Technoleg Iechyd Cymru
Health Technology Wales

Health Technology Wales

Adoption Audit Report 2023/2024

Executive Summary

- The Health Technology Wales (HTW) annual adoption audit was piloted in 2021/2022 and was replicated for 2022/2023 with minor adjustments. For 2023/2024, the audit was run in a similar way to the previous year, again, with some minor adjustments. This year, HTW has audited 11 pieces of HTW guidance and three pieces of NICE Medical Technologies Evaluation Programme (MTEP) guidance. The annual HTW adoption audit successfully discharges recommendation 5 of the 2014 inquiry into "Access to Medical Technologies in Wales" [1].

- HTW engaged with a range of stakeholders and requested returns from each of the local health boards, the two NHS Wales Trusts, and NHS Wales Joint Commissioning Committee (NWJCC) (formerly Welsh Health Specialised Services Committee [WHSSC]). The audit response rate was the best so far with partial responses from two of the seven health boards, and full responses from four other health boards and from NWJCC, Welsh Ambulance Services University NHS Trust (WAST) and Velindre University NHS Trust. Procurement Services also provided all available requested data.

- Responses from organisations where the guidance was relevant indicate that awareness of guidance is high (79%), clarity of guidance recommendations is good (96%), and guidance is having some form of impact in the majority of cases (72%). These figures are consistent with, or an improvement on last year's audit.

- The adoption audit was able to differentiate different levels of adoption of guidance, resulting in adoption of the appraised technology or otherwise as indicated, and impact on decision-making of HTW guidance across organisations. In some cases, responses clearly show that HTW guidance was adhered to and had a clear impact on decision-making. For guidance recommending the routine adoption of a technology, this was most evident for stereotactic ablative radiotherapy (SABR) (HTW GUI038). For guidance not recommending routine adoption, clear impact on decision-making was evident for both pieces of guidance (video laryngoscopes [HTW GUI037] and left atrial appendage occlusion [LAAO] [HTW GUI041]).

- Generally, it appears that HTW guidance that recommends routine adoption of a technology has been adhered to. Though there are a few examples where organisations had not adhered to the recommendation or were unsure whether they would. This was most evident for the Strategies for Relatives (START) intervention (HTW GUI031). Only one relevant organisation said they had adopted the technology, with others saying they had not or were unsure.

- For HTW guidance that "partially supports" routine adoption, organisations generally either did not feel the guidance was sufficient to change commissioning policy or clinical practice, or were unsure. The impact of guidance partially supportive of adoption ranged from no impact to moderate impact.

- All three pieces of NICE guidance audited recommended the use of a technology. The impact on decision-making of the three pieces of guidance was variable, ranging from no impact to major impact. Responses regarding NICE DG49 placental growth factor-based testing demonstrated the highest levels of adoption or intended adoption.

- Responses to the adoption audit identified several themes relating to awareness, clarity, intention to adopt guidance and the impact of guidance. While the clarity of the guidance was reported as high, there were some instances where organisations did not fully understand the remit of HTW guidance. There were comments around the lack of information on where funding and extra resources would come from, and questions around implementation of the technology, which is not within the remit of HTW guidance. Adherence to guidance was hindered by resource limitations (positive HTW guidance is not accompanied by additional funding) and other factors such as small patient numbers, less convincing evidence than currently available treatments, and other concerns about the evidence base for partially supported technologies. There were potentially some issues with the clarity of the audit question regarding the impact of guidance on decision-making. Some respondents indicated that guidance had been considered, but then classed it as having no impact because it had resulted in no actions taken, despite appearing to have been considered during decision-making.

- The responses further confirm that this process is appropriate to assess the adoption of both HTW and NICE guidance. Regular monitoring of the adoption of HTW and NICE national guidance has the potential to support multiple ambitions outlined in the health and social care policy agenda for Wales, document and maximise the return on the investment in HTW, and make Wales a leader in monitoring the impact of national guidance, both in the United Kingdom and internationally.

	2021/2022	2022/2023	2023/2024
Aware of guidance	68%	70%	79%
Clarity (guidance recommendation considered clear)	68%	83%	96%
Impact (minor, moderate or major)	68%	72%	72%

Proposed Future Directions

- HTW should continue to engage closely with each of the local health boards, specialised commissioning and specialist trusts in order to maximise adoption audit returns. HTW should consider how the process can be extended to other commissioners and should develop the necessary relationships to ensure the success of future audits. HTW should seek continual suggestions for improvements in process and methodology and should act on the findings of the adoption audit to improve awareness and clarity of guidance.

- HTW will review the adoption audit questionnaire to provide more detailed guidance notes and ensure questions are as clear as possible. In future, respondents will only have to answer appropriate questions depending on the relevance of guidance to their organisation. HTW and commissioning organisations should work together to establish a consensus on what should be considered relevant guidance.

- HTW should continue the adoption audit of NICE MTEP guidance in collaboration with the Welsh NICE Health Network (WNHN). HTW should work closely with NICE to review their respective work programmes to ensure that no duplication is present and to identify

opportunities for collaboration as appropriate. NICE should review the findings of the adoption audit to consider the impact of, and responses to, their MTEP guidance.

- Local health boards, NWJCC, and the specialist trusts should continue to work with HTW to support future adoption audit returns and reports, and are encouraged to input into process and methodological improvements. HTW commissioning organisation adoption leads should work with HTW to identify topics for appraisal and to make links with local experts who are able to provide invaluable expertise during appraisal development, which will in turn increase awareness and maximise the impact of guidance.
- Welsh Government should continue to support the HTW adoption audit as 'business as usual' and should promote participation in the HTW adoption audit to maximise the number of returns and ensure that a complete picture of the uptake of HTW guidance and the ultimate adoption, or otherwise, across Wales of the technologies appraised by HTW can be provided. Welsh Government should also consider whether there are opportunities to support the adoption of HTW and NICE MTEP guidance and to resolve barriers to adoption that have been identified. HTW and Welsh Government should continue to support each other and reflect on how findings from the annual adoption audit can inform learning and continue to promote a MedTech ecosystem environment that is conducive to innovation and expedites the adoption of evidence-based medical technologies.

Contents

List of abbreviations

Abbreviation	Full text
ABUHB	Aneurin Bevan University Health Board
AMaT	Audit Management and Tracking
BCUHB	Betsi Cadwaladr University Health Board
CTMUHB	Cwm Taf Morgannwg University Health Board
CVUHB	Cardiff & Vale University Health Board
DG	Diagnostic Guidance
EBMS	Electronic blood management system
EHFRT	Extreme hypofractionated radiotherapy
GUI	Guidance
HDUHB	Hywel Dda University Health Board
HTW	Health Technology Wales
LAAO	Left atrial appendage occlusion
LHB	Local Health Board
MTEP	Medical Technologies Evaluation Programme
MTG	Medical Technology Guidance
NICE	National Institute for Health and Care Excellence
NT-proBNP	N-terminal pro B-type natriuretic peptide
NWJCC	NHS Wales Joint Commissioning Committee
PLGF	Placental growth factor
PTHB	Powys Teaching Health Board
rTMS	Repetitive Transcranial Magnetic Stimulation
SABR	Stereotactic ablative radiotherapy
SBUHB	Swansea Bay University Health Board
START	Strategies for Relatives
TOT	Topical oxygen therapy
WAST	Welsh Ambulance Services University NHS Trust
WG	Welsh Government
WHSCC	Welsh Health Specialised Services Committee

1. Introduction

Health Technology Wales (HTW) was established in 2017 to provide a consistent and structured approach to assessment of non-medicine technologies in Wales as a result of a Welsh Government inquiry into "Access to Medical Technologies in Wales" [1]. The inquiry and subsequent recommendations highlighted that guidance produced by Health Technology Wales should have "Adopt or Justify" status and that the uptake of guidance should be audited to ensure equitable access to services. Health Technology Wales is well established and after refining its approaches to identification and appraisal of medical technologies, turned to considering how the adoption of its guidance could be audited and monitored.

Adoption of HTW guidance recommendations and the associated adoption, or otherwise, of the technologies appraised is key to ensuring that there is access to evidence-based technologies and models of care and support and that their anticipated benefits are realised for people in Wales. Further, adoption of HTW guidance ensures that technology developers and industry partners can be confident that, where they have embedded the collection of supporting evidence within development and demonstrated value of their products and services, innovations will become available within the health and care system in Wales. It is therefore critical that HTW works to support adoption of guidance and audits the extent to which this has happened to assess the impact of our work.

The HTW adoption audit process reports on adoption within relevant commissioning bodies and procurement services. The process was piloted in 2021/2022 with a series of eight pieces of guidance, culminating in the publication of the Adoption Audit Pilot Report 2021/2022[2]. The report found that the process was feasible and acceptable for partners in Wales. The pilot audit process was repeated, with some minor changes, for the 2022/2023 adoption audit leading to the publication of the Adoption Audit Report 2022/2023[3]. The present report represents the third in a series of ongoing annual reports monitoring adoption of HTW guidance to be shared with Welsh Government and other stakeholders.

The report presents a summary of issues around adoption arising from the adoption audit and information on awareness, clarity and impact of HTW and National Institute for Health and Care Excellence (NICE) guidance on decision-making by relevant commissioning organisations. The purpose of this is to assess the extent to which HTW and NICE guidance has improved care and access for people in Wales. The adoption audit also supports NHS partners to identify variation in care and to work collaboratively to identify and design solutions.

More detailed information on responses for each of the pieces of guidance audited is also provided, and a brief overview of the supporting methodology and example materials are available in Appendix I and II, respectively.

2. Summary of adoption audit findings

The 2023/2024 adoption audit replicated the adoption audit process established in the 2021/2022 pilot, with slight changes in approach to the previous two years. In addition to auditing 11 pieces of HTW guidance, HTW have audited three pieces of NICE Medical Technologies Evaluation Programme (MTEP) guidance. This meant there was a possible total of 140 responses from 10 organisations across 14 pieces of guidance. The responses provided confirm that this process is appropriate to assess the adoption of both HTW and NICE guidance. The valuable information from the audit will help HTW and NICE to refine their work and can help support wider assessments of how to further support adoption of HTW guidance in Wales.

Over the past twelve months, we have continued our work with each of the local health boards, specialised commissioning, and NHS trusts to maintain the relationships we developed since the 2021/2022 pilot. As a result of this work, we received full responses from four of the seven health boards, Velindre University NHS Trust, the NHS Wales Joint Commissioning Committee (NWJCC, formerly Welsh Health Specialised Services Committee [WHSSC]), and the Welsh Ambulance Services University NHS Trust (WAST). This is our highest rate of response yet and reflects the effort HTW and the commissioning organisations have put into engaging with the audit. Organisations could provide their adoption audit returns via a Word document version of the questionnaires or by completing the relevant questionnaire on the online Audit Management and Tracking (AMaT) system if they had access. Each piece of HTW guidance is produced with an individual communications plan, which includes distributing each piece of guidance to commissioning organisations' adoption leads for further dissemination and uploading the guidance to AMaT.

Similar to the 2022/2023 audit, a request for information was made to each organisation for every piece of guidance to ensure that we include all those with commissioning responsibility in each case. Respondents were asked to indicate whether each piece of guidance was relevant to their organisation. In a change to last year, organisations were asked to indicate whether a piece of guidance was not relevant to them by answering 'not relevant' to question 3 in the guidance's questionnaire (see an example of a questionnaire in Appendix II) and returning this to us. In previous years, organisations would sometimes indicate guidance was not relevant via email, with little detail on the reasons for this. This year, we wanted to capture more information on why guidance was not considered relevant and what happens to members of the public with the indicated conditions in areas where the commissioning organisation has deemed the guidance not relevant. If an organisation did not inform us via the adoption audit questionnaire that a piece of guidance was not relevant, and informed us via other means instead without returning the questionnaire, this would have been classed as an incomplete return. However, this situation did not occur.

Another change made for the 2023/2024 adoption audit was that organisations were asked to return only one questionnaire per piece of guidance to avoid any multiple, contradictory responses from within organisations. If multiple responses for a piece of guidance were received from a single organisation, we sought clarification on which response to include, and if no clarification was received, then only the most recently received return was included.

