Improving clinical records and clinical coding together

A project with the Audit Commission

Royal College of Physicians

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Executive summary

Background

1 In 2008, the Audit Commission's Payment by Results (PbR) data assurance framework[1] found significant levels of error at both the clinical coding and the Healthcare Resource Group (HRG) levels. The most common factor found to contribute to errors was the quality of the source documentation from which the coding data were extracted. This included clinical coders working from discharge summaries rather than full case notes, illegible or poorly structured case notes, lack of access to additional information systems by coders and insufficient information included on electronic patient records.

2 Also in 2008, the Academy of Medical Royal Colleges approved new standards for the structure and content of medical records developed in a project led by the Royal College of Physicians Health Informatics Unit (HIU) and funded by Connecting for Health.[2] The standards approved by the Academy of Medical Royal Colleges included 12 *generic medical record standards* that apply to all medical notes, and *structure and content standards* for admission clerking, handover and discharge documents. The Audit Commission invited the HIU to collaborate in a joint project to explore the impact on clinical coding of introducing the new record keeping standards.

Method

3 An acute hospital trust was recruited to take part in the study. Two sets of the newly published standards were introduced into the hospital:

- *generic medical record keeping standards* that apply to all medical notes; and
- *structure and content standards* for the doctors admission clerking record.

4 The hospital had recently introduced a new electronic discharge summary so no change was made to the discharge summary content which closely but incompletely met the new discharge summary standards. The *generic standards* were introduced by disseminating a circular to participating wards and doctors. An admission clerking proforma conforming to the *structure and content standards* for admission clerking was introduced for all emergency admissions through the medical and surgical admissions units for a period of two weeks.

5 Notes from before and after the introduction of the standards were audited for accuracy of clinical coding and compliance with both the *generic standards* and the *structure and content standards* for admission clerking. The hospital electronic discharge summaries were included in the audits.

[1] The Audit Commission, PbR Data Assurance Framework 2007/08: Findings from the first year of the national clinical coding audit programme. 2008, The Audit Commission: London.

[2] NHS Digital and Health Information Policy Directorate, A Clinician's Guide to Record Standards – Part 1: Why standardise the structure and content of medical records? And Part 2: Standards for the structure and content of medical communications when patients are admitted to hospital. 2008: London.

6 Meetings were held with the hospital clinical coders before and after the project. These meetings explored (a) what factors in medical notes they considered important for clinical coding; and (b) the extent to which they felt the *generic standards* and the *structure and content standards* contributed to the ease and accuracy of clinical coding.

7 Finally, a questionnaire was sent to doctors and clinical coding auditors. The questionnaire asked them how important they considered each of the 12 *generic standards* were for clinical coding.

Findings

Feedback from the clinical coders and auditors

8 The hospital's clinical coders and the Audit Commission coding auditors were overwhelmingly enthusiastic about both the *generic standards* and the project admission clerking proforma. They reported that if the *generic standards* were effectively implemented, they would make a positive difference to the organisation of the medical notes, ensuring a standardised layout and chronological order. They would also ensure that factors critical for clinical coding, such as transfer of a patient between consultants, could be easily recognised. With respect to the admission proformas, they stated that their inclusion gave a very clear demarcation for the beginning of an admission. Together with a standardised discharge summary they would provide the information for them to develop a picture of relevant clinical information about the patient's hospital stay. Full implementation of the standardised admission and discharge documents would result in clinical data being recorded in clearly recognisable locations for easy retrieval. This would significantly improve the efficiency and accuracy of clinical coding.

Accuracy of clinical coding

9 The coding auditors found a very small trend towards improved accuracy of coding at the end of the project with a slightly lower percentage of HRGs inaccurately assigned compared with before the standards were introduced. The scale of improvement is likely to have been affected by the fact that the admission proformas were not used in all sets of notes during the project period. Two other factors reported as relevant by the auditors were:

- for very short admissions the hospital coders used only the discharge summary for coding, where best practice recommends the use of the whole medical record; and
- many of the hospital coders were very junior and still in training.

Compliance with the generic standards and completeness of admission proformas

10 The project was constrained by a very tight timescale. This impacted on the extent to which the hospital was able to deploy and introduce the record keeping standards into standard practice resulting in an incomplete implementation. In spite of this however, the audit showed a trend towards better adherence to the *generic standards* and slightly improved completeness of the electronic discharge summary. There was little change in completeness of the admission clerking, largely due to unfamiliarity with the standard admission clerking template which had not been tailored to the trust format and had been introduced at very short notice. It is clear that the introduction of the record keeping standards requires a formal change management programme to be truly effective. A longitudinal study with full implementation of the record keeping standards is required to get better quantitative evidence to support the qualitative findings reported in this project.

Doctors and coders views of the importance of each generic medical keeping standard for clinical coding

11 The results of the questionnaire revealed some clear differences between the doctors and coders in the relative importance attributed to each of the 12 standards. The coders very clearly regarded the first four *generic standards* as most important. In order of reported importance these standards are 1) Standard 4 - Documentation should be viewable in chronological order, 2) Standard 2 - Every page should include the patient's name, identification number, 3) Standard 3 - The contents of the medical record should have a standardised structure and layout and 4) Standard 1 - The medical record should be available at all times. However, the doctors regarded Standard 1 as most important to clinical coding, Standard 4 as fourth most important and standards 2 and 3 were ranked much lower. It is likely that doctors do not fully understand the ways in which the quality of the medical notes is important for clinical coding, answering the questionnaire in terms of what was most important about the medical record to them, not to clinical coding.

Conclusions

- Implementation of the 12 *generic medical record keeping standards* would improve the order and content of the medical notes and specifically assist the efficiency of clinical coding and identification of transfers.
- Implementation of the *structure and content standards* for admission and handover would greatly assist the efficiency of clinical coding and reduce the risk of inaccurate clinical coding.
- Implementation of the *structure and content standards* for discharge would address the omissions in the existing trust electronic discharge summary.
- Completion of information under all the *structure and content standards* headings in admission and discharge proformas, would likely be sufficient to transform the results of the notes and coding audits and improve the efficiency of and reduce the pressure on the coders.
- It is likely that doctors do not fully understand the ways in which the quality of the medical notes is important for clinical coding.
- The financial benefits to the trust include not only greater accuracy in PbR returns but better returns for the investment in the clinical coding department.
- Successful implementation of record keeping standards requires commitment to an organisational change management programme that informs and trains staff in their use and includes regular audit cycles to monitor compliance with the standards and accuracy of clinical coding.

