

Improving the quality of documentation of paediatric post-take ward rounds: the impact of an acrostic

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ABSTRACT

Background Review of patients' notes while investigating clinical incidents showed a recurring problem of poor documentation of important aspects of the paediatric post-take ward round.

Purpose of the study To evaluate the impact of an acrostic (type of mnemonic), created to reflect the aspects of care that should be documented after every ward round, on the completeness of note keeping.

Study design The acrostic, 'Please Verify Information For Doctors, Please Note Every Plan', was developed in 2010 to make it easy to remember the important aspects of post-take ward round, which are: Problem; Vital signs; Investigations; Fluids; Drugs; Patient/Parental concerns; Nursing concerns; Examination; Plan. The acrostic was introduced to doctors at a teaching session and included in the mandatory induction programme for all new doctors. Impact of use of the acrostic was evaluated in 2011 by audit of case notes before and after its introduction, with re-audit 2 years later. A survey of junior doctors on their attitude to its use was carried out in 2014.

Results Introduction of the acrostic led to significant improvement in the documentation of problem (84% vs 94%), investigations (26% vs 72%), fluids (16% vs 74%), drugs (26% vs 76%), patient/parental concerns (16% vs 72%) and nursing concerns (4% vs 48%). Most (95% (19/20)) of the junior doctors agreed that the acrostic provided them with an easy format to document important aspects of post-take ward rounds.

Conclusions Our patient notes now reflect much more clearly the input of patients and their parents/carers and the involvement of the multiprofessional team.

INTRODUCTION

Most children admitted as emergencies are seen, diagnosed and managed by supervised junior doctors. Care is evaluated, and coordinated care plans are formulated on post-take rounds, led by the supervising consultant paediatrician. These rounds are multidisciplinary and, where possible, parents and carers participate. Much information is shared during these rounds, and decisions are made. These rounds are central to providing effective care and are an important reference point for staff, children and parents. Accurate and complete documentation is clearly important. But this is a task often left to the most junior doctor. Previous studies have shown failure to document key elements of ward rounds in such situations.¹ Documenting all that happens on the paediatric post-take round can be challenging, as so much may be going on during the round that it may

appear disorganised. For example, the approach to children has to be adapted to their developmental age; information may become available during the round and paediatricians may have to be opportunistic in choosing when to examine a child. Making sure that decisions and all supporting information are accurately documented is important for several reasons. Children, even those whose stay in hospital is short, may be cared for by several teams of doctors and nurses working shift patterns, and so good documentation of clinical findings, care plans and the views of patients, carers and the multidisciplinary team is necessary for effective continuity of care between teams. In the few cases where care becomes the focus of legal discussion, patient's notes are a source of evidence. Notes should be clear, complete and recorded contemporaneously.^{2,3} If not, care may be compromised. In view of the problems with inadequate documentation, we carried out a study to evaluate whether the introduction of an acrostic (a mnemonic device) improved the completeness of documentation of the paediatric post-take ward round (see [box 1](#) for definition of mnemonic devices). We carried out case note audit before and after implementation and evaluated if the change was sustainable.

DESCRIPTION OF CONTEXT

The study was conducted at Sandwell & West Birmingham NHS Trust which is a large teaching Trust (consisting of City and Sandwell Hospitals) in the West Midlands, UK, serving a total population of over 500 000. The paediatric department admits over 7000 children a year and has 53 inpatient beds at Sandwell Hospital and 12 beds in the paediatric assessment/short stay ward at City Hospital. The department has 12 paediatric consultants and 32 junior doctors including foundation year 1–2 doctors, general practice vocational specialist trainees and paediatric specialist trainees. The junior doctors are on rotational placements lasting between 4 and 12 months. This means that there is a change in a proportion of this cohort approximately every 2 months. In addition, for many junior doctors, this is their first exposure to the practice of paediatric medicine. Every morning, 7 days a week, a post-take ward round is undertaken by the consultant of the week; a junior doctor documents this in the case notes.

