

# Heath Education and Improvement Wales – Business Intelligence Review

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# Contents

Summary report	
Introduction	4
Audit objective	5
Key findings	6
Recommendations	8
Detailed report	
Business intelligence strategy and planning	9
Use of business intelligence	12
Business intelligence governance and monitoring arrangements	14
Appendices	
Appendix 1 – Audit methods	16
Appendix 2 – Audit questions and criteria	18
Appendix 3 – Organisation response to recommendations	22

# Summary report

## Introduction

- 1 Health Education and Improvement Wales (HEIW) is a Special Health Authority within NHS Wales and plays a leading role in the education, training, development, and shaping of the healthcare workforce in Wales, to ensure high-quality care for the people of Wales and ‘transform the workforce for a healthier Wales’. The role of the workforce is pivotal in building sustainable healthcare for the people of Wales in the future. HEIW is an all-Wales organisation employing around 380 core members of staff and 187 sessional staff who work for other organisations. HEIW has an annual budget more than £300 million. Over 80% of its budget is spent on education and training and associated activity. HEIW supports the education and training for a wide range of health professions including:
  - training-grade staff and associate specialist doctors and dentists;
  - pharmacists, trainee pharmacists, pharmacy technicians, and pharmacy technicians’ trainees;
  - nursing and allied health professional students;
  - dentists and dental care professionals; and
  - optometrists.
- 2 As the strategic workforce enabler for healthcare in Wales, HEIW has a pivotal role in gathering, generating, and analysing key business intelligence, such as workforce data, to inform its activities. HEIW also has corporate responsibilities including organisational performance management and delivery of strategic objectives<sup>1</sup> which are dependent on good information and intelligence.
- 3 Ensuring that HEIW has the right business intelligence, accessed, and used effectively by the right people, will support its ability to gain insight. It will also facilitate the taking of informed strategic and operational decisions, that support its performance framework and the strategic aims within its Integrated Medium Term Plan (IMTP). All these elements will be key to enabling it to deliver on its vision, ‘To develop a skilled and sustainable workforce that improves care and population health.’
- 4 The context for our review on HEIW’s approach to business intelligence was also informed by the following:
  - the launching of a [National Workforce Implementation Plan](#) in January 2023 and the establishment of a Strategic Workforce Implementation Board chaired by the NHS Chief Executive Officer. HEIW has responsibility for several specific National Workforce Implementation Plan actions around workforce business intelligence.

<sup>1</sup> The [2023-26 IMTP](#) includes organisational objectives.

HEIW's broad strategic remit around business intelligence to support other bodies in Wales, and also to understand the progress it is making on its IMTP.

- some of the challenges that HEIW face in gathering and analysing robust business intelligence, such as workforce data, when it is not controller of that data.
- HEIW's self-assessment against the 'Advisory Board' Business Intelligence Maturity Model', which concluded its current maturity as 'Fragmented Analytics', this being the first stage of maturity.
- the findings from our Structured Assessment (2023) identified that HEIW needed to do more to clearly understand their wider impact on the NHS family and on Wales more generally. Having a robust approach to business intelligence will enable HEIW to access and analyse the right intelligence to measure impacts that are outcome focused.

## Audit objective

5 Our objective for this audit was to assess the extent to which **HEIW has an effective approach in the collection and use of its business intelligence, to support the delivery of its strategic objectives.** Appendix 1 sets out the methods that we used to undertake this work. Appendix 2 contains the audit questions and detailed audit criteria. The key areas explored by the review were the extent to which:

- HEIW has a clear understanding of business intelligence needs over the short, medium and longer term, and robust strategies and plans in place to meet this need;
- HEIW is using business intelligence effectively to support planning and decision making; and
- HEIW has effective governance arrangements and clear milestones and targets to oversee and monitor progress on business intelligence objectives and ambitions.

## Key findings

Overall, we found that HEIW's approach to the use of business intelligence to inform strategic decision making is still evolving. Whilst progress is being made, a number of key risks will require continued active management in order to achieve the organisation's business intelligence aims and secure a return on the investment made.

