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Review of Clinical Coding

Betsi Cadwaladr University Health Board

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Summary report

Introduction

1. Clinical coding is defined by the NHS Classifications Service as '*the translation of medical terminology, as written by the consultant, to describe a patient's complaint, problem, diagnosis, treatment or reason for seeking medical attention into a coded format which is nationally and internationally recognised*'.
2. Clinical coded data is core to the information used by NHS organisations to govern the business and ensure that resources are used efficiently and effectively. Coded data informs decision-making and strategic plans. It is also fundamental in reporting quality and performance, including mortality rates.
3. In England, coded data is also used in Payment by Results, the system by which trusts are paid for services they provide. Although NHS organisations in Wales are not paid in relation to activity, all health boards have now adopted patient level costing as a way of allocating costs to activity, based on coded data. This patient level costing is becoming increasingly important in informing discussions about the transfer of monies between health boards. The linkage between coding and income has meant that many hospitals in England have invested in the clinical coding department. In Wales this has not been the case.
4. Clinical coding featured in the recent Francis Report into the failings at Mid Staffordshire NHS Foundation Trust. Evidence presented to the second inquiry into the Mid Staffordshire care failings pointed to the fact that the Board had convinced itself that the reported high mortality rate was due to the poor quality of the coded data that underpinned it, rather than any failings in the care provided to patients. The readiness to explain away the high mortality rates as being down to coding and data quality ultimately had tragic consequences for many patients at the Trust. The report concluded that executives and independent members needed to be more aware of issues relating to coding, and their relationship to management information that is used to measure performance and outcomes.
5. The focus on clinical coding in Wales has been mainly in respect of the timing to complete the coding process. The Welsh Government had set a target that by the end of each financial year, 95 per cent of hospital episodes should have been coded within three months of the episode end date. Many health boards struggled to meet the completeness target with significant numbers of cases waiting to be coded. The main reason for backlogs appeared to be staff capacity.

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6. In response to the need for accurate and timely clinical coding, the Director of Delivery and Deputy Chief Executive NHS Wales wrote to all Chief Executives in January 2013. He raised the need for a renewed and sustained commitment to coding quality and to seek assurance that required standards for timeliness and completeness would be met and maintained. The targets set by Welsh Government were revised with immediate effect. These included:
- a requirement for NHS bodies to meet the 95 per cent completion target on an ongoing monthly basis, and not just at year end; and
 - a new target that for any given 12 month period, 98 per cent of all hospital episodes should be coded within three months of the episode end date.
7. In setting these targets, the Welsh Government recognised that there was no mechanism in place to continually assess the accuracy of clinical coded data in Wales. Plans were subsequently put in place to develop a national programme of clinical coding audit and a new National Clinical Coding Audit lead was appointed in July 2013 to take forward this work from within the NHS Wales Informatics Service (NWIS).
8. Given the concerns about the timeliness and accuracy of clinical coding across Wales, the increasing application of patient level costing, and the importance of accurate management information, the Auditor General decided to undertake a review of clinical coding across all health boards in Wales, as well as Velindre NHS Trust.
9. The review sought to answer the question: '*Do clinical coding arrangements support the generation of timely, accurate and robust management information?*' The work was undertaken in partnership with the NWIS Clinical Classifications Team¹ and is being used by NWIS to provide a baseline position on clinical coding accuracy and management arrangements across Wales. The approach included a particular focus on three main specialties which account for a significant proportion of hospital activity. These specialties were general surgery, general medicine and trauma and orthopaedics. The approach taken to delivering the review is set out in more detail in [Appendix 1](#).

¹ The Clinical Classifications Team provides support and guidance to clinical coders in NHS bodies and forms part of the NHS Wales Informatics Service.

Our main findings

- 10.** Our review has concluded that whilst there has been a positive investment and focus on clinical coding within the Health Board, a lack of consistent coding processes, low clinical engagement and slow access to medical records could potentially affect the accuracy of clinical coded data:
- The Health Board recognises the importance of clinical coding but resources may be insufficient, stronger links are needed to medical records and the Board needs to focus more on the accuracy of clinical coded data in its reviews:
 - clinical coding is a corporate priority with accredited performance but there is little focus on the accuracy of coded data;
 - accountability for coding is clear but there are opportunities to improve engagement between coders and medical records; and
 - there is a clear commitment to invest in clinical coding with a positive focus on training and development although the level of resource allocated to coding may not be sufficient.
 - The effectiveness of the coding process is affected by the low levels of clinical engagement, slow access to medical records and a lack of consistent coding processes:
 - The health board historically lacks an overarching single clinical coding policy but this is currently being addressed.
 - Access to electronic information is good, however staff are experiencing delays in accessing some records, the quality of which is also variable:
 - there is variation in the speed of access to medical records both at site and speciality levels within Wrexham Maelor and Ysbyty Gwynedd;
 - medical records are of variable quality across the health board, with Wrexham Maelor site of a higher standard, however the size of many medical records is an issue; and
 - coders have a good range of access to a range of electronic systems.
 - The approach to coding is not consistent and the time it takes to code varies by site and speciality.
 - There have been good opportunities for career development within teams, but filling vacancies and developing succession plans are vital for maintaining stability.
 - There are elements of positive clinical engagement particularly in Gwynedd, however overall engagement with clinicians in the clinical coding process is mixed.
 - Processes for external validation are positive with opportunities to develop a programme of internal audit to assure quality although feedback to the team needs to be improved.

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- Clinical Coded data is used appropriately with good overall performance against Welsh Government standards, there are areas for improvement related to consistency standards and accuracy:
 - Although clinical coded data meets the validity and timeliness standards set by Welsh Government improvements could be made to data consistency and accuracy levels at Ysbyty Gwynedd:
 - the health board met the national validity standards for data derived by clinical coding for 2013-14, but it failed to meet all of the national consistency standards;
 - the health board achieved the Welsh Government target that activity should be coded within three months with performance continuing to be achieved during the year to date; and
 - the review of clinical coding accuracy identified error rates ranging between 0 and 15 per cent.
 - Clinical coded data is being used appropriately throughout the health board although the Board is not sufficiently aware of the accuracy of coding implications, which could be made more explicit to the board.

Recommendations

11. We make the following recommendations to the health board.

Board Awareness

- R1 Improve Board reports to include detailed information on accuracy as well as comparative data:
- provide more information on accuracy of coding as well as backlogs and the effect this has on RAMI figures; and
 - undertake training with board members on clinical coding to raise awareness of implications of clinical coding accuracy.

Clinical Coding Policy and Procedure

- R2 Introduce a single coding policy and procedure across the health board which brings together all practices and processes to ensure consistency. The policy and procedure should:
- ensuring coding practices are well described;
 - providing guidance and feedback to staff to enable consistent practices across the health board;
 - ensure plans are put in place to fill current vacancies and also ensure effective succession planning;
 - address variations in practices across the three sites; and
 - strengthen internal coding audits.

Clinical Engagement

R3 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the coding process is recognised:

- embedding a consistent approach to clinical coding training for medical staff across the health board;
- ensuring a consistent approach to medical staff induction across the health board;
- encourage the use of coding information for uses other than for mortality statistics; and
- improve clinical engagement in the validation of coded data to drive improvements in quality and awareness of potential use of information.

Medical Records

R4 Improve the arrangements surrounding medical records, to ensure that accurate and timely clinical coding can take place. This should include:

- improving engagement between the clinical coding department and medical records;
- ensuring quicker access to records for coding staff;
- addressing the size of casenotes by clarifying roles and responsibilities; and
- ensuring the availability of training on the importance of good quality medical records to all staff.

Source: Wales Audit Office 2014

Detailed report

The Health Board recognises the importance of clinical coding but resources may be insufficient, stronger links are needed to medical records and the Board needs to focus more on the accuracy of clinical coded data in its reviews

Clinical coding is a corporate priority with accredited performance but there is little focus on the accuracy of coded data

12. Our observation of boards as part of our Structured Assessment² in 2012 suggested that not all boards in Wales were aware of clinical coding issues, or the fact that poor clinical coding performance can adversely affect the robustness of information for strategic decision-making and service monitoring.
13. As part of our Structured Assessment in 2013, we surveyed board members across Wales to gauge their understanding of clinical coding within their organisations, and their level of assurance that clinical coding arrangements are robust. We received responses from six of the board members in Betsi Cadwaladr University Health Board. The full results from our survey of board members can be found in [Appendix 2](#).
14. Due to the low number of responses, it is difficult to draw solid conclusions. However, there was consensus from the limited responses, with five of the six board members feeling they had awareness of the factors that affect the robustness of clinical coding. However, five of the six wanted more information on clinical coding and the extent to which it affects the quality of performance information. One board member commented that it would be helpful to have training on data interpretation for the board to help understand all available information.
15. Clinical coding is a corporate priority, largely driven by the need for an accurate Risk Adjusted Mortality Index (RAMI) but there is a need to raise wider awareness of the implications of coding as a whole. A review of board papers shows that the Board receives information relating to clinical coding through the quarterly Integrated Quality, Performance and Workforce Report. This report presents information on the RAMI performance by site and overall for the Health Board, as well as high level commentary on action being taken at each site in respect of performance. Supporting committee arrangements are provided through Quality and Safety Committee, which review RAMI figures and receive detailed RAMI and coding reports produced by the Medical Director.

² The Structured Assessment work examines the arrangements in place to secure efficiency, effectiveness and economy in the use of NHS resources.