THE PROBLEM

The clinical director of the department (JCA) noted a recurring problem of poor documentation of important aspects of the post-take ward round,



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Box 1 Definition of mnemonic devises

- ▶ Mnemonic devices such as acronyms and acrostics are systematic procedures for enhancing memory by presenting the information in a way that is easy to remember.^{4–6}
- ▶ Acrostic: The use of a 'catchy' and memorable sentence to help an individual retrieve letters, where the letters represent something an individual needs to remember—for example, as used in this study: 'Please Verify Information For Doctors, Please Note Every Plan' to represent Problem; Vital signs; Investigations; Fluids; Drugs; Patient/parental concerns; Nursing concerns; Examination; Plan.
- ▶ Acronym: a word formed from the initial letters or groups of letters of words in a set phrase or series of words and pronounced as a separate word—for example, SBAR (Situation, Background, Assessment, Recommendation).⁷

when investigating complaints and clinical incidents. The lack of complete documentation meant that there was no evidence that various aspects of care had been reviewed on the ward round. Concerns about the incompleteness of notes was a topic for discussion at the weekly departmental 'grand round' (October 2010), an event attended by all available consultants, junior doctors and a nurse from each of the wards. Junior doctors at the meeting commented on the difficulty of capturing all the important elements of the post-take ward round as it was different from adult medical ward rounds.

STRATEGY FOR CHANGE**Development of the acrostic**

From discussion about the quality of our note keeping, an understanding of what is important to record both clinically and legally, and the guidance on documentation of care provided by the Royal College of Physicians,³ we agreed that there are nine elements of care that should be recorded in the notes: problem (includes presenting complaint and background complaint); vital signs; investigations; fluids; drugs; patient/parental concerns; nursing concerns; examination; plan. To help everyone remember these, the clinical director developed the mnemonic devise (acrostic) 'Please Verify Information For Doctors, Please Note Every Plan' (table 1).

Introducing the acrostic

The acrostic was formally presented to all the consultants in the department (November 2010; by the clinical director), who agreed to support its use as a strategy to improve the completion

Table 1 Post-take ward round acrostic (Please Verify Information For Doctors, Please Note Every Plan)

Acrostic	Variable
Please	Problem
Verify	Vital signs
Information	Investigations
For	Fluids
Doctors	Drugs
Please	Parental/patient concerns
Note	Nursing concerns
Every	Examination
Plan	Plan

of documentation. The acrostic was then introduced at a teaching session for junior doctors. In addition, a laminated copy was attached to all ward round trolleys, with copies placed on the doctors' office notice board also. The acrostic was also incorporated into the mandatory induction training programme for all new doctors to the department. A key element in the success of the introduction of the acrostic was gaining the support of all consultant paediatricians very early in the process. This ensured the junior doctors received a consistent message from all the consultants.

Evaluation of impact of introduction of the acrostic

The evaluation was conducted in three phases. The timeline is shown in box 2. In the first phase of the study, 100 case notes of all children admitted with acute medical problems to the paediatric ward during the study period were audited; 50 before the introduction of the acrostic (June–September 2010) and 50 after (June–September 2011). The notes were selected consecutively from a list, generated by the coding department, of all patients admitted under the single consultant (JCA) in the selected time frame. These notes were selected under the same consultant to try to remove practitioner variability in ward round conduct. Case notes were excluded if the patient had been an elective admission for a day case procedure. The notes were reviewed by two paediatric specialist trainees (ALN and CH) against a data-collection pro forma for adequacy of completion (see online supplementary appendix 1 for post-take

Box 2 Timeline*Pre-evaluation phase*

October 2010: development of acrostic to improve documentation of post-take ward round

↓
1 month

Introduction of acrostic to consultants at meeting and later to junior doctors at a teaching session with laminated copies on ward round trolley

↓
4 months

Inclusion of acrostic in mandatory induction for junior doctors

Evaluation phase

Phase 1: October 2011: data collection

Retrospective data collection (June–September 2011) 50 consecutive notes under single consultant against pro forma
Retrospective data collection (June–September 2010) 50 consecutive notes under single consultant against pro forma

↓
4 months

February 2012: presentation of results of phase 1 to the department at Clinical Effectiveness afternoon.

↓
Phase 2: June–September 2013: re-audit of 100 consecutive notes to see if improvements sustained.

↓
Phase 3: April 2014: feedback from users (junior doctors) on ease of use of acrostic tool.

