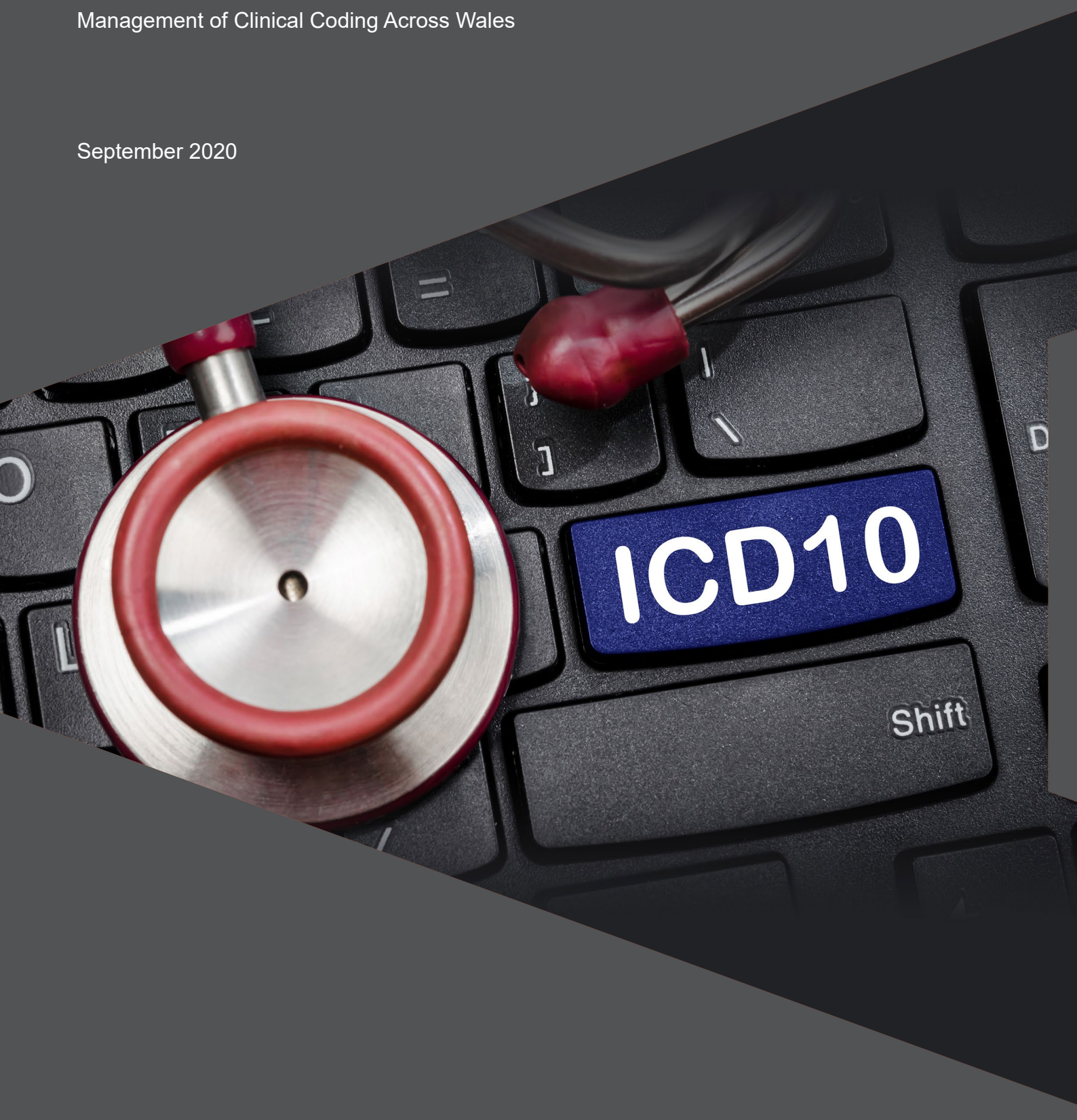
Archwilio Cymru
Audit Wales

Cracking the Code

Management of Clinical Coding Across Wales

September 2020



This report has been prepared for presentation to the Senedd under section 145A of the Government of Wales Act 1998 and section 61(3) (b) of the Public Audit Wales Act 2004.

Adrian Crompton
Auditor General for Wales
Audit Wales
24 Cathedral Road
Cardiff
CF11 9LJ

The Auditor General is independent of the Senedd and government. He examines and certifies the accounts of the Welsh Government and its sponsored and related public bodies, including NHS bodies. He also has the power to report to the Senedd on the economy, efficiency and effectiveness with which those organisations have used, and may improve the use of, their resources in discharging their functions.

The Auditor General also audits local government bodies in Wales, conducts local government value for money studies and inspects for compliance with the requirements of the Local Government (Wales) Measure 2009.

The Auditor General undertakes his work using staff and other resources provided by the Wales Audit Office, which is a statutory board established for that purpose and to monitor and advise the Auditor General.

For further information, or if you require any of our publications in an alternative format and/ or language, please contact us by telephone on 029 2032 0500, or email info@audit.wales. We welcome telephone calls in Welsh and English. You can also write to us in either Welsh or English and we will respond in the language you have used. Corresponding in Welsh will not lead to a delay.

Mae'r ddogfen hon hefyd ar gael yn Gymraeg.

Contents

Summary report

Key messages

1 Clinical coding is the process of translating medical information relating to a patient's hospital admission into standardised codes which can be used for a range of statistical, clinical and management purposes.

2 Timely and accurate clinical coding is essential given the role the data plays in the planning, management and oversight of NHS services. This has been especially true during the current pandemic, where clinical coding has played a key role in helping to understand COVID-19 related demand on healthcare services, and in informing decisions on which patients need to shield. Problems with either the timeliness or accuracy of coded data could result in shielding decisions being made on incomplete information, with potentially significant consequences for the patients involved.

3 In 2013-14 and again in 2018-19, we examined clinical coding arrangements in the seven Welsh health boards and Velindre NHS Trust. We published reports on our findings in each of the NHS bodies[1], and where relevant, drew on the findings from work undertaken by the NHS Clinical Classifications Team[2] in the NHS Wales Informatics Service (NWIS).

4 This report draws on our local audit work to highlight the current challenges and opportunities for clinical coding, including the potential to use COVID-19 related changes to working practices to secure new and more sustainable ways of delivering coding work.

5 Over the last six years, there have been improvements in the timeliness and accuracy of clinical coding data. However, there are backlogs of uncoded activity in some parts of Wales which can date back several years. The current target of a one-month turnaround time does not support the availability of clinical coded data on a close to real-time basis, something which has been shown to bring significant benefits in helping to understand patterns of demand on hospital services during the current pandemic.

1 Reports for each of the NHS bodies can be viewed on our website.

2 The NHS Clinical Classifications team develop policy and clinical classifications standards and guidance for clinical coding services in NHS Wales. The team maintain and organise the national clinical coding training schedule and provide a national clinical coding helpdesk function on behalf of NHS Wales. The team also maintain the NHS Wales Clinical Classifications Standards Dictionary and deliver the annual National Clinical Coding Audit Programme.

6 Our audit work has shown that clinical coding continues to have a low profile at board level and that current arrangements could be enhanced by critically examining the level of investment in coding resources, by ensuring the availability of good quality source information for coders and by increasing the extent to which medical staff are engaged in the coding process.

7 These challenges are not new but would benefit from some fresh attention, informed by changes to working practices that occurred during the current pandemic. Most notably, the significant step-change in the use of digital platforms during the pandemic creates an opportunity for NHS bodies to increase the extent to which digital records are utilised, increasing with it the scope to reduce the time it takes to code activity, and support smarter and more flexible working by clinical coding staff.

Adrian Crompton
Auditor General for Wales

> “Clinical coding is an important but often overlooked function of the NHS, providing the backbone to much of the information used to govern services, but its profile in NHS bodies is not yet where it needs to be. The importance of good quality information has come to the forefront during the coronavirus pandemic and with new ways of working being put to the test during the crisis, now is the ideal opportunity to ensure that clinical coding has the attention that it needs as services start to be reinstated.”