Recommendations
R1 Trusts should ensure that clinical coding is done using the full medical notes rather than just the discharge summary.
R2 There should be a common, agreed and consistent approach to the medical record documentation used throughout the hospital and trust.
R3 The Academy of Medical Royal Colleges *generic medical record keeping standards* and *structure and content standards* for admission, handover and discharge records should be implemented in acute hospitals.
R4 The contents of documents in the medical record should be such that there is minimal time-consuming duplication of either clinical or administrative data, especially when a patient is admitted to hospital.

Recommendations
R5 Hospitals and trusts should establish regular meetings between the clinical coding team, the audit (or clinical governance) team and clinicians. This would: • raise awareness of clinicians about the nature of the work that the coders and clinical auditors undertake using clinical information recorded in the medical notes; and • make clinicians aware of how what they write in the medical notes impacts on the work of the coders and auditors.
R6 Trusts need to understand that implementation of new record keeping standards requires an organised change management process, addressing the specific needs and requirements of clinical departments. This takes time and commitment. They should: • get advice from relevant professional organisations such as those that produce record keeping standards; • undertake an impact assessment; • establish and report on regular audits of compliance of medical records with record keeping standards; and • ensure that all relevant hospital staff and clinicians in particular, are informed that new documents are being introduced and the reason why.
R7 Senior management teams, clinical leads, clinicians, medical records staff, coders and clinical auditors should be involved throughout the implementation stages of record keeping standards and proformas. They should: • put in place structures and procedures to disseminate and inform members of their teams; • ensure adequate involvement of clinicians in the design and streamlining of the clinical (and administrative) medical note documentation; • include junior clinicians when designing proformas as they are the routine users of the proformas; • ensure that any new documentation is piloted over a sufficient period; • ensure senior clinicians buy-in to provide adequate support and guidance for junior clinicians; • coders and auditors should be invited to medical education sessions to share their work and findings with the hospital doctors. They should provide examples of where poor documentation has resulted in difficulties in coding or inaccurate coding; and • if training of clinicians in the use of the documentation is required, this should be built into implementation timelines.
R8 Trusts should ensure that staff recognise that everyone who uses medical records has a responsibility to ensure that the notes are in good order.
R9 There should be an identified person(s) who have overall responsibility for ensuring the quality of the structure and content of medical records.

Background

12 The 2007/08 report of the Audit Commission's PbR Assurance Framework found significant levels of error at both the clinical coding and the HRG levels: 16.5 per cent and 9.5 per cent respectively. Of the factors which could affect clinical coding quality, the most common, present in more than two-thirds of the organisations audited, was the quality of the clinical records available to the clinical coders. This catch-all category covered the availability, legibility, completeness and organisation of not only the medical notes but also supplementary IT systems, such as pathology.

13 Also in 2008, in a project funded by NHS Connecting for Health, the Royal College of Physicians Health Informatics Unit (HIU) launched *generic medical record keeping standards* and standards for the structure and content of admission, handover and discharge records of patients admitted to hospital. The *generic medical record keeping standards* apply to all medical notes (see Appendix 1). The *structure and content standards* for admission, handover and discharge records specify the headings that should appear in these records and a description of the information that should be recorded beneath each heading (see Appendix 2). The standards were approved by the Academy of Medical Royal Colleges as being fit for use in all medical and surgical specialties.

14 The Audit Commission asked the HIU to undertake a joint project as part of the PbR Assurance Framework programme of further research in areas identified as contributing to poor coding. The aim of this joint project was to determine whether implementation of the record keeping standards could result in an improvement in the accuracy of clinical coding.

Aims and objectives

15 The aims of the research were to explore the degree to which introducing medical record keeping standards might impact on the quality of clinical coding and to make recommendations on standards for clinical record keeping that will be most effective in improving clinical coding accuracy.

16 The project addressed the legibility, completeness and organisation of the medical records. Although the standards are designed to improve medical record keeping in paper and electronic environments, this project only addressed the use of the record keeping standards in paper notes. It did not address the other record keeping factors found by the Audit Commission to affect the quality of clinical coding, for example the availability of the records and pathology IT systems.

17 The project was conducted as an observational study. It explored the extent to which clinical coders believed the implementation of the standards might improve the accuracy and ease of clinical coding before and after the introduction of the *generic medical record keeping standards*, and the *structure and content standards* for admission clerking and discharge summaries.

Methodology

18 An acute hospital trust was recruited to take part in the project based on their desire to improve their medical record keeping and clinical coding following reports from the Audit Commission and the Care Quality Commission. A number of meetings were held. Firstly, between representatives of the HIU, the Audit Commission and hospital management to establish senior management support for the project. Once senior management support was agreed further meetings occurred with the hospital doctors, the medical director, the director of strategy and partnership (responsible for information), the quality and patient safety manager (responsible for the clinical audit department), and the clinical coding department to inform them about the project aims, to gain their support and to answer any questions.

19 Hospital doctors were informed about the project, the medical record keeping standards and the importance of good record keeping at one of their regular educational meetings, and by dissemination through hospital communication channels. They were asked to use paper proformas for admission clerking and handover from one consultant team to another during routine patient care. The proformas were designed by the HIU as examples that conformed with Academy of Medical Royal Colleges record keeping standards. The manager from the clinical coding department was asked to identify factors related to the ease and accuracy of clinical coding. The manager of the clinical audit department was asked for their assistance in conducting a comparative medical note audit of compliance with the standards before and after the project, using an audit tool developed by the HIU.

20 The project ran for a two-week period with medical and surgical admissions units using project proformas for patients admitted to hospital. Due to the fact that the trust had only recently introduced an electronic discharge summary, it was difficult to make changes to the content of that system within the project timescale. It was therefore decided not to ask clinicians to complete paper discharge summaries using the HIU example discharge proforma. The hospital electronic summary fairly closely matched the *structure and content standards* but did not use the standard wording for the headings and did not include all the standards. Appendix 3 shows how the hospital electronic summary mapped to the *structure and content standards* for discharge documentation.

21 The medical and surgical admissions units taking part in the audit removed their regular proformas and replaced them with the project proformas[1]. The Academy of Medical Royal Colleges standards were circulated by the hospital management team to clinicians, auditors and coding staff involved in the project together with a summary of the project aims. Circulated documents included:

- A document outlining the project with the *generic medical record keeping standards* printed on the reverse side.
- A Clinician's Guide to Record Standards - Part 1: Why standardise the structure and content of medical records?
- A Clinician's Guide to Record Standards - Part 2: Standards for the structure and content of medical records and communications when patients are admitted to hospital.