Table 2 Comparison between the completion of documentation of the post-take ward round before and after introduction of the acrostic

	Pre-acrostic, 2010 N=50	pA	Post-acrostic, 2011 N=50	pB	Post-acrostic, 2013 N=100	pC
Problem	42/8 (84%)	0.014	49/1 (98%)	0.333*	100/0 (100%)	<0.001
Vital signs	41/9 (82%)	0.137	46/4 (92%)	0.004	100/0 (100%)	<0.001
Investigations performed	10/28 (26%)	<0.001	23/9 (72%)	0.078	73/12 (85%)	<0.001
Fluids	16/34 (32%)	<0.001	37/13 (74%)	0.01	90/10 (90%)	<0.001
Drugs	13/37 (26%)	<0.001	38/12 (76%)	0.127	86/14 (86%)	<0.005
Patient/parent concerns	8/42 (16%)	<0.001	34/16 (72%)	0.009	86/14 (86%)	<0.001
Nursing concerns	2/48 (4%)	<0.001	24/26 (48%)	0.102	62/38 (62%)	<0.001
Examination	48/2 (96%)	0.464	47/3 (94%)	0.013	100/0 (100%)	0.109*
Plan	48/2 (96%)	(-)	48/2 (96%)	0.109*	100/0 (100%)	0.109*

p Values by χ^2 test or *Fisher's exact test.

pA, difference between before introduction of acrostic (2010) and after introduction (2011); pB, difference after introduction of acrostic (2011) and after introduction (2013); pC, difference between before introduction of acrostic (2010) and after introduction (2013).

ward round data-collection pro forma). An individual outcome was measured by the presence or absence of a comment under each heading. If the handwriting was illegible (as judged by the person collecting the data), it was categorised as no record for that heading. 'Investigation' as an outcome was only studied if the child had any investigations performed during that admission. To ensure the robustness of the data for the investigation section, if there was no comment made in the notes, the electronic systems for investigations (this includes blood, radiology and microbiology) were checked to see if any investigations had been carried out.

The second phase was undertaken in 2013 to assess if the initial results were sustained and involved the review of 100 consecutive case notes of children admitted under any consultant paediatrician between June and July 2013. The same data-collection pro forma was used, and the notes were reviewed by a foundation year 1 doctor (CR).

Assessing doctors' attitudes to use of the acrostic

In the final phase of the study (April 2014), 20 paediatric junior doctors completed a survey on their attitude to the use of the acrostic (see online supplementary appendix 2 for post-take ward round documentation questionnaire). The focus of the survey was to assess the ease of use of the acrostic as a tool in improving documentation of the post-take ward round and subsequent review of management plans.

Box 3 Advantages of using mnemonic devices

- ▶ Use of a mnemonic device such as an acrostic, as opposed to a pro forma or other form of document, offers the advantage that it can be implemented quickly and adjusted to suit the needs of the department.
- ▶ The acronym SBAR (Situation, Background, Assessment and Recommendation), which has been shown to be a very effective tool in improving communications among healthcare professionals, is an example of effective use of a mnemonic device in healthcare settings.⁷
- ▶ Previous studies on the use of pro forma (instead of a mnemonic device) in improving ward round documentation saw improvement in only the aspects of the ward round included in the forms and a reduction in documentation in aspects not included.^{8 9}

Data analysis

We compared the completion of documentation of essential aspects of the post-take ward round before and after introduction of the acrostic. This was done using Minitab 16 statistical package. The null hypothesis that there is no difference in the completion of documentation before and after intervention was tested against the hypothesis that the completion of documentation improved after the intervention. Significance values were calculated by χ^2 test and Fisher exact test, with $p < 0.05$ considered significant.

Effects of change

The introduction of the acrostic led to improvement in the documentation of key aspects of the ward round. In the first phase of the study, there was significant improvement in the documentation of problem (84% vs 94%), investigations (26% vs 72%), fluids (16% vs 74%), drugs (26% vs 76%), patient/parental concerns (16% vs 72%) and nursing concerns (4% vs 48%). There was no significant change in documentation of vital signs (82% vs 92%), examination (96% vs 94%) and plan (96% vs 96%), although these variables all had high documentary compliance before the introduction of the acrostic. Having a standardised format for post-take ward round documentation ensures that observation charts, fluid charts and drug charts are routinely scrutinised on the ward round. This provides the opportunity for any trends in observation charts and any errors or omissions in the drug or fluid charts to be identified and rectified immediately.

The analysis of the second phase showed that the improvement in documentation was sustained in the 2 years since the introduction of the acrostic with further significant improvement in documentation of vital signs (100%), fluids (90%), patient/carer concerns (86%) and examination findings (100%). The results of phase 1 and phase 2 of the study are summarised in table 2.

A large majority (95% (19/20)) of the junior doctors surveyed agreed/strongly agreed that use of the mnemonic device provided them with an easy format to document essential aspects of the ward round, while 90% (18/20) agreed/strongly agreed that use of the mnemonic device helped reduce time taken to retrieve information from patients' notes when reviewing at a later time. Furthermore, 95% (19/20) agreed/strongly agreed that use of the acrostic provided them with a structured format to present information during ward rounds and to undertake ward rounds themselves. This consistency of approach to ward rounds is very important in a department with a large turnover of junior doctors working various shifts (see box 3 for advantages of using mnemonic devices to improve care in healthcare settings).