Key facts

Clinical coding applies to all health boards and Velindre NHS Trust, and applies to hospital admissions (episodes) and procedures undertaken in outpatient settings.

The clinical coding process requires the use of the International Classification of Diseases (ICD) and the Office of Population Censuses and Surveys (OPCS) Classification of Interventions and Procedures manual.

95% of all episodes have to be coded within one month of the episode end date and NHS bodies are expected to improve the accuracy of coding year on year.

It takes on average **18 months** to train as a clinical coder.

Approximately **£5.9 million per annum** is spent on the NHS clinical coding process across Wales. The majority of which is pay costs, with 180 whole time equivalent clinical coding staff employed across NHS bodies in Wales, with a further six employed in the NHS Clinical Classifications Team.

On average, there are about **1.1 million consultant episodes of care** each year that need to be coded, with an expectation of approximately **30 consultant episodes of care** to be coded each day per coder.

At the end of April 2020, **83% of consultant episodes of care had been coded within one-month** compared to the 95% target set by the Welsh Government. A total of **181,000 consultant episodes of care** were identified as backlog, of which **55% related to care provided between April 2017 and March 2019**.

The 2019-20 annual clinical coding audits undertaken by the NHS Clinical Classifications Team identified an **accuracy level of 94%**, against a nationally recognised standard of 90%[3].

3 The 90% standard relates specifically to primary diagnosis and procedure. A standard of 80% is set for secondary diagnoses and procedures.

An introduction to clinical coding

01

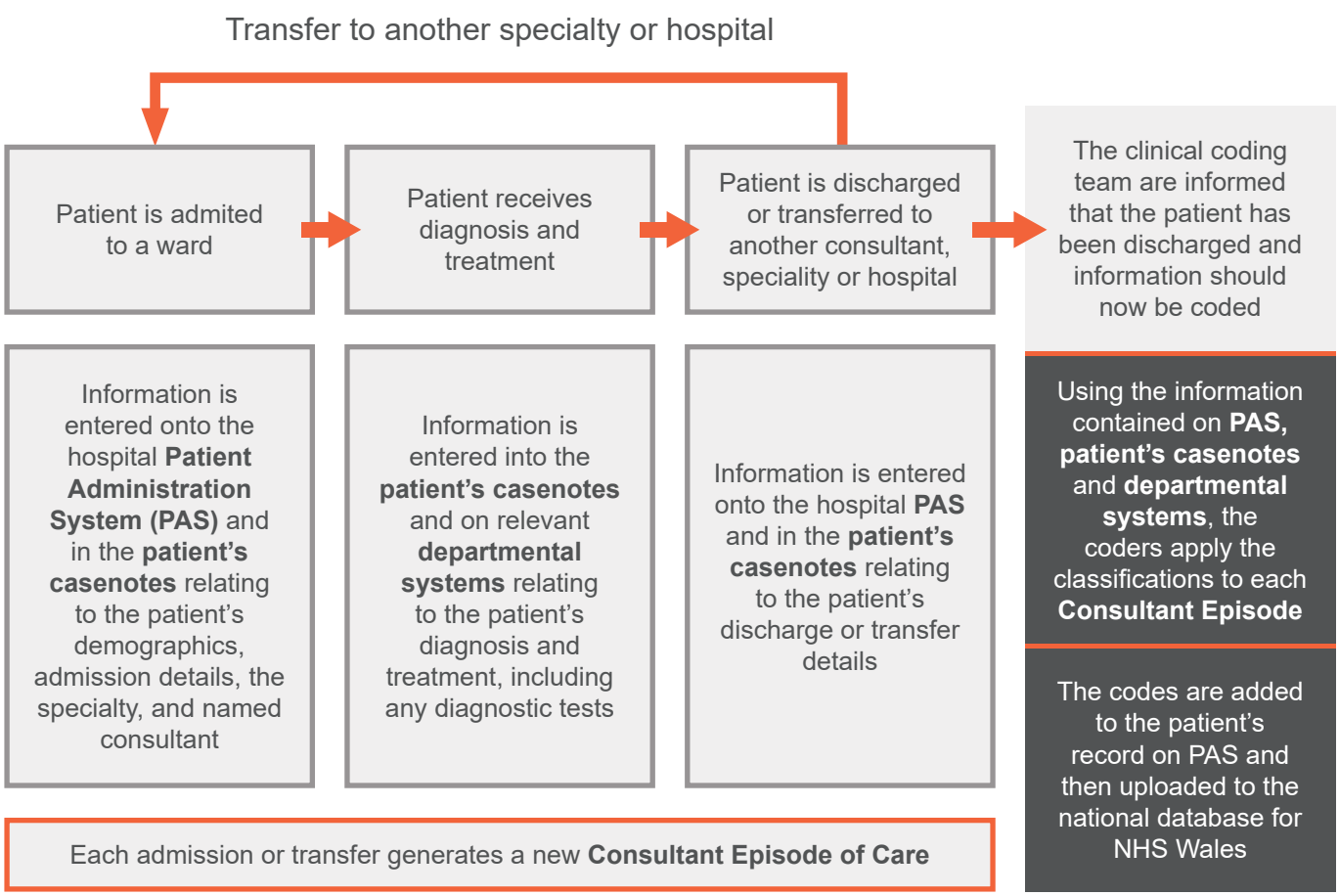
What is clinical coding?

1.1 Clinical coding is the process of translating medical information which describes a patient's symptoms, diagnosis and treatment into internationally and nationally recognised code which can then be used for statistical and clinical purposes.

1.2 Information relating to the patient's symptoms, diagnosis (both the main (primary) diagnosis and any secondary diagnoses) and treatment (both the main treatment (procedures) and any secondary treatments) are coded.

1.3 The clinical coding process applies to hospital admission activity (**Exhibit 1**) and procedures undertaken in an outpatient setting.

Exhibit 1: what does the clinical coding process involve?



Source: Audit Wales

1.4 Codes consist of a combination of numbers and letters and are set out in the International Classification of Diseases (ICD), and Office of Population Censuses and Surveys (OPCS) Classification of Interventions and Procedures manuals. For example, a diagnosis of acute appendicitis is represented by the code 'K35.8'.

1.5 Following the outbreak of COVID-19 in March 2020, a number of new ICD-10 codes of 'U07.1'and 'U07.2' for a diagnosis of COVID-19 and 'B97.2' to identify when coronavirus has resulted in other diagnoses[4] were introduced under emergency powers. An example of a coded consultant episode of care is shown in **Exhibit 2**.

Exhibit 2: example of coded data relating to a patient

Example extract from a patient's case-notes

Mrs A has known COPD and presented with cough and severe dyspnoea due to a suspected infection by COVID-19. Testing was positive for presence for COVID-19 and she was admitted to isolation ward C8. Unfortunately, while on the ward, she developed bilateral severe pneumonia leading to respiratory failure due to the COVID-19 which required invasive ventilation to support her breathing. After 5 days, her condition had improved to the point ventilation was no longer required. She was placed on a CPAP machine and after a further 17 days on ward C8, she was considered medically fit for discharge and able to return home. Her comorbidities include Hypertension, CCF and type 2 diabetes with retinopathy.

Diagnosis (ICD) codes:

U07.1	COVID-19 virus identified
J12.8	Other viral pneumonia
B97.2	Coronavirus as the cause of diseases classified to other chapters [viral pneumonia]
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection
B97.2	Coronavirus as the cause of diseases classified to other chapters [chronic obstructive pulmonary disease]
J96.99	Respiratory failure NEC, type unspecified
B97.2	Coronavirus as the cause of diseases classified to other chapters [respiratory failure NEC]
I10.X	Primary (essential) hypertension
I50.0	Congestive heart failure
E11.3†	Type 2 diabetes mellitus with ophthalmic complications
H36.0*	Diabetic retinopathy

Procedure (OPCS) codes:

E85,1	Invasive ventilation
E85.6	Continuous positive airway pressure

Source: NHS Clinical Classifications Team

4 U07.1 COVID-19, virus identified, U07.2 COVID-19, virus not identified and B97.2 Coronavirus as the cause of diseases classified to other chapters. The coding of a single patient may include multiple references to B97.2 as the code is applied to reflect each diagnosis that has resulted as a direct impact of COVID-19.