22 The Clinicians Guides are available online at http://www.rcplondon.ac.uk/clinical-standards/hiu/medical-records/Pages/clinicians-guides.aspx

23 The HIU also prepared audit templates to enable the hospital's clinical audit department to audit compliance with the standards before and after implementation. Based on data supplied by the hospital, it was estimated that over 300 patients would be admitted and discharged during the project period.

24 Once the patients had been discharged, the hospital clinical coders undertook their coding using electronic discharge summaries and medical notes of patients who had been admitted during the two-week project period. Registered clinical coding auditors, appointed by the Audit Commission, audited the clinical coding of notes of patients from general medicine and surgery - 100 sets of medical and 50 sets of surgical notes of patients admitted before the project period and 100 sets of medical and 50 sets of surgical notes of patients admitted during the project period.

25 A meeting was held with the hospital clinical coders before implementation of the standard. A second was held with the Audit Commission's coding auditors and the hospital clinical coders together on completion of the audits to discuss the findings. These findings were reported to the medical director before publication.

26 An online questionnaire was emailed to hospital doctors and clinical coders to explore the relative importance of each of the *generic medical record keeping standards* for clinical coding to these two groups. Doctors and coders were asked to undertake two tasks:

- rank the 12 standards according to importance for clinical coding, with the most important standard first and the least important 12th; and
- rate the importance for clinical coding of each standard as: very important, quite important, neither important or unimportant, not very important or not at all important.

[1] The example proformas are available at: http://www.rcplondon.ac.uk/clinical-standards/hiu/medical-records/Pages/templates.aspx

Results

Feedback from the clinical coders and coding auditors

In relation to the potential impact of the record keeping standards

27 In the meeting prior to implementation of the standards, the hospital coders described difficulties in clinical coding as a result of problems with locating relevant clinical information in medical notes and difficulties in identifying when handover of a patient from one specialty to another had occurred. When the HIU project team examined the notes, they found sets of notes with multiple documents that included clinical information relating to admission and discharge during an in-patient stay. These documents included: an admission checklist; an emergency assessment document; a medical admission proforma; a multi-disciplinary continuation sheet; an electronic discharge note printout; an A&E triage form; an assessment booklet; and the usual medical notes continuation sheets. These documents often duplicated clinical information, included many uncompleted sections and were not usually filed in the medical notes in any particular order.

28 After introduction of the standards, the clinical coders and coding auditors were emphatic about the positive impact of the project admission clerking proformas when they were present in the notes. They stated that these immediately gave a clear boundary for the episode and that the clarity of clinical information, when it was recorded in the proformas, made the task of coding immeasurably easier.

> **'When there was a project admission proforma you could immediately see where the episode started. From what was written on the admission proforma and the discharge summary when properly completed, you could quickly work out what was going on.'**

29 The information provided in the project proformas was clear, concise and well structured, supporting the coding process. However this could only be useful if available to the clinical coders at the time of coding and they complied with best practice of coding using the full medical notes.[1] The hospital electronic discharge summaries also did not include co-morbidities, an important component of clinical coding, and the summaries were being incompletely filled in by the junior medical staff.

30 The coding auditors stated that the clearly structured documents enabled easy review of information recorded at admission and discharge when they had been properly completed. These two documents, especially if discharge summary had a field for co-morbidities, clearly defined the episode of care and are a very powerful starting point for clinical coding, providing the majority of information required.

[1] The hospitals clinical coders were undertaking coding using only the discharge summary for patients who had been discharged direct from the admissions units without transfer to an inpatient ward. The hospital explained that this was done because the coding department would be unable to cope with the volume of discharges were the coders to go to the admissions units to review the full notes.

Case Study

A standardised admission clerking proforma would have **improve**d **the accuracy of coding**

A patient was admitted for investigation into black stools (melaena) and abdominal pain, but no definitive diagnosis was recorded. There was no admission clerking proforma in the notes and the coders, using information that they gleaned from the notes, made a primary diagnosis of diaphragmatic hernia and secondary diagnosis of lower abdominal pain. The primary diagnosis should have been recorded as 'melaena' with lower abdominal pain and diaphragmatic hernia as secondary diagnoses. Had a project admission proforma been present, the presenting symptoms and problem list (black stools/melaena and abdominal pain) with the related investigations information, the previous medical history and risk factors (diaphragmatic hernia) would have been clearly recorded in relevant sections of the proforma and discharge summary. The coders would have been greatly assisted in identifying the clinical information correctly. .

31 The auditors also reported that if proformas meeting the Academy of Medical Royal Colleges' *structure and content standards* for consultant team handover were routinely used, they would clearly identify change in specialty and the reason for the change. These changes are important for clinical coding as it impacts on which diagnosis is the primary diagnosis for coding and reimbursement purposes.

32 Information on investigations and investigation results can also be important for clinical coding. Typically a coder should be able to identify from the notes that an investigation has been ordered and be able to extract relevant information from the investigation result or x-ray report. The reason for the investigation should be documented in the notes as this assists with interpretation of the clinical information for coding. When investigations are cancelled, this should also be clearly recorded, otherwise significant time can be wasted looking for non-existent results.

33 Overall, the clinical coders and the Audit Commission coding auditors found the project proforma to be an excellent document. They said that coding accuracy should improve if it were used in conjunction with the hospital's Electronic Discharge Note (revised to meet the relevant *structure and content standards* for discharge records). Furthermore, while a major challenge for the auditors had been the lack of organisation and structure in the medical note folders, the addition of the project admission clerking proformas and compliance with the *generic medical record keeping standards* would make their task easier.

Summary of views of the coding auditors on accuracy of coding

34 The auditors summarised the difficulties with coding as being due to the following factors.

- Medical note volumes were frequently very large.
- Organisation of the medical notes within the folders was poor.
- There appeared to be haphazard insertion of a variety of documents in relation to patient hospital stays.

- It was frequently difficult to identify the beginning and the end of an episode and locate the relevant clinical information (except where project proformas were used).
- Clinical coders used only the electronic discharge summary for coding when patients were discharged directly from the admission units without transfer to an inpatient ward.
- Many of the clinical coding team were very newly appointed and still in training and therefore lacked depth of experience and knowledge.

The accuracy of coding

35 The clinical coding auditors reported that they found a small reduction in the percentage of inaccurately coded HRGs after implementation of the standards. They felt that a greater change was not demonstrated because of limitations in the implementation of the proformas and *generic standards*, largely due to the project time constraints.