### Business intelligence strategy and planning

- 6 **HEIW has a clear strategy and vision for business intelligence, underpinned by needs-led planning. However, funding for pending digital capital projects and challenges around recruitment and retention of staff with specific skills remain key risks.**
- 7 HEIW has a clear vision for business intelligence which is an integral part of its IMTP strategic ambitions. However, it will be important that HEIW refreshes its 'Digital Road Map', that underpins its Digital and Data strategy, to reflect the ongoing independent data maturity assessment. HEIW is improving its understanding of its business intelligence requirements. This is being further refined through the development of this year's IMTP and informed by ongoing data and business intelligence maturity assessments.
- 8 The Welsh Government's national workforce implementation plan<sup>2</sup> is proving to be a catalyst, and several actions have accelerated HEIW's work on improving the quality for workforce data, workforce modelling and data visualisation. HEIW's business intelligence developments have sufficient profile and support from the executive team and independent members on the board.
- 9 Business intelligence is a clear priority for the HEIW, resulting in increased digital and data investment. While HEIW's digital and data spending represent a small percentage of HEIW's overall budget, we understand that it will remain a key priority going forward. However, pending decisions for capital digital projects remain a risk.
- 10 HEIW is experiencing recruitment and retention risks relating to specialist digital and data skills. Whilst HEIW have confirmed that current staffing levels are sufficient, there is a risk that unique knowledge vested in certain Digital and Data roles could be lost. It is taking steps to mitigate this risk, however, further work is needed to identify business critical roles and developing succession plans.

<sup>2</sup> Welsh Government, [National workforce implementation plan](#), February 2023

## Use of business intelligence

- 11 **HEIW's use of business intelligence is evolving. It is focussing on the availability, quality, and accessibility of NHS Wales workforce data with a view to improve data-driven decision making.**
- 12 HEIW's use of business intelligence to inform planning and decision making is evolving. It has introduced significant business data and data dashboard developments over the last year. HEIW are also working to align data sets to the Education to Employment training pathway and developing data models to support workforce planning and decision making across NHS Wales. Given the relative newness of these initiatives, HEIW should evaluate the impact of its investment and effort at appropriate intervals.
- 13 HEIW is continuing to develop options for widening stakeholder access to its business intelligence. It is currently in the process of determining how best to share information whilst respecting commercial confidentiality. HEIW are also investing in building 'data user' capabilities, establishing an internal digital champions' network and developing data literacy training for its staff. HEIW is improving data quality, however, this remains a challenge because workforce data is sourced from a variety of NHS and wider stakeholders. Of note, it has taken positive steps to improve data quality by working with key partners such as the higher education institutions and health bodies.

## Business intelligence governance and monitoring arrangements

- 14 **HEIW's governance arrangements for monitoring business intelligence initiative progress is improving.**
- 15 HEIW generally has good formal and informal arrangements for monitoring progress of its business intelligence ambitions. This provides an appropriate framework for key data and business intelligence risks, issues, and progress to be discussed and escalated. HEIW's reports provide a good overview of delivery of actions, but it could improve how it reports on the remaining actions against the specific milestones it has set. HEIW is taking positive steps to broaden its suite of metrics, which should enable it to better understand the progress it is making. However, its approach for learning lessons is still developing and will be further informed by the ongoing independent data maturity assessment. It will need to further embed its approach for learning lessons and effectively capture the difference that its investment business intelligence has made.

## Recommendations

- 16 **Exhibit 1** shows the recommendations arising from this audit. HEIW's management response to these recommendations will be summarised in **Appendix 3** once considered by the Audit and Assurance Committee.

### Exhibit 1: recommendations

#### Recommendations

##### Refreshing HEIW's Digital Road Map

- R1 HEIW should review Mission 4 of its Digital Road Map in the light of any findings identified by the independent 'data ecosystem' assessment. The aim of the review should be to assess its relative progress since its last maturity self-assessment and to ensure the steps within its Digital Road Map are still fit for purpose.