What is required to undertake clinical coding?

1.6 NHS bodies in Wales are required to code 95% of all finished consultant episodes (FCE) of care within one month of the episode end date. On average, there are 1.1 million finished consultant episodes of care each year across Wales.

1.7 To undertake the clinical coding process, NHS bodies have a clinical coding team which is made up of a combination of trainees and clinical coders. To become a clinical coder, staff undertake a combination of classroom and on-the-job training provided by the NHS Clinical Classifications Team. It is estimated that it can take up to 18 months to become a clinical coder.

1.8 As well as the training provided by the NHS Clinical Classifications Team, it is recommended good practice that staff are supported to gain the National Clinical Coding Qualification from the Institute of Health Records and Information Management (IHRIM) to become an accredited clinical coder. It is also recommended good practice that teams should have access to clinical coding auditors and clinical coding trainers.

1.9 The main source of information to support the coding process is patient case-notes. To enable teams to code within the required timescales, it is important therefore that clinical coders have timely access to case-notes once patients are discharged or transferred. This requires a good working relationship with medical record departments and hospital ward staff.

1.10 It is also important that coders work closely with medical staff to ensure coders understand the clinical information relating to diagnoses and treatment contained in case-notes. The liaison between coders and medical staff also helps raise awareness of what information is needed from case-notes and the importance of good quality record keeping.

1.11 To support a focus on accuracy of coding, NHS bodies in Wales are also required to improve the accuracy of coding year-on-year. Accuracy is examined through annual coding audits undertaken by the NHS Clinical Classifications Team in NWIS.

Why is clinical coding important?

02

Why is clinical coding important?

2.1 Coded data is used for a variety of reasons to support effective governance arrangements in NHS bodies but is more commonly associated with Payment by Results[5] in England, and the Risk Adjusted Mortality Index (RAMI)[6] which provides a measure to highlight unexpected death rates.

2.2 In 2013, clinical coding featured in the Francis Report into the failings at Mid Staffordshire NHS Foundation Trust. Evidence presented to the second inquiry in to Mid Staffordshire care failings pointed to the fact that…'the Board had convinced themselves that the reported high mortality rate was due to 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.

2.3 The Francis 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. The report also recognised the importance that clinical coding has in management information and the need to understand the implications of good quality coded data.

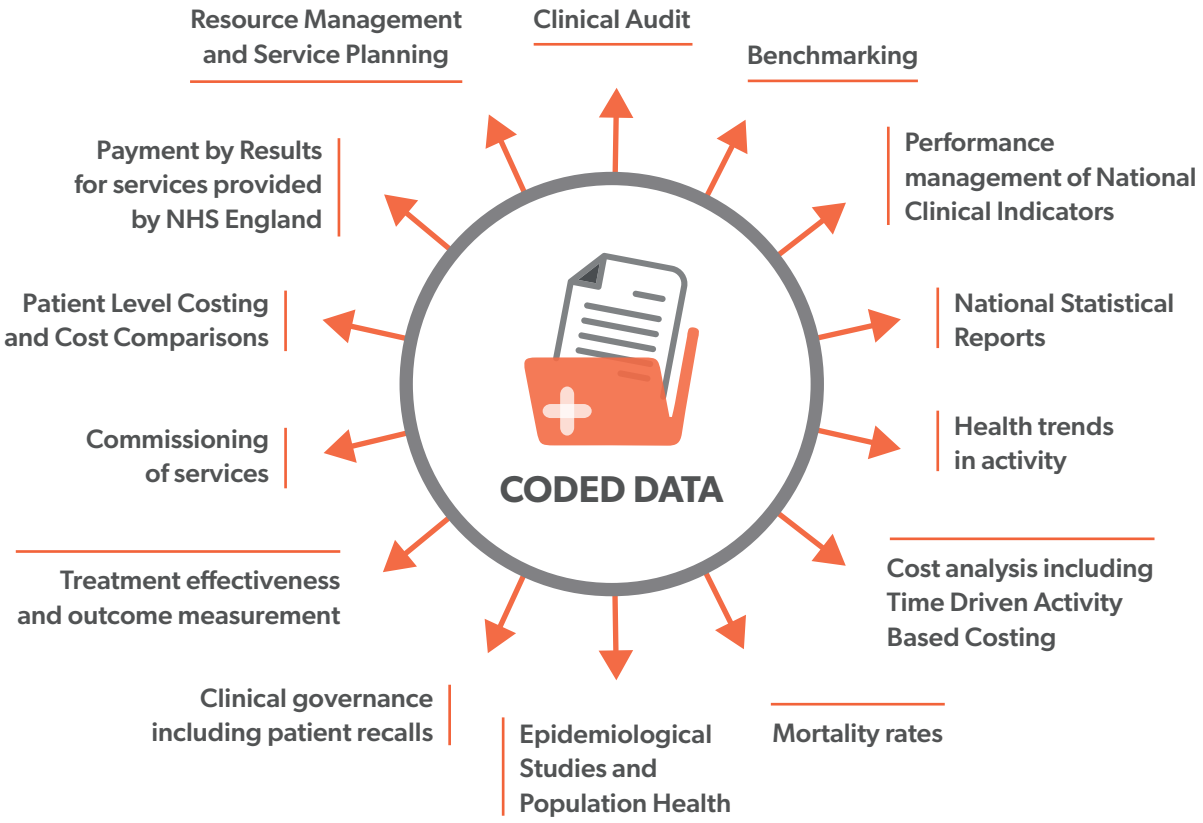
2.4 Clinical coded data is core to the information used by NHS organisations to govern the business and to ensure that resources are used efficiently and effectively. It is therefore important that clinical coding is timely and accurate. Although Payment by Results is not relevant to Wales, with the exception of where NHS England provides services to health boards on the English-Welsh border, coded data supports the monitoring of mortality rates for specific conditions (such as heart attacks, strokes and hip fractures), as well as a range of other performance and outcomes measures, and planning and management decisions. **Exhibit 3** details the range of uses of this data, and its importance to the NHS.

2.5 More recently, clinical coded data has been used to identify patients who have been required to shield during the COVID-19 pandemic. As the NHS starts to move into the recovery phase of the pandemic, the use of clinical coded data to understand the ongoing demand on services from patients diagnosed with the virus, as well as a reflection on how treatments have impacted on patient outcomes, will become the norm.

5 Payment By Results was introduced to the NHS in England in 2004 and is based around tariffs for different NHS treatments. Accurate and timely clinical coding is required to support quantification of activity by providers and hence payment.

6 RAMI was discontinued in Wales in July 2014 following recommendations made in a report by Professor Stephen Palmer.

Exhibit 3: uses of clinical coded data in Wales



Source: Audit Wales

The exhibit contains more information about the uses of clinical coded data in Wales which is displayed when hovering over each element.