36 A total of 292 episodes were audited for accuracy of clinical coding. There were only 3 sets of notes from surgery and 53 from medicine that included a project admission clerking proforma. The reason for so few surgical notes including project admission proformas is thought to be that the selection of notes for audit of coding did not discriminate between emergency and elective admissions. As the proformas were used only for emergency admissions in this project, the small number with proformas reflects the balance between elective and emergency admission to surgery. In medicine, it is unclear why so few included proformas. All admissions through the medical admissions units should have used only project proformas, so it is possible that the notes selected for the coding audit included some patients discharged during the project period but actually admitted before. Some medical patients may have been admitted directly to the medical wards by-passing the admissions units. It is also possible that some may have been admitted shortly before implementation of the standards but discharged during the project period and so were not admitted using the project admission proformas.

37 Given the relatively small proportion of notes that had included proformas, it has not been possible to determine with confidence the impact on the percentage accuracy on the clinical coding. There were however very clear messages from the coding auditors about the impact on the ease of coding when admission proformas were present, as described above.

38 Out of the 1,135 diagnoses and procedures audited for accuracy of coding, there were 223 errors (19.7 per cent). Of the errors, 132 (59.2 per cent) were coder errors. Of these over 64.4 per cent were due to omission of diagnosis and procedures when episodes were coded.

39 The number of episodes with errors which would have changed the HRG was 29, representing 9.9 per cent of the total cases tested. An analysis of the identified errors, using NHS Connecting for Health methodology, suggests that mistakes by the coders was the cause of the majority of the inaccuracies for the reasons already mentioned.

40 Inaccuracies in clinical coding resulted in HRG changes for 8.1 per cent of medical episodes pre-intervention and 6.9 per cent post-intervention (Table 1). For surgery, there were HRG changes for 15.6 per cent of episodes before implementation of the standards and 14.9 per cent after intervention. The financial impact of these HRG errors for surgery was a loss of income of 7.7 per cent before and 0.4 per cent after implementation. For medicine the impact was a loss of income of 1 per cent before implementation and 0.3 per cent after implementation (Table 2).

Table 1 Table of coding accuracy findings

Area audited	Specialty/ chapter/ HRG	% Procedures coded incorrectly		% Diagnoses coded incorrectly		% of episodes changing HRG	% of spells changing HRG
		Primary	Secondary	Primary	Secondary		
Surgery Pre Implementation	15.0	9.1	15.6	39.0	15.6	15.6	15.0
Surgery Post Implementation	29.4	47.4	17.0	35.0	14.9	14.9	14.9
Medicine Pre Implementation	7.7	14.7	9.1	15.4	8.1	8.1	8.2
Medicine Post Implementation	6.3	4.8	7.9	28.5	6.9	6.9	6.6

Table 2 Table of financial impact of coding errors

Area audited	% of episodes changing HRG	Pre Audit Payment	Post Audit Payment	Net change	% change
Surgery Pre Implementation	15	£70,748	£76,183	£5,435	7.7
Surgery Post Implementation	14	£52,248	£52,468	£220	0.4
Medicine Pre Implementation	8	£90,223	£91,099	£876	1.0
Medicine Post Implementation	6	£79,846	£79,640	£206	0.3

The relative importance of each generic medical record keeping standard for clinical coding

41 Fifty-five doctors and 31 clinical coders responded to the questionnaire on the importance for clinical coding of each of the *generic medical record keeping standards* (see Appendix 1). When asked how important each standard was for clinical coding, there were significant differences between the doctors and coders (see Table 3). In contrast to the doctors, the coders very clearly scored standards 2, 3 and 4 as very important for clinical coding with average scores of less than 1.3 (1 = very important and 5 = not at all important).

Table 3 Mean scores by doctors and coders for each of the generic medical record keeping standards where 1 = very important and 5 = not at all important.

		Mean score		Rank order (by score) of each standard		
Standard number	**Standard (abbreviated)**	**Doctors**	**Coders**	**Doctors**	**Coders**	**P value**
1	Medical record should be available at all times	1.44	1.36	1	4	0.628
2	Every page should include the patient's name, identification number	1.76	1.25	7	2	0.019*
3	The contents should have a standardised structure and layout	1.84	1.25	8	3	0.005*
4	Documentation should be viewable in chronological order	1.58	1.14	4	1	0.006*
5	Data on admission and discharge should be recorded using a standardised proforma	1.96	1.75	11	9	0.293
6	Every entry should be dated, timed, legible and signed and designation should be legibly printed. Deletions and alterations should be countersigned	1.64	1.39	5	5	0.183
7	Entries to the medical record should be made as soon as possible after the event	1.57	1.68	3	8	0.621
8	Every entry identifies the most senior clinical professional present	1.71	2.04	6	11	0.078
9	When the consultant changes, new consultant, date and time of the agreed transfer of care, should be recorded	1.51	1.46	2	6	0.781
10	When there is no entry for more than four days, the next entry should explain why	1.95	1.46	10	7	0.024*
11	The discharge summary should be started at the time of admission	2.36	1.93	12	10	0.097
12	Advanced decisions and so on must be clearly recorded, including decision maker if not patient	1.91	2.21	9	12	0.312

* Score and ranking by doctors and coders is significantly different.

42 When asked to rank the standards according to their importance for clinical coding, both doctors and coders scored standards 1-4 as the most important. The only significant difference was that the coders scored standard 4 as the most important. The doctors scored this standard only third in importance (Table 4).

Table 4 Importance of each of the generic medical record keeping standards as ranked by doctors and clinical coders.

		Mean rank importance (mean score)		
Standard number	**Standard (abbreviated)**	**Doctors**	**Coders**	**P value**
1	Medical record should be available at all times	1 (3.39)	2 (4.26)	0.237
2	Every page includes the patient's name, identification number	2 (4.57)	4 (4.55)	0.981
3	The contents should have a standardised structure and layout	4 (4.96)	3 (4.47)	0.585
4	Documentation should be viewable in chronological order	3 (4.80)	1 (3.18)	0.035*

43 It is notable that when the doctors were asked how important a standard was for clinical coding the top four were standards 1, 7, 9 and 4. When asked to actually rank the standards according to their importance, the top 4 were 1, 2, 4 and 3 respectively. This suggests that while doctors do understand that the quality of medical records is important for clinical coding, they do not understand fully the extent and the reason.

Audit of compliance with the record keeping standards

Generic medical record keeping standards

44 The trust clinical audit department audited ten sets of notes prior to the implementation of the standards against the *generic medical record keeping standards* and ten sets of notes after implementation, using a HIU validated audit tool.