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16. In the last 23 months, the Quality and Safety committee have received the results of work undertaken to understand comparatively higher RAMI figures at Ysbyty Gwynedd and Ysbyty Glan Clwyd. This review demonstrates the health board's work in reviewing case notes linked to mortality reviews which has resulted in a review of coding data. Since April 2014, arrangements for reviewing Quality and Safety information have changed, with this information being reviewed alternate months between the Board and Quality & Safety.
 17. However, the focus on clinical coding is primarily in relation to reporting accurate mortality data, not necessarily on the importance of coding in the wider aspect of management information. The focus to date has also been on timeliness and completeness driven predominantly by the Welsh Government target. The health board has had recognised success in this area, achieving a CHKS award for their achievement of complete and timely information for the third year running. However, this award is not a reflection on the quality of data produced, as they do not undertake any detailed inspection of coding accuracy.

Accountability for coding is clear but there are opportunities to improve engagement between coders and medical records

18. In the health board, clinical coding sits within the Office of the Medical Director, reporting through the Informatics Department. Day to day management is by the Head of Clinical Coding who reports to the Head of Information, who in turn reports to the Assistant Director of Informatics. The Head of Information has been keen to ensure that coding has the necessary focus and resources. Recent revisions to the management structure have strengthened management and provided opportunities within the team for career progression.
19. The Head of Clinical Coding oversees the clinical coding function. There are three main clinical coding teams; Ysbyty Gwynedd (Ysbyty Gwynedd), Glan Clywd Hospital (Glan Clywd) and Wrexham Maelor Hospital (Wrexham Maelor).
20. The Head of Clinical Coding is based at Wrexham Maelor, and is supported by an Assistant Head of Coding at Glan Clwyd and a Senior Team Leader at Ysbyty Gwynedd who all provide day-to day management to their respective teams. Each site now has a clinical coding team leader in place, their role to support the clinical coding manager on site by undertaking day-to-day supervision of the coding team, monitoring the delivery of targets and undertaking internal clinical coding audits. At the time of our review, these arrangements were relatively new, and staff were still being trained and settling into the new roles.
21. Informatics services within the health board received additional monies in 2011, with clinical coding receiving an additional £600k for investment in training and new staff. To ensure delivery of coding targets this year additional monies have been spent on overtime and £48k on agency coders to address backlogs.

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22. Clinical coding plays a key part in the informatics process. Because clinical coding forms part of the Informatics Department, there is the potential for direct links with the data quality agenda and the wider Information Governance arrangements. Clinical coding features on the agendas of the relevant information forums such as the Health Information Group. Although informal working relationships are in place between coding and medical records there is no formal coding engagement on the Health Records Group.
23. As part of our medical staff survey, we asked the opinion of staff of the overall quality of medical records. Of those responding, 40 per cent found they were average but a third felt they were below average or poor. The main results of the medical staff survey can be found in [Appendix 3](#).
24. Our fieldwork identified a mixed picture from clinicians as to the status of adoption of the Royal College of Physicians (RCP) standards³ to improve the quality of its medical records. Our responses to the medical staff survey show that just over half of medical staff are aware of the standards although there was mixed views as to whether standards had been adopted:
- fourteen out of 27 medical staff (52 per cent) were aware of the RCP standards; and
 - six out of 14 medical staff (43 per cent) said that the health board had adopted standards.
25. One way of improving the quality of medical records is by embedding the importance of medical records in the training of staff. In the responses to the medical staff survey, 24 of the 27 staff (89 per cent) stated that they had not received any training to improve record keeping in the last two years.

There is a clear commitment to invest in clinical coding with a positive focus on training and development although the level of resource allocated to coding may not be sufficient

26. The extent to which hospital activity is coded to a good quality is partly dependent on the level of resources that an organisation is prepared to invest in its clinical coding function. This is in terms of both staffing levels, but also the arrangements to ensure that staff have access to training and development opportunities, which would enhance the quality of clinical coding.

³ 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 RCP Health Informatics Unit (HIU) and funded by NHS connecting for Health.

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- 27.** Currently, only information relating to hospital admissions (in the form of finished consultant episodes (FCE)), and more recently procedures undertaken in an outpatient setting, are required by Welsh Government to be coded. With additional resources, clinical coding has the potential to respond to a significant gap in intelligence by extending the range of activity that is coded. This could include the coding of GP referrals, all outpatient visits or attendances to emergency departments who are not admitted.
 - 28.** The core coding team (ie, those staff whose primary role is to undertake clinical coding) is 29.3 FTEs (consisting of 1.5 FTE at Band 5 which is the proportion of time spent coding by supervisors, 22.8 FTEs at Band 4 and 5.0 FTE Band 4AU). The clinical coding remit for the health board covers all the FCE, plus outpatient procedures in accordance with national guidance. Emergency department attendances are coded if patients are subsequently admitted to a ward.
 - 29.** If demand from FCE continues in line with 2012-13, the required level of core clinical coding staff needed to meet FCE demand would be in the region of 36 FTE's⁴. This is based on a recognised standard workload level of 30 FCE's per day per full-time coder. This would indicate a deficit in the current staffing establishment for the core clinical coding team of 6.7 FTEs.
 - 30.** NWIS currently provides free access to the foundation training course for clinical coders, along with refresher training and specific training on new versions of the coding classification structures. All staff within the health board have attended the foundation course training provided by NWIS.
 - 31.** Staff are supported within the health board to achieve further coding qualifications. Twenty six of the health board staff are accredited clinical coders, with two working towards the qualification. Changes to job descriptions mean that all new staff appointed are expected to acquire the accredited clinical coding (ACC) qualification whilst in post. Staff are supported through training, mentoring and also the payment of the professional Institute of Health Records and Information Management (IHRIM) membership which is needed to undertake the exam. All this is positive as the achievement of qualifications will both improve the quality of coding but also support career progression.
 - 32.** The health board has also supported, and continue to support, staff to achieve the advanced modules of clinical coding auditor, which allows the health board to develop its own programme of clinical coding accuracy reviews. Positively, unlike many other health boards across Wales, there are two clinical coding auditors now in post, with four more awaiting training. This resource will be extremely valuable to the health board in driving up accuracy. The use of coding auditors ensures that internal work on reviewing the quality of data is in line with national clinical coding audit methodology.

⁴ Calculation based on FCE activity for 2012-13, divided by workload assumption of 30 FCE's per day, divided by a standard availability of 200 working days per year per full time equivalent (FTE) (excluding bank holidays, leave entitlements and commitments to training and development (including mandatory training and personal development reviews)).

The effectiveness of the coding process is affected by the low levels of clinical engagement, slow access to medical records and a lack of consistent coding processes

The health board historically lacks an overarching single clinical coding policy but this is currently being addressed

33. The health board currently does not have a clinical coding policy, which covers all sites and activities. There are historical policies in place for Wrexham Maelor and Glan Clwyd, with no policy in place in Ysbyty Gwynedd. The health board has recognised the need for a single policy to address potential inconsistencies in practice and to provide more clarity for staff as to what is expected of them. At the time of our review this was currently being drafted.
34. Because clinical coding staff are located across a number of sites, it is important that there is some consistency in coding practices. During our review, we found some inconsistency of practice across the sites. An example of this is the coding of mental health activity, which is undertaken by the coding staff at Ysbyty Gwynedd but by other staff not directly managed by the coding team at Wrexham Maelor and Glan Clwyd.
35. There is an monthly internal meeting with the Head of Clinical Coding, Assistant Head of Coding, Senior Team Leader and site based team leaders. The purpose of which is to raise any issues with coding and address consistency issues. This is positive and provides the mechanism to support improvements in coding. However, the messages from these meetings do not appear to be filtering back to the staff as they reported a lack of feedback on issues arising from these meetings.
36. When coding activity, it is vital that coders adhere to national standards to ensure that clinically coded data is comparable across Wales and is of the highest quality. National standards are generally based on the UK national standards for clinical coding set out by the NHS Classifications Service within NHS England. Where there are specific differences between NHS Wales and the rest of the UK, Welsh clinical coding standards will be applied through the NWIS Clinical Classifications Team. To support guidance and clarification of national standards, the NWIS Clinical Classifications Team will provide a range of additional documentation such as communications and access to a clinical coding helpline. This guidance is disseminated by the Head of Clinical Coding, through to the coding managers and team leaders. The Head of Clinical Coding engages well with NWIS and attends the regular meetings.

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- 37.** On occasions, it may be necessary for organisations to develop supplementary procedures to clarify the allocation of codes where local circumstances may make it difficult for coders to identify a diagnosis or procedure, for example, where there is a new clinical intervention or it differs from elsewhere in Wales. These procedures must conform to national standards and are generally developed in conjunction with clinicians. The health board has a number of supplementary procedures in place but it is not clear if these are compliant with national standards or are consistent across the health board.

Access to electronic information is good, however staff are experiencing delays in accessing some records, the quality of which is also variable

There is variation in the speed of access to medical records both at site and speciality levels within Wrexham Maelor and Ysbyty Gwynedd.