The wording of some questions was changed for this year's audit following feedback on clarity from last year. Due to confusion around whether organisations were being asked if they had adopted the recommendation from the guidance or if they had adopted the technology that was the subject of the guidance, the wording of this question was changed to "did your organisation intend to implement **the recommendation** from this HTW guidance, which was *to adopt / not routinely adopt* X in people with Y?" For clarity, for the remainder of this report, we will refer to the 'adherence to guidance' to mean adoption of guidance.

Out of all the responses received (122 out of a possible 140), guidance was judged to be relevant by organisations in 55% of responses. WAST judged only one piece of guidance to be relevant to them, with all others classed as not relevant as they were not relevant to pre-hospital care. NWJCC classed two pieces of guidance as relevant, with all the rest classed as irrelevant as the technologies are commissioned directly by the local health boards and not by NWJCC. There were some pieces of guidance where, between health boards, there were differences in opinion as to whether the guidance was relevant to them. Some judged that because they did not carry out a certain procedure or use a certain technology, the guidance was not relevant to them; whereas others felt that because they had patients within their health board that are eligible for the treatment or technology, the guidance was relevant to them even if their patients went to a different area or organisation to receive it. This is potentially an area for further consideration and to develop a consensus on what classes as relevant guidance.

The audit returns indicated that there was very good awareness of HTW and NICE guidance, the recommendations were almost always considered clear, and guidance was having an impact on decision-making. Among those respondents who confirmed that the guidance was relevant to their organisation, 79% reported that they were aware of the guidance, 96% said the guidance was clear and 72% reported some impact on decision-making. This demonstrates an improvement in awareness and clarity compared to last year's audit, whilst the amount of impact on decision-making has remained the same.

In some cases, responses clearly show that HTW guidance was being adhered to and had an impact on decision-making. For guidance recommending the routine adoption of a technology, this was most evident for stereotactic ablative radiotherapy (SABR) (HTW GUI038). All organisations that the guidance was relevant to either had adhered to, or intended to adhere to, the recommendation from the guidance. It was also apparent for extreme hypofractionated radiotherapy (HTW GUI034); all but one relevant organisation said they would adhere to the recommendation from the guidance, which was to routinely adopt the technology, and the only 'no' was due to the health board sending patients to another organisation for this treatment; although this organisation had indicated the guidance was relevant to them. This also highlights the point above regarding variability in how organisations deem guidance to be relevant to them. Other organisations may not have deemed this guidance relevant as treatment was not delivered in their organisation.

Generally, it appears that HTW guidance that recommends routine adoption of a technology has been adhered to. Though there are a few examples where organisations had not adhered to the recommendation or were unsure whether they would. This was most evident for Strategies for Relatives (START) intervention (HTW GUI031). Only one relevant organisation said they had adopted the technology, in line with the guidance, with others saying they had not or were unsure if they would. This piece of guidance appeared to be one that there was lesser awareness of, and it was considered to have either moderate or no impact on decision-making.

This audit included HTW guidance with recommendations specifying that the evidence "partially supports" routine adoption. These two pieces of guidance (virtual reality distraction therapy [HTW GUI017-2] and transcranial magnetic stimulation [HTW GUI035]) received mixed responses. Generally, organisations either did not feel the guidance was sufficient to change commissioning policy or clinical practice, or were unsure. The impact of guidance partially supportive of adoption ranged from no impact to minor, and no impact to moderate, for HTW GUI017-2 and HTW GUI035, respectively. For the two pieces of guidance not recommending routine adoption, video laryngoscopes (HTW GUI037) and left atrial appendage occlusion (HTW GUI041), a major impact on decision-making was evident for relevant organisations that commission these technologies.

Two of the three included pieces of NICE MTEP guidance were issued under the NHS England MedTech Funding Mandate (placental growth factor [PLGF]-based testing [NICE DG49] and UroLift [NICE MTG58]). This requires that the recommended technology is expected to be cost saving. All three seemed to be of variable impact, ranging from no impact to major impact. However, PLGF-based testing (NICE DG49) was the piece of guidance that all relevant organisations intended to adhere to, whilst the other two had varied responses. In particular, UroLift (NICE MTG58) was mentioned by several organisations as having lower quality evidence or being less effective than other available treatments and, hence, was not going to be routinely adopted into clinical practice.

The commissioning organisations reported very few actions in supporting further research. There were a handful of cases where organisations had been involved in, or intended to support, clinical trials. This included three out of the 14 audited pieces of guidance. Research recommendations in guidance were highlighted as an area for improvement during last year's adoption audit; however, no comments were received relating to research recommendations this year.

A new question was added this year to ask whether organisations were aware of, or using, any other guidance related to the technologies prior to the issuing of the HTW or NICE guidance being audited. This was to address issues raised during last year's audit about overlap with guidance from other agencies and the extent to which guidance concurs. However, this question did not yield relevant information. Responses to this question were quite varied in content and did not routinely include information about national guidelines that may have been considered. Therefore, the results of this question have not been discussed in this report and the question will not be asked again next year.

Overall, audit response rates were encouraging. However, as with last year's audit, the absence of information from one local health board and partial returns for two others has limited our ability to provide a full picture on adoption of HTW and NICE guidance across Wales. HTW will continue to engage with stakeholders and work with Welsh Government to try to ensure that a full picture can be provided for future years.

2.1 Awareness of guidance

For each of the pieces of guidance audited, the nominated contact for the relevant commissioning body was asked whether their organisation or relevant people within their organisation were aware of our guidance. Out of a total possible set of 140 responses, from the 10 organisations across the 14 included pieces of guidance, 122 responses (87%) were received. Fifty-five of these responses were organisations confirming that pieces of guidance were not relevant to their organisations. From the remaining 67 responses from organisations which confirmed that the guidance was relevant, 53 responses (79%) indicated that there was awareness of guidance, 10 (15%) indicated that there was not awareness, and four (6%) were unsure whether guidance was known of by their organisation. These numbers appear to be acceptable and indicate good awareness of HTW and NICE guidance, with a slight improvement in awareness compared with last year.

Several themes were identified from the analysis of the adoption audit data relating to awareness of the guidance. As with last year, awareness of the guidance was sometimes linked to direct involvement in the development of HTW Evidence Appraisal Reports, for example by suggesting topics to HTW or participating in expert review. Distribution via the AMaT system was also mentioned as a route by which organisations became aware of guidance. Where organisations were not aware of guidance, little detail was given on potential reasons for this, and no particular themes became apparent. However, it does appear that sometimes guidance

did not reach the people that it would be relevant to. There is potentially further work for HTW and commissioning organisations to further refine the communications plans prepared for each piece of HTW guidance to ensure the correct people are all aware of them in a timely manner.

Table 1. "Was your organisation aware of this guidance?"

	ABUHB	BCUHB	CVUHB	CTMUHB	HDUHB	PTHB	SBUHB	NWJCC	Velindre	WAST
GUI017-2 Virtual reality distraction therapy	Yes	Yes	No	No response	Yes	No	No	N/R	N/R	N/R
GUI026 NT-proBNP	No response	Yes	Yes	No response	Yes	N/R	No	N/R	N/R	N/R
GUI031 Strategies for Relatives (START) intervention	No	No	No	No response	Yes	No	Yes	N/R	N/R	N/R
GIU034 Extreme hypofractionated radiotherapy (EHFRT)	Yes	Yes	Yes	No response	Yes	N/R	Yes	N/R	Yes	N/R
GUI035 Transcranial magnetic stimulation	Unsure	Unsure	Yes	No response	Yes	Yes	Yes	N/R	N/R	N/R
GUI037 Video laryngoscopes	N/R	Yes*	N/R	No response	N/R	N/R	N/R	N/R	N/R	Yes
GUI038 Stereotactic ablative radiotherapy (SABR)	N/R	Yes	Yes	No response	Yes	N/R	Yes	Yes	Yes	N/R
GUI039 Electronic blood management systems	No	Yes	Yes	No response	Yes	Yes	Yes	N/R	Yes	N/R
GUI040 Outpatient laryngeal biopsies	No response	Unsure	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
GUI041 Left atrial appendage occlusion (LAAO)	N/R	N/R	No response	No response	Yes	N/R	N/R	Yes	N/R	N/R
GUI043 Continuous topical oxygen therapy	Unsure	No	Yes	No response	Yes	Yes	Yes	N/R	N/R	N/R
DG49 Placental Growth Factor based testing	No response	Yes	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
MTG58 Urolift system	Yes	N/R	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
MTG72 Magtrace and Sentimag system	Yes	N/R	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R

No response indicates that the questionnaire was not returned for a piece of guidance.
N/R indicates that an organisation reported that a piece of guidance was not relevant to them.
*This guidance applied to the pre-hospital setting and was thought to only be relevant to WAST, however, the health board indicated that this guidance was relevant.

2.2 Clarity of guidance

Nominated contacts were also asked whether the recommendation(s) in the guidance was clear. Out of a total possible set of 140 responses, 122 responses across the 14 pieces of guidance were received. Fifty-five of these responses were organisations confirming that pieces of guidance were not relevant to their organisations. From the remaining 67 responses from organisations which confirmed that the guidance was relevant, 64 responses (96%) indicated that guidance was clear and three (4%) indicated that it was not clear. This shows that almost all of the HTW and NICE guidance audited was clear.

While the clarity of the guidance was high, there were potentially still some instances where organisations were not aware of the remit of HTW guidance. There were comments around the lack of information in the guidance on where funding and extra resources would come from, and questions around implementation of the technology. This suggests there is still work to do in helping commissioning organisations to understand the remit of HTW's guidance, which does not cover these aspects.

Of the three cases where guidance was felt not to be clear, two of these were the examples of HTW guidance that 'partially supported' routine adoption. The reasons given were uncertainty around the place of the technology in clinical practice and inadequate economic evidence, respectively. The third case of guidance considered unclear was more unusual. The respondent stated that the guidance was unavailable, despite all HTW guidance being available on our website and uploaded to AMaT; this is covered in more detail in the relevant guidance section below.

Table 2. "Was the recommendation in the guidance clear?"

	ABUHB	BCUHB	CVUHB	CTMUHB	HDUHB	PTHB	SBUHB	NWJCC	Velindre	WAST
GUI017-2 Virtual reality distraction therapy	Yes	Yes	No	No response	Yes	Yes	Yes	N/R	N/R	N/R
GUI026 NT-proBNP	No response	Yes	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
GUI031 Strategies for Relatives (START) intervention	No	Yes	Yes	No response	Yes	Yes	Yes	N/R	N/R	N/R
GIU034 Extreme hypofractionated radiotherapy (EHFRT)	Yes	Yes	Yes	No response	Yes	N/R	Yes	N/R	Yes	N/R
GUI035 Transcranial magnetic stimulation	Yes	No	Yes	No response	Yes	Yes	Yes	N/R	N/R	N/R
GUI037 Video laryngoscopes	N/R	Yes*	N/R	No response	N/R	N/R	N/R	N/R	N/R	Yes
GUI038 Stereotactic ablative radiotherapy (SABR)	N/R	Yes	Yes	No response	Yes	N/R	Yes	Yes	Yes	N/R
GUI039 Electronic blood management systems	Yes	Yes	Yes	No response	Yes	Yes	Yes	N/A	Yes	N/R
GUI040 Outpatient laryngeal biopsies	No response	Yes	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
GUI041 Left atrial appendage occlusion (LAAO)	N/R	N/R	No response	No response	Yes	N/R	N/R	Yes	N/R	N/R
GUI043 Continuous topical oxygen therapy	Yes	Yes	Yes	No response	Yes	Yes	Yes	N/R	N/R	N/R
DG49 Placental Growth Factor based testing	No response	Yes	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
MTG58 Urolift system	Yes	N/R	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
MTG72 Magtrace and Sentimag system	Yes	N/R	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R

No response indicates that the questionnaire was not returned for a piece of guidance.
N/R indicates that an organisation reported that a piece of guidance was not relevant to them.
*This guidance applied to the pre-hospital setting and was thought to only be relevant to WAST, however, the health board indicated that this guidance was relevant.