Clinical coding performance

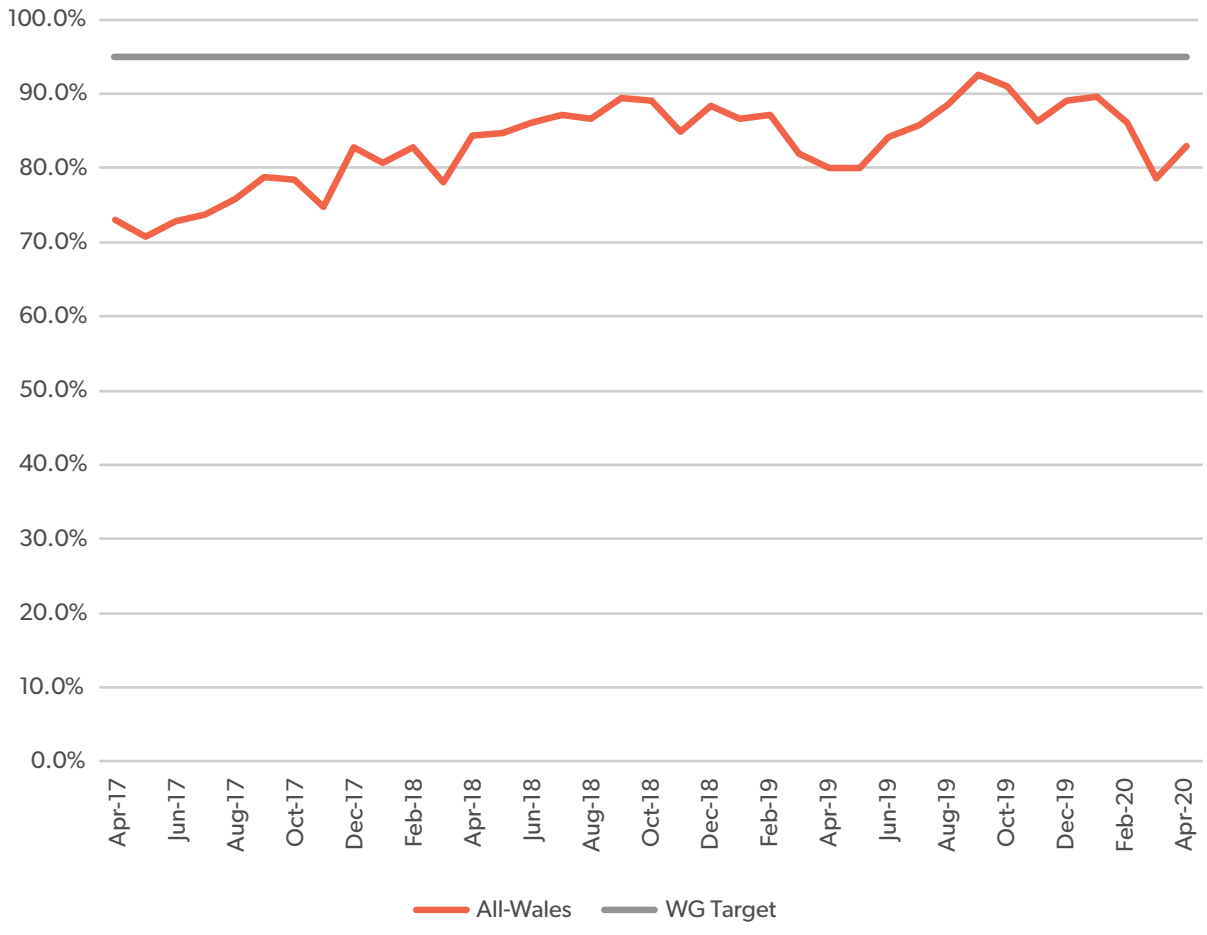
03

Timeliness of coded data

3.1 When we first reviewed clinical coding in 2013-14, NHS bodies had a three-month window to code. Since 2017, the window for coding has reduced to encourage timelier access to coded data. The current Welsh Government target is for NHS bodies to ensure that 95% of all FCEs are coded within one month of the episode end date. The 5% tolerance on the target recognises that there are sometimes legitimate reasons why an episode of care cannot be coded, for example, because the case-notes are needed to undertake a clinical investigation.

3.2 The all-Wales performance is set out in **Exhibit 4**. This indicates a steady increase in the timeliness of coding since the introduction of the revised Welsh Government target in 2017, with 92% of data coded within the recommended timescales by August 2019. However, this remained short of the Welsh Government target of 95%, and performance has since declined, dipping to 79% at the start of the COVID-19 pandemic in March 2020.

Exhibit 4: all-Wales compliance with the Welsh Government timeliness target



Source: NHS Clinical Classifications Team

3.3 Performance against the timeliness target varies across Wales. Some NHS bodies code episodes much quicker than others and have been able to maintain timeliness of coding in line with the Welsh Government target. However, others including Aneurin Bevan, Cwm Taf Morgannwg and Hywel Dda University Health Boards have struggled to meet the target. Performance at Cwm Taf Morgannwg and Hywel Dda University Health Boards significantly dipped to below 50% at the start of the pandemic, with performance in Cwm Taf Morgannwg University Health Board for March 2020 at just 25% completion.

3.4 Arguably, the timeliness target should be even stricter given that the daily reporting of COVID-19 admissions during the current pandemic would be significantly enhanced by clinical coding that was as close to real time as possible.

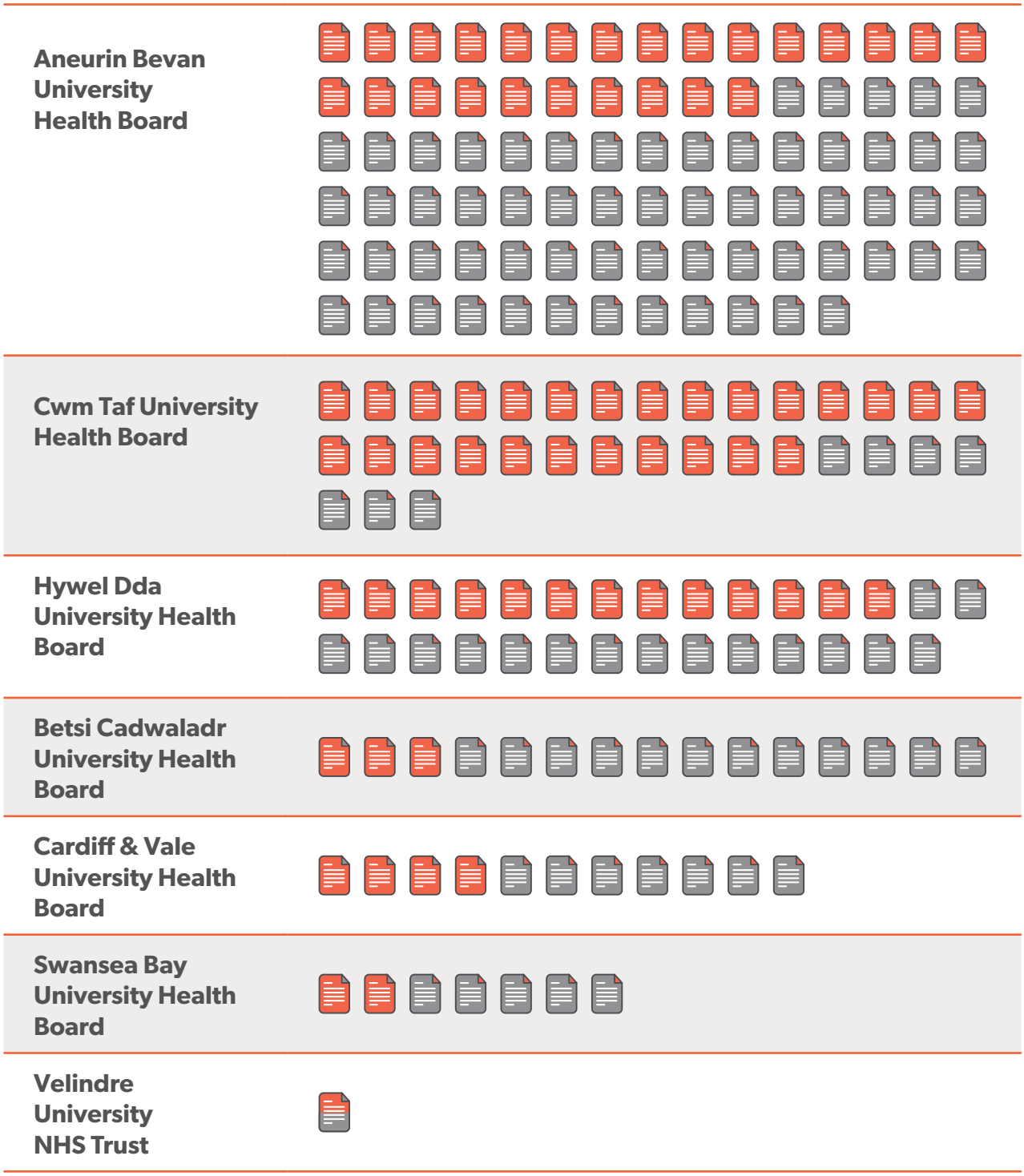
Backlogs of coded data

3.5 Episodes not coded within a month are classed as 'backlog'. Having a large backlog of uncoded episodes affects the robustness of the data and its usefulness, and it is therefore important to clear backlog quickly.