##### Identifying business-critical roles and developing succession plans

- R2 Given the significant risks around recruitment and retention of digital posts:
- a) HEIW should identify its business-critical roles, with a particular focus on those needed to deliver Mission 4 of its Digital and Data Strategy.
  - b) Once **R2a** is complete, HEIW should develop clear succession planning for these roles to mitigate the risks around the loss of business-critical knowledge which may impact the pace of planned business intelligence activity.

##### Improving progress update reporting

- R3 HEIW's update reporting on data and business intelligence initiative progress should provide a more comprehensive account of progress, identifying what has been achieved, what is still left to complete and any likely impacts on original timescales.

##### Impact from investment in business intelligence

- R4 HEIW should develop an approach for evaluating the difference that the business intelligence is making for internal and external stakeholders. This will enable HEIW to determine if their investment in business intelligence is providing value for money and to ensure that any learning is used to further improve business intelligence deliverables.



# Detailed report

## Business intelligence strategy and planning

- 17 In undertaking our work at HEIW we considered the extent to which it has a clear understanding of business intelligence needs over the short, medium and longer term, and robust strategies and plans in place to meet this need. We found that: **HEIW has a clear strategy and vision for business intelligence, underpinned by needs-led planning. However, funding for pending digital capital projects and challenges around recruitment and retention remain key risks.**

### **HEIW has a clear vision for business intelligence which is an integral part of its IMTP strategic ambitions**

- 18 HEIW's IMTP 2023-2027 includes a clear and specific objective to: 'Develop, publish, and implement strategic workforce plans in priority areas.' HEIW is ensuring that its enabling plans support the delivery of this objective with a clear focus on using business intelligence to enable workforce planning and decision making.
- 19 There is a 'golden thread' that aligns strategic aims and business intelligence developments. For example, HEIW's Digital and Data Strategy 2023-2028<sup>3</sup> includes a clear medium-term business intelligence vision which supports its IMTP strategic aims. To support delivery of this vision, HEIW has developed a five-year 'Digital Road Map' structured around five key 'Missions'. Of which, one is specifically focused on improving business intelligence. The 'Missions' include clear milestones representing distinct delivery phases centred around stabilising, developing, and growing and optimising digital and business intelligence services. HEIW has ensured that these strategic plans are appropriately underpinned by individual team plans which include the operational details for how it will deliver its business intelligence ambitions.
- 20 In early 2023, HEIW used the 'Advisory Boards'<sup>4</sup> business intelligence maturity model as a basis for self-assessment. This resulted in HEIW determining its maturity as 'Fragmented Analytics', this being the lowest of the four stages of the model's maturity framework. HEIW is currently participating in an external maturity assessment of its approach to how it captures and analyses data. This external assessment is due to conclude in January 2024. It will therefore be important that HEIW refreshes its plans to reflect the outcomes of its maturity assessments (**Recommendation 1**).

<sup>3</sup> [Health Education and Improvement Wales Digital and Data Strategy \(2023-2028\)](#)

<sup>4</sup> 'Advisory Board' BI Maturity Model is a self-assessment tool that is intended to highlight organisational strengths and weaknesses in a BI programme. The model is based on four stages of maturity to improve technology and analytics capabilities.

## **HEIW has ensured business intelligence has sufficient profile with the Board**

- 21 HEIW has a specific Independent Member with a lead responsibility for Data and Digital. Having this specific focus is a demonstration of the priority that the Board have given to this area, and a recognition of its importance in supporting the delivery of HEIW's strategic aims. In our view this specific focus has provided an opportunity for the Board to be appropriately sighted on progress in this area and for any issues to be raised both in and around the more formal governance meetings.

## **The Welsh Government's National Workforce Implementation Plan is a catalyst for HEIW's focus on business intelligence**

- 22 HEIW has a pivotal role in delivering aspects of the Welsh Government's National Workforce Implementation Plan. The plan required HEIW to 'work with partners to improve the quality, availability and access to workforce data, and will develop a national workforce data methodology and model to assess workforce supply and demand'. The plan has helped to drive concerted improvement action and priority in HEIW including strengthening how it works with partners to improve data quality and to develop a workforce demand and supply model for use across Wales. As part of its approach, HEIW has recently launched a digital portal making secondary care workforce data available to external partners.
- 23 Aspects of the work required by the National Workforce Implementation Plan had already been started by HEIW or was within its pre-existing plans. However, having this specific focus on workforce data has accelerated HEIW's focus on improving the quality for workforce data and in the development of tools and access to data to help it deliver its strategic business intelligence responsibilities.