2.3 Impact of guidance

For 12 of the 14 pieces of guidance, with a recommendation to either routinely adopt or not routinely adopt the technology, nominated contacts were asked whether they intended to implement the guidance within their organisation. Out of a total possible set of 120 responses, 104 responses across the 12 included pieces of guidance were received. Forty-nine of these responses were organisations confirming that pieces of guidance were not relevant to their organisations. From the remaining 55 responses from organisations which confirmed that the guidance was relevant to them, 37 (67%) intended to adhere to the guidance, 8 (15%) did not intend to adhere to it, and 10 (18%) were unsure. In general, it seemed that organisations intended to adhere to guidance when it was relevant to their organisation and there was an increase of 11% compared with last year's audit. The question wording was changed this year to clarify meaning and to try to ensure information was gathered about organisations' adoption of guidance (which may include recommendations to adopt, partially adopt or not adopt technologies), rather than adoption of the technologies themselves. This resulted in only one case where the rest of the response indicated this question had been potentially misinterpreted. The organisation was contacted to ask for clarification and the response was updated. This is an improvement on last year, but shows there is still the potential for confusion around this question and there may need to be further development of how it is posed.

This year, there were two pieces of HTW guidance where the technology was 'partially supported' by the evidence (GUI017-2 and GUI035) and a specific recommendation of whether to routinely adopt the technology, or not, was not made. For these pieces of guidance, rather than asking if they intended to implement the guidance, nominated contacts were asked whether they felt the guidance was sufficient to alter commissioning and/or clinical practice. Out of a total possible set of 20 responses, 18 responses across the two pieces of guidance were received. Six of these responses were organisations confirming that the two pieces of guidance were not relevant to them. From the remaining 12 responses from organisations which confirmed that the guidance was relevant to them, three (25%) felt that the guidance was sufficient, six (50%) felt that it was not sufficient, and three (25%) were unsure. Information included in GUI017-2 was felt to be less sufficient than GUI035, with four responses of 'no' and only one 'yes', compared with two responses of 'no' and two of 'yes' for GUI035. This suggests there is potential for clarifying the recommendations made when evidence only partially supports adoption of a technology.

Several themes were identified from the analysis of the adoption audit data relating to organisations' intention to adhere to the guidance. Where HTW or NICE issued guidance recommending that a technology should be adopted, barriers to adoption were identified such as resource and financial implications, small patient numbers, and less convincing evidence than other available treatments. Lack of finance was the most commonly stated barrier. In some cases, organisations had already routinely adopted a technology prior to the issuing of HTW or NICE guidance recommending that a technology should be adopted.

Where HTW guidance recommended the evidence partially supports routine adoption, concerns about the evidence on which guidance was based, and it not being robust enough, were frequently cited as barriers to implementation and reasons why the guidance was not considered sufficient to change clinical practice.

In cases of HTW guidance recommending not to routinely adopt a technology, there was universal intention to adhere to the recommendation by all organisations that the pieces of guidance were relevant to. As this usually means there is no need for extra resources or funding, no barriers to adhering to recommendations not to adopt were provided.

Table 3. "Did your organisation intend to implement the recommendation from this guidance?"

	ABUHB	BCUHB	CVUHB	CTMUHB	HDUHB	PTHB	SBUHB	NWJCC	Velindre	WAST
GUI017-2 Virtual reality distraction therapy‡	No	No	No	No response	Unsure	Yes	No	N/R	N/R	N/R
GUI026 NT-proBNP	No response	Yes	Yes	No response	Unsure	N/R	Yes	N/R	N/R	N/R
GUI031 Strategies for Relatives (START) intervention	Unsure	No	Unsure	No response	Yes	No	Unsure	N/R	N/R	N/R
GIU034 Extreme hypofractionated radiotherapy (EHFRT)	No	Yes	Yes	No response	Yes	N/R	Yes	N/R	Yes	N/R
GUI035 Transcranial magnetic stimulation‡	Yes	Unsure	Yes	No response	Unsure	No	No	N/R	N/R	N/R
GUI037 Video laryngoscopes	N/R	Yes*	N/R	No response	N/R	N/R	N/R	N/R	N/R	Yes
GUI038 Stereotactic ablative radiotherapy (SABR)	N/R	Yes	Yes	No response	Yes	N/R	Yes	Yes	Yes	N/R
GUI039 Electronic blood management systems	Unsure	Yes	Yes	No response	Yes	Unsure	Yes	N/R	Yes	N/R
GUI040 Outpatient laryngeal biopsies	No response	Unsure	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
GUI041 Left atrial appendage occlusion (LAAO)	N/R	N/R	No response	No response	Yes	N/R	N/R	Yes	N/R	N/R
GUI043 Continuous topical oxygen therapy	Unsure	No	Yes	No response	Yes	Unsure	No	N/R	N/R	N/R
DG49 Placental Growth Factor based testing	No response	Yes	Yes	No response	Yes	N/R	Yes	N/R	N/R	N/R
MTG58 Urolift system	No	N/R	Yes	No response	No	N/R	Yes	N/R	N/R	N/R
MTG72 Magtrace and Sentimag system	Unsure	N/R	No	No response	Yes	N/R	Yes	N/R	N/R	N/R

No response indicates that the questionnaire was not returned for a piece of guidance.
N/R indicates that an organisation reported that a piece of guidance was not relevant to them.
*This guidance applied to the pre-hospital setting and was thought to only be relevant to WAST, however, the health board indicated that this guidance was relevant.
‡Due to these pieces of HTW guidance stating the evidence partially supported adoption and not recommending whether or not to routinely adopt the technology, this question was altered to "Did your organisation judge this to be sufficient guidance to alter commissioning and/or clinical practice?"

Nominated contacts were also asked how much of an impact guidance had on decision-making within their organisation. This question was aligned with approaches for monitoring impact used in other similar initiatives. Many varied factors could affect the impact of a piece of guidance, including whether the guidance recommends the use of a technology or not, and whether or not the organisation was already using the technology. As such, a low impact may be a positive outcome in cases where guidance does not recommend the use of a technology and where organisations had not adopted the technology prior to or post-publication of the guidance. Likewise, a low impact may be a positive outcome where guidance recommends the routine adoption of a technology, but the technology was already being used prior to publication of the guidance and this continued post-publication.

Out of a total possible set of 140 responses, 122 responses across the 14 included pieces of guidance were received. Fifty-five of these responses were organisations confirming that pieces of guidance were not relevant to their organisations. From the remaining 67 responses from organisations which confirmed that the guidance was relevant to them, 19 (28%) reported that guidance had no impact on decision-making, 20 (30%) that guidance had minor impact, 16 (24%) that guidance had moderate impact, and 12 (18%) that guidance had a major impact.

Several themes were identified from the analysis of the adoption audit data relating to impact of the guidance. Where HTW guidance was issued that stated the evidence partially supported routine adoption, the impact of the guidance was generally minor or had no impact, potentially due to the concerns around robustness of the evidence discussed above. Where HTW guidance did not recommend the routine adoption of a technology, these were generally for more specific indications that were relevant to specific organisations such as WAST or NWJCC, and the impact of these pieces of guidance was often considered major.

In some cases where HTW or NICE guidance recommended routine adoption of a technology, and an organisation had already adopted the technology prior to the issuing of guidance, these were classed as having minor or no impact on decision making; as guidance recommendations were in line with existing practice. As mentioned above, this can be considered a positive response as no changes to clinical practice were needed. However, there were some cases where respondents said the guidance was still helpful as it justified the approach they were already taking.

There appeared to be several instances where the impact of the guidance had been applied to actions taken rather than to organisations' decision-making processes, reflecting that the question phrasing may not be entirely clear or is open to misinterpretation. Answers to other questions in the return indicated that the guidance had been taken into consideration when making decisions, but the respondent stated that the guidance had no impact (see more detail for specific pieces of guidance below). Often this was in cases where no further actions had been taken, though some respondents acknowledged that there is a desire to adopt the technology and the guidance would have a bigger impact once introduced. This question is something HTW may need to make clearer for future audits to ensure respondents apply it to their decision making rather than later stages of implementation.

Table 4. "How much of an impact did this guidance have on decision-making in your organisation?"

	ABUHB	BCUHB	CVUHB	CTMUHB	HDUHB	PTHB	SBUHB	NWJCC	Velindre	WAST
GUI017-2 Virtual reality distraction therapy	Minor impact	No impact	Minor impact	No response	Minor impact	No impact	No impact	N/R	N/R	N/R
GUI026 NT-proBNP	No response	Moderate impact	Minor impact	No response	Moderate impact	N/R	Minor impact	N/R	N/R	N/R
GUI031 Strategies for Relatives (START) intervention	No impact	No impact	No impact	No response	Moderate impact	No impact	Moderate impact	N/R	N/R	N/R
GIU034 Extreme hypofractionated radiotherapy (EHFRT)	No impact	Moderate impact	Minor impact	No response	Moderate impact	N/R	Moderate impact	N/R	Moderate impact	N/R
GUI035 Transcranial magnetic stimulation	Minor impact	Minor impact	No impact	No response	Moderate impact	Moderate impact	Minor impact	N/R	N/R	N/R
GUI037 Video laryngoscopes	N/R	No impact*	N/R	No response	N/R	N/R	N/R	N/R	N/R	Major impact
GUI038 Stereotactic ablative radiotherapy (SABR)	N/R	Minor impact	Minor impact	No response	Major impact	N/R	Moderate impact	Major impact	Major impact	N/R
GUI039 Electronic blood management systems	No impact	Minor impact	Major impact	No response	Minor impact	Minor impact	Minor impact	N/R	No impact	N/R
GUI040 Outpatient laryngeal biopsies	No response	No impact	Minor impact	No response	Major impact	N/R	Moderate impact	N/R	N/R	N/R
GUI041 Left atrial appendage occlusion (LAAO)	N/R	N/R	No response	No response	Major impact	N/R	N/R	Major impact	N/R	N/R
GUI043 Continuous topical oxygen therapy	Moderate impact	Moderate impact	Minor impact	No response	Minor impact	Minor impact	No impact	N/R	N/R	N/R
DG49 Placental Growth Factor based testing	No response	Major impact	Major impact	No response	No impact	N/R	No impact	N/R	N/R	N/R
MTG58 Urolift system	Minor impact	N/R	Moderate impact	No response	No impact	N/R	Major impact	N/R	N/R	N/R
MTG72 Magtrace and Sentimag system	No impact	N/R	No impact	No response	Major impact	N/R	Moderate impact	N/R	N/R	N/R

No response indicates that the questionnaire was not returned for a piece of guidance.
N/R indicates that an organisation reported that a piece of guidance was not relevant to them.
*This guidance applied to the pre-hospital setting and was thought to only be relevant to WAST, however, the health board indicated that this guidance was relevant.
No impact (not considered in decision-making)
Minor impact (considered but did not inform decision-making)
Moderate impact (considered and had a moderate impact on decision-making)
Major impact (considered and had a major impact on decision-making)

3. Detailed information for guidance in the audit

In this section, we present a summary of the response to the adoption audit for each piece of guidance. A description of the adoption audit process and methodology is available in Appendix I, and examples of the adoption audit materials which were shared with HTW adoption leads from each organisation are available in Appendix II.

3.1 Virtual reality distraction therapy (HTW Guidance 017-2)

3.1.1 Background

Key details and the guidance recommendation are below:

Technology: Virtual reality (VR) interventions

Products: Numerous VR devices available including (but not limited to) Rescape DR.VR, Meta Quest, Pico Neo 3, Pico G2, HTC Vive, HP Reverb, Lenovo Mirage, Samsung Gear and Google Cardboard

Population: People (adults and/or children of any age) who have or are at risk of procedural pain, caused by medical procedures such as (but not limited to):

- Dressing changes for wounds or burns
- Dental procedures
- Cancer pain due to chemotherapy or other procedures
- IV access/venepuncture
- Routine outpatient procedures
- Labour

Topic Proposer: Rescape, a manufacturer of VR devices in the healthcare setting

Publication date: December 2022

The evidence partially supports the adoption of virtual reality interventions for the management of pain and anxiety in adults and children undergoing medical procedures, but the evidence is insufficient to support routine adoption.

The use of VR reduces pain and anxiety associated with a range of medical procedures as compared with standard care and is well tolerated.

While there is the potential for cost savings through a reduction in the use of analgesics, sedation or anaesthesia, the evidence to support this is currently limited. HTW would encourage the gathering of further evidence to define the economic and clinical impact of virtual reality in more detail.

Please see HTW GUI017-2[4] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.1.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also requested procurement data.