3.6 Extended gaps between the episode end date and when the information is coded also increases risks that medical staff are unable to respond to queries. This is either because of the elapsed time since they provided care for the patient in question impacting on their ability to recollect, or because staff may have moved on to new roles, particularly junior doctors.

3.7 At the end of May 2020, 181,294 FCE's were identified as backlog dating back to April 2017. Just under half of these were from Aneurin Bevan University Health Board (**Exhibit 5**).

Exhibit 5: backlogs of uncoded FCEs (thousands) at 31 May 2020, highlighting number of uncoded FCEs relating specifically to 2019-20 ( )*



Source: NWIS Clinical Classifications Team

* Powys Teaching Health Board reported no backlog at 31 May 2020

The exhibit contains more information about each health board's backlog which is displayed when hovering over each element.

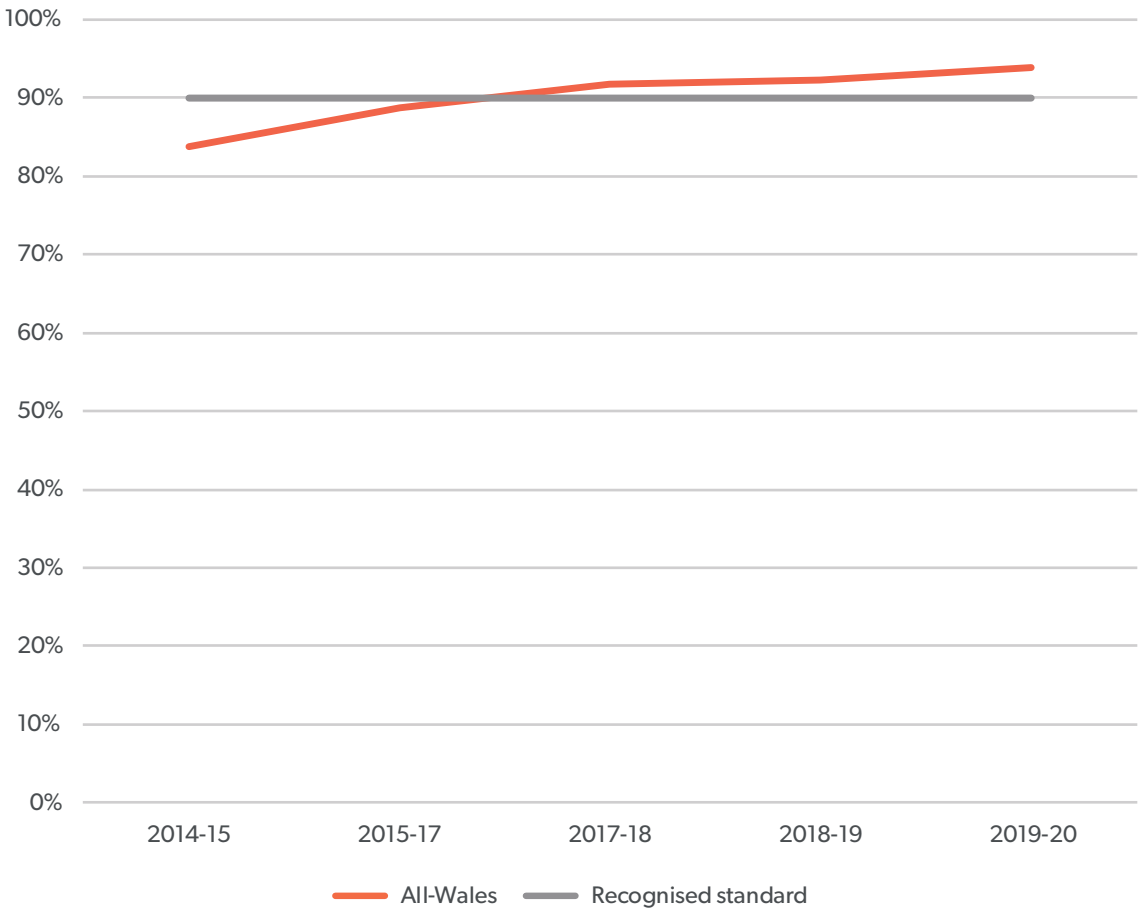
Accuracy of coded data

3.8 Each year, the NHS Clinical Classifications Team assess the accuracy of clinical coding by reviewing a sample of coded episodes against a patient's case-notes.

3.9 The nationally recognised standard for the accuracy of coding is 90%. NHS bodies are required to strive towards meeting the national standard, by demonstrating year-on-year improvement.

3.10 Over the last six years, there has been an improvement in the accuracy of clinical coding across Wales (**Exhibit 6**) with all NHS bodies now achieving the standard.

Exhibit 6: all-Wales accuracy of clinical coding[7]



Source: NHS Clinical Classifications Team

7 Due to capacity within the NHS Clinical Classifications Team, a single accuracy review at each NHS body was undertaken during the period 2015-16 and 2016-17.

3.11 The accuracy of clinical coding is based on a review of codes applied to primary and secondary diagnoses and procedures for a sample of patients. These are then summarised to provide an overall accuracy score for each NHS body.

3.12 The review of accuracy is complex in nature and considers three specific dimensions which are:

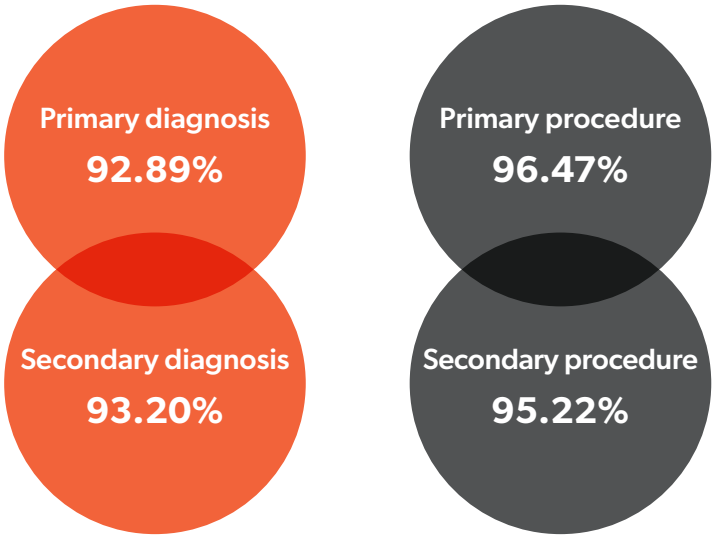
a the accuracy of the individual codes applied to each patient to ensure that they correctly reflect the relevant diagnoses and procedures set out in the patient's records;

b the accuracy of the totality or overall combination of codes applied to each patient to ensure that rules are being consistently applied, and that codes are not contradictory of each other; and

c the accuracy of the sequencing of codes to ensure that the most relevant code is applied to the primary diagnosis and procedure.

3.13 Across Wales, accuracy levels are generally higher for procedures than diagnoses (**Exhibit 7**), reflecting that procedures are generally more easily identifiable in patients' records through formal test results and theatre records. These are also more accessible through electronic systems whereby information relating to diagnoses is more commonly handwritten information.

Exhibit 7: all-Wales accuracy of diagnosis and procedure coding in 2019-20



Source: Audit Wales

3.14 Accuracy levels also vary depending on the type of activity being coded. More straightforward admissions, for example, elective day cases are invariably simpler to code as patients generally have less co-morbidities and the information needed to code is less. More complex admissions, for example, emergency admissions involving patients with multiple co-morbidities, are reliant much more on a greater degree of information contained in case notes and become more complex and time-consuming to code.