## **HEIW is improving its understanding of its business intelligence requirements**

- 24 HEIW is continuing to develop its understanding of business intelligence needs. The Data and Digital team are currently in the process of working with the various internal directorates to identify their data and business intelligence requirements. HEIW is also gathering the wider business intelligence needs of NHS Wales through a variety of other mechanisms. For example, it is engaging with NHS Wales health bodies workforce teams on their specific IMTP workforce data requirements. HEIW is also gaining a wider understanding of existing and future business intelligence needs from its external digital consultant work on the data maturity assessment as we described earlier in this report. This will help to facilitate better strategic planning.

## HEIW has invested in digital and data however, pending decisions for capital digital projects remain a risk

- 25 HEIW has told us that it has increased its investment in Digital and Data over the last few years. In 2023-24, HEIW's budget for Digital and Data represents 8.5% of its total expenditure on corporate services (ie excluding education commissioning budgets). In terms of HEIW's total expenditure, Digital and Data accounts for around 1.5% of its total budget.
- 26 HEIW have stated that despite the challenging financial climate, Digital and Data will remain a key resourced priority. Notwithstanding this commitment, the Digital and Data team are concerned about their ability to fulfil all in-year service requests during 2024-25. To help manage this process, the team are currently developing prioritisation criteria to enable them to focus on the most important service requests.
- 27 HEIW has a small discretionary capital budget, and therefore it requests additional funding from the Welsh Government for specific one-off capital projects. The business case for one such strategic digital capital project, the 'Single Platform'<sup>5</sup> has not yet been approved by the Welsh Government. This represents a risk to the planned timescales for delivering HEIW's business intelligence ambitions, if not approved.

## HEIW's recruitment and retention of specific digital and data skill sets remain a risk

- 28 HEIW have confirmed that current staffing levels have been sufficient to deliver its current business intelligence work programme. However, at the time of our work, there were a small number of business intelligence posts that were unfilled. Whilst few in number, there is a risk that if these posts are not filled, there could potentially be a negative impact on the timescales of certain elements of business intelligence workplans.
- 29 HEIW ensures both strategic and directorate visibility of the risks around recruitment and retention. It has included in the current strategic risk register and in the specific risks reported to the Digital Transformation Leadership Group. However, this risk is further compounded by the unique knowledge vested in certain members of the Data and Analytics team. HEIW is taking steps to mitigate these risks by developing standard operating procedures for many business intelligence activity areas. It is also developing knowledge sharing approaches and seeking to build capability across the wider Digital and Data team. However, HEIW needs to undertake further work to both identify business critical roles and then developing clear succession plans for these types of roles. (**Recommendation 2**).

<sup>5</sup> The Single Platform business case will consolidate over 12 of HEIW's key applications and database into one single digital infrastructure. With the aim of improving quality, managing access, and modernising aging applications that will no longer be supported.

## Use of business intelligence

- 30 In undertaking our work at HEIW we considered the extent to which it is using business intelligence effectively to support planning and decision making. We found that **HEIW's use of business intelligence is evolving. It is focussing on the availability, quality, and accessibility of NHS Wales workforce data with a view to improve data driven decision making.**

### **HEIW's use of business intelligence to inform planning and decision making is evolving and becoming more accessible**