We received nine responses to the adoption audit for this piece of guidance. The guidance was deemed not relevant for NWJCC, WAST, and Velindre. Of the six organisations (ABUHB, BCUHB, CVUHB, HDUHB, PTHB, and SBUHB) that the guidance was relevant to, only half were aware of the guidance. PTHB stated that staff in midwifery and dentistry were aware of guidance from other sources but had not seen HTW's guidance. All relevant respondents felt the guidance was clear, except CVUHB. They stated that the inadequate economic evidence made it difficult to justify implementation of the technology.

This was one of two pieces of HTW guidance where a recommendation stated that 'the evidence partially supports' the adoption of the technology. Rather than asking organisations if they intended to implement the recommendation from this guidance, the question 'did your organisation judge this to be sufficient guidance to alter commissioning and/or clinical practice?' was asked instead. Only PTHB said yes, whilst ABUHB, BCUHB, CVUHB, and SBUHB said no, and HDUHB was unsure. Both ABUHB and BCUHB stated that evidence only partially supporting adoption was the reason for answering no, whilst HDUHB indicated there was interest in trialling VR technology but there is currently no financial infrastructure to support this. CVUHB felt the guidance was not robust enough to follow and consultants in SBUHB had indicated there was no interest to adopt this technology. Despite answering yes to this question, PTHB stated that the technology was considered but dentistry staff had decided to explore physical distraction toys instead.

No business cases were developed, nor any changes to service specifications made, in response to this guidance and no audits on the use of VR distraction technologies were carried out. Organisations generally disagreed that use of VR interventions for the management of pain associated with medical procedures were available as a treatment option, though BCUHB stated they were neutral on this statement. ABUHB, CVUHB, and HDUHB stated that this guidance had a minor impact on decision making, whilst BCUHB, PTHB, and SBUHB said it had no impact. However, responses to other questions suggest that this guidance was considered by PTHB and SBUHB, even if this resulted in no actions being taken.

Data from Procurement Services show that small numbers of devices and software licenses for VR technology were procured before and after the issuing of this guidance. However, there was an increase, with more than double the amount of VR headsets acquired, in the year after guidance was issued compared with one year before. However, it is unclear whether all, or any, were used for the management of pain and anxiety in adults and children undergoing medical procedures. As the guidance only partially supported adoption of this technology, it is uncertain how the procurement trend may relate to this recommendation.

3.2 N-terminal pro B-type natriuretic peptide (HTW Guidance 026)

3.2.1 Background

Key details and the guidance recommendation are below:

Technology:	N-terminal pro B-type natriuretic peptide (NT-proBNP)
Products:	Numerous products available including (but not limited to) Roche Elecsys/Cobas NT-proBNP, Abbott Alinity NT-proBNP. At the time HTW

	Guidance was published, additional products were not thought to be in use in NHS Wales
Population:	Adults with suspected acute heart failure in the emergency department setting
Topic Proposer:	Health Economics Manager, Roche Diagnostics Ltd.
Publication date:	November 2021

The evidence supports the routine adoption of N-terminal pro B-type natriuretic peptide (NT-proBNP) measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis.

The addition of NT-proBNP measurement to routine clinical assessment may reduce length of hospital stay and the rate of re-hospitalisations. Health economic modelling indicates that NT-proBNP to rule-in and rule-out acute heart failure is the most cost-effective strategy.

Please see HTW GUI026[5] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.2.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to the HTW adoption leads within commissioning organisations. We made a data request to Procurement Services for this technology.

Eight organisations responded to the adoption audit for this piece of guidance, with PTHB, NWJCC, WAST and Velindre confirming that the guidance is not relevant to their organisations. This was due to these organisations not having emergency departments or only being involved in pre-hospital care. Three organisations that the guidance was relevant to (BCUHB, CVUHB and HDUHB) were aware of the guidance and felt that the recommendation was clear. SBUHB were not aware of the guidance but felt that the recommendation was clear.

The guidance stated that NT-proBNP measurement should be routinely adopted in adults presenting to emergency departments in whom there is suspicion of heart failure. Three organisations (BCUHB, CVUHB and SBUHB) intended to adhere to this guidance, whilst HDUHB was unsure. CVUHB stated that this technology is already extensively used in acute medicine but was unsure of the impact in emergency medicine and SBUHB stated that the technology is already adopted within the health board. HDUHB stated that there were ongoing discussions about the technology, but it had not been routinely adopted.

HDUHB developed a business case and a clinical pathway for this technology, and carried out a local audit of its use. The other health boards had not carried out any actions in response to this guidance or were unsure whether any had been carried out. Both BCUHB and HDUHB disagreed that NT-proBNP measurement had been routinely adopted within their organisations, with BCUHB stating there had been challenges rolling it out. SBUHB strongly agreed that the technology had been routinely adopted. CVUHB was neutral on whether this technology is routinely available and stated that the guidance had a minor impact on decision making, potentially due to the technology already being extensively used in acute medicine. SBUHB also felt the guidance had a minor impact on decision making, whilst the other two organisations (BCUHB and HDUHB) stated the guidance had had a moderate impact.

Procurement data showed only one order of a NT-proBNP test in the period of interest. Though this occurred after this guidance was published, there is not enough data to make any conclusions on procurement trends for this technology resulting from guidance publication.

3.3 Strategies for Relatives (START) intervention (HTW Guidance 031)

3.3.1 Background

Key details and the guidance recommendation are below:

Technology: Strategies for Relatives (START)

Products: N/A

Population: Carers of people with dementia

Topic Proposer: Research, Data & Intelligence, Social Care Wales

Publication date: November 2021

> The evidence supports the routine adoption of the Strategies for Relatives (START) intervention for carers of people with dementia.

The use of START leads to a reduction in symptoms of depression and an improvement in quality of life of the carer as compared to usual care. Benefits are evident in the short term but are also maintained over a longer time period.

Health economic modelling suggests that START is cost effective compared to usual care with an incremental cost effectiveness ratio (ICER) of £12,400 per QALY and may lead to cost-savings when benefits and cost for the recipients of care are also considered.

Please see HTW GUI031[6] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.3.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We did not request procurement data for this technology as there are no related items to procure.

We received nine responses to the adoption audit for this piece of guidance, from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. The last three of these organisations stated that the guidance is not relevant to them. Velindre stated carers of people with cancer and dementia are usually referred to local health boards, social services or third sector partners for ongoing support. Of the six organisations that the guidance is relevant to, only HDUHB and SBUHB were aware of this guidance. However, all relevant organisations except ABUHB thought that the recommendation was clear. ABUHB stated that guidance was not accessible for them, although a link to the published guidance on the HTW website was provided and all HTW guidance is uploaded to AMaT.

The guidance supported the routine adoption of START for carers of people with dementia, and only HDUHB said that they had adhered to this recommendation. BCUHB and PTHB said they

would not adopt the technology, and ABUHB, CVUHB and SBUHB said they were unsure. A lack of awareness of the guidance, and the need for extra resources and a lack of capacity were reasons given for not adopting this technology.

HDUHB stated that they had already implemented the recommendation and the START programme had been fully rolled out across the health board. They stated that they are finalising a service operating procedure and service specification. No other actions had been carried out by other health boards in response to this guidance. HDUHB strongly agreed that START had been routinely adopted, whereas ABUHB, CVUHB, PTHB and SBUHB disagreed or strongly disagreed. BCUHB were neutral as to whether it had been routinely adopted. All of the health boards, except HDUHB and SBUHB, said the guidance had no impact on their decision making; this is likely due to not being aware of the guidance. HDUHB and SBUHB stated it had a moderate impact.

3.4 Extreme hypofractionated radiotherapy (HTW Guidance 034)

3.4.1 Background

Key details and the guidance recommendation are below:

Technology:	Extreme hypofractionated radiotherapy (EHFRT)
Products:	N/A
Population:	People with localised prostate cancer
Topic Proposer:	Dr John Staffurth, Consultant Oncologist, Velindre University NHS Trust.
Publication date:	May 2022

> The evidence supports the routine adoption of extreme hypofractionated radiotherapy (EHFRT) to treat localised prostate cancer.

EHFRT is associated with equivalent short- and medium-term cancer recurrence and survival outcomes compared with standard care (moderately or conventionally fractionated radiotherapy). EHFRT reduces the number of visits required for treatment and is associated with a low incidence of adverse events.

EHFRT is likely to be cost effective when compared with standard care. Compared with moderately hypofractionated radiotherapy guided by fiducial markers, EHFRT (seven fractions) using fiducial markers is likely to be cost effective if it is delivered in treatment slots of 20 minutes or shorter. If EHFRT is delivered in five fractions, it is likely to be cost effective at all slot lengths up to 30 minutes.

Please see HTW GUI034[7] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.4.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We did not request procurement data as this is a procedure.

We received responses to the adoption audit of this piece of guidance from nine organisations. PTHB, WAST and NWJCC indicated that the guidance was not relevant to them. PTHB stated this is because they do not offer radiotherapy services, but did not state how people who require this treatment within the health board could access it. Where the guidance was considered relevant (ABUHB, BCUHB, CVUHB, HDUHB, SBUHB and Velindre), all these organisations were aware of the guidance and considered the recommendation to be clear.

There were differing opinions from the health boards in how to interpret whether this guidance was relevant to them. PTHB stated the guidance was not relevant as they do not offer radiotherapy services and ABUHB stated the guidance was relevant to them, but they would not implement the recommendation as their patients would go to Velindre Cancer Centre to receive the treatment. CVUHB and HDUHB considered it was relevant to them, and had adhered to the recommendation, even though they also refer their patients to other areas/organisations to receive the treatment. Velindre, BCUHB and SBUHB do provide this treatment, and BCUHB and SBUHB indicated they had been able to adhere to this recommendation, whilst Velindre planned to in the near future.

Only SBUHB and HDUHB developed a business case in response to this guidance, in conjunction with each other, as HDUHB has a service level agreement with SBUHB to provide this treatment for them. SBUHB stated that this guidance had 'allowed the planned business case to proceed with less resistance'. BCUHB stated that a business case was not necessary as they were able to adopt this treatment approach within existing resources. Service specifications or commissioning were not changed, except for in SBUHB, or organisations were unsure if they had been changed. Other changes were made, such as training to place fiducial markers in health boards that referred to others to provide the treatment and Velindre adding the procedure to its programme of work to implement in the future. BCUHB also carried out an audit on use of the procedure, as did SBUHB where they reviewed uptake and were able to adjust their commissioning policy to expand the cohort the treatment is offered to. BCUHB also plans to support the PACE NODES trial that is looking at nodal irradiation in higher risk patients who can be treated with EHFRT. BCUHB, CVUHB and SBUHB agreed that this procedure had been routinely adopted in their organisations, whereas Velindre disagreed. ABUHB and HDUHB were both neutral on whether this had been routinely adopted, with HDUHB stating that the suitability criteria do not allow all localised cancers to be treated with EHFRT. All three organisations that deliver this treatment stated the guidance had a moderate impact on their decision making, as did HDUHB. CVUHB judged that it had had a minor impact, due to not being delivered by the health board themselves, whereas ABUHB considered it to have no impact for the same reason.

3.5 Transcranial magnetic stimulation (HTW Guidance 035)

3.5.1 Background

Key details and the guidance recommendation are below:

Technology:	Repetitive transcranial magnetic stimulation (rTMS)
Products:	Magstim
Population:	People with treatment-resistant major depression
Topic Proposer:	Magstim (manufacturer of rTMS devices)
Publication date:	February 2022

The use of repetitive transcranial magnetic stimulation (rTMS) for the treatment of treatment-resistant major depression is partially supported by the evidence.

The use of rTMS is well tolerated, leads to a medium-term (up to three months) reduction in depression score, and improves response and remission rates compared with sham treatment.

While the evidence of clinical benefit would support adoption, there is considerable uncertainty around the economic impact of rTMS, which requires further clarification before adoption can be fully supported.

Further research is recommended to better determine the case for cost effectiveness, to establish the long-term efficacy of rTMS including potential maintenance therapy, and to determine the appropriate placement of rTMS in the NHS Wales treatment pathway.

Please see HTW GUI035[8] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.5.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also requested procurement data.

Nine organisations provided audit responses for this guidance. Velindre, WAST and NWJCC confirmed that the guidance was not relevant to their organisations. Relevant responses were received from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, and SBUHB. Four of these organisations were aware of the guidance (CVUHB, HDUHB, PTHB, and SBUHB), whilst the other two health boards were unsure. All relevant organisations, except BCUHB, felt that the recommendation in the guidance was clear. BCUHB stated that the place of the technology in services was unclear.