45 The data set is small[1] with a trend towards improvement in compliance with *generic standards* after their dissemination within the hospital at the start of the project (see Table 5).

[1] Pilot projects of the audit tool have reported that auditing just ten sets of notes can give a reliable overall impression of the extent to which the medical notes in a hospital are likely to comply with the generic medical record keeping standards.

46 The hospital clinical auditors recorded that there was no trust protocol for the order of the notes and that none of the ten sets of notes audited actually included a standardised admission proforma before or after introduction of the project proformas. Though used for the majority of discharges, the electronic discharge proforma was not present for all discharges. The auditors found no record referring to the senior clinician being present (standard 8). There was also very poor compliance with standard 9 which refers to information that should be recorded when there is a transfer of care to a different responsible consultant.

Table 5 Results of the audit of medical notes against the generic medical record keeping standards audit before and after the start of the project

		Per cent compliance	
Standard number	**Standard (abbreviated)**	**Before (n=10)**	**After (n=10)**
2	Every page includes the patient's name, identification number	92.5	99
3	The contents should have a standardised structure and layout	0	0
4	Documentation should be viewable in chronological order	50	60
5a	Data on admission should be recorded using a standardised proforma	0	0
5b	Data at discharge should be recorded using a standardised proforma	90	100
6	Every entry should be dated, timed, legible and signed and designation should be legibly printed. Deletions and alterations should be countersigned	73	77
8	Every entry identifies the most senior clinical professional present	0	0
9	When the consultant changes, new consultant, date and time of the agreed transfer of care, should be recorded	12.5 (number of transfers=16)	0 (number of transfers =28)
10	When there is no entry for more than four days, the next entry should explain why	n/a	n/a
12	Advanced decisions and so on to must be clearly recorded, including decision maker if not patient	100 (n=1)	100 (n=2)

Record structure and content standards

Medicine

47 The project admission clerking proformas used in this project were designed by the HIU to meet the *structure and content standards* for admission clerking by ensuring that the relevant headings were included. The hospital auditors audited notes for completeness of information recorded under the headings in the admission proformas and discharge summaries from 40 sets of general medical notes before the introduction of the project proformas and 100 after their introduction. Of this 100, 68 admissions were recorded on the project proforma. (Table 6).

Table 6 Notes audited against Academy of Medical Royal Colleges' structure and content standards for completeness of data recorded

	Before introduction of proformas	After introduction of proformas		
	Number audited	Number audited	Number that actually used project proformas	Number with trust discharge summaries
Surgical	20	50	5	1
Medical	40	100	68*	73**

* Of the 68 sets of notes with admission proformas, 7 did not have a discharge summary.
** Of the 73 sets of notes with discharge summaries, 12 did not have an admission proforma

48 As reported in above (paragraph 36), it is unclear why all admission records audited post implementation had not used the project proforma.

49 The results of the audits of admission and discharge documents against the Academy of Medical Royal Colleges' *structure and content standards* are shown in the tables in Appendix 4. The general message from the audit is that there were large gaps in the information recorded in the admission and discharge records that existed prior to implementation of the standards and no clear trends during the brief project period.

Surgery

50 The trust audited the admission clerking and discharge records from 20 sets of surgical notes pre-intervention. Fifty sets of notes were pulled for audit from the period after introduction to the project proformas but only five had used the project admission proforma and of these, just one had a trust discharge summary. It is probable that the very small number of completed project proformas in surgery reflected the fact that the large majority of patients for surgery that are elective admissions (see paragraph 36).

51 As with the audit of the notes from general medicine, there were few conclusions that could be reached from the small number of records audited apart from the fact that there were very many omissions of clinical information under the *structure and content standards* headings (Appendix 5).

Discussion and summary

52 The aim of this project was to determine whether implementation of medical record keeping standards would improve the accuracy of clinical coding. The short time scale within which the project was conducted undoubtedly had an impact on the research methodology and findings. The primary impact of this was that the introduction of the trust staff to the project and the change management processes necessary for full introduction of and compliance with the standards was not as comprehensive as desired.

53 In spite of this, there was overwhelming evidence from the coders that where the project admission proformas were used, they made a big impact on the ease of identifying and extracting the clinical information required for clinical coding. The example of coding inaccuracy reported by the coding auditors illustrates how the *structure and content standards* could support the process were they to be fully implemented and proformas completed to meet the standards.

54 They also reported that the trust's existing electronic discharge summary could support accurate coding but were usually incomplete and omitted critical information, for example on co-morbidities, and could not be used alone to provide all the information required. Hospitals should aim to achieve the gold standard of coding using the full medical notes.

55 The auditors also reported that information about transfers of care between consultants (and specialties) was very difficult to identify in the medical notes and was critical for determining the primary diagnosis. They highlighted this in relation to the *generic medical record keeping standard* relating to transfers (standard 9, Appendix 1) and the *structure and content standards* for handover records.

56 The responses to the on-line questionnaire suggest that it is likely that doctors do not fully understand the ways in which the quality of the medical notes is important for clinical coding.

57 It is these reports that support the hypothesis that implementation of the Academy of Medical Royal Colleges record keeping standards would greatly improve the ease and efficiency of clinical coding as well as accuracy of coding and reduction of financial errors.

58 A longitudinal study with full implementation of the record keeping standards is required to get better quantitative evidence to support the qualitative findings reported.

59 We conclude that:

- Implementation of the *generic medical record keeping standards* would improve the order and content of the medical notes and specifically assist the efficiency of clinical coding and identification of transfers.
- Implementation of the *structure and content standards* for admission and handover would greatly assist the efficiency of clinical coding and reduce the risk of inaccurate clinical coding.

- Implementation of the *structure and content standards* for discharge would address the omissions in the existing Trust electronic discharge summary.
- Completion of information under the *structure and content standards* headings in admission and discharge proformas, would likely be sufficient to transform the results of the notes and coding audits and improve the efficiency of and reduce the pressure on the coders.
- It is likely that doctors do not fully understand the ways in which the quality of the medical notes is important for clinical coding.
- The financial benefits to the trust include not only greater accuracy in PbR returns but better returns for the investment in the clinical coding department.
- Successful implementation of record keeping standards requires commitment to an organisational change management programme that informs and trains staff in their use and includes regular audit cycles to monitor compliance with the standards and accuracy of clinical coding.