Key challenges for clinical coding

04

Awareness of clinical coding at board level

4.1 In England, clinical coding forms an important enabling function as part of Payment by Results funding regime. Consequently, clinical coding has a higher profile in the business of both NHS providers and commissioners within the NHS in England. The NHS in Wales does not use Payment by Results with the consequence that clinical coding has less profile, despite its contribution to a number of wider governance arrangements as set out in **Exhibit 3**.

4.2 In our more recent work, we found little reference to clinical coding in board business and a survey of board members identified that there was scope to raise awareness around the role that clinical coding has and the factors that are affecting the accuracy and timeliness of clinical coded data (**Exhibit 8**).

Exhibit 8: findings from our 2018 board member survey[8]

42% of board members were satisfied or completely satisfied with the information received on the robustness of clinical coding arrangements in their organisation.

Only **27%** of board members identified that they had full awareness of the factors that affect the robustness of clinical coding arrangements in their organisation.

47% of board members were satisfied or completely satisfied that their organisation was doing enough to make sure that clinical coding arrangements were robust.

80% of board members identified that they would find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information.

Source: Audit Wales

8 A number of questions relating to clinical coding were included in the board member survey which formed part of our 2018 structured assessment work. A total of 96 responses out of a possible 172 responses were received.

Level of clinical coding resources

4.3 Over the last six years, NHS bodies across Wales have demonstrated a commitment to invest in their clinical coding teams. Staffing levels have gradually increased although many NHS bodies have struggled to get trained coding staff.

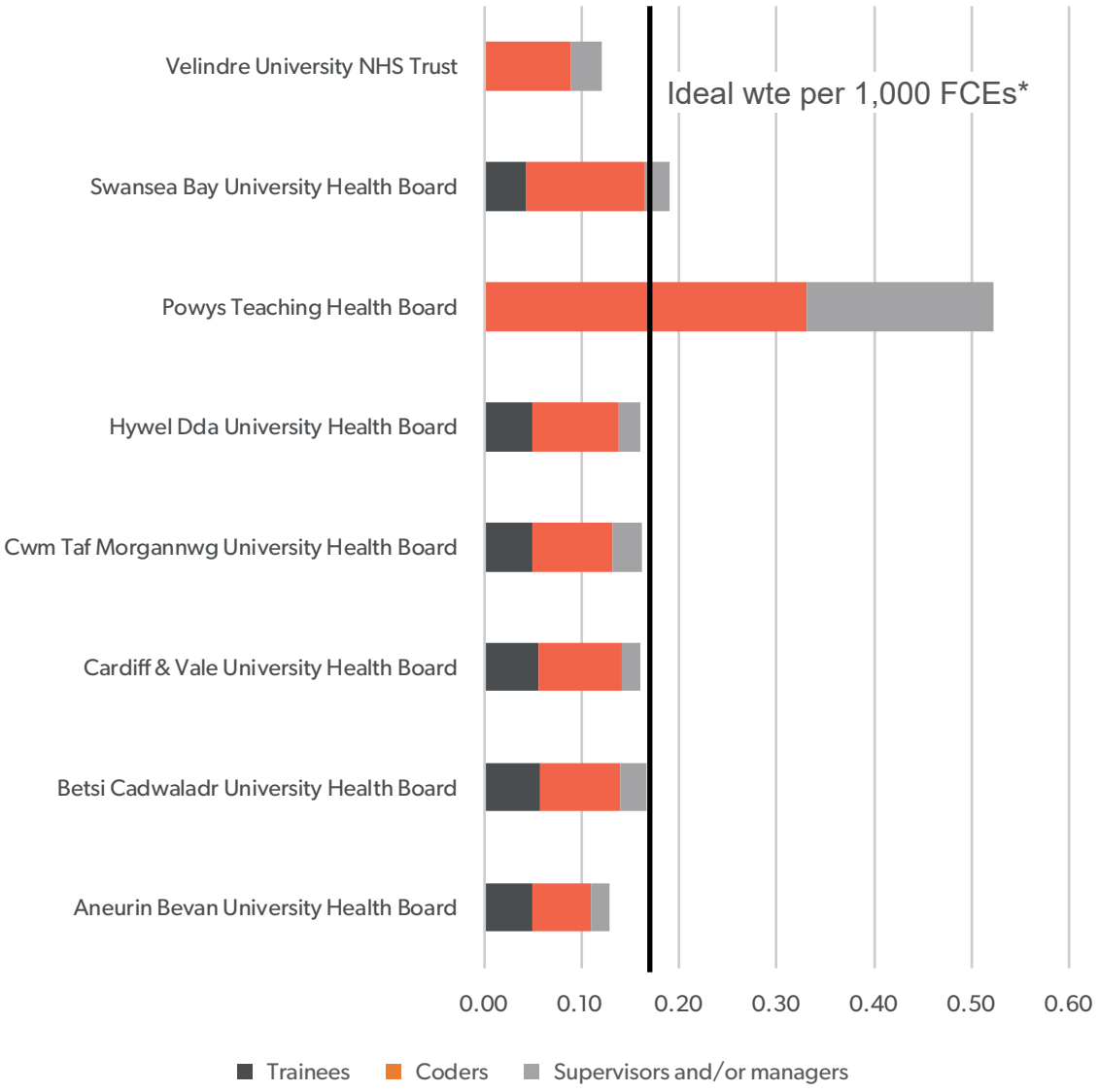
4.4 The 2019 annual report by NWIS on clinical coding across Wales highlighted the continued difficulties recruiting staff into coding roles. The higher profile of clinical coding across the NHS England brings with it a more attractive salary, and Welsh NHS bodies close to the England border in particular suffer as a result. In the absence of trained staff, many NHS bodies have recruited trainees which is positive as it develops staff into the coding role longer term. However, although this adds additional capacity into the system, the long lead in time to become a coder means that experienced staff have to support and mentor trainees for a considerable period of time before allowing them to work independently.

4.5 Across the Welsh NHS bodies, there is a total of 180 Whole Time Equivalent staff[9]. The majority are trained coders. In planning and managing their workforce, many NHS bodies work on the recognised expectation that coders will code on average 30 episodes of care per working day. This level of activity can be used to calculate an 'ideal' staffing level for benchmarking purposes[10]. Most NHS bodies in Wales are currently unable to achieve that benchmark (**Exhibit 9**). In three health boards we observed a heavy reliance on contract coders and the use of overtime to help meet workload demands.

9 Staffing figures exclude Band 2 support staff.

10 For the purposes of providing a comparison, a figure of 200 working days per full-time WTE has been used, allowing for leave and training commitments.

Exhibit 9: actual whole time equivalent clinical coding staff per 1,000 FCEs as at March 2020 by NHS body compared with the ideal level based on 30 FCEs per day per WTE