- 38.** To facilitate the achievement of the Welsh Government target that 95 per cent of coding activity should be completed within three months of the end of the hospital episode, it is important that clinical coders get timely access to patient's medical records.
- 39.** Once a patient is discharged or transferred, the majority of medical records can be released directly to the clinical coding teams. However, some medical records can find their way to many different departments before reaching the clinical coding department, for example, to medical secretaries for correspondence to be filed or to bereavement officers to complete the necessary paperwork to register a death.
- 40.** As part of our fieldwork, we undertook a tracking exercise, using the medical records tracking tool⁵, to track medical records from the ward through to the clinical coding department to see how quickly clinical coders are able to access medical records. We were unable to undertake the tracker exercise at Glan Clywd because the PAS system does not record previous tracking history, therefore when we requested the casenotes for our review the tracking history was overwritten.
- 41.** The findings of our tracker exercise indicate that Wrexham Maelor are able to access notes within a week and a half, compared to Ysbyty Gwynedd notes which take around three and a half weeks on average to make it to the coding department. However, within this some specialties were more problematic with both Wrexham Maelor and Ysbyty Gwynedd experiencing long waits for General Medicine case notes. Ysbyty Gwynedd had the longest average waits for all specialties.

⁵ To be able to locate medical records at any given time, NHS bodies use a tracking tool. These can take the form of an electronic module on the patient administration system (PAS) or a paper format. In Betsi Cadwaladr Health Board, the tracking tool forms a specific module on the PAS systems in place.

Exhibit 1: Speed of access to medical records following discharge or transfer in Ysbyty Gwynedd

		General Medicine	General Surgery	Trauma & Orthopaedics
Speed of accessing medical records (weeks)	Average	3.9	3.3	3.3
	Shortest	0.1	0.1	0.1
	Longest	24	21	23
Percentage of medical records received by the coding team.....	...within 4 weeks (one month) of discharge	59%	74%	66%
	...within 8 weeks (two months) of discharge	81%	84%	83%
	...within 12 weeks (three months) of discharge	94%	95%	97%

Source: Wales Audit Office 2014

Exhibit 2: Speed of access to medical records following discharge or transfer in Wrexham Maelor

		General Medicine	General Surgery	Trauma & Orthopaedics
Speed of accessing medical records (weeks)	Average	3.6	0.3	0.4
	Shortest	0	0	0
	Longest	27.6	2.6	6.4
Percentage of medical records received by the coding team.....	...within 4 weeks (one month) of discharge	78%	100%	95%
	...within 8 weeks (two months) of discharge	81%	100%	100%
	...within 12 weeks (three months) of discharge	100%	100%	100%

Source: Wales Audit Office 2014

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42. To support timely access to medical records, and to reduce the time spent by clinical coding staff tracking down medical records, many clinical coding departments across Wales have appointed support staff who specifically collate, source and locate medical records. These staff are often referred to as ‘runners’. At the time of our fieldwork, the health board had these staff in all sites with a total establishment of 8.56 FTEs. At the time of our review, there were two posts vacant due to internal promotion within the teams.
43. A diary exercise undertaken for a period of two weeks⁶ indicated that the runners had a positive impact on the activity of the clinical coding teams, with coding staff spending less than two per cent of their time locating medical records. Visits to a sample of wards across the three specialties reviewed identified that the dedicated runners in post have built good working relationships at ward level.

Medical records are of variable quality across the health board, with records at the Wrexham Maelor site of a higher standard however the size of many medical records is an issue

44. The quality of medical records can have a direct impact on the quality of coding. Clinical coders rely on the inclusion of key information within the medical record to enable them to capture all that has happened to the patient. Medical records therefore need to be of a high quality, in terms of the way the medical record is ordered and the completeness of the information that it contains.
45. As part of our fieldwork, we reviewed a sample of 360 medical records across the specialties reviewed in the three main hospital sites. We based our review on the 16 standards developed by the RCP. Representatives from the NWIS Clinical Classifications Team used the same sample to complete the review of clinical coding accuracy. Of the 360 medical records in the sample, we found a compliance rate of 90 per cent. The following exhibit contains more detail.

Exhibit 3: Overall percentage level of compliance with RCP standards by hospital site and specialty

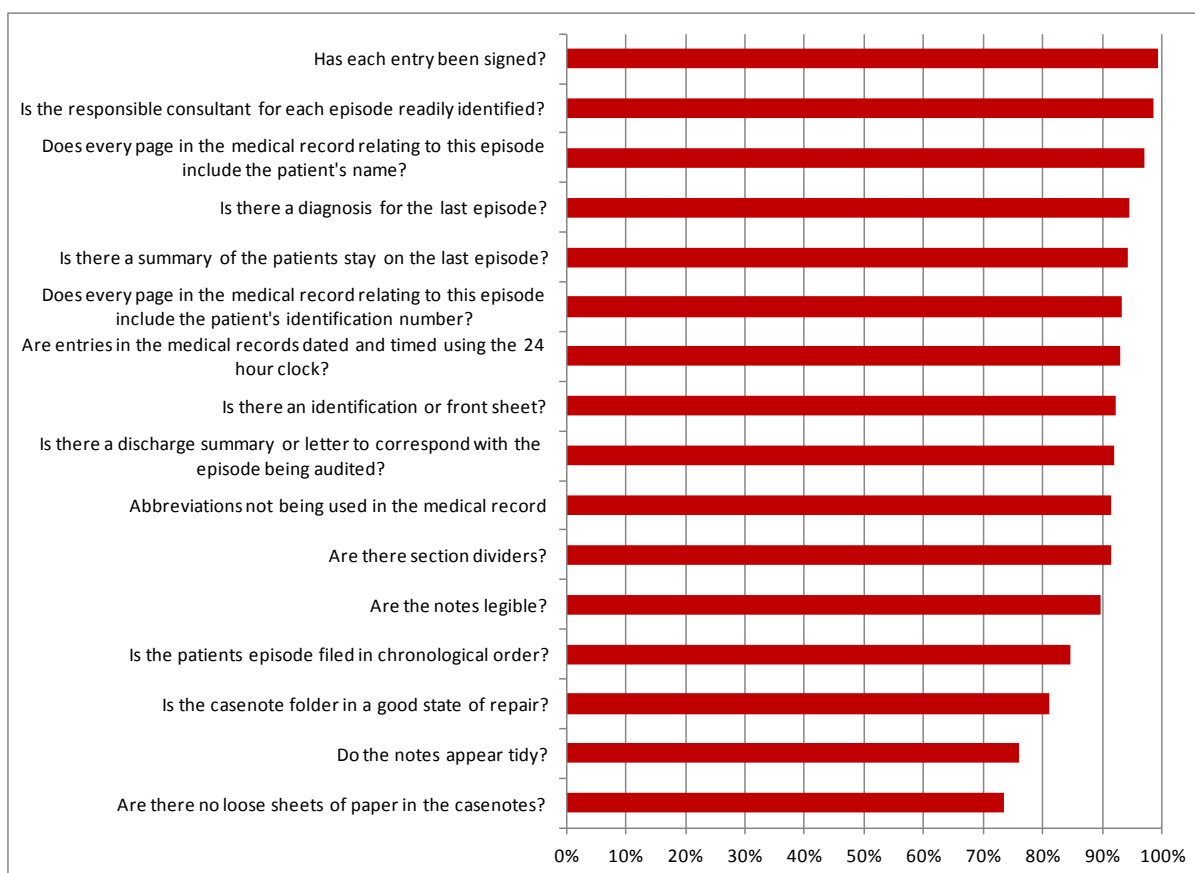
	General Medicine	General Surgery	Trauma & Orthopaedics
Ysbyty Gwynedd	87%	87%	85%
Glan Clwyd Hospital	84%	89%	95%
Wrexham Maelor	88%	92%	97%

Source: Wales Audit Office 2014

⁶ A diary exercise was completed for two weeks for all staff.

46. The medical records team have responsibility for setting up the record and ensuring that it is stored appropriately. However, the responsibility for filing information and the quality of the information recorded in the medical records rests with other staff, particularly ward clerks, secretaries and clinical staff. Particular standards identified as being problematic (**Exhibit 3**) in the review of medical records fall under the responsibility of these staff. This includes ensuring that papers within the records are secure and tidy. One area that was raised across the three sites which does not form part of the RCP standards is the size of the case notes. Many case notes were very large volumes; this was especially prevalent at Glan Clywd. The size of these case notes, some more than 20cm thick, mean that locating information is difficult as well as handling and storing. Responsibility for splitting these ‘fat file’s’ is unclear between ward staff and medical records staff, however this needs to be addressed as there is a risk that vital information relating to a patient episode could be lost. A breakdown of the compliance rate against the RCP standards by site and specialty is included in **Appendix 4**.

Exhibit 4: Overall level of compliance against the RCP standards



Source: Wales Audit Office 2014

Coders have a good range of access to a range of electronic systems.

47. Given the increasing move towards electronic reporting, some information that coders require for clinical coding is available through clinical information systems, such as the Radiology Information System (Radls2) and the pathology system (LIMS). In some instances, it can also be deemed appropriate that coders code using only the information contained on the electronic system, for example, attendances to a diagnostic unit such as endoscopy, thereby reducing the need for them to access patient records. It is therefore important that coding departments have appropriate levels of access to all relevant clinical information systems that are in operation.
48. All clinical coding staff across the health board have access to a range of clinical information systems. Staff at Glan Clywd have had issues accessing the ORSOS theatre system as the system was unavailable for a number of months due to technical issues, but this has since been resolved.
49. It is important that clinical coders have access to the internet and intranet to allow the staff to access the necessary training and resources available online through the NWIS Clinical Classifications Team and NHS Classifications Service in England. Clinical Coding Communications from NWIS are also issued by email so having access to an NHS email account is of equal importance. All clinical coding staff in the health board have full access to internet, intranet and email, which is good practice.