Recommendations

Recommendations
R1 Trusts should ensure that clinical coding is done using the full medical notes rather than just the discharge summary.
R2 There should be a common, agreed and consistent approach to the medical record documentation used throughout the hospital and trust.
R3 The Academy of Medical Royal Colleges *generic medical record keeping standards* and *structure and content standards* for admission, handover and discharge records should be implemented in acute hospitals.
R4 The contents of documents in the medical record should be such that there is minimal time-consuming duplication of either clinical or administrative data, especially when a patient is admitted to hospital.
R5 Hospitals and trusts should establish regular meetings between the clinical coding team, the audit (or clinical governance) team and clinicians. This would: • raise awareness of clinicians about the nature of the work that the coders and clinical auditors undertake using clinical information recorded in the medical notes; and • make clinicians aware of how what they write in the medical notes impacts on the work of the coders and auditors.
R6 Trusts need to understand that implementation of new record keeping standards requires an organised change management process, addressing the specific needs and requirements of clinical departments. This takes time and commitment. They should: • get advice from relevant professional organisations such as those that produce record keeping standards; • undertake an impact assessment; • establish and report on regular audits of compliance of medical records with record keeping standards; and • ensure that all relevant hospital staff and clinicians in particular, are informed that new documents are being introduced and the reason why.

Recommendations
R7 Senior management teams, clinical leads, clinicians, medical records staff, coders and clinical auditors should be involved throughout the implementation stages of record keeping standards and proformas. They should: • put in place structures and procedures to disseminate and inform members of their teams; • ensure adequate involvement of clinicians in the design and streamlining of the clinical (and administrative) medical note documentation; • include junior clinicians when designing proformas as they are the routine users of the proformas; • ensure that any new documentation is piloted over a sufficient period; • ensure senior clinicians buy-in to provide adequate support and guidance for junior clinicians; • coders and auditors should be invited to medical education sessions to share their work and findings with the hospital doctors They should provide examples of where poor documentation has resulted in difficulties in coding or inaccurate coding; and • if training of clinicians in the use of the documentation is required, this should be built into implementation timelines.
R8 Trusts should ensure that staff recognise that everyone who uses medical records has a responsibility to ensure that the notes are in good order.
R9 There should be an identified person(s) who have overall responsibility for ensuring the quality of the structure and content of medical records.

Appendix 1 – Generic medical record keeping standards

Generic medical record keeping standards define good practice for medical records and address the broad requirements that apply to all clinical note keeping. These standards were developed by the Health Informatics Unit of the Royal College of Physicians following review of published standards and wide consultation. They were first published in 2007 in Clinical Medicine.

Standard	Description
1	The patient's complete medical record should be available at all times during their stay in hospital.
2	Every page in the medical record should include the patient's name, identification number (NHS number) and location in the hospital. [1]
3	The contents of the medical record should have a standardized structure and layout.
4	Documentation within the medical record should reflect the continuum of patient care and should be viewable in chronological order.
5	Data recorded or communicated on admission, handover and discharge should be recorded using a standardised proforma. [2]
6	Every entry in the medical record should be dated, timed (24 hour clock), legible and signed by the person making the entry. The name and designation of the person making the entry should be legibly printed against their signature. Deletions and alterations should be countersigned, dated and timed.
7	Entries to the medical record should be made as soon as possible after the event to be documented (for example, change in clinical state, ward round, investigation) and before the relevant staff member goes off duty. If there is a delay, the time of the event and the delay should be recorded.
8	Every entry in the medical record should identify the most senior healthcare professional present (who is responsible for decision making) at the time the entry is made.
9	On each occasion the consultant responsible for the patient's care changes, the name of the new responsible consultant and the date and time of the agreed transfer of care, should be recorded.
10	An entry should be made in the medical record whenever a patient is seen by a doctor. When there is no entry in the hospital record for more than four (4) days for acute medical care or seven (7) days for long-stay continuing care, the next entry should explain why. [3]
11	The discharge record/discharge summary should be commenced at the time a patient is admitted to hospital.
12	Advanced Decisions to Refuse Treatment, Consent, and Cardio-Pulmonary Resuscitation decisions must be clearly recorded in the medical record. In circumstances where the patient is not the decision maker, that person should be identified for example, Lasting Power of Attorney.

[1] The NHS number is being introduced as the required patient identifier.
[2] This standard is not intended to mean that handover proforma should be used for every handover of every patient rather that any patient handover information should have a standardised structure.
[3] The maximum interval between entries in the record would in normal circumstances be one (1) day or less. The maximum interval that would cover a bank holiday weekend, however, should be four (4) days.

Appendix 2 – Structure and content standards for doctors admission clerking

The headings presented here are ‘anchor’ points for the clinical information in the admission record. The detail and specialty specific requirements under each heading will be refined in work to follow. Not all headings are relevant in paper records, nor on all occasions. In the electronic environment some of the headings will be automatically completed.

Headings or sub-headings	Definition or illustrative description of the type of clinical information to be recorded under each heading
Responsible consultant	The name of the consultant physician who will be responsible for the patient’s inpatient care.
Clerking doctor	The full name, grade and contact details of the doctor recording the clinical information contained in the admission clerking. GMC Number (unique identifier). Identify chaperone for example, offered, present or not, name and so on.
Source of referral	A record of the healthcare setting from which the patient was referred for hospital admission, for example, GP, accident and emergency and so on.
Time and date patient seen	The time and date the patient was assessed by the clerking doctor.
Time and date of clerking	The time and date the clerking doctor writes the record of the admission clerking.
Patient’s location	The physical location where the patient was assessed, specifying bay and bed when possible.
Reason for admission and presenting complaints	The health problems and issues experienced by the patient resulting in their referral by a healthcare professional for hospital admission, for example, chest pain, blackout, fall, a specific procedure, investigation or treatment.
History of each presenting complaint	The record of clinical information directly related to the development and characteristics of each presenting complaint.
Past medical, surgical and mental health history	The record of the patient’s previous diagnoses, problems and issues, procedures, investigations, adverse anaesthetic events, and so on.