- 31 In the last year, HEIW has driven some significant improvement in the availability and visualisation of key business data. HEIW has developed a series of Power BI dashboards which provide users with data presented in a way that should better support planning and decision making. Many of these dashboards have also been included in HEIW's recently launched digital portal. This portal will form part of its 'observatory' providing a single gateway for stakeholders to access key data and intelligence. Some examples of the new suite of dashboards that HEIW has launched over the last few months include:
- retire and return dashboard – includes data on the workforce which return after retiring across health professions and by age profile.
  - education and training dashboard – includes data on training places, attrition and fill rates.
  - secondary care dashboard – includes data on the make-up of the health board's workforce and any workforce movements between the health boards.
  - HEIW's IMTP Performance dashboard – the dashboard is still evolving and was presented as a Minimum Viable Product to the November Board. It includes both quantitative and qualitative data on performance against HEIW's IMTP aims, objectives and deliverables.
- 32 In addition to the dashboards identified above, HEIW is in the process of developing an analysis of the 'education to employment pipeline'. When finalised, this will provide HEIW with data and intelligence on the training journey through to employment. It is the intention of HEIW to use this data to help it to articulate the impact it is having on the Welsh NHS and wider Welsh economy.
- 33 The Welsh Government's National Workforce Implementation Plan requires HEIW to develop robust NHS workforce modelling to facilitate medium to longer-term planning. HEIW are working closely with external consultants to develop an NHS workforce demand and supply model. HEIW are currently piloting this modelling approach with the intention of using this to inform the development of the National Strategic Nursing Workforce Plan in 2024.
- 34 HEIW have developed the dashboards with users and/or completed user acceptance testing. However, the dashboards are still relatively new and therefore

their impact is still largely unknown. It is important that HEIW clearly understands the impact that their new suite of visualised data and models is having on internal and external stakeholders' decision making (**Recommendation 4**).

- 35 HEIW is appropriately developing options for widening access to its business intelligence. Whilst HEIW has designed many of the data dashboards to support external stakeholders, there are some dashboards, such as the Education/Training dashboard that only internal stakeholders use. One of the challenges, highlighted by HEIW, around widening access to certain dashboards, is the potential risks around commercial confidentiality of those organisations represented in the data. However, we understand that work is ongoing to address this.

### **HEIW is working proactively to improve data quality, however, this remains a risk**

- 36 One of the HEIW areas of focus over the last year, and a key National Workforce Implementation plan action, is to improve the quality of the data it receives from wider stakeholders. It has worked with Digital Health and Care Wales and other health bodies to develop and apply workforce data standards in a similar way to those already used for clinical data and coding. Whilst this work is at the pilot phase, it should result in improvements in the quality of NHS workforce data, when HEIW rolls this out more widely.
- 37 In support of its focus on improving data quality, each of HEIW's business intelligence dashboards also includes a section on data quality. A good example of this is HEIW's recently developed IMTP performance dashboard. It includes a data quality section which ranks using specific criteria and specifies whether the data quality is gold, silver or bronze standard. This approach is still evolving but its graphical representation of data quality enables users to be sighted on issues and provide assurance.
- 38 HEIW is also undertaking work with Higher Education Institutions to develop and apply a set of data standards through a common data dictionary. This work, along with new specific data submission clauses built into commissioning contracts, should improve the quality and timeliness of data over time.
- 39 Despite these positive emerging improvements at the time of our review, HEIW continues to report that the quality and timeliness of data remain a key risk. We recognise that steps to improve the quality of the data HEIW receives will take time to embed and become effective. However, in our view, when internal and external confidence in the quality of data is low there is a direct negative impact on the extent to which this data is then used to support decision making.

## HEIW are investing in building data capabilities for data users

- 40 HEIW recognises that internal and external stakeholder data literacy remains one of its business intelligence challenges. To improve this position, HEIW established an internal network of 50 digital champions. The network meets monthly, tasking its members to provide support and cascade digital knowledge and learning within their directorates.
- 41 HEIW's data and digital team ran several workshops with HEIW senior staff to improve understanding of data analysis approaches. The team is developing data literacy training products for staff, but they have started rolling these out at the time of our review. Whilst these steps will support the building of data and digital capacity within HEIW staff, they are at early stage of implementation and therefore their impact will need to be evaluated.