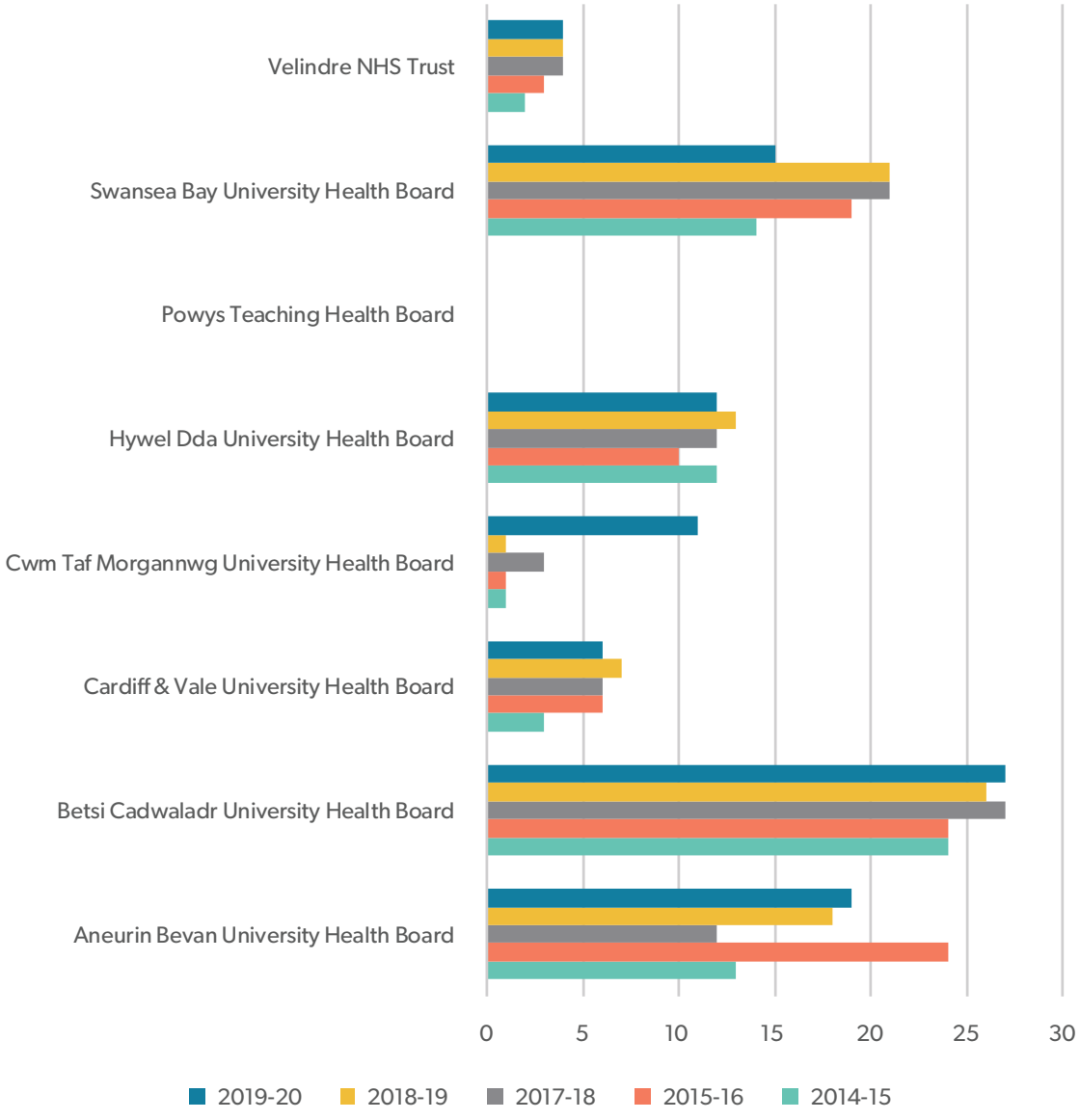
Source: NHS Clinical Classifications Team and Audit Wales

* Ideal levels based on an average of 30 FCEs coded per day for 200 working days per 1.0 WTE

4.6 As mentioned in **paragraph 1.8**, it is recommended practice for coders to gain the National Clinical Coding Qualification to become an accredited coder. This requires additional investment by NHS bodies for the initial training as well as ongoing membership subscriptions, although a number of NHS bodies require staff to cover the cost of annual subscriptions themselves. For some NHS bodies, the completion of the qualification has no impact on salary progression which means that there is no incentive for staff to undertake the qualification despite the positive impact it can have on the quality of clinical coding.

4.7 Positively, the number of accredited coders has increased over the last six years to 64% of all trained coders, but there are significant variations across NHS bodies with very few in place in Cardiff & Vale University Health Board, Velindre NHS Trust and the former Cwm Taf University Health Board areas of the now Cwm Taf Morgannwg University Health Board (**Exhibit 10**). There are no accredited clinical coders in Powys Teaching Health Board.

Exhibit 10: number of accredited coders by NHS body between 2014 and 2020



Source: NHS Clinical Classifications Team

4.8 The development of clinical coding trainers and auditors within local teams offers the potential to provide more ongoing and focused support to coding teams than the current central resource available through NWIS allows for. To date, only one qualified clinical coding trainer and five clinical coding auditors are in post across Wales, covering just two health boards – Aneurin Bevan and Swansea Bay University Health Boards, and Velindre NHS Trust. The staff fulfilling these roles are also managers or supervisors and are therefore unable to provide support to other NHS bodies due to workload commitments. This is with the exception of the clinical coding auditor in Velindre NHS Trust who does assist with the annual accuracy audits undertaken by the NHS Clinical Classifications Team.

4.9 Although significant reliance is placed on the accuracy reviews undertaken by the NHS Clinical Classifications Team, audit sample sizes equate to just 0.3% of total annual activity. An increase in clinical coding auditor capacity across NHS bodies would allow a significantly increased focus on the accuracy of clinical coding.

Quality of, and access to, clinical information

4.10 Patient case-notes are the main source of information for clinical coders and as legal documents, should be maintained to a high-standard.

4.11 Our work in 2013-14 identified poor quality record keeping with a direct correlation between the way in which information was recorded and stored in patient case-notes and the accuracy and timeliness of clinical coding. Our work found that:

a 14% of folders were not in a good state of repair;

b the handwriting in 18% of case-notes was illegible;

c 32% of case-notes had loose papers containing clinical information which could easily be misplaced;

d a discharge summary or letter corresponding to the episode reviewed was missing in 24% of case-notes; and

e there was no clear diagnosis for the episode reviewed recorded in 14% of case-notes.

4.12 The awareness and adoption of the Royal College of Physicians (RCP) standards for medical records[11] was also found to be variable across Wales, with little evidence of NHS bodies undertaking quality checks of their case-notes.

11 First approved in 2007, the standards set out expectations for general medical record keeping by physicians in hospital practice which have subsequently been adopted as good practice across all medical specialties.

4.13 Issues with availability and training of ward clerks to compile patient case-notes were found to be impacting on the quality of record keeping, and the use of temporary records in many NHS bodies also affected the integrity of case-notes, as key information was not always merged into master records. Despite high levels of clinical coding accuracy as identified in **Exhibit 6**, these issues are impacting on the ability of coders to meet the timeliness targets, as coders are having to spend time chasing, collating and cross-checking information.

4.14 We did not review case-notes in our 2018-19 review but our interviews with staff and reviews of documents including any local reviews of medical records identified that the quality of record keeping remained an issue.

4.15 Medical records training, particularly for junior doctors, can help promote an understanding of the importance of good record keeping, and awareness and adoption of the RCP standards. However, many NHS bodies have struggled to provide formal training for medical staff, and specifically to include as part of induction training for junior doctors.

4.16 Formal medical records groups in NHS bodies were limited during our earlier review of arrangements in 2013-14, reducing the opportunity for quality issues to be identified and addressed. These forums have started to be reinstated over recent years but involvement of clinical coding staff in discussions is variable, limiting the ability for coders to formally escalate any issues that they may identify during the course of their work.

4.17 Many NHS bodies are increasingly providing coders access to clinical information systems that enable them to complete their work using digital platforms, such as the Radiology Information System (RadIS) or relevant departmental systems such as those used within operating theatres. In addition, some NHS bodies are also moving to digitalising the contents of paper case-notes. Our 2013-14 and 2018-19 work found that usability of digitalised case-notes had both negative and positive aspects. Although coders are able to gain access to digitalised case-notes more quickly than physical case-notes, they are currently no more than a scanned version of the paper records which means that issues such as the ability to read handwriting remain.

4.18 During the COVID-19 pandemic, a shift to home working for many clinical coders, particularly for those who have been required to shield themselves, has meant that coders have become increasingly reliant on electronic systems. The limited extent to which digitalised case-notes has been rolled out across Wales, as well as the quality of them has, however, impacted on the coders ability to undertake their role from home with staff, where able to do so, having to return to the office within social distancing constraints to access case-notes.

Clinical engagement with coding

4.19 A report by Capita in 2014 considered the quality of clinical coding in the NHS. The report highlighted ten checklist areas that managers needed to look at to improve the quality of clinical coded data. One of these was regular clinical engagement as this would help clarify issues for both clinicians and coders on how care delivered should be described in source documentation to aid the coding process. The report also highlighted that routine validation of coding with clinicians helped to ensure accuracy.