This was a piece of HTW guidance where a recommendation on whether or not to routinely, fully adopt this technology was not made. This guidance said that 'the use of repetitive transcranial magnetic stimulation (rTMS) for the treatment of treatment-resistant major depression is partially supported by the evidence'. Rather than asking organisations if they intended to implement the recommendation from this guidance, the question 'did your organisation judge this to be sufficient guidance to alter commissioning and/or clinical practice?' was asked instead. ABUHB and CVUHB answered yes to this question, whilst PTHB and SBUHB answered no, and BCUHB and HDUHB were unsure. BCUHB were unsure due to this service potentially being provided for the health board in England, with discussions ongoing and uncertainty around costings. HDUHB felt that the guidance was consistent with existing NICE guidance and did not feel any changes to current clinical practice were needed. Clinical teams in PTHB felt that the evidence was insufficient to merit further consideration; SBUHB also stated partially supporting evidence and uncertain cost effectiveness as reasons they did not feel the guidance was sufficient.

Only BCUHB created a business case in response to this guidance; no other actions were carried out by any health boards. ABUHB strongly agreed that rTMS is a treatment option in their organisation, whilst CVUHB was neutral, and the other four health boards disagreed or strongly disagreed. The impact of this guidance ranged from no impact to moderate impact. CVUHB felt it had no impact on decision making, whilst two health boards felt it had a moderate impact.

Data from Procurement Services show that the procurement of Magstim and related disposables reduced by 40% across Wales in the year after this guidance was issued, compared with the year before. No items were procured by PTHB, which aligns with statements they made in the adoption audit. Three health boards showed similar levels of procurement before and after the issuance of guidance, whilst three showed lower amounts of procurement afterwards. As this was another piece of guidance that partially supported routine adoption, the procurement data suggest that this guidance either led to no change in health board practices or reduced usage of the technology.

3.6 Video laryngoscopes (HTW Guidance 037)

3.6.1 Background

Key details and the guidance recommendation are below:

Technology:	Video laryngoscopes
Products:	Airtraq Avant or Airtraq SP (Prodol Meditec), GlideScope (Verathon Medical UK Ltd), McGrath MAC (Medtronic), C-MAC System (KARL STORZ) and King Vision aBlade (Ambu Ltd)
Population:	People who require intubation in the pre-hospital settings
Topic Proposer:	Welsh Ambulance Service NHS Trust
Publication date:	May 2022

> The routine adoption of video laryngoscopy for people who require intubation in a pre-hospital setting is not supported by the evidence.
>
> This recommendation does not preclude the continued use of video laryngoscopy by experts in the pre-hospital setting for patients with difficult airways in services where devices are already available.

The use of video laryngoscopy does not improve overall intubation success rates and there is no evidence to suggest improved clinical outcomes as compared with direct laryngoscopy.

Economic analysis estimates that the routine adoption of video laryngoscopy in a pre-hospital setting would be cost incurring and not cost effective.

Please see HTW GUI037[9] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.6.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also made a data request to procurement for this technology.

We received nine responses for this guidance and most organisations confirmed that this guidance is not relevant to them, including ABUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, and Velindre. We received a response from WAST for this piece of guidance confirming it is relevant

to them. BCUHB also stated that this guidance is relevant to them, although it applies to pre-hospital settings and was not expected to be relevant to local health boards. BCUHB and WAST were both aware of the guidance and felt that the recommendation was clear.

The recommendation of this guidance was that the evidence does not support routine adoption of video laryngoscopes; both BCUHB and WAST stated they intend to adhere to this recommendation. WAST stated that they had not progressed a business case to introduce video laryngoscopes in response to this guidance. WAST strongly agreed that video laryngoscopes for people who require intubation has not been routinely adopted, whilst BCUHB also agreed with this statement. BCUHB stated the guidance had no impact on their decision making but, as stated above, this guidance is potentially not relevant to the health board. WAST felt the guidance had a major impact on their decision making.

The procurement data are at odds with statements made in the adoption audit. In the year before this guidance was issued, fairly large numbers of video laryngoscopes and associated disposables were procured across the health boards and WAST; this then increased by approximately 30% in the year after the guidance was published. However, this technology was most likely being used in other settings than pre-hospital in the health boards, which this guidance does not apply to. The number of items procured by WAST increased by over 80% in the year after guidance was issued compared to the year before. The guidance states that the recommendation to not routinely adopt this technology 'does not preclude the continued use of video laryngoscopy by experts in the pre-hospital setting for patients with difficult airways in services where devices are already available'; however, procurement data suggest new devices were still being acquired rather than existing stock being used.

3.7 Stereotactic ablative radiotherapy (HTW Guidance 038)

3.7.1 Background

Key details and the guidance recommendation are below:

Technology:	Stereotactic ablative radiotherapy (SABR)
Products:	Conventional linear accelerators (LINAC); specially-designed LINACs for SABR such as CyberKnife, Varian and Elekta
Population:	People with primary kidney cancer
Topic Proposer:	Consultant Oncologist, Velindre Cancer Centre, Cardiff
Publication date:	June 2022

> The evidence supports the routine adoption of stereotactic ablative radiotherapy (SABR) to treat people with primary kidney cancer who are not suitable for surgery or other ablative techniques.

The use of SABR provides a treatment option that may improve survival in patients who would otherwise have no other treatment options available. Patient selection for SABR should be undertaken by a cancer multidisciplinary team. Economic modelling estimates that the use of SABR is cost effective when compared with clinical surveillance, with a cost per quality-adjusted life year (QALY) of £1,675.

Please see HTW GUI038[10] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.7.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also made a data request to procurement for this technology.

We received nine responses to the adoption audit for this piece of guidance, from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. ABUHB, PTHB and WAST responded to confirm that the guidance was not relevant to their organisations. Similar to EHFRT, there were differing interpretations of whether this guidance is relevant to an organisation. All six organisations to which the guidance is relevant were aware of it and felt that the recommendation was clear.

The guidance recommended the routine adoption of SABR for people with primary kidney cancer who are not suitable for surgery or other ablative techniques, and all relevant organisations said that they intend to adhere to this recommendation. CVUHB, HDUHB, and BCUHB all stated that they would refer patients to other areas to receive this treatment. This would be to Velindre, SBUHB, and sites in England, respectively. ABUHB also said that people would be sent to Velindre to receive this treatment, but considered the guidance not relevant to them. As with EHFRT, PTHB stated that this guidance is not relevant to them as they do not provide radiotherapy services within the county. Velindre stated that they could only go ahead with this treatment once it was commissioned by NWJCC, and NWJCC confirmed in their return that they had agreed to commission this technology and implementation plans were being taken forward. NWJCC have since confirmed that the commissioning policy for SABR has been published. SBUHB stated they planned to adopt the recommendation, as part of their roll out of SABR, within the next 12 to 18 months and they had approved a SABR plan with NWJCC. NWJCC created a business case and developed a new policy that was out for consultation at the time of their adoption audit return. They also stated that NHS England currently does not commission SABR and so they were developing a pathway for people from North Wales to be referred to South Wales for this treatment. SBUHB had changed their service specifications/commissioning policy to include this guidance in their roll out of SABR.

Both NWJCC and Velindre strongly agreed that SABR for people with primary kidney cancer had been routinely adopted with their organisations, whilst CVUHB and HDUHB both agreed and BCUHB was neutral. SBUHB disagreed as the roll out for this indication is planned for the future. This guidance was felt to have a major impact on decision making for HDUHB, NWJCC and Velindre, whilst SBUHB felt it had a moderate impact. CVUHB and BCUHB both felt it had a minor impact, with CVUHB stating that this is due to the procedure not being delivered within the health board.

Procurement data were acquired for this technology, however, the data available did not give an indication of whether the use of SABR had increased or been routinely adopted after issuing this HTW guidance.

3.8 Electronic blood management systems (HTW Guidance 039)

3.8.1 Background

Key details and the guidance recommendation are below:

Technology:	Electronic blood management systems
Products:	Bloodtrack, Haemonetics Msoft Blood360
Population:	People requiring a group and screen sample, or who require transfusion of a blood component
Topic Proposer:	Cardiff and Vale UHB Consultant Paediatric Haematologist
Publication date:	May 2022

The evidence supports the routine adoption of electronic blood management systems (EBMS) to support blood transfusions.

Compared with paper-based systems, EBMS reduces rates of sample rejection and blood wastage.

A cost analysis estimates that the use of EBMS would lead to cost savings of £0.32 per person receiving a blood transfusion in the first year and £19.92 per person in subsequent years compared with a paper-based system.

Please see HTW GUI039[11] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.8.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent questionnaires to HTW adoption leads within commissioning organisations. We also requested procurement data for this technology.

We received nine responses; from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre; for this piece of guidance. NWJCC and WAST reported that the guidance is not relevant to their organisations. All of the organisations that considered the guidance relevant were aware of it, except ABUHB. All relevant organisations felt that the recommendation was clear. However, SBUHB felt that the evidence base for the recommendation was variable and highlighted that the Appraisal Panel had stated it is only 'likely' to achieve required improvements.

All but two relevant organisations intended to adhere to the recommendation from the guidance, which was to routinely adopt EBMS. ABUHB and PTHB were both unsure if they would adhere to it. PTHB stated they were unsure as they receive blood products from other Welsh or English organisations and, therefore, the decision to adopt EBMS is for the supplying organisations rather than the health board itself. ABUHB said the reasons for being unsure of adhering to this recommendation were due to being unaware of the guidance, and barriers such as cost implications. Other health boards, which stated they would adhere to the guidance, have also cited limited funds and costs as barriers to adopting this technology, as well as the appropriate

knowledge and training of staff being necessary. Two health boards also mentioned that the implementation of the All Wales Laboratory Information Management System (LIMS) was being taken forward before an EBMS would be. BCUHB stated that they have been using an electronic blood management system since 2005 and CVUHB is currently implementing a system, which Velindre will also use as they are being included in the roll out of a satellite blood fridge with University Hospital of Wales. No organisations have undertaken audits of the systems in response to this guidance. BCUHB and SBUHB strongly agreed that EBMS had been routinely adopted in their organisations, though SBUHB stated 'partial systems' in their response. One other organisation was neutral, one disagreed and two strongly disagreed that EBMS had been routinely adopted. Velindre and ABUHB felt that the guidance had no impact on decision making, ABUHB stated that this is due to being unaware of the guidance. CVUHB considered it to have a major impact, whilst BCUHB, HDUHB, PTHB and SBUHB felt it had a minor impact. For BCUHB, this may be due to already having an EBMS in place for many years, whereas PTHB stated it had a minor impact as there are no actions that PTHB could undertake in response to the guidance at this time.

Procurement data show that the majority of procurement of EBMS related items, excluding maintenance and software upgrades, occurred before the publication of this guidance. Very limited procurement occurred in the year after guidance was published. This seems to confirm the adoption audit responses that EBMS had either already been implemented or that health boards were not implementing systems at the moment. The numbers of maintenance and upgrade procurement items before guidance publication also show that these systems had already been implemented in organisations such as BCUHB and SBUHB.

3.9 Outpatient pharyngolaryngeal biopsy (HTW Guidance 040)

3.9.1 Background

Key details and the guidance recommendation are below:

Technology:	Pharyngolaryngeal biopsies
Products:	FNL-10 RP3, Pentax VNL-1570STK, Pentax ENF-VT3, Olympus
Population:	Adults with suspected head and neck cancer in the outpatient setting
Topic Proposer:	Alex Zervakis, General Manager, Health Economics and Market Access, Olympus Medical.
Publication date:	July 2022

The evidence supports the adoption of pharyngolaryngeal biopsy under local anaesthesia to confirm, but not to rule out, a diagnosis of head and neck cancer.

This procedure can be done in an outpatient setting and avoids the need for inpatient care and general anaesthesia. A positive result has the potential to accelerate the initiation of treatment, but a negative result should be followed by a second biopsy in an operating theatre under general anaesthesia.

Economic modelling estimates that there is the potential for cost saving through the use of pharyngolaryngeal biopsy under local anaesthesia rather than in a theatre environment under general anaesthesia and that this is a cost-effective procedure.

