding re-clerking patients would have still picked these patients up. The remaining two cases involved starting oral antibiotics. The average time spent clerking patients previously was 49.5 +/− 12 minutes SD. In the new method, this was 12.5 +/− 3 minutes SD ($p<0.05$), giving a time saving of 37 minutes on average per patient.

Patients often found repetitive clerking unnecessary and disruptive. Patient comments included:

I didn't understand the point of it- the doctors were simply repeating questions I had already previously been asked.

After the day I had being so unwell, it was frustrating being woken up at 3am in the morning. This is especially because immediately after being woken up I couldn't give a proper recollection of my history anyway.

Discussion

Our intervention showed that omitting repetitive clerking in cardiology patients transferred from ED did not disadvantage patients. It saved approximately 122 minutes per night shift for JDs on call, allowing more time to manage unwell patients. There remain plenty of clerking opportunities for JDs in cardiology, including those patients admitted directly to cardiology and those not seen by the CATS team.

Our intervention could potentially be adopted by other departments, as many work using department-specific and duplicated clerking systems, provided initial specialist assessment takes place in ED. We acknowledge that further assessment of this intervention is required to ensure frail multiply comorbid patients, for example, are not disadvantaged.

Retrospective data collection in assessing the potential impact of changes was a limitation of this project. We now plan to modify our clerking system and assess the outcomes prospectively in a real-world setting, possibly in a randomised fashion.

Conclusion

On-calls for junior doctors in cardiology were found to be onerous, with only two out of nine JDs finding them manageable. One potential method of improving this was omitting duplicated clerking. Our study demonstrated that omitting duplicated clerking does not disadvantage cardiology patients and would save time for JDs on-call. ■

References

1 Sabin J, Khan W, Subbe CP *et al.* 'The time it takes…' How doctors spend their time admitting a patient during the acute medical take. *Clin Med* 2016;16:320–4.
2 Brown M, Tucker P, Rapport F *et al.* The impact of shift patterns on junior doctors' perceptions of fatigue, training, work/life balance and the role of social support. *Qual Saf Health Care* 2010;19:e36.
3 Tireli D, Jensen MB. Reducing potentially avoidable tasks in a hyperacute stroke unit. *BMJ Open Qual* 2021;10:e001482.
4 Gilbert H, Reynish D, Richter D *et al.* Combined clerking - streamlining emergency admissions. *Future Healthc J* 2019;6:58.
5 Delaney LJ, Currie MJ, Huang HC *et al.* "They can rest at home": an observational study of patients' quality of sleep in an Australian hospital. *BMC Health Serv Res* 2018;18:524.
6 Young JS, Bourgeois JA, Hilty DM *et al.* Sleep in hospitalized medical patients, Part 1: Factors affecting sleep. *J Hosp Med* 2008;3:473–82.

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