4.20 Our original reviews in 2013-14 found that engagement of clinicians in the coding process was limited across NHS bodies. There were some examples of individual clinicians who took an active interest, but it was not widespread. A consistent theme identified was the lack of visibility and profile of clinical coders with clinical teams. The physical location of coding teams was a key factor with most teams located away from clinical areas, often in a separate location away from the main hospital building. The volume of workload for coders was also limiting their capacity to engage with clinical teams.

4.21 Our more recent work has identified an increase in engagement between coders and clinical staff, but this is largely through attendance at clinical meetings by the supervisor or manager, rather than on a case-by-case basis with coding staff which is where you would expect conversations about the care provided to individual patients to happen. Even with the potential benefits of using information based on clinical coded data to feed into the medical revalidation process[12] which allows clinical outcomes to be considered across clinical treatments, there has been little progress in this area.

12 Medical revalidation was introduced in 2012 as an evaluation of a doctor's fitness to practice. The process supports doctors in regularly reflecting on how they can develop or improve their practice. It gives patients confidence doctors are up to date with their practice and promotes improved quality of care by driving improvements in clinical governance.

The opportunities for clinical coding

05

Digital solutions

5.1 The COVID-19 pandemic has seen a significant shift in the availability of, and access to, electronic systems to enable NHS staff, both clinical and non-clinical, to work from home. This has included clinical coders but as mentioned in **paragraph 4.18**, there have been limitations on what coders have been able to do, because of the lack and quality of digitalised records. The increasing move to a digital platform however has provided a much-needed momentum to do things differently – both in terms of making increased use of electronic solutions and the location from which staff work.

5.2 The current need for clinical coders to access physical case-notes impacts on the ability for them to meet the current target to code FCE's within one month of the episode end date. Our 2013-14 work tracked the length of time it took for case-notes to reach the clinical coding teams, and whilst the target for coding completeness was longer at that time, it was clear that getting case-notes to the coding team was not a priority, with case-notes taking on average three weeks to arrive in the coding department. Once in the department however, the coding process was often completed within 24 hours and the case-notes returned to the medical records department.

5.3 Moving paper case-notes onto a digital platform, which is easily accessed by coders, would therefore create significant opportunities to shorten the elapsed time between the finished episode of care and completion of coding. Digital platforms also support the ability for coders to work from home. This introduces flexibility and smarter ways of working into the coding process, particularly in the context of social distancing requirements and supporting staff who continue to have to shield or self-isolate, although this does need to be balanced with the ability to engage with clinicians on a regular basis.

5.4 Digital solutions also provide the opportunity for clinical coding to be inbuilt into the system and to facilitate real-time clinical coding at the point of entry of information relating to the patient's care, rather than a process that is applied after the event. This would require clinical staff to be much more engaged in the coding process as it would be them who apply terminology codes[13] which identify diagnoses and procedures, which in turn, could support a more automated clinical coding process. This would reduce the need for coders to be manually applying the process to clinical information after the event, but instead would focus their role on the validation of codes to ensure that the process is being applied correctly.

13 Terminology codes are a set of standardised clinical terms applied using a system referred to as SNOWMED-CT (Systematized Nomenclature of Medicine – Clinical Terms)

Expanding the scope of clinical coding

5.5 Clinical coding currently only applies to hospital admission activity and procedures undertaken in some outpatient settings. But there is scope to apply the principles of clinical coding to other hospital activity, including GP referrals and more general outpatient attendances. The commitment to code outpatient procedures is variable but our previous work did identify that some NHS bodies are also coding more general outpatient activity. But this is only at a high-level in terms of broad condition groupings and does not go into the level of detail that clinical coding allows.

5.6 As NHS bodies start to put arrangements in place to recover from the COVID-19 pandemic, limited capacity due to the increased sterilisation procedures that need to be in place, will mean that NHS bodies will need to prioritise patients who have been referred into secondary care and are waiting to be seen based on clinical need.

5.7 Currently, the only information available to identify clinical need however is a priority categorisation of ‘urgent’ or ‘routine’ which is applied to the GP referral once it has been assessed following receipt in the hospital. Very little information is easily available identifying the patient’s diagnosis and symptoms without the need to trawl through case-notes. The application of clinical coding to GP referrals and outpatients would be a key enabler in identifying high risk symptoms and conditions that require timely access to clinical care. The information gained from clinical coding would also help to identify cohorts of patients that could safely and appropriately be managed through alternative provision such as physiotherapy for orthopaedic conditions.

A way forward

06

A way forward

6.1 Our work in 2013-14 raised a number of recommendations for NHS bodies to address. These broadly focused on:

a improving the management of medical records by raising the importance of good quality record-keeping, providing clarity on roles and responsibilities, implementing a programme of medical record audits, strengthening the relationship between medical records and clinical coding teams, and providing training for staff;

b strengthening the management of clinical coding teams to ensure succession planning, providing opportunities for staff to undertake the accredited clinical coder qualification, reviewing workloads, improving cross-site working between internal clinical coding teams, providing regular staff feedback from validation checks and implementing clinical coding audits;

c strengthening engagement with medical staff by raising awareness of the coding process through training sessions and attendance at meetings, improving lines of communication, and encouraging active engagement between clinical coders and clinical staff in the coding process; and

d raising the profile of clinical coding at board level by providing briefing materials, identifying when management information is supported by clinical coded data, and alongside the timeliness of clinical coding, reporting on the accuracy of clinical coding and the level of uncoded activity.

6.2 Our 2018-19 work did identify that NHS bodies were making progress against recommendations, but the pace of progress has been slow on some key areas – a likely reflection of the relatively low profile that coding continues to have.

6.3 The activity and thinking on ‘re-setting’ the NHS that is taking place in the wake of the pandemic creates an opportunity to consider what national actions are needed to help raise the profile of clinical coding and drive the improvements required. From the work we have done, we would identify four specific areas for attention:

National leadership and capacity	Ensuring that there is sufficient leadership and capacity at a national level to give clinical coding the profile it needs, including having a named national lead for clinical coding. Ensuring clinical coding is a key feature in relevant national NHS forums.
Training and awareness raising	Inclusion of clinical coding in the core training for junior doctors and the all-Wales induction material for new Independent Members.
Adopting recognised good practice	Embedding clinical coding and the quality of good record-keeping into the performance framework for NHS bodies. Formally identifying a mechanism to measure and identify clinical coding workloads which NHS bodies should adopt.
Using technology to drive improvements	Faster progress with digitisation of patients records and using IT systems to support code identification at point of entry and smarter, more flexible working by coding staff.

Appendix

Audit approach and methods

Audit approach and methods

Document review

For both our 2013-14 and 2018-19 work, we reviewed a range of 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 and again in 2018 across Wales. The survey included a number of questions specifically focused on clinical coding.

Interviews and focus groups

We carried out detailed interviews for both our reviewed. Interviewees included executive and operational leads for clinical coding, head of information, medical records manager, clinical leads, and the clinical coding managers and supervisors. Our 2013-14 work also included focus groups with clinical coding staff.

Data analysis

For our 2013-14 work, we analysed data relating to compliance with the data validity and data consistency standards submitted to NWIS. For both our 2013-14 and 2018-19, we also analysed data relating to compliance with the Welsh Government targets for completeness and timeliness of clinical coding, along with backlog positions provided by the NHS Clinical Classifications Team.

Case-note review

For our 2013-14 work, we reviewed a sample of case-notes for compliance with the RCP standards for medical records. Using the same sample, the NHS Clinical Classifications Team undertook a clinical coding audit to check the accuracy of coding. This work formed the basis for the now annual clinical coding audits. We also reviewed the medical records tracking system within each NHS body to assess the length of time case-notes took to arrive in the clinical coding department.

Archwilio Cymru
Audit Wales

Audit Wales

24 Cathedral Road

Cardiff

CF11 9LJ

Tel: 029 2032 0500

Textphone: 029 2032 0660

We welcome telephone calls in
Welsh and English.

E-mail: info@audit.wales

Website: www.audit.wales