The approach to coding is not consistent and the time it takes to code varies by site and specialty

50. Staff are located in a specific district general hospital (DGH). The majority of their workload focuses solely on the activity within the base DGH. However, between the three DGH sites there are variations in coding responsibility relating to mental health and community hospital coding. At Ysbyty Gwynedd coders within the team are coding activity relating to mental health and community hospital, whereas in Wrexham Maelor coding staff do not code mental health but do code community provision. At Glan Clywd, they do not code either mental health or community.
51. Clinical coding workload can be managed in two ways, either by adopting a general approach so that staff code all specialties, or by allocating coders to specific specialties. Both approaches have benefits:
 - A general allocation of work supports an even workload across the staff, the acquiring of experience and knowledge to obtain the ACC qualification, as well as ensuring a balanced approach to meeting the demand across all of the specialties. However, this approach requires staff to have a full understanding of the coding relating to all specialties, some of which may have particular procedures or diagnoses that are complex to code. This approach can dilute skills and experience and therefore it is important that there is opportunity from within the team for peer support to share experience.

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- A specialty allocation of work supports the development of skills and experience in a number of specialties, which in turn can enhance the quality of coding. However some specialties can be more complex to code than others due to the case mix of patients, and consequently can take longer to process. If these are all processed by only one or two members of staff, backlogs can quickly build in these specialties, particularly if staff are also away from the office for a period of time, eg, on annual or sick leave.
52. There is variation in the allocation of coding workload across the three sites. Wrexham Maelor operate a general allocation approach, whereas Ysbyty Gwynedd and Glan Clywd operate a specialty approach to coding. Ysbyty Gwynedd had introduced a general allocation approach to coding but found that their backlog was increasing, so reverted to the speciality approach. There is positive peer support at all sites, which will support consistency and effective coding between staff members. However, local team meetings are not happening frequently due to pressure of work, and emails are not always an appropriate communication tool.
 53. The 'runners' will collect records from the wards but how they are dealt with in the departments varies. At Wrexham Maelor coders are allocated colours, which relate to the last digit of medical records which ensures a good speciality mix as well as consistent workload and will work through records on this basis, whereas in Glan Clywd and Gwynedd staff work through their respective speciality.
 54. At the time of our fieldwork, the health board had been focussed on addressing backlog and had been prioritising workload to ensure these cases were coded first.
 55. As well as date order, the clinical coding teams will also prioritise deceased patients to ensure that mortality data, to inform the RAMI, is available. Prioritisation of deceased patients can however distort the RAMI data if there are problems with backlogs. In effect, it can decrease the denominator used for the RAMI data (ie, the total number of patients) by excluding live patients by the nature that they are not yet coded. Caution needs to be taken prioritising deceased patients if there are backlogs of workload building up.
 56. As part of our review to understand the speed in which coders have access to medical records, we also reviewed the length of time between medical records becoming available to the department and the completion of the coding process. We were also unable to undertake this review at Glan Clywd due to the lack of tracking information.
 57. For Ysbyty Gwynedd and Wrexham the majority of records are coded within two weeks of being received in the department, one outlier to this is General Medicine at Wrexham Maelor where on average records are kept for nearly seven weeks before being coded.
 58. We were also able to understand the elapsed time between the end date of a patient episode to coding being completed. We found that on average General Surgery episodes were coded at Wrexham Maelor within a week. However, it can take up to 10 weeks for General Medicine episodes at Wrexham Maelor and nearly seven weeks for General Surgery episodes at Glan Clywd to be coded. Exhibit 4 shows the length of elapsed time in weeks between the episode end and coding being completed for each speciality.

Exhibit 5: Elapsed time between episode end and coding

		General Medicine (weeks)	General Surgery (weeks)	Trauma & Orthopaedics (weeks)
Ysbyty Gwynedd	Time taken to code (weeks)	4.9	3.3	3.3
Glan Clwyd		2.4	6.7	2.9
Wrexham Maelor		10	<1	2.6

Source: Wales Audit Office 2014

59. Clinical coding across the health board is currently carried out using an electronic encoder system called Medicode, which is linked to the health board's patient administration system. The health board is using the current version of Medicode.

There have been good opportunities for career development within teams, but filling vacancies and developing succession plans are vital for maintaining stability

60. Staffing levels have remained consistent over the last 12 months. The organisational change process has driven a number of changes, such as the restructuring of the department and the appointment of team leaders at each site. A clear organisational structure is in place, which identifies the coding teams and staffing numbers. However, the historical position of staffing is unclear due to the changes so it is difficult to understand whether staffing levels have improved or deteriorated over the last three to five years.
61. Due to the organisational change process, historically the coding team have been unable to recruit externally having to either promote within their team, which creates more vacancies, or recruit from the internal pool. There have been internal promotions within the team with a runner promoted to coder and undergoing training, as well as a new starter from outside the coding department. At the time of our fieldwork, there were seven vacancies within the team, five members of staff at Band 4 and two staff members at Band 2. This places additional pressure on the team as we have already established they are under resourced due to the workload currently. The requirement for external recruitment is recognised and they are currently completing the recruitment process.
62. There is a good level of clinical coding experience within the department. However, a third of the staff within the department are aged 56 and over, and likely to retire in the next five years. Succession planning is therefore important for the health board, even with the new starters in post.

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63. New starters to the department have their own allocation of work early on in their appointment, as they are not supernumerary. Senior staff mentor trainees provide support and guidance. However, this mentoring can place pressure on senior staff in terms of time commitments with the potential to be missed if there are demands on the team from backlogs. The diary exercise undertaken as part of this review indicated that staff spend less than two per cent of time on mentoring and checking the work of others.
 64. The health board appoints all new clinical coding staff members at Band 4, with the expectation they will acquire the ACC whilst in post. Remuneration for new starters is a percentage of the Band 4 salary in line with Annex U Agenda for Change rules and once qualified they receive the full Band 4 salary. This arrangement is unique to this health board.

There are elements of positive clinical engagement particularly in Ysbyty Gwynedd, however overall engagement with clinicians in the clinical coding process is mixed

65. Clinical engagement has been described as the single most valuable resource to a coding department. The main source of information for clinical coders is that derived from the medical record, and it is clinicians that act as the local resource in helping coders understand the clinical information relating to diagnoses and treatment. It is therefore important that clinicians and coders engage to improve record keeping, confirm codes and provide clinical leadership in identifying and coding co-morbidities.
66. Within the health board, clinical engagement with clinical coding is mixed. Our survey of medical staff indicated that most were satisfied with the purpose of clinical coding and nearly all felt it was important to them. However, their engagement with coding staff within the organisation was low and the majority had not been engaged in any clinical coding validation within the past two years.
67. There is a focus on mortality rather than the wider information that clinical coding underpins. Coders support discussions on clinical coding within mortality reviews, by attending all sessions at Ysbyty Gwynedd or attending part of the meeting at Wrexham Maelor and Glan Clywd. A recent review at Ysbyty Gwynedd into mortality heavily involved the coding team and this is positive. This review resulted in some coding alterations as well as the introduction of changes in practice.
68. Our diary exercise completed as part of this review however confirmed that clinical engagement is limited with a negligible level of time recorded for liaison with clinicians by coding staff during the period reviewed.

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69. Where a clinical coding team is based within a hospital can play an important role in encouraging clinical engagement. All three teams are based with the main hospital sites, although they are generally located away from the clinical areas. Sixty per cent of medical staff responding to our survey were not aware of where the coders were based within the organisation. Additionally although there is adequate space for staff at Ysbyty Gwynedd the fact that the coding department is located some distance from the main building and medical records can cause issues for the transportation of records, especially in adverse weather conditions.
70. Engagement with clinicians however plays both ways, with responsibility also resting with the clinical coding staff to seek clarification from medical staff on episodes of care or patients, where necessary and to be visible within the clinical areas. Three quarters of the medical staff responding to our survey said that coding staff had not sought clarification from them on episodes of care or patients they had been responsible for. Nearly all clinicians reported that coders were rarely or never visible.
71. At the time of our fieldwork, clinical coding positively featured as part of the induction for junior doctors in the form of induction packs and leaflets. However, arrangements seemed to differ across the three sites with differing training materials and approaches. Some material also requires updating to reflect the new health board arrangements. Clinicians however felt that clinical coding did not form part of their induction training (78 per cent), and nearly all (89 per cent) had not received any training in relation to clinical coding within the last two years. Half of the medical staff indicated they would like to receive training on the knowledge and process involved and how they could use the information. Consistent arrangements for medical staff training need to be embedded by the health board.

Processes for external validation are positive with opportunities to develop a programme of internal coding audit to assure quality although feedback to the team needs to be improved

72. To ensure that the clinical coded data submitted centrally is of good quality, it is important that health boards have appropriate mechanisms in place to verify and validate the data as it is processed.
73. Policies and procedures currently in place do not support a focus on quality within the health board, however there are a number of validation arrangements in place. The encoder system Medicode provides some automated validation of coding, as it is input onto the system. The manager and team leaders will also make use of monthly coding timeliness reports, and validation issues identified through PEDW and the benchmarking organisation CHKS. CHKS also undertake performance monitoring of completeness and timeliness. Managers and team leaders feedback issues through direct one to one meetings as well as through the team leaders group.

