

No substitute for experience: do consultants that have been practising for longer lead faster post-take medical ward rounds?

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Abstract

Aim: To ascertain whether consultants that have been practising for longer lead faster post-take medical ward rounds.

Method: Single-centre observational study of nine consultant physicians at morning post-take medical ward rounds at a district general hospital in the North West of London.

Results: Data were gathered from 25 post-take medical ward rounds. Multivariate regression analysis revealed that less time is spent per patient when consultants have been practising for longer ($p < 0.01$), or have spent more time on the specialist register ($p < 0.01$), with no discernible relation to the outcomes for the patients seen. This time is further reduced when a greater number of patients are seen on the ward round.

Conclusion: More experienced consultant physicians conduct faster post-take medical ward rounds.

Keywords

Ward round, Post-take, Experience, Consultant.

Key Points

- Previous studies have shown that physicians who have been practising for longer may be at risk of providing lower-quality care.
- Greater clinical experience may also result in superior diagnostic skills, which may translate to faster clinical decision-making.
- Our study suggests that more experienced consultant physicians conduct faster post-take medical ward rounds than their junior counterparts, without adverse impact on 48 hour mortality, 48 hour discharge rate or readmission.
- This work is relevant to patient care, as faster post-take ward rounds allow patients to be seen sooner, and also permit consultant decisions to be executed more quickly.

Introduction

There is an extensive body of literature describing the relationship between clinical experience and the quality of care offered.¹ In general, it has been shown that as doctors progress in their careers, there is increased risk of deterioration in outcomes for their patients.¹ This has previously been attributed to a failure of consultants to keep up to date with the latest research and guidance.² However, it is also important to appreciate that greater clinical experience may result in superior diagnostic skills, perhaps through a process of experience-based pattern recognition,^{2,3} which may translate to faster clinical decision-making.²

Patients admitted to the Acute Medical Unit (AMU) are typically reviewed by a consultant physician on the 'post-take' ward round. While efforts have been made to standardise this process to ensure that all important aspects of care are addressed, there is still variation between ward rounds, particularly in relation to their duration.⁴

Aims

We sought to investigate whether any variability in the experience of the consultant physician leading the post-take medical ward round translated to differences in its speed, and also outcomes for the patients reviewed.

Method

Design and setting

We performed a single-centre observational study of 25 post-take medical wards across nine different consultants in January and February of 2012, at a district general hospital in North West London. Only morning ward rounds occurring on weekdays were considered. All ward rounds consisted of a consultant physician, a specialist registrar equivalent, a senior house officer equivalent, and a foundation year 1 doctor. Though no single nurse accompanied the whole ward round, the nursing staff would often join the ward round while any of the patients under

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their care were being seen. No medical students were present on any of the ward rounds. All ward rounds operated in generally the same manner, with the consultant leading and reviewing the newly admitted patients, assisted by the other team members who would contribute by offering information, writing in the notes, and obtaining imaging and blood results. No formal meeting was held prior to the ward round by any of the consultants, and teaching was offered on a sporadic basis.

Data collection

The duration of, and number of patients seen on each ward round was recorded in real-time by the foundation year 1 doctor allocated to cover post-take medical patients; the same doctor recorded results for all ward rounds considered. At the time of data collection, this individual was not aware of the dates that the consultant leading the ward round graduated or joined the specialist register, and the consultants were unaware that the duration of the ward round was being recorded.

Details of the consultant physicians' year of graduation and completion of specialist training were subsequently obtained from the General Medical Council's online records.⁵

The following outcomes were reviewed for the patients seen on the post-take ward rounds: 48 hour mortality rate, 48 hour discharge rate, and the proportion of these discharges readmitted in seven and 30 days. These data were obtained by an electronic search through discharge summaries and mortality records.

Analysis

The data were first entered into Microsoft Excel 2007 for tabulation, graphical representation and review. Statistical analysis was performed using the software package 'R'.

Results

Data were gathered for nine consultants across 25 morning post-take medical ward rounds (Table 1). For the pooled data, the mean number of patients seen per ward round was 17, with the median number 16. The mean duration of a post-take medical ward round was 200 minutes, and the mean time spent per patient was 12 minutes. There was considerable variation between consultants, with the range from 8 to 18 minutes per patient.

A scatter plot is used to demonstrate the linear relationship between the year of graduation and the mean time spent per patient (Figure 1). A similar relationship is observed between the year of joining the specialist register and the mean time spent per patient (Figure 2). Pearson R^2 correlation coefficients are 0.63 and 0.66, respectively.