Please see HTW GUI040[12] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.9.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also made a data request to procurement for this technology.

We received responses from eight organisations for this piece of guidance: BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. PTHB, NWJCC, WAST, and Velindre stated that the guidance is not relevant to their organisation. Velindre stated that this is because these types of biopsies are not carried out at Velindre Cancer Centre and PTHB said that they do not offer outpatient appointments where a biopsy of this type could be done. CVUHB, HDUHB and SBUHB stated that they were aware of the guidance, but BCUHB was unsure. All four organisations, which the guidance was relevant to, felt that the recommendation was clear.

The guidance states that the evidence supports the adoption of pharyngolaryngeal biopsy to confirm but not to rule out a diagnosis of head and neck cancer, and CVUHB, HDUHB and SBUHB stated that they have already adhered to the recommendation. In the case of SBUHB, it was being used for six years already. BCUHB said they were unsure if they would adhere to the recommendation, but that this procedure was already being performed in two of the health board's hospitals. In response to this guidance, CVUHB and HDUHB developed business cases and HDUHB developed a new pathway. These two health boards have also carried out audits of this technology, as has SBUHB, but this was not in response to this guidance. BCUHB agreed with the statement that pharyngolaryngeal biopsies in people with suspected head and neck cancer had been routinely adopted, despite not being sure whether they would adhere to the guidance recommendation; however, they revealed in a later answer that this technology was already in use in the health board prior to this guidance. SBUHB strongly agreed that the technology had been routinely adopted. The other two health boards were neutral to this statement. However, HDUHB did state that the use of this technology is still not routine yet. BCUHB said the guidance had no impact on decision making, as they were already using this procedure before issuance of the guidance. However, SBUHB still felt it had a moderate impact, despite the technology already being used in the health board, as it justified the service they had already implemented. CVUHB felt it had a minor impact, whilst HDUHB felt it had a major impact.

Procurement services found no data on pharyngolarnygeal biopsies.

3.10 Left atrial appendage occlusion (HTW Guidance 041)

3.10.1 Background

Key details and the guidance recommendation are below:

Technology:	Left atrial appendage occlusion (LAAO)
Products:	Amplatzer Amulet and Amplatzer Cardiac Plug (Abbott Medical), LAmbre (LifeTech Scientific), Ultraseal/ Ultrasept (Cardia Inc.), Watchman and Watchman FLX (Boston Scientific), WaveCrest (Biosense Webster Inc.)

Population:	Adults with atrial fibrillation that are contraindicated to oral anticoagulants
Topic Proposer:	Welsh Health Specialised Services Committee (WHSSC)
Publication date:	October 2022

The evidence does not support the routine adoption of left atrial appendage occlusion in adults with non-valvular atrial fibrillation who have contraindications to oral anticoagulation.

There are no comparative studies of left atrial appendage device occlusion compared with standard care in adults with non-valvular atrial fibrillation in whom oral anticoagulation is contraindicated, although non-comparative observational studies suggest that left atrial appendage occlusion reduces the rate of ischaemic stroke.

The cost-utility analysis concludes that while LAAO in addition to standard care may be more effective than standard care with aspirin alone, it is cost incurring and not cost effective with an ICER of £42,302 per QALY.

Please see HTW GUI041[13] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.10.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also requested procurement data.

We received eight responses to the adoption audit for this piece of guidance, with NWJCC and HDUHB confirming it is relevant to them. All other organisations confirmed that it is not relevant in their organisations; this was usually due to the procedure not being carried out locally. Both relevant organisations were aware of this guidance and found the recommendation to be clear.

The guidance states that the evidence does not support the routine adoption of LAAO, and NWJCC responded that they will adhere to this recommendation and will publish a negative policy position statement. HDUHB also said they would adhere to the recommendation and that the technology had not been routinely adopted. No business cases were required to be developed and no audits were carried out. Both organisations strongly agree that LAAO has not been routinely adopted and both felt this guidance had a major impact on decision making. HDUHB stated there may still be some patients who are suitable for this treatment that they may still refer for consideration and NWJCC confirmed that this treatment is still available via Individual Patient Funding Requests (IPFR).

Data from Procurement Services show that LAAO devices were procured in very small numbers both pre- and post-issuance of this guidance, but there has been a considerable decrease in procurement after guidance publication. Comparing the year after guidance publication to the year before, the number of LAAO devices procured more than halved. Four health boards had procured devices in this time and all but one showed a reduction in the amount procured. The largest drops were seen in ABUHB and CVUHB. This supplements the adoption audit information and shows that LAAO has not been routinely adopted.

3.11 Continuous topical oxygen therapy (HTW Guidance 043)

3.11.1 Background

Key details and the guidance recommendation are below:

Technology:	Continuous topical oxygen therapy
Products:	NATROX (Inotec), TransCu O2/OxyGeni (EO2 Concepts), EPIFLO (Ogenix). At the time of the report, NATROX was the only continuous TOT device available in UK
Population:	Adults with chronic non-healing diabetic foot ulcers
Topic Proposer:	Director of Strategy, Inotec AMD
Publication date:	November 2022

> The evidence supports the routine adoption of continuous topical oxygen therapy to treat patients with chronic non-healing and complex diabetic foot ulcers.

The use of continuous topical oxygen therapy, in addition to standard of care, increases the number of wounds with complete wound healing and reduces the wound area and time to healing, as compared with standard of care alone. Economic analysis indicates that the use of continuous topical oxygen therapy results in a greater benefit to patients at lower cost compared with standard of care.

Please see HTW GUI043[14] for full details of the guidance and supporting HTW Appraisal Panel discussions.

3.11.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We did not make a data request to procurement for this technology as we would be unable to obtain data which focus on the use of topical oxygen therapy (TOT) solely in people with diabetic foot ulcers, which is the population of the guidance.

HTW received nine responses to the adoption audit for this piece of guidance, from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. NWJCC, WAST, and Velindre indicated that the guidance was not relevant to their organisations. CVUHB, HDUHB, PTHB and SBUHB were all aware of this guidance, whilst ABUHB were unsure and BCUHB were not aware of it. All six relevant organisations felt that the recommendation was clear; however, one health board stated that the stage in the patient pathway that therapy should be started and where resources to fund the therapy will come from were missing. This shows there is still potentially some lack of clarity regarding the remit of HTW guidance, which does not cover implementation or come with funding mandates.

This guidance recommended the routine adoption of TOT for people with chronic non-healing and complex diabetic foot ulcers and two organisations (CVUHB and HDUHB) said they intended to adhere to this recommendation. BCUHB and SBUHB stated they would not adhere to the recommendation, with the other two relevant organisations unsure. BCUHB were not aware of the guidance and stated that it had never been discussed within the organisation. SBUHB said that there was no funding for the equipment or the staff to use it. PTHB stated that their podiatry

service was interested in using the technology but had not been able to identify any patients who would benefit from it. ABUHB confirmed that the technology had been trialled in the health board but was not in routine use. In response to this guidance, all relevant organisations either had not developed business cases, or changes to service specifications/commissioning policies, or were unsure if they had. ABUHB carried out a randomised controlled trial and also an audit as part of this trial, whilst CVUHB was reviewing the patient pathway to decide when this treatment should be initiated. None of the organisations agreed with the statement that TOT had been routinely adopted, CVUHB and SBUHB disagreed and BCUHB strongly disagreed. ABUHB and BCUHB felt that the guidance had a moderate impact on decision making, despite BCUHB saying within their responses that they were not aware of the guidance and it had never been discussed within the organisation. SBUHB felt it had no impact, and the other three organisations felt it had a minor impact. However, PTHB stated that the guidance had been considered carefully but due to not having a consultant diabetologist and complex diabetes patients being treated outside the health board, they were not in a position to take this recommendation further at this time but would consider it again in future.

3.12 Placental growth factor (PLGF)-testing (NICE DG49)

3.12.1 Background

HTW has a mandate to audit the adoption of our guidance and that of select NICE MTEP guidance. Key details and the guidance recommendation are below:

Technology:	Placental growth factor (PLGF)-based tests
Products:	DELFIA Xpress PLGF 1-2-3 DELFIA Xpress sFlt-1/PLGF 1-2-3 ratio Elecsys immunoassay sFlt-1/PLGF ratio Triage PLGF Test
Population:	People with suspected preterm (between 20 weeks and 36 weeks and 6 days of pregnancy) pre-eclampsia
Publication date:	27 July 2022

The following placental growth factor (PLGF)-based tests, used with standard clinical assessment, are recommended to help decide on care (to help rule in or rule out pre-eclampsia) for people with suspected preterm (between 20 weeks and 36 weeks and 6 days of pregnancy) pre-eclampsia:

- DELFIA Xpress PLGF 1-2-3
- DELFIA Xpress sFlt-1/PLGF 1-2-3 ratio
- Elecsys immunoassay sFlt-1/PLGF ratio
- Triage PLGF Test.

Not all manufacturers indicate their tests for use across the full range of 20 weeks to 36 weeks and 6 days of pregnancy. The tests should be used according to their indications for use.

Please see NICE DG49[15] for full details of the guidance and supporting documentation, tools and resources.

3.12.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. In addition, we received procurement data for this topic.

We received eight responses to the adoption audit questionnaire for this piece of guidance, from BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. PTHB, NWJCC, WAST, and Velindre stated that the guidance was not relevant to their organisation. PTHB said the guidance was not relevant as they do not have any diagnostic labs within the health board. All four organisations, to which the guidance was relevant, were aware of it and felt the recommendation was clear.

The guidance recommends the use of several specific PLGF tests for suspected preterm pre-eclampsia and all four relevant organisations said they would adhere to the recommendation. However, they were all in different stages regarding implementation. BCUHB stated that they have already implemented PLGF testing in response to Royal College of Obstetricians and Gynaecologists (RCOG) guidance during the Covid pandemic; CVUHB had procured devices and roll out was planned for April 2024; HDUHB stated a desire to introduce this technology but that financial constraints were having an impact and SBUHB said it intends to implement the technology in the future, with a business case developed and waiting for approval. Both BCUHB and CVUHB also developed business cases in response to this NICE guidance. BCUHB also stated that they had changed service specifications and carried out an audit of PLGF testing, however these may have been in response to earlier RCOG guidance rather than NICE guidance. This health board also supported further research via the PARROT 2 trial. Three health boards (CVUHB, HDUHB and SBUHB) disagreed or strongly disagreed with the statement that PLGF testing had been routinely adopted within their organisations, though the roll out of the technology was imminent in CVUHB. BCUHB strongly agreed that the technology had been routinely adopted and felt the guidance had a major impact on decision making, as did CVUHB. HDUHB said the guidance had no impact currently but that it would have a major impact if PLGF testing was introduced in the health board. Similarly, SBUHB said the guidance had no impact as the technology had not been implemented. However, responses to other questions from both organisations suggested that the guidance had been considered and had an impact on decision making.

Procurement data show that PLGF tests were only procured by BCUHB and CVUHB in the year preceding, and the six months following, publication of this NICE guidance. Normally, we compare the year before guidance has been issued to the one-year period after guidance publication, however procurement data were only available up to January 2023. The majority of tests were procured by BCUHB, with CVUHB procuring no tests after the publication of the NICE guidance. This matches the findings of the adoption audit, that this technology has only been routinely adopted by BCUHB and that this had occurred prior to the publication of this guidance. However, procurement numbers from BCUHB in the six months following guidance publication were greater than those in the year preceding the guidance, suggesting use had increased in the health board.

3.13 UroLift (NICE MTG58)

3.13.1 Background

HTW has a mandate to audit the adoption of our guidance and that of select NICE MTEP guidance. Key details and the guidance recommendation are below:

Technology:	UroLift
Products:	UroLift System (Teleflex Inc.)
Population:	People with benign prostatic hyperplasia
Publication date:	04 May 2021

> Evidence supports the case for adopting the UroLift System for treating lower urinary tract symptoms of benign prostatic hyperplasia. The UroLift System relieves lower urinary tract symptoms, avoids risk to sexual function, and improves quality of life.
>
> The UroLift System is a minimally invasive procedure, which should be considered as an alternative to transurethral resection of the prostate (TURP) and holmium laser enucleation of the prostate (HoLEP). It can be done as a day-case or outpatient procedure for people aged 50 and older with a prostate volume between 30 and 80 ml.