Lessons learned

Since introducing this acrostic as a template for documenting post-take ward rounds, it is clear that our patient notes now reflect much more clearly the input of patients and their parents and carers and the involvement of the whole multiprofessional team. These contemporaneously documented discussions may also become an important source of evidence in the case of an incident or complaint. The inclusion of the acrostic in the mandatory induction programme for all new doctors working in the department has helped ensure that the improvement in completion of documentation has been sustained.

Next steps

The study has confirmed the effectiveness of the acrostic (*Please Verify Information For Doctors, Please Note Every Plan*) in improving the quality of documentation of a paediatric post-take ward round. Patient notes are now much more informative, and include clear documentation of the views of children, their parents and carers and the involvement of the multiprofessional team. This approach to documentation of the post-take ward rounds has been sustained for 4 years and is an established part of our practice. We plan to re-audit case notes at intervals to ensure the improvement continues. We recommend that the acrostic is widely adopted by other paediatric organisations.

Main messages

- ▶ The acrostic (*Please Verify Information For Doctors, Please Note Every Plan*) is effective in improving the quality of documentation of a paediatric post-take ward round.
- ▶ The acrostic provides junior doctors with an easy format to document essential aspects of the ward round.
- ▶ Use of the acrostic ensured that the views of patients, parent/carers and other members of the multidisciplinary team are routinely sought and recorded.

Current research questions

- ▶ What is the impact of introducing the acrostic (*Please Verify Information For Doctors, Please Note Every Plan*) on the documentation of an adult medical ward round.
- ▶ Does the introduction of the acrostic improve the efficiency of ward rounds?
- ▶ Are mnemonic devices more effective than pro forma in improving documentation of ward rounds?

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Contributors ALN wrote the initial drafts of the original manuscript. ALN, CH and CR collected the data. JCA came up with the idea of the study and the acrostic and carried out the survey of junior doctors' views on use of the mnemonic. She reviewed the manuscript.

Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

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Appendix 1

Post-Take Ward Round data collection Proforma

ID

D.O.B/...../.....

Gender Male Female

Ethnicity : White British White Irish

 Black African Black Carribbean Mixed

 Asian Indian Asian Pakistan Asian Bangledesh

Diagnosis at admission

Diagnosis on post take ward round.....

P problem list : Yes No

V vital signs: obs N numerical No

I investigations bloods imaging urine

F fluids Yes No

 IV oral

D drugs Yes No

P patient/parental concerns Yes No

N nurses report/concerns Yes No

E examination Yes No

P Plan/recommendation Yes No

Post-Take Ward Round documentation questionnaire

Assessing junior doctors attitudes to the use of the acrostic (mnemonic devise)
(**P**lease **V**erify **I**nformation **F**or **D**octors, **P**lease **N**ote **E**very **P**lan) to improve ward round documentation

[SCREENING QUESTION]

S1

Have you been taught the acrostic (Please Verify Information for Doctors, Please Note Every Plan) as a tool to help improve the quality of ward round documentation?

- Yes.....Please complete the rest of the survey
- Noend of survey.....Thank you

[END SURVEY SCREEN]

We appreciate your response. We are seeking to understand the opinions of junior doctors on the use of the acrostic in the documentation of the ward round. Thank you for your time.

All of the answers you provide in this survey will be kept confidential. The survey data will be reported in a summary fashion only and will not identify any individual person.

This survey will take about 5 minutes to complete.

The acrostic **Please Verify Information for Doctors, Please Note Every Plan** was developed to see if it improves the quality documentation of ward rounds, communication of actions and therefore quality of patient care.

Do you agree or disagree with the following statements?

Q1. The acrostic provides me with an easy format to document all the essential aspects of the ward round

Strongly agree	Agree	Disagree	Strongly disagree	
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Q2. Use of the acrostic helps to reduce the time taken to retrieve information from the notes

Strongly agree	Agree	Disagree	Strongly disagree	
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Q3. Use of the acrostic provides me with a structured format to present the information during the ward round

Strongly agree	Agree	Disagree	Strongly disagree	
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Q4. Use of the acrostic provides me with a structure to undertake ward rounds myself

Strongly agree	Agree	Disagree	Strongly disagree	
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