## Business intelligence governance and monitoring arrangements

- 42 In undertaking our work at HEIW, we considered the extent to which it has effective governance arrangements and clear milestones and targets to oversee and monitor progress on business intelligence objectives and ambitions. We found that **whilst overall arrangements for the oversight of business intelligence initiatives are appropriate, they could be further strengthened by more rounded reporting on progress and ensuring that the initiatives are meeting user needs.**

## HEIW has appropriate governance arrangements for business intelligence

- 43 HEIW has appropriate arrangements in place for the oversight, monitoring and sharing of progress around its business intelligence ambitions. The primary governance forum for business intelligence is the Digital Transformation Leadership Group. This HEIW leadership group has wide internal representation and receives regular progress reports on data and digital. The group appropriately oversees the high-level progress of individual team plans, including data analytics, and helps to manage key risks, such as the recent reprioritisation of the digital transformation plan. This group reports into the Executive Team on key areas of risk and concern and on overall progress.
- 44 HEIW, as part of its ongoing board development sessions with Independent Members, have held several sessions focussing on specific digital and data topics. It is our understanding that where necessary these types of focused board development sessions will continue. Examples of these include the development of the digital and data strategy, the business case for a Single Platform and the development of the new IMTP performance dashboard. These informal sessions provided a useful way for Independent Members to gain a more detailed

understanding of specific data and digital activity. They are proactively engaging members in data and digital development, enabling officers to receive challenge and observations in addition to the more formal governance groups.

### **HEIW's reporting of progress around business intelligence is reasonable, however, it could be further improved**

- 45 HEIW's current reporting around business intelligence is largely based on progress against point-in-time actions and milestones. At the time of our review, HEIW reported all actions as having a green RAG status for Quarters 1 and 2 on Data and Digital (which incorporates business intelligence). Our work found that HEIW is making reasonable progress to improve its business intelligence, however, corporate reporting does not routinely provide a sufficiently clear picture of what remains to be delivered. Whilst the current reporting is not inaccurate, there is a risk that progress reports may be misunderstood by some report recipients. We recognise that these reports are not the sole source of assurance, however, by also identifying the scale of remaining work, this will provide the reader with a much more rounded picture of progress (**Recommendation 3**). In addition to this, the Digital First Plan also includes three specific metrics.
- 46 At the time of our review, we were made aware that HEIW's Digital and Data team were developing a broader suite of measures/metrics. Whilst our review did not look at these new metrics in detail, it is our view that having an appropriate set of metrics which focus on impact, alongside its existing milestones and actions, should enable HEIW to better understand the progress it is making on delivering on its business intelligence ambitions.

### **HEIW's approach to learning lessons is still developing**

- 47 HEIW has a clear approach for gathering intelligence and using this to learn lessons for its business intelligence deliverables. It has recently launched a simple user satisfaction survey and has recently introduced two learning 'gates' at six weeks and six months for the review of its dashboards. Given the relatively recent launching of some of its business intelligence dashboards, none of the six-month review gates had been reached at the time of our work. In the last few months, HEIW has launched several business intelligence products, with further planned before the close of this financial year. Therefore, it will be important that its planned learning gates take the opportunity to gather wider lessons but also focus on understanding the difference that the business intelligence has made to the users (**Recommendation 4**).

# Appendix 1

## Audit methods

Exhibit 2 below sets out the methods we used to deliver this work. Our evidence is limited to the information drawn from the methods below.

Element of audit approach	Description
Observations/Demonstrations	<ul style="list-style-type: none"><li>• We observed the Board meeting on 30 November 2023.</li><li>• Demonstrations were provided of several of the key Business Intelligence Power BI data dashboards.</li></ul>
Documents	<p>We reviewed a range of documents, such as:</p> <ul style="list-style-type: none"><li>• Digital Strategy 2023-28</li><li>• IMPT 2023-26</li><li>• Digital First Enabling Plan</li><li>• Performance Framework – March 2023</li><li>• Executive papers which include a progress update on the Digital Strategy</li><li>• Relevant Board Development Session papers/presentations</li><li>• Board briefings on Digital, which incorporates updates on business intelligence</li><li>• Updates and minutes from the Digital Transformation Leadership Group</li><li>• Progress update on National Workforce Implementation Plan actions</li><li>• Papers and milestones for the external data maturity work</li><li>• Papers demonstrating partnership work on developing business intelligence</li><li>• Supporting papers on data quality</li></ul>