The number of patients seen on the ward round also shows a negative linear relationship with the average time spent per patient (Figure 3); Pearson R^2 correlation coefficient 0.26. Multivariate linear regression was therefore used to independently analyse the relationship between both the experience of the consultant and the mean number of patients they saw on their ward rounds with the mean time spent per patient. This revealed that less time is spent per patient when consultants have been practising for longer (coefficient estimate 0.32, standard error 0.10, t value 3.4, $p < 0.01$) or have spent more time on the specialist register (coefficient estimate 0.36, standard error 0.08, t value 4.4, $p < 0.01$). The mean time spent per patient on the ward round is further reduced when a greater number of patients is seen (coefficient estimate -0.68, standard error 0.27, t value -2.5, $p < 0.05$ for analysis considering year of graduation; coefficient estimate -0.71, standard error 0.22, t value -3.3, $p < 0.01$ for analysis considering year of joining the specialist register).

Table 1. Aggregated data for the nine consultants.

Year of graduation	Year of joining specialist register	Number of ward rounds	Total number of patients reviewed	Mean number of patients seen on ward round	Total time (minutes)	Mean time per patient (minutes)	Number (%) of patients discharged within 48 hours	Number of these discharges readmitted within 7 days	Number of these discharges readmitted within 30 days	Number of mortalities within 48 hours of consultant review
1981	1996	2	37	19	299	8	10 (27)	0	1	0
1987	1996	2	33	17	305	9	10 (30)	1	2	0
1989	2005	5	83	17	892	11	33 (40)	2	4	0
1992	2005	1	14	14	199	14	5 (36)	0	0	0
1995	2009	2	40	20	478	12	19 (48)	1	2	0
1996	2007	5	89	18	993	11	45 (51)	0	7	0
1997	2007	3	50	17	653	13	23 (46)	2	4	0
1998	2011	3	42	14	764	18	13 (31)	0	1	2
1999	2011	2	28	14	418	15	10 (36)	0	1	0

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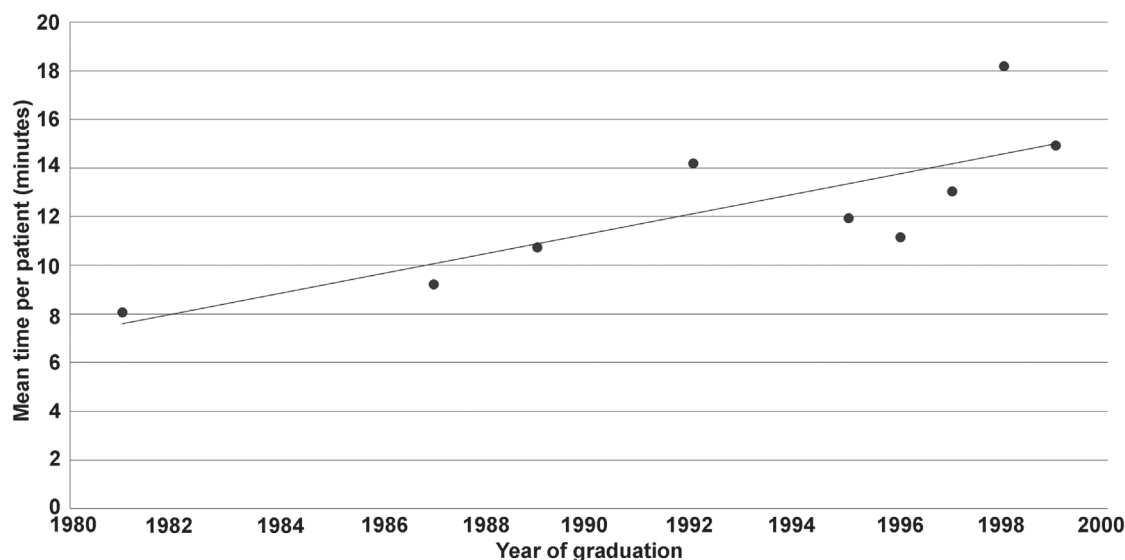


Figure 1. Scatter plot demonstrating a linear relationship between the year of graduation for the consultant and the average time spent per patient; Pearson R^2 correlation coefficient 0.63.

We were unable to observe any relationship between the year of graduation, the year of joining the specialist register or the mean time spent per patient, with outcomes for the patients reviewed on the ward round, in terms of patient mortality within 48 hours of review, patient discharge within 48 hours of review, or readmission of these discharges within seven or 30 days (Table 1).