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74. As well as routine validation, one way of providing assurance of the quality of clinical coding is to undertake detailed audit reviews. The health board has been proactive in implementing a programme of audit, with plans in place for each site to receive an external review every three years. This is a recent project, with Ysbyty Gwynedd receiving the first visit in 2012.
75. With the exception of three yearly reviews, there is currently no regular programme of internal audit, although the team leaders at each site have this responsibility in their job description. With the increasing level of qualified clinical coding auditors, there is an opportunity to introduce regular audit checks, and also report on accuracy to the board not just timeliness and RAMI scores.
76. Ensuring consistent application of coding rules across the health board is a challenge, one that the Head of Coding recognises. A sample of 12 case notes replicated and distributed by the Head of Clinical Coding to the teams resulted in different coding from each site. This highlights the challenge of ensuring consistency not just across the health board but also across all coding departments in Wales.
77. One of the identified models of good practice is to engage clinicians in the validation process. This provides an opportunity for clinicians to support the clinical coding process, but also allows them to be reassured about the validity of the clinical coding data which is often used to inform their own appraisals. This process can involve individual clinicians but can also be facilitated through attendance at specialty meetings such as grand rounds or specialty audit sessions where individual cases may be discussed. Our fieldwork identified that there was little clinical engagement in the validation and this centres on mortality reviews:
- Eighty five per cent reported that they had not been engaged in validation of clinical coding over the last two years.
 - Six medical staff (22 per cent) reported that a representative from clinical coding attended a meeting that they had been present at to provide input into the discussions. A further four (15 per cent) said that they were unsure.
78. Despite the feedback mechanisms being in place, coding staff within the health board feel they get little feedback on their performance or the quality of their work. Performance in terms of completeness and timeliness is reported and staff feel the focus on this is excessive. Feedback on performance also tends to be aligned to the relevant site, potentially missing opportunities for learning across the health board.

Clinical coded data is used appropriately with good overall performance against Welsh Government standards, there are areas for improvement related to consistency standards and accuracy

Although clinical coded data meets the validity and timeliness standards set by Welsh Government improvements could be made to data consistency and accuracy levels at Ysbyty Gwynedd

The health board met the national validity standards for data derived by clinical coding for 2013-14, but it failed to meet all of the national consistency standards

- 79.** In 2008, Welsh Government set out the need for NHS bodies in Wales to adhere to 32 data validity standards relating to admitted patient care⁷. The validity of all admitted patient care data submitted to the Patient Episode Database for Wales (PEDW) is now routinely monitored against these standards on a monthly and annual basis. These data validity standards were the first phase of a series of updated monitoring mechanisms aimed at improving the quality of data in NHS Wales. A number of the data validity standards relate to data derived through the clinical coding process. For the financial year 2012-13, the health board met all of the data validity standards which relate specifically to clinical coded data.
- 80.** Further data quality indicators relating to data consistency have also since been introduced. Data consistency refers to whether related data items within the same dataset are consistent with one another eg, a record that indicates a male patient has given birth would be considered inconsistent. There are 27 data consistency indicators which are applied to admitted patient care, a number of which similarly relate to data derived through the clinical coding process. For the financial year 2012-13, the health board met the majority of the data consistency standards, which relate specifically to clinical coded data, but fell short of the Primary Diagnosis and age standard (95 per cent) with a score of only 86.8 per cent.

⁷ Admitted patient care is the dataset submitted to the PEDW which contains the data relating to finished consultant episodes.

The health board achieved the Welsh Government target that activity should be coded within three months with performance continuing to be achieved during the year to date

81. To ensure that data is coded in a timely fashion, Welsh NHS bodies are required to meet the timeliness and completeness targets as set out by Welsh Government. These targets form part of the Annual Quality Framework and are routinely reported within the performance management frameworks across NHS Wales. In the health board, there is a positive focus on coding timeliness, with regular monitoring of targets. Some staff felt there was undue focus on the timeliness aspect with pressure to achieve performance too great, staff also felt the sites were 'competing' with each other and this was not supportive of quality data being produced.
82. Recent information set out in the health board's Performance Assurance Report indicates that the clinical coding teams are consistently achieving performance against the targets. Performance in May 2014 was reported as:
 - ninety eight per cent of activity for May 2014 coded within the three-month window, compared with the target of 95 per cent; and
 - ninety eight per cent of activity coded within the three-month window within a rolling 12-month period, compared with the target of 98 per cent.
83. As part of our fieldwork, we requested the backlog position as at 30 September 2013. Backlog levels at the health board are less than 0.2 per cent of the total number of FCE's for the past three years. This is good practice.

The review of clinical coding accuracy identified error rates ranging between 0 and 15 per cent

84. All health boards in Wales, with the exception of Powys, submit data to the benchmarking organisation CHKS. A number of indicators reported by CHKS provide a high-level indication of the accuracy of clinical coding. Performance against these indicators shows that Glan Clwyd and Wrexham Maelor are performing well compared with the Welsh average, with Ysbyty Gwynedd in line with the Welsh average. (Exhibit 5).

Exhibit 5: Results from CHKS Monitor Report

	Ysbyty Gwynedd (%)	Ysbyty Glan Clwyd (%)	Wrexham Maelor (%)	All Wales Acute (%)
Use of an invalid primary diagnosis code	0	0	0	0.5
Diagnosis code of 'non-specific' provided	14.1	10.9	13.1	14.5
Sign and symptom provided as primary diagnosis	11.7	8	10.1	11.5

Source: CHKS Inpatient Data Quality Monitor Report January 2014

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- 85.** As part of our review, we worked alongside the NWIS Clinical Classifications Team to undertake a review of the accuracy of clinical coding across the health board. The review was based on a sample of 360 episodes across the three main sites. There were no records identified as being unsafe to audit (records that do not contain information relating to the episode being audited). This is positive.
- 86.** The methodology used to undertake the review was based on audit methodology used in NHS England. The nationally recognised standard used to measure the accuracy of coding is set at 90 per cent. This relates specifically to four coding groups: primary diagnosis, secondary diagnosis, primary procedure and secondary procedure.
- 87.** Overall accuracy across the three sites was good. Both Wrexham Maelor and Glan Clwyd achieved results above the required standards in all the coding groups. Only Ysbyty Gwynedd has results below the standards for primary diagnosis, primary procedure and secondary diagnosis. The high-level results of the review are set out in the following exhibit, with further detail set out in the separate reports issued directly to the health board from the NWIS Clinical Classifications Team.

Exhibit 6: Results of the review of the accuracy of clinical coding undertaken by the NWIS Clinical Classifications Team

	Percentage of codes recorded correctly at Ysbyty Gwynedd	Percentage of codes recorded correctly at Glan Clywd Hospital	Percentage of codes recorded correctly at Wrexham Maelor
Primary Diagnosis	85.23	93.33	93.48
Secondary Diagnosis	76.02	81.97	84.01
Primary Procedure	85.45	91.30	94.0
Secondary Procedure	94.89	94.74	97.64

Source: NWIS Clinical Classification Team

Clinical coded data is being used appropriately throughout the health board although the Board is not sufficiently aware of the accuracy of coding implications, which could be made more explicit to the board

- 88.** Clinical coded data should typically be used for statistical purposes only and to underpin a number of management processes within the NHS such as health needs assessment and performance management. With key patient outcomes measures such as the RAMI coming increasingly into the public domain, it is important that the status of the clinical coded data that underpins these measures is visible to the reader or user.
- 89.** Information on coding is contained in the quality dashboard, which is an assessment across the first five domains relating to high quality and safe care from the Welsh Government's tier 2 measuring delivery framework. Quality and safety meetings review the overall mortality index as well as RAMI figures for each site. In addition, there are local RAMI meetings which are discussing coding. Despite this, there is no reporting of clinical coding accuracy, nor is there any comparison of performance against other health boards in Wales. As with other health boards, detailed information is contained on RAMI on the external website, this again gives no indication of backlogs or accuracy of data. Good performance recognised by CHKS in terms of completeness and timeliness should not be assumed to also mean good quality.
- 90.** Our survey of Board members identified that five of the six board members who responded to our survey would find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information.
- 91.** It is important, however, that the provision of a statement which sets out the condition of clinical coded data does not distract the focus of the reader or user away from the purpose in which the data is being used, for example, backlogs can be used as a reason for under performance against a key performance target. This was the case in Mid Staffordshire Hospital when high mortality rates were too readily attributed to problems with the clinical coding of the data that underpinned the figures. The findings of our survey of Board members would suggest that this is not the case in the health board, with all board members reporting that they were not concerned that the health board too readily attributes under performance against key indicators to problems with clinical coding.
- 92.** Clinical coded data has many purposes but it is not intended to support the clinical management of an individual patient as the coding classification structure can be misleading to a patient. As such, clinical coded data should not be used for that purpose. As part of our medical staff survey, we asked if they would routinely use clinical coded data when communicating with patients. The results of the medical staff survey would suggest that clinical coded data is not being used inappropriately with 19 out of 27 (70 per cent) medical staff reporting that they would never use clinical coded information when communicating with patients. Our review of medical records, did not find any evidence that this was taking place.

Appendix 1

Methodology

Our review of clinical coding took place across Wales between July 2013 and March 2014. Cwm Taf University Health Board acted as a pilot site to enable the Wales Audit Office test, and where necessary, refine the audit methodology. Details of the audit approach are set out below.