Element of audit approach	Description
Interviews	<p>We interviewed the following Senior Officers and Independent Members:</p> <ul style="list-style-type: none"> <li>• Director of Digital Development</li> <li>• Assistant Director – Workforce Data and Analytics</li> <li>• Assistant Director – Performance and Planning</li> <li>• Director of Finance</li> <li>• Deputy Director of Finance</li> <li>• Head of Analytics</li> <li>• Advanced Data Analyst</li> <li>• Head of Education, Commissioning and Quality</li> <li>• Independent Member – Digital lead</li> <li>• Independent Member – Chair of Audit and Assurance Committee</li> <li>• Interim Assistant Director of Strategic Workforce Planning</li> </ul>

# Appendix 2

## Audit questions and criteria

### Exhibit 3: audit questions and criteria

The overall review asked ‘to what extent does HEIW have an effective approach for its business intelligence?’ The underpinning questions are included in the table below.

Level 2 questions	Level 3 questions	Criteria
<p>2.1 Is the approach to business intelligence planning effective?</p>	<p>2.1.1 To what extent is there a clear understanding of business intelligence needs and demands for the organisation over the short, medium and longer term?</p> <p>2.1.2 Is there a clear vision and ambition for how business intelligence will support the organisation to deliver on its aims?</p> <p>2.1.3 Are there robust strategies and plans in place which articulate how the business intelligence ambitions will be achieved?</p>	<ul style="list-style-type: none"> <li>• Business intelligence requirements and ambitions have been clearly articulated and set in the context of the organisation’s strategic objectives.</li> <li>• Business intelligence is fully integrated within a wider strategic digital framework.</li> <li>• There are clear organisational business intelligence requirements such as data quality, visualisation, reporting and analytics.</li> <li>• The organisation’s approach to business intelligence is aligned with recognised business intelligence standards.</li> </ul>

Level 2 questions	Level 3 questions	Criteria
	2.1.4 Have the business intelligence plans been sufficiently resourced (capital and revenue)?	<ul style="list-style-type: none"> <li>• Investment required to deliver improvements in business intelligence (capital and revenue) have been identified and approved.</li> <li>• Business intelligence needs for the future have been defined and there is a plan for how this intelligence will be collected.</li> <li>• The organisation understands its business intelligence issues/risks. Aligned to this, there is a well-developed understanding of data quality across the business intelligence landscape and improvement plans are in place where data quality is below agreed standards.</li> <li>• The organisation has a good understanding of its maturity around business intelligence and there are clear plans in place for improvement.</li> <li>• There is sufficient capacity and competency within the organisation to deliver its business intelligence ambitions (eg Business Intelligence team members have business intelligence certifications such as CBIP). There are plans to address any capacity and capability shortfalls.</li> <li>• Business intelligence fully supports organisational performance and is used to improve the measurement and reporting within strategic plans such as the IMTP.</li> </ul>

Level 2 questions	Level 3 questions	Criteria
<p>2.2 Is the approach to using business intelligence effective?</p>	<p>2.2.1 Does the current use of business intelligence effectively support planning and decision making?</p> <p>2.2.2 Does the visualisation of business intelligence analysis support decision making?</p> <p>2.2.3 Is there a clear understanding of where there are gaps in business intelligence and the impact of this on decision making?</p> <p>2.3.4 To what extent is the organisation working with partners to improve its business intelligence?</p>	<ul style="list-style-type: none"> <li>• There is appropriate access to business intelligence for key decision makers.</li> <li>• Business intelligence shared with partners and stakeholders is robust and timely.</li> <li>• Decision makers have the right skills to be able to effectively use business intelligence information to inform their decisions.</li> <li>• There is an agreed catalogue of the current business intelligence and any gaps have been identified.</li> <li>• Business intelligence is sufficiently focussed on both current and longer term (&gt;ten years) needs.</li> <li>• Workforce business intelligence is used to shape the organisations strategic plans (IMTP, E&amp;TP).</li> <li>• There is effective working with partners to ensure third party data is robust and timely.</li> <li>• Business intelligence is visualised in a way that facilitates decision making (such as trends, projections, impacts).</li> <li>• There is a clear plan that maps current and future business intelligence system architecture and tools needed to support the organisation’s business intelligence ambitions.</li> <li>• There is a robust approach to working with partners to improve business intelligence, in particular where partners are the data controllers.</li> </ul>