Discussion

Principal findings and implications

The results show a statistically significant, negative relationship between the time that the consultant physician has both graduated and been on the

specialist register, and the mean time spent per patient on the morning post-take medical ward round. Furthermore, this relationship was independent of the number of patients seen on the ward round, though when this was greater, the mean time spent on each patient decreased, irrespective of the experience of the consultant physician leading the ward round. This work is relevant to patient care, as faster post-take ward rounds allow patients to be seen sooner, and also permit consultant decisions to be executed more quickly. These results may have implications for organising and co-ordinating acute medical admissions services in light of recent guidance proposed by the Royal College of Physicians.⁶

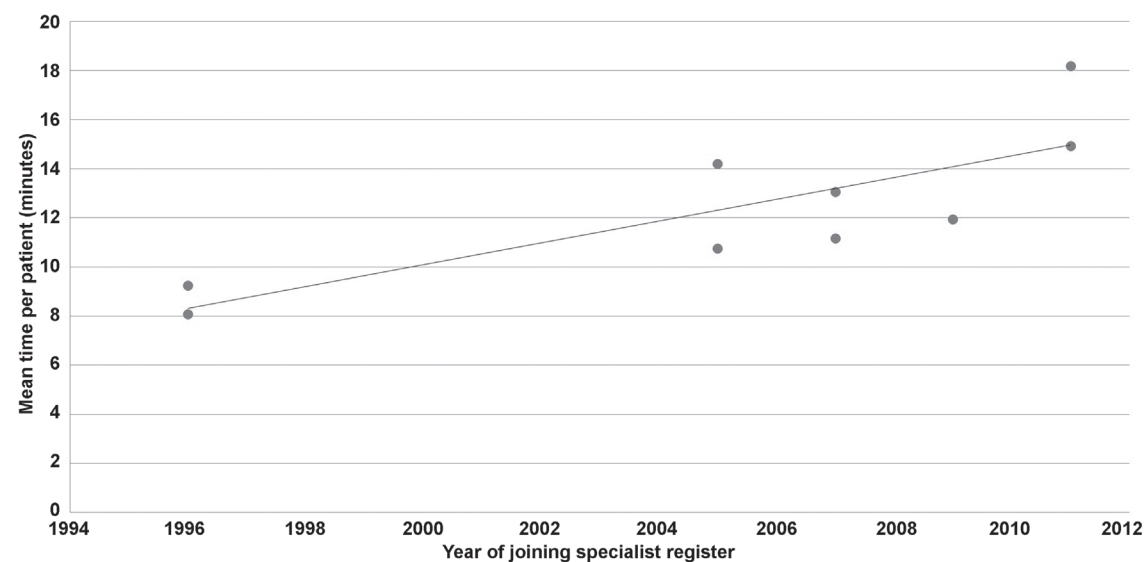


Figure 2. Scatter plots demonstrating a linear relationship between the year of joining the specialist register for the consultant and the mean time spent per patient; Pearson R^2 correlation coefficient 0.66.

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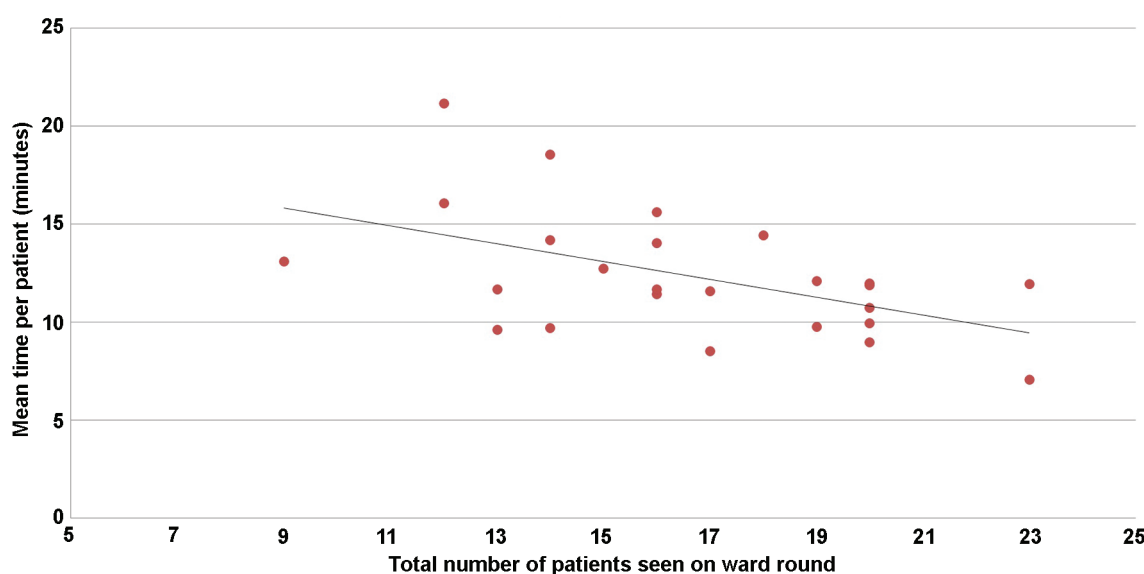


Figure 3. Scatter plot demonstrating a negative linear relationship between the total number of patients to be seen on the ward round and the average time spent per patient; Pearson R^2 correlation coefficient 0.26.