Please see NICE MTG58[16] for full details of the guidance and supporting documentation, tools and resources.

3.13.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. In addition, we requested procurement data for this topic.

We received nine responses to the adoption audit questionnaire from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. BCUHB, PTHB, NWJCC, WAST, and Velindre indicated that the guidance was not relevant to their organisations. Potentially, the reason BCUHB classed this guidance as not relevant is because the technology has already been available in the health board for several years. PTHB stated it is not relevant because the health board does not offer complex surgery. For organisations where the guidance was classed as relevant, all were aware of the guidance and found the recommendation to be clear.

This NICE guidance stated that the evidence supports the routine adoption of the UroLift system. SBUHB stated they had already been using the technology for several years and CVUHB intended to adhere to this guidance, whilst both ABUHB and HDUHB said they would not adhere to it. In both cases, the reasons were due to clinicians feeling that better alternative treatments were available and the evidence for UroLift was not as good as these alternatives. CVUHB also stated that it is only offered to a very select group of patients and they are warned of the lack of longer-term evidence. CVUHB developed a business case in response to this NICE guidance, but no other actions were taken by any health boards. When considering the statement 'the use of the UroLift System to treat lower urinary tract symptoms of benign prostatic hyperplasia has been routinely adopted in your organisation', CVUHB and SBUHB were neutral, but ABUHB and HDUHB disagreed and strongly disagreed, respectively. SBUHB said this was because the technology was only

offered to a small portion of patients. The impact of this guidance on decision making varied from no impact for HDUHB, to minor impact for ABUHB, and moderate impact for CVUHB. SBUHB stated it had a major impact, despite already using the technology before the publication of NICE guidance, as clinicians that identify and refer patients to their UroLift clinic are now aware of national guidance on the technology.

Procurement data show that there has been very little procurement of UroLift and only by SBUHB. They procured one item prior to this NICE guidance being published and ten items after publication, and none have been procured after November 2021. Though this is still a significant increase; it also shows that UroLift has not been routinely adopted across Wales. This matches the findings of the adoption audit.

3.14 Magtrace and Sentimag (NICE MTG72)

3.14.1 Background

HTW has a mandate to audit the adoption of our guidance and that of select NICE MTEP guidance. Key details and the guidance recommendation are below:

Technology: Magtrace and Sentimag system (Endomag)

Products: Magnetic liquid tracer (Magtrace)

Handheld magnetic sensing probe (Sentimag)

Population: People with breast cancer in hospitals with limited or no access to radiopharmacy

Publication date: 05 October 2022

> Magtrace and Sentimag is recommended as an option to locate sentinel lymph nodes for breast cancer in hospitals with limited or no access to radiopharmacy.
>
> Further data collection is recommended to monitor the number of additional sentinel lymph node biopsies done in each hospital after the technology is adopted in clinical practice.

Please see NICE MTG72[17] for full details of the guidance and supporting documentation, tools and resources.

3.14.2 Audit Findings

To support the adoption audit for this piece of guidance, we sent a questionnaire to HTW adoption leads within commissioning organisations. We also requested procurement data for this technology.

We received nine responses to the adoption audit questionnaire for this piece of guidance from ABUHB, BCUHB, CVUHB, HDUHB, PTHB, SBUHB, NWJCC, WAST, and Velindre. BCUHB, PTHB, NWJCC, WAST, and Velindre confirmed that the guidance was not relevant to their organisations. BCUHB stated that it was not relevant as they have radiopharmacy in place at all relevant sites and have already been using the Magtrace and Sentimag system, when required, for several years. PTHB

said that the guidance was not relevant to them as they do not provide complex surgery. All four organisations that stated the guidance was relevant to them were aware of the guidance and felt that the recommendation was clear.

This NICE guidance recommended the Magtrace and Sentimag system as an option to locate sentinel lymph nodes for breast cancer in hospitals with limited or no access to radiopharmacy. HDUHB and SBUHB stated that they intended to adhere to the recommendation and had already adopted the technology at sites where breast cancer surgery is performed. CVUHB did not intend to adhere to the recommendation as they already have good access to radiopharmacy, but would consider the technology if the situation changed. ABUHB were unsure if they would adhere to the recommendation, but stated it had the potential for future discussions as radiopharmacy provision had become less reliable. HDUHB developed a business case and funding was provided following this. No other actions were taken in response to this guidance, but HDUHB stated they may carry out an audit of the technology later this year. Both ABUHB and CVUHB disagreed that this technology had been routinely adopted in their organisations, and HDUHB and SBUHB strongly agreed that it had been adopted. Similarly, ABUHB and CVUHB both felt this NICE guidance had no impact on their decision making, whilst HDUHB felt it had a major impact and SBUHB felt it had a moderate impact.

Procurement data showed an increase in procurement of Magtrace in the year following publication of this NICE guidance compared with the year before. The only procurement related to Sentimag were repairs to the probe. HDUHB did not procure any items before the guidance was issued, but procured small numbers of Magtrace afterwards, in line with their response to the adoption audit. BCUHB and SBUHB also increased the amount of Magtrace that they procured in the year following guidance publication.

4. Proposed Future Directions

Potential actions emerging from the 2023/2024 HTW adoption audit are outlined below according to the relevant organisation. These are based on the themes summarised in section 2 and feedback received from HTW commissioning organisations' adoption leads. Completed or updated actions from the previous HTW adoption audits have been removed and outstanding actions are retained.

Background	Actions
For Health Technology Wales	
Methodology: Audit responses and feedback gathered during a meeting with HTW commissioning organisation adoption leads highlighted several areas where the adoption audit methodology could be improved. Several organisations provided feedback during the audit that they were confused about which questions were mandatory for guidance they deemed not relevant to them and how to answer these questions. Many of these questions were then not included in analysis, if the guidance was deemed irrelevant, to ensure a consistent approach to the analysis. There is therefore scope to review what questions need to be answered, depending on relevance, and how these are worded. Responses received in the audit also indicated that some questions are open to misinterpretation, and further rewording and more guidance notes in questionnaires may be beneficial. It became apparent in this year's audit that there is variation in which guidance commissioning organisations may consider relevant to them. In some cases, organisations in similar situations would come to different conclusions on relevance. This leads to variability in responses and greater difficulty in making comparisons and understanding the full picture on access to medical technologies across Wales. Due to AMaT questionnaires being electronic, there were inherently some differences between the hard copy versions of the adoption audit questionnaire and the AMaT versions, such as question numbering. This led to some confusion and some instructions provided not matching with the	• HTW should make improvements to the current adoption audit methodology, for example: - Changing the order of adoption audit questionnaire questions to ask about the relevance of guidance first, and ensure only appropriate follow up questions have to be answered depending on this initial answer. - Continue to clarify the wording around the adoption of guidance recommendations rather than adoption of the technology. - Consider the wording of the question relating to the impact of guidance on decision-making and how this question is asked. - Adding more detailed guidance notes to help respondents fill in the questionnaire. - Remove the question asking about awareness or use of other guidelines that preceded the guidance being audited due to not providing relevant information. • Develop a consensus opinion with commissioning organisations on what should be considered relevant guidance. This should take into account whether the organisation provides the treatment or uses the technology themselves, and organisations' responsibility to ensure access to care for people within their area of responsibility. HTW has proposed that guidance should be considered relevant if an organisation has responsibility for ensuring access to care for the population mentioned in the guidance living within their geographic area, even if the treatment in the guidance is provided by another organisation or from service providers in England. During the feedback meeting, commissioning organisations highlighted

Background	Actions
AMaT forms, which HTW and AMaT were not aware of until after the audit had launched. Extensive data were provided by Procurement Services, which were in a different format to previous years. HTW staff do not regularly work with procurement data, and this led to some difficulties in trying to analyse this year's data.	the potential for duplication of effort/information and the extra workload that could be required to provide this information, if this approach is taken. HTW will continue to work with commissioning organisations to determine the best approach to ensure equity of access can be examined to the fullest extent possible during future adoption audits, whilst minimising any extra work for commissioning organisations. • HTW should continue to collaborate with AMaT to ensure that electronic versions of adoption audit questionnaires are as similar as possible to hard copy versions. This should include exploring ways to ensure question numbering is identical and respondents are prompted to answer only the appropriate mandatory questions. • HTW should discuss with Procurement Services the best way to receive procurement data so that it is easily interpreted by HTW staff who are unfamiliar with the data. HTW should also explore whether Procurement Services can provide any assistance in analysing the data.
Process: The adoption audit was moved from the winter to March-June for the 2023-2024 audit after feedback from commissioning organisations. This appears to have worked well and response rates have improved. Standing actions from the previous audits, regarding engaging with commissioning organisations and continually looking for areas for improvement, will continue.	• Continue to run the HTW adoption audit from March to June, to avoid the period of winter pressures. • HTW should continue to engage with each of the local health boards, specialised commissioning, and specialist trusts to ensure that relationships to support the adoption audit report are further developed and maintained. • HTW should continually review adoption audit processes and ensure that the roles of nominated contacts in commissioning bodies are clear and relevant information is returned.
Guidance wording: This year, two pieces of HTW guidance that stated the evidence "partially supported" routine adoption of the technologies were audited. Generally, these were found to not be sufficient to alter commissioning or clinical practice. During the adoption audit pilot 2021-2022, a piece of guidance that also partially supported adoption was audited	• HTW should examine the wording of "partially supported" recommendations and potential ways to amend this type of recommendation to make sure guidance is clear and helpful for commissioning organisations. An internal guidance improvement working group is already established and these pieces of guidance will be considered in that group.

Background	Actions
and there was similar feedback that this type of recommendation was not felt to be clear, and organisations were unsure of whether it supported adoption of the technology.	
For NICE Medical Technologies Evaluation Programme and Welsh NICE Health Network	
Process and methods: The 2023/2024 adoption audit included three pieces of NICE MTEP guidance, the same number as the previous year's audit. HTW liaised with the WNHN who selected the NICE MTEP Guidance to be included in this year's audit. HTW provided the WNHN with template adoption audit materials that WNHN adapted to their guidance, and which were distributed by HTW as part of the audit. HTW collected the responses and analysed results.	• HTW and NICE should continue auditing NICE MTEP guidance, through a collaboration between HTW and the WNHN. • HTW will engage with the WNHN on this annually and seek regular feedback to continually improve the audit process and methodology. • WNHN should consider which pieces of NICE MTEP guidance are to be included in the next audit.
Audit findings specific to NICE guidance: There was good awareness of NICE MTEP guidance and recommendations were found to be clear. However, the impact of the guidance on decision-making was very variable in Wales. Despite these positive findings, half of relevant respondents to one piece of guidance noted that they would not adhere to the recommendation because they felt the evidence for the technology was not as good as alternative treatments. This was also despite the guidance being issued under the NHS England MedTech Funding Mandate and, therefore, expected to be cost saving.	• NICE should review feedback on MTG58 UroLift to consider why the evidence was not believed to be as good as other available technologies and the impact this has had on adoption of this technology in Wales. • NICE should consider interviewing respondents who agreed that they would be willing to discuss NICE MTEP guidance in more detail.
For local health boards, specialised commissioning, and specialist trusts	
After the pilot adoption audit, HTW supported the procurement of the Audit Management and Tracking (AMaT) platform. HTW and NICE guidance is uploaded to the automated system and organisations are able to respond to the audit directly. Six of the seven LHBs utilised funding provided by HTW to procure the AMaT system and a user group was established to share intelligence. The pilot adoption audit report recommended that LHBs, WHSSC (NWJCC), the specialist trusts and HTW should work	• LHBs, NWJCC, and the specialist trusts with support from HTW should continue to develop a community of practice (e.g. via the Welsh Audit Management and Tracking software user group) to share intelligence and continually refine and improve processes to support adoption of guidance. • HTW commissioning organisation adoption leads should continue to engage with and strengthen their relationship with HTW, via the AMaT user group meeting and elsewhere. Adoption leads should continue