Headings or sub-headings	Definition or illustrative description of the type of clinical information to be recorded under each heading
Medication record	
Current medications	The record of medications, dietary supplements, dressings and equipment that the patient is currently taking or using, for example, prescribed medications, over-the-counter preparations, medications obtained from other sources and so on.
Relevant previous medications	The record of medications, dietary supplements, dressings and equipment that the patient has taken or has used, relevant to their presentation, for example, prescribed medications, over-the-counter preparations, medications obtained from other sources and so on.
Relevant legal information	
Mental capacity	The mental capacity of the patient to make decisions about treatment, and so on. For example, where an independent mental capacity advocate is required for decisions relating to discharge destination, medical treatment, ability to consent and so on. Who is the patient's advocate?
Advance decisions to refuse treatment	Written documents, completed and signed when a person is legally competent, that explain a person's medical wishes in advance, allowing someone else to make treatment decisions on his or her behalf later in the disease process.
Lasting power of attorney or deputy	If there is a lasting power of attorney, who is this person or their deputy.
Organ donation	Has the person given consent for organ donation?
Allergies and adverse reactions	Allergies, drug allergies and adverse reactions.
Risks and warnings	Significant risk of an unfavourable event occurring, patient is Hepatitis C +ve, MRSA +ve, HIV +ve and so on. Any clinical alerts, risk of self neglect/aggression/exploitation by others.
Social history	
Lifestyle	The record of lifestyle choices made by the patient which are pertinent to his or her health or social care. Example the record of the patient's current and previous use of tobacco products, alcohol, recreational drugs, pets, hobbies, sexual habits, menstrual and coital history.
Social and personal circumstances	The record of a patient's social background, network and personal circumstances, for example, occupational history, housing and religious, ethnic and spiritual needs.
Services and carers	The description of services and carers provided for the patient to support their health and social wellbeing.
Family history	The record of relevant illness in family relations deemed to be significant to the care or health of the patient, including mental illness and suicide.
Systems enquiry	The record of clinical information gathered in response to questions to the patient about general symptoms from various physiological systems, including food intake (increasing/decreasing), weight change, swallowing difficulties, mood/anxiety and so on.

Appendix 2 – Structure and content standards for doctors admission clerking

Headings or sub-headings	Definition or illustrative description of the type of clinical information to be recorded under each heading
Patient's concerns, expectations and wishes	The record of the patient's comments related to their perceptions of their symptoms, their wishes and goals related to their health and their perceptions of their anticipated treatment (which may influence treatment). This could be the carer giving information if the patient is not competent. Also the extent to which the patient wants clinical information to be shared with relatives and others.
Observations and findings	Any clinical observation or finding made by the clerking doctor, with or without specific clinical examination.
General appearance	The record of a doctor's 'end of the bed' assessment including general clinical examination findings, for example, clubbing, anaemia, jaundice, obese/ malnourished/ cachectic, height, weight and so on.
Structured scales	For example, Glasgow Coma Scale, ADL scales such as Barthel, nutrition screening scale and so on.
Vital signs	The record of essential physiological measurements, for example respiration rate, 0_2 saturation, heart rate, blood pressure, temperature and weight, Early Warning Score, including the time and date they were obtained.
Mental state	For example, depression, anxiety, confusion, delirium.
Cardiovascular system	The record of findings from the cardiovascular system examination.
Respiratory system	The record of findings from the respiratory system examination.
Abdomen	The record of findings from the abdominal examination.
Genito-urinary	The record of findings from the genito-urinary examination.
Nervous system	The record of findings from the nervous system examination.
Musculoskeletal system	The record of findings from the musculoskeletal system examination.
Skin	The record of findings from examination of the skin.
Problem list and/or differential diagnosis	Summary of problems that require investigation or treatment.
Relevant risk factors	Factors that have been shown to be associated with the development of a medical condition being considered as a diagnosis/differential diagnosis. Thrombo-prophylaxis.
Discharge planning	Information in relation to discharge planning should be entered here, starting at the time of admission.

Headings or sub-headings	Definition or illustrative description of the type of clinical information to be recorded under each heading
Management plan	Overall assessment and actions.
Summary and interpretation of findings	Summary and interpretation of findings.
Next steps	Next steps.
Special monitoring required	For example, neuro-obs, O2 saturation and so on.
Resuscitation status	Resuscitation status.
Information given to the patient and/or authorised representative	This can include: Relatives and carers Specific verbal advice and details of any discussions Written information including leaflets, letters and any other documentation. Differentiation required between information given to patients, carers and any other authorised representatives.
Investigations and initial procedures	The results and/or interpretation of results of investigations and procedures. Planned procedures
Person completing clerking	
Doctor's name	
Grade	
Doctor's signature	
Specialist registrar/senior review	Where an admission clerking is reviewed by a specialist registrar or other senior doctor.
Post take ward round	Where a history and initial results are reviewed, clinical decisions are made, a management plan is formulated, and further investigations planned.

In the electronic environment some of these fields will be automatically completed.

Links to the *structure and content standards* for handover and discharge, together with example proformas can be found at http://www.rcplondon.ac.uk/clinical-standards/hiu/medical-records/Pages/Overview.aspx

Appendix 3 – Structure and content standards for discharge summaries mapped against hospital electronic discharge summary headings

RCP headings/sub-headings	Hospital electronic summary
GP details	
GP name	Dear Dr
GP practice address	Name of practice/premises
GP practice code	
Patient details	
Patient surname, forename	Surname, First Name(s)
Name known as	
Date of birth	DOB
Gender	
NHS number	Unit number. NHS number
Patient address	Yes
Patient telephone number(s)	
Admission details	
Method of admission	
Source of admission	
Hospital site	
Responsible trust	
Date of admission	Admitted on
Time of admission	
Discharge details	
Date of discharge	Discharged on
Time of discharge	
Discharge method	
Discharge destination	[Drop down menu]
• type of destination	
• destination Address	
• living alone	
Discharging consultant	Consultant
Discharging specialty/department	Ward

Appendix 3 – Structure and content standards for discharge summaries mapped against hospital electronic discharge summary headings

Clinical information	
Diagnosis at discharge	Diagnosis section (primary, secondary)
Operations and procedures	Operations and Procedures
Reason for admission and presenting complaints	
Mental capacity	
Advance decisions to refuse treatment and resuscitation status	
Relevant legal information*	
Allergies	Allergies
Risks and warnings	Complications
Clinical narrative	Medical Treatments
Relevant investigations and results	Investigations [results also shown]
Relevant treatments and changes made to treatments	
Measures of physical ability and cognitive function	
Medication changes	Medication status: altered dosage, started drug, stopped drug
Discharge medications	Medication on discharge
Medication recommendations	A line for each discharge medication
Advice, recommendations and future plan	**Additional information/instructions**
Hospital	
GP	Additional follow-up info to GP
Community and specialist services	
Information given to patient and/or authorised representative	
Patient's concerns, expectations and wishes	
Results awaited	
Person completing summary	
Doctor's name	
Grade	
Specialty	
Doctor's signature	
Date of completion of discharge record	
Bleep number*	
Distribution list	