Relation to other studies

Previous work using a 'considerative checklist' has found that post-take medical ward rounds performed to a high standard spend an average of 14 minutes on each patient.⁴ This is similar to values obtained in the current study. We have shown that variations in this time relate to the experience of the consultant leading the ward round, and the total number of patients to be reviewed. The role of experience may be explained through previous exposure to a wider variety of clinical scenarios, which allows clinicians a greater memory bank of encountered cases to draw parallels from.^{2,7,8} For ward rounds where a greater number of patients are to be seen, it is likely that this will be known in advance. As a result, the ward round is likely to be accelerated, where possible, to allow completion within the designated time.

Other contributing factors

All of the consultants considered in this study were affiliated to a general medical specialty; there were no consultants that worked solely in acute medicine. However, the frequency that they were required to be 'on-call' for acute medical admissions did still vary, as is reflected in the differences between the numbers of ward rounds conducted by each consultant during the study period. While it is conceivable that any resultant differences in the consultants' levels of familiarity with the post-take ward round process might affect its outcomes, unfortunately the limited sample size obtained here prevents statistical verification of this. Similarly, one may hypothesise that the greater average time spent per patient for the two newly appointed consultants (CCT 2011, study

performed January-February 2012) may be partly explained by the fact that these consultants are still settling in to the new work environment.

Along with the experience of the consultant and the total number of patients to be seen, there are likely to be numerous other independent factors that also influence the duration of a ward round. Of particular note are access to various resources, such as patients' notes and observation charts, computers (for reviewing imaging or blood test results), and equipment (for example, a tendon hammer to test the patient's reflexes). Indeed, the familiarity of other team members may also have an impact in this regard; more experienced team staff may be able to better catalyse the consultant's acquisition of the relevant information and equipment.

Limitations and further work

The main limitations of this work relate to the sample size and single-centre nature of the study. Although shorter ward rounds did not appear to lead to adverse patient outcomes, it should be noted that the study was not sufficiently powered to investigate this relationship. A much larger study, conducted over a more prolonged period would be necessary to establish this. Other outcomes such as escalation to critical care, patient satisfaction and understanding and documentation are also key to assessment of ward round quality. One method by which the quality of ward rounds may be standardised is through the use of an accompanying checklist, which has been shown to encourage and enable documented evidence of high quality and safe medical care.⁴ This would ensure that the quality of a ward round is maintained, along with its speed.

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While it is important for any negative impact on patient outcomes be more thoroughly excluded, these data appear to contradict previous work suggesting that quality of care deteriorates with age.¹ The finding that more experienced consultant physicians conduct quicker post-take medical ward rounds supports the

need to harness and maintain the expertise of more senior consultants within the acute medical take.⁶

Conflict of Interest

All authors have no conflict of interest to declare. No extraneous funding was obtained.

References

1. Choudhry NK, Fletcher RH, Soumerai SB. Systematic review: the relationship between clinical experience and quality of health care. *Ann Intern Med* 2005; **142**(4): 260–73.
2. Norman GR, Eva KW. Does clinical experience make up for failure to keep up to date? *Evid Based Med* 2005; **10**: 66–8.
3. Eva KW. The aging physician: changes in cognitive processing and their impact on medical practice. *Acad Med* 2002; **77**(10) suppl: S1–S6.
4. Herring R, Desai T, Caldwell G. Quality and safety at the point of care: how long should a ward round take? *Clinical Medicine* 2011; **11**(1): 20–2.
5. General Medical Council. List of Registered Medical Practitioners. <http://www.gmc-uk.org/doctors/register/LRMP.asp> (accessed 16 July 2012).
6. Lambourne A, Percival F, Ward D, et al. *An Evaluation of Consultant Input into Acute Medical Admissions Management in England*. Royal College of Physicians. 2012.
7. Allen SW, Norman GR, Brooks LR. Experimental studies of learning dermatological diagnosis: the impact of examples. *Teach Learn Med* 1991; **4**: 35–44.
8. Hatala R, Norman GR, Brooks LR. Influence of a single example upon subsequent electrocardiogram interpretation. *Teach Learn Med* 1999; **11**: 110–7.