Level 2 questions	Level 3 questions	Criteria
<p>2.3 Is the approach to monitoring and reviewing progress on business intelligence effective?</p>	<p>2.3.1 Are the governance arrangements to oversee and monitor progress on business intelligence objectives and ambitions fit for purpose?</p> <p>2.3.2 Are there clear milestones and measures which facilitate monitoring the progress being made around business intelligence?</p> <p>2.3.3 Has the organisation developed a robust approach to continuous improvement and learning and is it applying this to support the delivery of its business intelligence ambitions?</p>	<ul style="list-style-type: none"> <li>• The governance arrangements around business intelligence are effectively designed to discharge their oversight responsibilities.</li> <li>• TOR for the respective governance and accountability structures charged with oversight of business intelligence, which have clearly defined roles and responsibility.</li> <li>• There is a well-developed process for the escalation and de-escalation of business intelligence related risks to the Executive Team and Board.</li> <li>• The trajectory and progress on plans around business intelligence are regularly scrutinised and actions agreed to keep progress on track.</li> <li>• There are clear milestones and measures that have been established to help those with oversight and delivery responsibilities determine the progress being made towards the business intelligence ambitions.</li> </ul>

# Appendix 3

## Organisation response to audit recommendations

Exhibit 4: organisation response

Recommendation	Organisational response	Completion date	Responsible officer
<p><b>Refreshing HEIW’s Digital Road Map</b></p> <p>R1 HEIW should review Mission 4 of its Digital Road Map in the light of any findings identified by the independent ‘data ecosystem’ assessment. The aim of the review should be to assess its relative progress since its last maturity self-assessment and to ensure the steps within its Digital Road Map are still fit for purpose.</p>	<p>HEIW will have independent assessments completed by Gartner and will be able to review and produce an internal gap analysis and further assessment based on that in terms of mission, deliverables, and alignment. A new data and analytics (Mission 4) roadmap can then be produced if required and amendments to the strategy made.</p>	<p>March 2024</p>	<p>Craig Barker Assistant Director of Digital: Data and Analytics</p>

Recommendation	Organisational response	Completion date	Responsible officer
<p><b>Identifying business critical roles and developing succession plans</b></p> <p>R2 Given the significant risks around recruitment and retention of digital posts:</p> <ul style="list-style-type: none"> <li>a) HEIW should identify its business-critical roles, with a particular focus on those needed to deliver Mission 4 of its Digital and Data Strategy.</li> <li>b) Once <b>R2a</b> is complete, HEIW should develop clear succession planning for these roles to mitigate the risks around the loss of business-critical knowledge which may impact the pace of planned business intelligence activity.</li> </ul>	<p>A review will be conducted to identify key posts recognising that there are skill mixes to also be considered. These will crosscut roles and should be completed after R1 completion.</p> <p>Will ensure that succession planning is aligned to SOPs and knowledge base plans.</p>	<p>April 2024</p>	<p>Craig Barker Assistant Director of Digital: Data and Analytics</p>

Recommendation	Organisational response	Completion date	Responsible officer
<p><b>Improving progress update reporting</b></p> <p>R3 HEIW's update reporting on data and business intelligence initiative progress should provide a more comprehensive account of progress, identifying what has been achieved, what is still left to complete and any likely impacts on original timescales.</p>	<p>This will tie into our plans for our new PMO application within Data and Analytics with benefits realisation and review built in.</p>	<p>April 2024</p>	<p>Craig Barker Assistant Director of Digital: Data and Analytics</p>
<p><b>Impact from investment in business intelligence</b></p> <p>R4 HEIW should develop an approach for evaluating the difference that the business intelligence is making for internal and external stakeholders. This will enable HEIW to determine if their investment in business intelligence is providing value for money and to ensure that any learning is used to further improve business intelligence deliverables.</p>	<p>We will ensure that this is built into our standard operating procedure in more detail.</p>	<p>March 2024</p>	<p>Craig Barker Assistant Director of Digital: Data and Analytics</p>







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