Document review

In advance of our fieldwork, we requested and analysed a range of health board documents. These documents included clinical coding policies and procedures, organisational structures, internal and external clinical coding audits, papers to senior management forums, workforce plans, minutes of meetings and training material.

Board member survey

A survey of board members was included in our Structured Assessment work for 2013 across Wales. The survey included a number of questions specifically focused on clinical coding, and was issued in August 2013 for a period of one month. Responses were received from six of the board members in Betsi Cadwaladr University Health Board.

Medical staff survey

A survey covering a broad range of issues relating to clinical coding and medical records was issued to all medical staff in the specialties of general medicine, general surgery and trauma and orthopaedics across Wales. In Powys teaching Health Board, this included all visiting consultants for general surgery and trauma and orthopaedics, and GP's with responsibility for community inpatient beds which are recorded as general medicine for the purposes of PEDW. In Velindre NHS Trust, the survey was issued to all medical staff in the specialty of oncology. The survey was issued electronically in November 2013 for a period of three weeks. Responses were received from 27 medical staff in Betsi Cadwaladr University Health Board.

Interviews and focus groups

Our review team carried out detailed interviews and focus groups in the health board during the weeks commencing 3 March 2014 for Ysbyty Gwynedd and 24 March 2014 for Ysbyty Glan Clwyd and Wrexham Maelor. Interviewees included executive and operational leads for clinical coding, head of information, medical records manager, clinicians for general surgery, general medicine and trauma and orthopaedics, ward clerks, and the clinical coding manager and supervisor. Focus groups were held with clinical coding staff at the three sites.

Health board survey

We asked health boards to complete a survey providing details of their clinical coding arrangements. This included data relating to budgets and expenditure, staffing levels, the IT infrastructure supporting the clinical coding teams, as well as supplementary information relating to medical records. The completed health board survey was submitted in April 2014.

Clinical coding diary

Clinical coding staff were required to complete a diary for a period of two weeks. The diaries were completed during the weeks commencing 31 March 2014 for all sites.

Case note review

Random samples of 30 coded episodes (per speciality and per coding team) were identified from PEDW for the three month period ending four months (allowing for the three month window to complete coding) immediately prior to the date of on-site fieldwork. These samples were then reviewed, using medical records, by the NWIS Clinical Classification Team for accuracy of coding, and by our review team for compliance with the RCP standards for medical records. The sample period reviewed for Betsi Cadwaladr University Health Board was 1 April 2013 to 3 July 2013 inclusive.

Medical records tracker

Random samples of 30 coded and uncoded episodes (per speciality and per coding team) were identified from PEDW for the three month period ending four months (allowing for the three month window to complete coding) immediately prior to the date of on-site fieldwork. These samples were then reviewed using the health board's medical records tracking tool. The sample period reviewed for Betsi Cadwaladr University Health Board was 1 April 2013 to 3 July 2013 inclusive.

Centrally collected data

Data relating to compliance with the data validity and data consistency standards were provided by the Information Standards Manager in NWIS. Data relating to compliance with Welsh Government targets for completeness and timeliness of clinical coding, along with backlog positions were also provided by the NHS Clinical Classifications Team.

Appendix 2

Results of the board member survey

Responses were received from 16 of the board members in Betsi Cadwaladr University Health Board. The breakdown of responses is set out below.

Exhibit A2a: Rate of satisfaction with aspects of coding

	How satisfied are you with the information you receive on the robustness of clinical coding arrangements in your organisation?		How satisfied are you that your organisation is doing enough to make sure that clinical coding arrangements are robust?	
	This Health Board	All Wales	This Health Board	All Wales
Completely satisfied	-	6	-	12
Satisfied	2	43	2	45
Neither satisfied nor dissatisfied	2	36	2	30
Dissatisfied	1	9	2	7
Completely dissatisfied	1	-	-	-
Total	6	94	6	94

Exhibit A2b: Rate of awareness of factors affecting the robustness of clinical coding

	How aware are you of the factors which can affect the robustness of clinical coding arrangements in your organisation?	
	This Health Board	All Wales
Full awareness	1	36
Some awareness	4	45
Limited awareness	1	12
No awareness	-	1
Total	6	94

Exhibit A2c: Level of concern and helpfulness of training

	Are you concerned that your organisation too readily attributes under performance against key indicators to problems with clinical coding?		Would you find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information?	
	This Health Board	All Wales	This Health Board	All Wales
Yes	1	15	5	74
No	4	75	1	23
Total	5	90	6	97

Exhibit A2d: Additional comments provided by respondents from Betsi Cadwaladr University Health Board

- Serious concerns about quality and consistency of coding mainly in relation to RAMI.
- As an Associate Member of the Board and thus not a member of any of the Committees, I haven't received any information regarding Clinical Coding within BCU. Hence, I am unable to answer Question 5 as I am not aware whether the organisation attributes poor performance to coding problems or not.
- The Board requires assurance in relation to clinical coding quality and a broad understanding of its impact. I am not convinced that all Board members would be, or should be, aware of the detail that this questionnaire implies. I would expect this to be the domain of the IG committee.
- I am aware of the importance of not dismissing information based on coding and of the ongoing work to improve completeness and accuracy. I believe that I need assurance on the work that is being undertaken rather than the details of this work.
- We have data presented as to the completeness and timeliness of coding and an overall score which is a compilation of completeness, accuracy and depth. I'd like more information regarding coding richness or depth. I'm aware that when using information derived from coding for benchmarking purposes the validity is dependent on quality and completeness of other organisations coding about which I have no information at all. I think there is a need for training on data interpretation to help the board make sense of all the information that is available.

Appendix 3

Results of the medical staff survey

Responses were received from 27 of the medical staff for General Medicine, General Surgery and Trauma and Orthopaedics in Betsi Cadwaladr University Health Board. The breakdown of responses is set out below.

Exhibit A3a: Views of clinical coding

	Please choose the response which best describes your views of clinical coding?	
	This Health Board	All Wales
I have never heard of it	-	3
I am aware of it but it does not have direct relevance to me	2	10
I think it is important but it does not involve me	8	32
I think it is important and I am occasionally involved	12	64
I think it is important and I am regularly involved	5	21
Total	27	130

Exhibit A3b: Rate of satisfaction with aspects of coding

	How satisfied are you that you have a clear understanding of the purpose of clinical coding?	
	This Health Board	All Wales
Completely satisfied	4	15
Satisfied	14	60
Neither satisfied nor dissatisfied	5	33
Dissatisfied	3	16
Completely dissatisfied	1	4
Don't know	-	-
Total	27	128

Exhibit A3c: A brief description of the areas that medical staff identified that they would like training to cover

- I would love to understand more how the coding is done, whether it captures reliable information and most importantly whether it helps in collecting procedural data for individual operators, so that the information can be used in planning, assessing, validating data.
- It would be useful to have training in how the coding process fully works, so we can better understand the uses and limitations of the process and how to make the coding represent what we as the medical team would want it to for an acute admission episode.
- Which coding system is in use. To cover out-patient diagnoses.
- Process; Role of doctors in the clinical coding process; Training that clinical coders obtain.
- How coding works as which are the primary diagnosis and secondary ones.
- We need a setup to categorize operative procedures properly.
- Need to be advised of reason for coding and its importance. In countries where correct coding is required for funding, I suspect it is taken much more seriously and produces far more accurate data.
- How it's done; how I could use it.
- How clinical coding affects funding. What we as clinicians need to include on notes/discharge summaries to help with coding.
- More details of daily usage between staff and patients.
- What the point is of clinical coding. What's acceptable and what's not.
- Introduction, uses, importance, how it works.

Exhibit A3d: Involvement with clinical coding staff

	Do you have any involvement with clinical coding staff within this organisation?	
	This Health Board	All Wales
None	20	97
Occasional meetings	6	28
Monthly meetings	1	2
Weekly meetings	-	1
Total	27	128

Exhibit A3e: Engagement with validation and clarification of issues

	Have you been engaged in any clinical coding validation within the past 2 years, for example, checking that clinical coders have interpreted information in medical records correctly?		Have clinical coding staff sought clarification from you on episodes of care or patients you have been responsible for?	
	This Health Board	All Wales	This Health Board	All Wales
Yes	4	25	5	48
No	23	103	22	79
Total	27	128	27	127

Exhibit A3f: Availability of medical records

	Do medical records frequently go missing within this organisation?		Are temporary medical records used within this specialty?	
	This Health Board	All Wales	This Health Board	All Wales
Never	2	6	1	5
Rarely	5	29	4	15
Sometimes	10	44	9	38
Often	2	21	2	27
Frequently	8	31	10	45
Total	27	131	26	130

Exhibit A3g: Quality of medical records

	Overall, what is your opinion of the quality of medical records in this organisation?	
	This Health Board	All Wales
Very good	-	9
Good	6	24
Average	11	50
Below average	5	23
Poor	5	24
Total	27	130

Exhibit A3h: Additional comments provided by respondents from Betsi Cadwaladr University Health Board