Appendix 4 – Medicine

Table 7 Admission record content and structure standards audit results

	Heading/Sub-Heading	Before N=40		After N=68	
		Hdngs present %	Info Present %	Hdngs present %	Info Present %
1	Responsible consultant	90	73	100	56
2	Clerking doctor	93	90	100	71
3-6	Clerking 'administrative' details	82	78	100	63
7	Reason for admission and presenting complaints	93	98	100	88
8	History of each presenting complaint	95	95	100	93
9	Past medical, surgical and mental health history	95	88	100	90
	Medication Record				
10	Current and relevant previous medications	88	80	100	87
11	Relevant previous medications	13	15	100	12
	Relevant Legal Information				
12-15	Mental Capacity etc including organ donation	0	0	100	8
16	Allergies and adverse reactions	95	88	100	82
17	Risks and warnings	68		100	15
	Social History				
18-20	Lifestyle and social history and social care	93	84	100	51
21	Family history	95	63	100	62
22	Systems enquiry	-	-	100	54
23	Patient's concerns, expectations and wishes	5	0	100	19
	Observations and Findings				
24	General appearance	90	73	100	93
25	Structured scales	10	3	100	66
26	Vital signs	78	85	100	87
27-35	Clinical examination	65		100	55
35	Problem list and/or differential diagnosis	93	90	100	90
36	Relevant risk factors	70	58	100	46
37	Discharge planning	95	93	100	44
	Management Plan				
38-39	Summary and interpretation of findings and next steps	48	63	100	72
40	Special monitoring required	8	10	100	7
41	Resuscitation status	3	3	100	7
42	Information given to the patient and/or authorised representative	3	3	100	15
43	Investigations and initial procedures	78	50	100	52

	Person Completing Summary				
44	Doctor's Name	95	90	100	44
45	Grade	95	85	100	41
46	Signature	55	48	100	44
47	Specialist registrar/senior review	40	33	100	49
48	Post Take Ward Round	3	3	100	59

Table 8 Discharge record content and structure standards audit results

	Heading/Sub-Heading	**Before N=40**		**After N=66**	
		Hdngs present %	**Info Present %**	**Hdngs present %**	**Info Present %**
	Admin Details				
1	GP Details (eg GP Name, Practice Address)	100	98	100	100
2-5	Patient name, DoB, Id no, Address	100	95	100	100
	Admission and Discharge Details				
6-8	Date of Admission, Discharge and destination	100	93	100	100
9	Discharging Consultant	100	95	100	100
10	Discharging Speciality/Department/Ward	100	95	100	99
	Clinical Information				
11	Diagnosis at Discharge	100	93	100	99
12	Medical Treatments	100	15	100	11
13	Operations and Procedures	100	5	100	0
14	Relevant Investigations and Results	100	58	100	74
15	Complications	100	0	100	0
16	Allergies	100	30	100	29
	Advice, Recommendations and Future Plan				
17	Additional Information/Instructions	100	50	100	50
18	Additional Follow Up Information for the GP	100	43	100	49
19	Medication Changes	100	23	100	27
20	Discharge Medications	100	80	100	83
	Person Completing Summary				
21	Doctor's Name, grade, signature	100	90	100	98
24	Date Discharge Record Completed	100	88	100	99
25	Bleep Number	100	53	100	52

Appendix 5 – Surgery

Table 9 Admission record content and structure standards audit results

	Heading/Sub-Heading	Before N=20		After N=5	
		Hdngs present %	Info. Present %	Hdngs present %	Info Present %
1	Responsible consultant	30	45	100	55
2	Clerking doctor	65	85	100	55
3-6	Clerking 'administrative' details	48	70	100	51
7	Reason for admission and presenting complaints	75	100	100	18
8	History of each presenting complaint	55	95	100	73
9	Past medical, surgical and mental health history	70	85	100	73
	Medication Record				
10	Current medications	65	70	100	45
11	Relevant previous medications	20	25	100	0
	Relevant Legal Information				
12-15	Mental Capacity etc including organ donation	16	4	100	0
16	Allergies and adverse reactions	10	20	100	64
17	Risks and warnings	0	5	100	0
	Social History				
18-20	Lifestyle and social history and social care	25	30	100	42
21	Family history	10	15	100	55
22	Systems enquiry	0	0	100	27
23	Patient's concerns, expectations and wishes	0	5	100	0
	Observations and Findings				
24	General appearance	15	65	100	27
25	Structured scales	5	0	100	64
26	Vital signs	40	50	100	27
27-35	Clinical examination	18	29	100	45
35	Problem list and/or differential diagnosis	50	75	100	73
36	Relevant risk factors	5	15	100	9
37	Discharge planning	10	30	100	18
	Management Plan				
38-39	Summary and interpretation of findings and next steps	63	75	100	18
40	Special monitoring required	0	15	100	0
41	Resuscitation status	0	0	100	0
42	Information given to the patient and/or authorised representative	5	20	100	9
43	Investigations and initial procedures	25	50	100	64

	Person Completing Summary				
44	Doctor's Name	40	80	100	36
45	Grade	35	80	100	18
46	Signature	45	80	100	36
47	Specialist registrar/senior review	5	25	100	27
48	Post Take Ward Round	0	10	100	9

Table 10 Discharge record content and structure standards audit results

	Heading/Sub-Heading	**Before N=20**		**After N=1**	
		Hdngs present %	**Info. Present %**	**Hdngs present %**	**Info Present %**
	Admin Details				
1	GP Details (eg GP Name, Practice Address)	100	80	100	1
2-5	Patient name, DoB, Id no, Address	100	95	100	1
	Admission and Discharge Details				
6-8	Date of Admission, Discharge and destination	100	93	100	1
9	Discharging Consultant	100	80	100	1
10	Discharging Speciality/Department/Ward	100	80	100	1
	Clinical Information				
11	Diagnosis at Discharge	100	80	100	1
12	Medical Treatments	100	20	100	0
13	Operations and Procedures	100	45	100	0
14	Relevant Investigations and Results	100	75	100	0
15	Complications	100	15	100	0
16	Allergies	100	35	100	0
	Advice, Recommendations and Future Plan				
17	Additional Information/Instructions	100	75	100	0
18	Additional Follow Up Information for the GP	100	43	100	0
19	Medication Changes	100	15	100	0
20	Discharge Medications	100	30	100	0
	Person Completing Summary				
21	Doctor's Name, grade, signature	100	37	100	1
24	Date Discharge Record Completed	100	40	100	1
25	Bleep Number	100	30	100	1

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