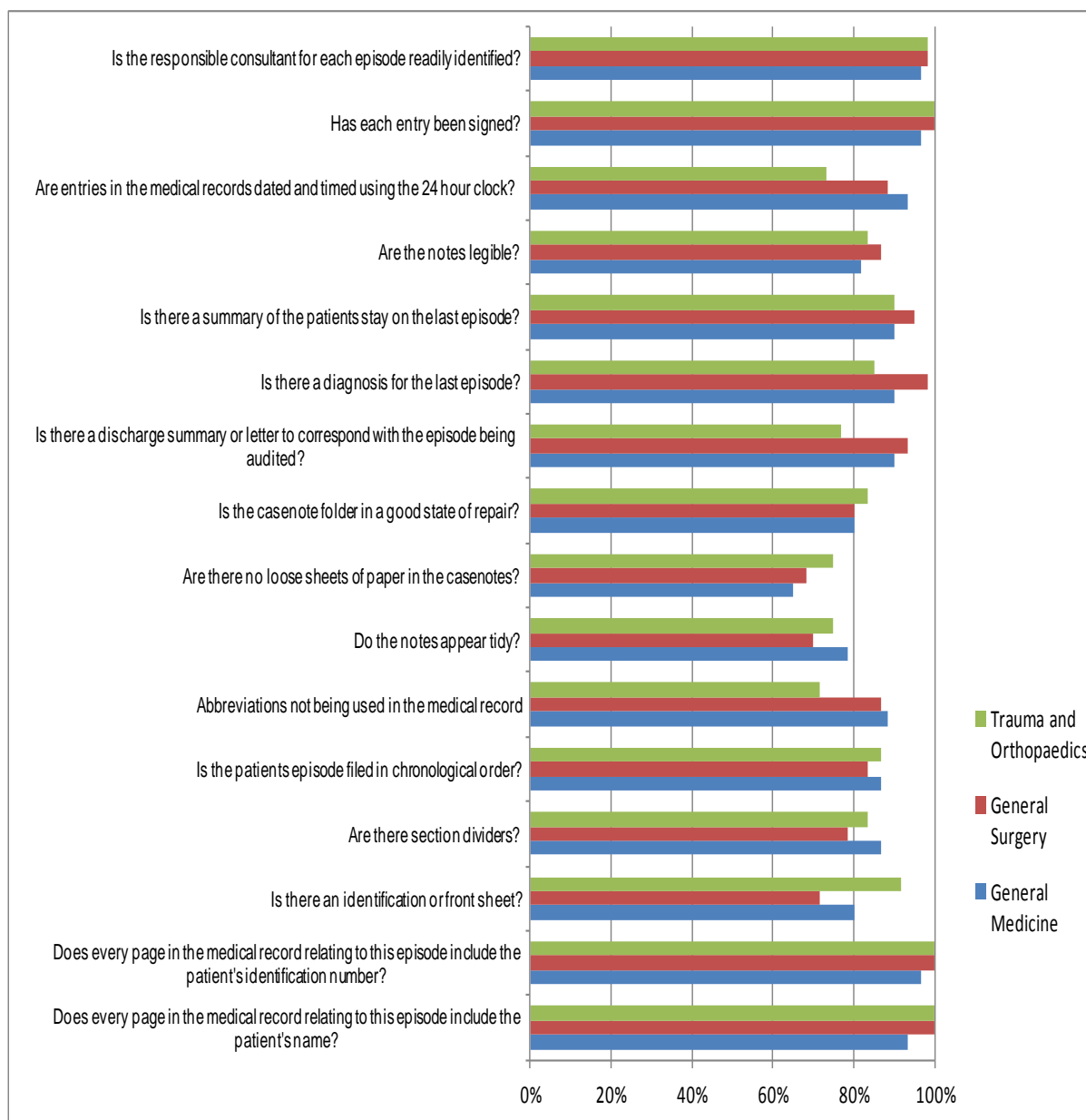
- I think that the coding of discharge diagnosis is crucial but wonder whether it could be used to populate future referrals and discharge summaries.
- The BCU West is one of the worst organisations I have ever worked in with regards to medical records. The notes are poorly kept and filing is a joke, the notes are not fit for purpose and are cheap thus one of the reasons they are appalling. The East have a much better Case note file but West are only allowed the cheapest version hence why the filing and maintenance of notes is awful No-one takes pride in keeping good records and it is always someone else's job BUT WHOSE. Clerks are not trained properly and no ownership and the implications of this is not appreciated enough another reason the notes in the West are appalling is the Partial Booking System for OP this has destroyed all continuity of medical record keeping.
- Glan Clwyd notes are much better than Bangor or Wrexham Maelor.
- I am guessing, that the task of coders would become much easier if organisation was to adopt some rules in terms of medical coding: e. g. during my previous clinical practice preliminary diagnosis at the beginning of patients in hospital treatment episode and final diagnosis/-es whenever they were established always featured in the medical notes of the patient.
- Medical Records at Ysbyty Gwynedd is a shambles. I regularly have to request that they look for 'misfiled' volumes of notes. Temporary notes may be provided for one clinic attendance, then not provided at the next when the original notes have been found. All the volumes of notes relating to one patient may not be filed together. I have a standing request for the last two active volumes of notes to be sent to clinic, yet I frequently have to request the missing one. This has been going on for years and my impression is that either the Medical Records managers are not supported, not properly trained or simply incompetent. There is also, in fairness, a problem with the physical location of the hospital records, which is far too small for the number of case-notes.
- Perception is that clinical coding doesn't matter much in Wales as we don't use PBR. This needs changing.

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- Previously the quality of medical records was excellent in our hospital. Sadly, over the past few years, the quality of medical records has significantly declined with many people ignoring notes that are falling apart or have reams of unfiled results attached. It seems to be 'nobody's job' to do this anymore.
 - Using paper medical records is outdated and generally hopeless. They frequently go missing, become tatty, broken or disorderly, and are often unavailable when most needed. They are relied on – but CANNOT be relied on. It is high time we moved to a digital system.
 - Coding is the most important role in the organisation. Have come across physician had done Ob and Gynae op before ie, coding error ! We can get the data right only if the coding is right.
 - Responsibility and accountability are not clear with regards records.
 - We are most fortunate to have a motivated, informed, approachable and helpful member of the coding team allocated to our service. My concern is that she will be promoted away from us!!! As an individual who has been a departmental lead I have serious concerns about data going out of the organisation even to WAG without passing the information past clinicians to see if it is actually credible. As a recent example through FOI, unbelievably inaccurate raw data was discussed on the floor of the assembly. Consultants are there to be consulted. This recurring weakness is not the fault of the coders but those who ask for information not knowing exactly and precisely what they really want. The non-clinical managers at times also mix up the difference between data, information and what it means. Within our department this is not an issue I hope I do not sound too overbearing in my concern. Trying to be honest to help survey.
 - More work needs to be done regarding medical records and the availability of clinic letters and discharge summaries online, when notes may not be available. Also the medical records need to be separated in to appropriate volumes that easy to manage and they shouldn't be very bulky which is the case now. Also there should be a coding summary on the inside of the front cover.

Appendix 4

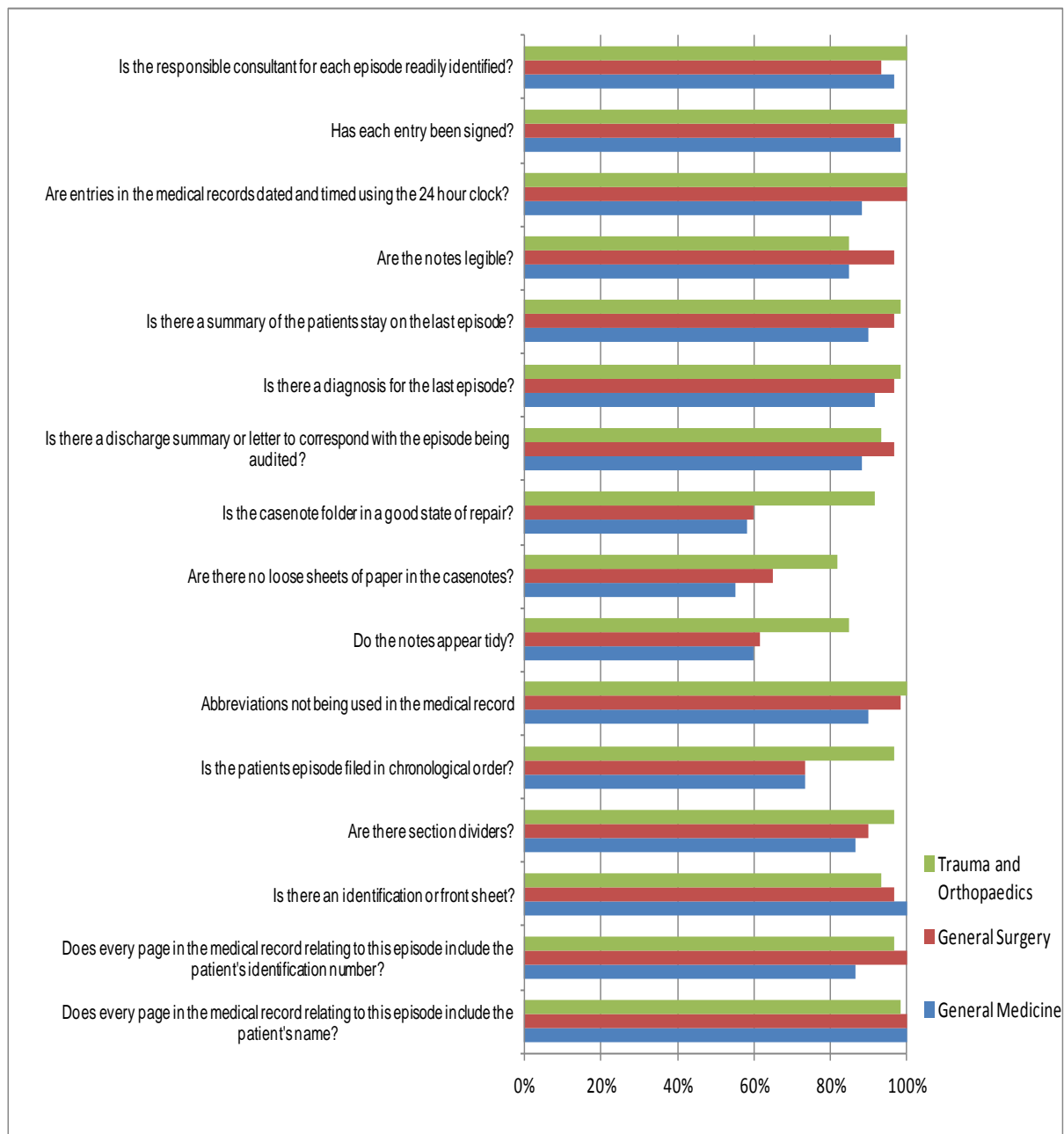
Compliance with Royal College of Physicians Standards for Medical Records by site and specialty

Exhibit A4a: Level of compliance with RCP standards by specialty at Ysbyty Gwynedd



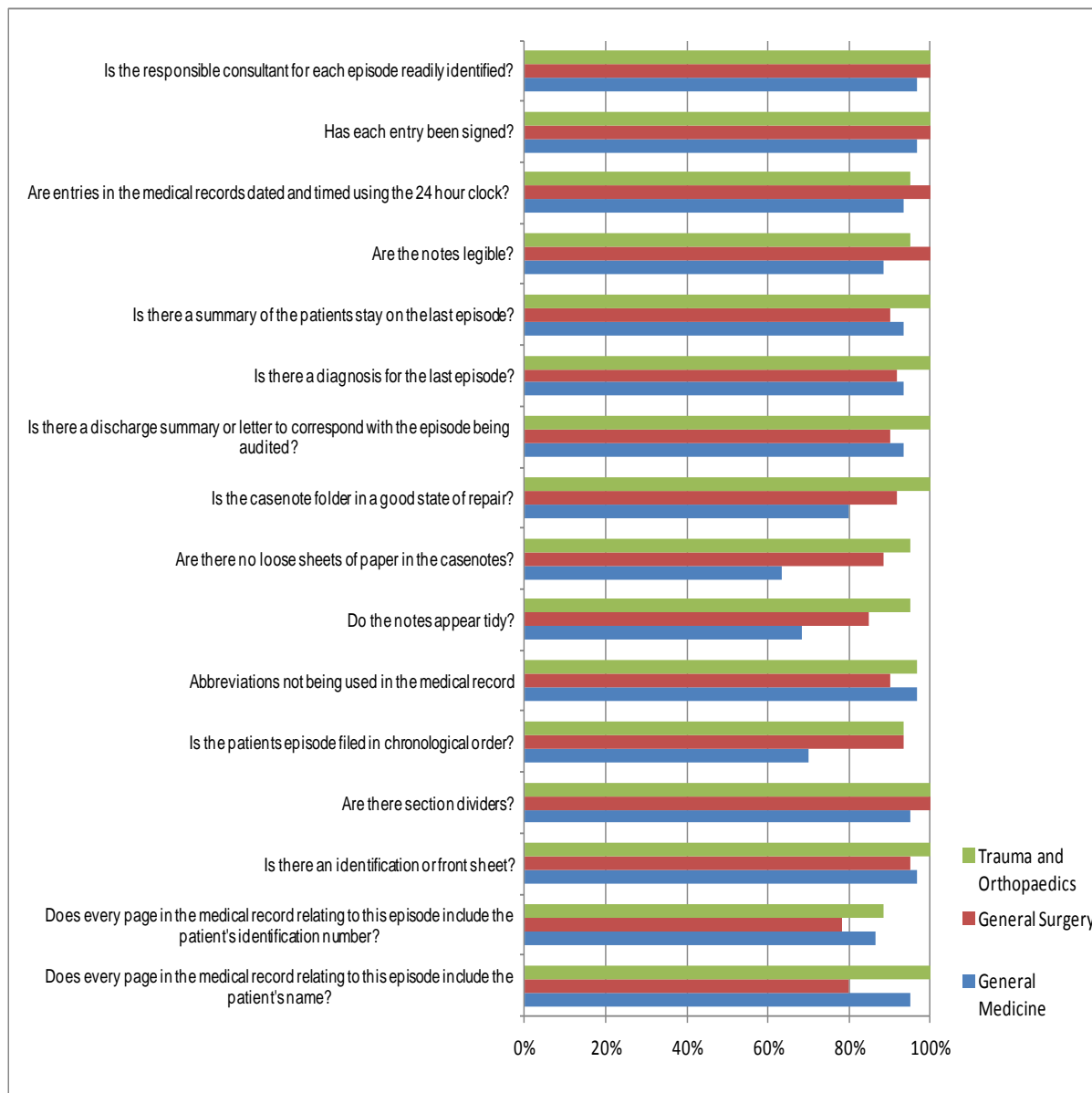
Source: Wales Audit Office

Exhibit A4b: Level of compliance with RCP standards by specialty at Ysbyty Glan Clwyd



Source: Wales Audit Office

Exhibit A4c: Level of compliance with RCP standards by specialty at Wrexham Maelor



Source: Wales Audit Office

Appendix 5

Action Plan

Recommendation	Update as at September 2014	Agreed	AIB responsibility and actions	Completion date
<p>Board Awareness</p> <p>R1 Improve Board reports to include detailed information on accuracy as well as comparative data:</p> <ul style="list-style-type: none"> provide more information on accuracy of coding as well as backlogs and the effect this has on RAMI figures; and undertake training with board members on clinical coding to raise awareness of implications of clinical coding accuracy. 	<p>Provide the Board with a detailed Internal Coding Audit Schedule for next 12 months. Provide the board with the Audit report upon completion.</p>	<p>Yes</p>	<p>Head of Clinical Coding - Internal Coding Audit Schedule Coding Team Leaders – Conduct Internal Audits on subjects identified</p>	<p>Oct 2014 Dec 2014 (first reports)</p>

Recommendation	Update as at September 2014	Agreed	AIB responsibility and actions	Completion date
<p>Clinical Coding Policy and Procedure</p> <p>R2 Introduce a single coding policy and procedure across the health board which brings together all practices and processes to ensure consistency. The policy and procedure should:</p> <ul style="list-style-type: none"> ensuring coding practices are well described; providing guidance and feedback to staff to enable consistent practices across the health board; ensure plans are put in place to fill current vacancies and also ensure effective succession planning; address variations in practices across the three sites; and strengthen internal coding audits. 	<p>A single coding policy and procedure document is currently being created. This will ensure that all coding practices across the Health Board sites are captured. It will work towards bringing a consistent way of working across the Health Board.</p> <p>Some changes in practice will be long term projects. An immediate change in some areas of practice would have a significant impact upon the department's productivity and it ability to achieve completion targets.</p>	<p>Yes</p>	<p>Head of Clinical Coding & Assistant Head of Clinical Coding</p>	<p>Jan 2015</p>

Recommendation	Update as at September 2014	Agreed	AIB responsibility and actions	Completion date
<p>Clinical Engagement</p> <p>R3 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the coding process is recognised:</p> <ul style="list-style-type: none"> • embedding a consistent approach to clinical coding training for medical staff across the health board; • ensuring a consistent approach to medical staff induction across the health board; • encourage the use of coding information for uses other than for mortality statistics; and • improve clinical engagement in the validation of coded data to drive improvements in quality and awareness of potential use of information. 	<p>We are improving clinical engagement. All sites now are using a template letter that we are sending to consultants with the casenotes of cases that have unclear diagnosis.</p> <p>We are in the process of developing a system where the coding for the episode of death is sent to the responsible consultant to validate.</p> <p>All sites are becoming involved in medical staff and consultant induction (although the process does differ across sites).</p>	<p>Yes</p>	<p>Head of Clinical Coding</p> <p>Head of Clinical Coding</p> <p>Head of Clinical Coding & Assistant Head of Clinical & Senior Team Leader</p>	<p>August 2014</p> <p>January 2015</p> <p>January 2015 (or next intake of Junior Doctors after this date)</p>

Recommendation	Update as at September 2014	Agreed	AIB responsibility and actions	Completion date
<p>Medical Records</p> <p>R4 Improve the arrangements surrounding medical records, to ensure that accurate and timely clinical coding can take place. This should include:</p> <ul style="list-style-type: none"> • improving engagement between the clinical coding department and medical records; • ensuring quicker access to records for coding staff; • addressing the size of casenotes by clarifying roles and responsibilities; and • ensuring the availability of training on the importance of good quality medical records to all staff. 	<p>The Coding Department have arranged a representative from the department to sit on the Health Records Committee.</p> <p>The Health Records Department are working on a number of projects to alleviate the pressure on size of casenotes. These projects include Digitised Records, E-forms and The Document Repository.</p>	<p>Yes</p>	<p>Assistant Head of Clinical & Senior Team Leader</p>	<p>Sept 2014</p> <p>Long Term Project</p>

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