Background	Actions
together to identify topics from priority areas that are likely to have strong stakeholder interest and wide support for adoption of guidance. Actions agreed at the last feedback meeting have all been carried forward as ongoing actions that will support HTW's adoption audit.	an open discussion on the audit, including feeding back suggestions for improvements. It has been agreed to hold the adoption audit feedback meeting between HTW and commissioning organisation adoption leads annually. • The HTW commissioning organisation adoption leads should continue to work with HTW to identify topics from priority areas that are likely to have strong stakeholder interest, wide support for adoption and a large impact. HTW encourage topic submissions from HTW commissioning organisation adoption leads. • HTW commissioning organisation adoption leads should promote the adoption of HTW and NICE MTEP guidance when notified of the publication of guidance. To further the awareness of guidance, the leads should liaise with HTW during the appraisal process, prior to guidance publication, to identify local experts who could feed into the appraisal.
For Welsh Government	
Once again, the audit response rate has improved. However, work remains to obtain returns from all included commissioners to facilitate All-Wales analysis and results. After the adoption audit pilot in 2021/2022, WG facilitated the support of the CEO of NHS Wales, who authored a letter to audit partners to reinforce the expectation of participation in the adoption audit. In addition, HTW was able to present the 2021/2022 and 2022/2023 adoption audit results in various key meetings, including the key national peer groups.	• WG should continue to work with HTW and other partners to discuss approaches to maximising returns for future adoption audits. This could be through a number of approaches, such as encouraging engagement through national peer groups or other ways of formalising requirements to provide returns including making reference to the adoption audit in the integrated medium-term plan. • WG should continue to promote HTW's adoption audit work, such as by facilitating presentations of the results of the 2023/2024 audit at key meetings, as was done for the 2022/2023 audit.
The 2021/2022 adoption audit pilot found that return on the investment in HTW appears to be high, but that in some cases adoption was variable across Wales or had not been achieved. This variability in adoption has also been seen in the two subsequent adoption audit reports.	• WG should consider mechanisms for encouraging adoption at scale of evidence-based innovations. WG should consider the findings of all three adoption audit reports relating to barriers and enablers of adoption when considering possible mechanisms to encourage adoption. In contrast to the pilot adoption audit, lack of funding was raised as a barrier to adoption. WG should consider

Background	Actions
The pilot adoption audit report recommended that WG should consider whether an All Wales strategy for adoption of innovative technologies would be beneficial and reduce variations in access after national guidance is published. WG are currently considering the development of a Welsh MedTech Strategy to align with and support their 2023 Innovation Strategy[18]. WG has commissioned HTW to produce an advisory report and recommendations to inform the potential development of a Welsh MedTech Strategy. This advisory report will be submitted to WG by the end of 2024.	whether adoption at scale could be encouraged using novel or existing funding mechanisms. • WG should consider whether they can help resolve barriers to adoption of HTW and NICE MTEP guidance identified in this report and in the previous two, for example small patient numbers. This could possibly be addressed by continuing to explore regional or national approaches to commissioning. It could also include supporting the development of infrastructure. • WG should aim to submit any key areas of interest to HTW as new topics for consideration, as such topics are likely to be associated with a high impact. • Both the 2021-2022 adoption audit pilot and the 2022-2023 adoption audit report flagged that consideration by multiple organisations can lead to delays in access. WG should consider whether commissioners can be encouraged to ensure that adoption is not delayed by internal processes and that duplication of decision-making in different settings is avoided as far as possible. • WG should continue to engage with HTW and use the results of the three adoption audits completed so far to help inform and shape the development of a new Welsh MedTech Strategy.
Other	
All three adoption audit reports so far identified that further research or collection of real world evidence had often not been conducted where this was advised within guidance.	• HTW should continue to share its research recommendations with both HCRW and NIHR. HTW should continue to work with WG, Health and Care Research Wales, and others to facilitate signposting to research and evaluation funding sources where HTW has indicated that further research or collection of local 'real world evidence' is advisable.

Prior to the HTW pilot adoption audit, actively monitoring the adoption of medical technologies with supportive evidence that clearly demonstrates care system and citizen benefits had been a critical missing step in ensuring an all-Wales approach to the routine and equitable adoption of, and access to, clinical and cost-effective care technologies. The 2023/2024 HTW adoption audit has again evidenced that this is both feasible and acceptable and that the methodology continues to extend well to NICE as well as HTW guidance. It firmly embeds HTW in the Welsh life science ecosystem with a central role to support innovation and investigate the value and

impact that advances in medical technology offer. Further, it actively supports and reinforces multiple ambitions outlined in the health and social care policy agenda for Wales, specifically: ensuring prudent care[19]; recognising the central role of technology[1]; enhancing the wellbeing of citizens[20, 21]; using innovation to improve the lives of people in Wales[18]; demonstrating the socioeconomic duty[22]; transforming care services[23, 24]; encouraging a whole systems approach[24]; and fostering a learning health and care system[25].

Health Technology Wales has previously demonstrated the significant positive impacts that adoption of its national guidance offers[2, 3]. Ensuring that the high-quality guidance produced by HTW and NICE is fully utilised and adopted discharges the policy ambition set out in the 2014 inquiry into access to medical technologies[1] and maximises the return on the investment in HTW. Through HTW's adoption audit, it has once again been demonstrated that Wales is at the forefront of these efforts both across the United Kingdom and internationally.

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Appendix I: Methodology

The aim of the HTW adoption audit is to gather information on the levels of adoption of HTW's guidance, and the associated adoption of the appraised technology, across Wales depending on the type of recommendation given. Our national guidance recommendations fall into three main categories: *routine adoption* - the evidence supports the adoption of that technology for a general population; *selective adoption* - the evidence supports the adoption of that technology in a specific subset of the general population; and *insufficient evidence to support adoption* - there is not enough evidence to support the adoption of that technology. The adoption audit then provides a picture of equity of access to medical technologies across Wales by assessing the levels of adoption of the technology, either in line with or against the guidance recommendations. HTW guidance does not come with increased funding or cover how to implement the technology into clinical practice.

The HTW adoption audit process was piloted in 2022 with a series of eight pieces of guidance, culminating in the publication of the Adoption Audit Pilot Report 2021/2022[2]. The development of the process is described therein. HTW has refined the adoption audit process and several changes introduced to the process and methodology since the pilot are discussed below. Future adoption audits may require further developments in HTW processes, for example when auditing guidance with different commissioners.

HTW has mainstreamed the adoption audit process, and adoption audit plans and other materials are developed prospectively by the team involved with developing the Evidence Appraisal Report and guidance. The adoption audit plans are signed off by the HTW Appraisal Panel at the time guidance is agreed.

As with last year, respondents were able to complete the adoption audit questionnaires (an example is available in Appendix II) either in hard copy form or via the Audit Management and Tracking system (AMaT). The use of AMaT enabled nominated contacts from each of the local health boards to disseminate the questionnaires to the relevant individuals within their organisations more easily. HTW will continue to support both methods.

HTW works with nominated contacts from each of the local health boards and other commissioning bodies. At the request of the All Wales Medical Directors Peer Group during the adoption audit pilot, these contacts were nominated by their organisations due to their work on relevant committees.

Eleven pieces of HTW guidance and three pieces of NICE MTEP guidance were included in the 2023/2024 adoption audit. The timing of the 2023/2024 adoption audit was changed to March to June 2024 in order to avoid the period of winter pressures for NHS Wales. This meant that all guidance published up to and including December 2022, that was not included in the first two adoption audits, could be included. The adoption audit process was extended to NICE MTEP guidance once again this year and three pieces of NICE MTEP guidance were prioritised by the Welsh NICE Health Network (WNHN). To carry out the audit, the WNHN developed the questionnaires for the pieces of NICE guidance. Some minor amendments were made, including adding a request to provide contact details for further follow up.

Changes were made this year to avoid last year's situation where multiple responses were received from the same organisation for a piece of guidance and slightly different answers, or answers that were in conflict, were provided. Organisations were informed at the launch of the 2023/2024 adoption audit that we would only accept one return per piece of guidance from each organisation and, if multiple responses were received, we would ask for clarification on which response should be included. If no clarification was received, then organisations were informed that only the most recently received response would be included in the audit. This situation occurred only twice, and the organisations clarified which response they wanted included.

Similar to last year's adoption audit, HTW sent questionnaires to all nominated contacts from each of the local health boards and other commissioning bodies. HTW asked respondents to indicate if the guidance was not relevant to their organisation and, whereas last year respondents were allowed to communicate this informally, this year respondents were instructed to answer 'not relevant' to the question 'did your organisation intend to adopt this guidance?' in the questionnaire. This also offered an opportunity for organisations to expand on the rationale where an answer of 'not relevant' was provided, for example by expanding on what would happen to relevant patients within their health boards. If a return was not received for a not relevant piece of guidance indicating this, then the organisation's return was classed as incomplete. For the analysis, if an organisation indicated that the guidance was not relevant, we disregarded responses to other questions answered within the questionnaire, to ensure a consistent approach to the treatment of 'not relevant' in the analysis.

A question was also added this year to ask whether organisations were aware of or using any other guidance related to the technologies prior to the issuing of the HTW or NICE guidance being audited. This was to address issues raised during last year's audit about overlap with guidance from other agencies and the extent to which guidance concurs.

For the analysis of quantitative procurement data requested as part of the adoption audit, sample sizes are small and statistical analysis was not possible. As such, no consideration is made of population sizes and other factors such as the impact of COVID-19. The approach taken involves a simple comparison of procurement during a period of time before and after publication of guidance, from which it is possible to confirm only whether there was procurement before and after publication and not to identify trends or to compare health boards. The procurement data are used to supplement the qualitative data from the questionnaires.

Overarching timelines for the adoption audit returns were as follows:

18/03/2024:	Questionnaires sent out, deadline 14/06/2024
08/05/2024:	Reminder for response sent
12/09/2024:	Feedback meeting held with commissioning organisations' adoption audit leads

In addition to the standard reminder noted above, individual follow up was undertaken with each of the commissioning organisations' contacts as required.

Appendix II: Full adoption audit materials for Natriuretic peptides to rule-in and rule-out a diagnosis of acute heart failure in adults in the emergency department setting (HTW Guidance 026)

Adoption audit questions

As the nominated lead for the adoption audit for your organisation, we would be grateful if you could provide information for the following questions.

Where possible, we would be grateful if you could attach appropriate supporting information to your response. For example, service specification and/or commissioning policy, findings of internal audits, etc.

Awareness of guidance		
1. Was your organisation aware of this HTW guidance?	*Yes* *No* *Unsure*	*If relevant, please provide brief information on how your organisation was aware of guidance:* *Please provide any other comments you wish to raise:*
2. Was the recommendation in the guidance clear?	*Yes* *No*	*Comments:*
3. Did your organisation intend to implement **the recommendation** from this HTW guidance, which was to adopt NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis?	*Yes* *No* *Unsure* *Not relevant (please provide more detail in the column to the right, and then proceed to Q4 then Q10)*	*If the guidance is not relevant to your organisation, please answer 'Not relevant' and provide a brief summary of how adults presenting to the emergency department in whom there is clinical suspicion of heart failure are currently managed within your organisation:* *If relevant, please provide information on whether your organisation has already adopted recommendations or intends to in the future:* *Please provide any other comments you wish to raise:*
4. If your organisation did not intend to follow this HTW guidance, what was the justification for this?	*Comments:*	

Response to guidance		
5. Was a business case developed to support funding in response to this HTW guidance, which was to adopt NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis?	*Yes* *No* *Unsure*	*If yes, please provide details:* *Please provide any other comments you wish to raise:*
6. Did service specifications and/or commissioning policy change in response to this HTW guidance, which was to adopt NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis?	*Yes* *No* *Unsure*	*If yes, please provide details:* *Please provide any other comments you wish to raise:*
7. Other than changing service specifications and commissioning policy, did your organisation take other actions in response to this HTW guidance, which was to adopt NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis?	*Yes* *No* *Unsure*	*If yes, please provide details:* *Please provide any other comments you wish to raise:*
8. Has your organisation audited use of NT-proBNP measurement to rule-in and rule-out acute heart failure in response to HTW guidance or supported further research?	*Yes* *No* *Unsure*	*If yes, please provide details:* *Please provide any other comments you wish to raise:*
9. To what extent would you agree with the following	*Strongly Agree*	*Comments:*

statement: Use of NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis has been routinely adopted in your organisation.	*Agree* *Neutral* *Disagree* *Strongly disagree*	
Impact of guidance and feedback		
10. How much of an impact did this HTW guidance to adopt NT-proBNP measurement to rule-in and rule-out acute heart failure in adults presenting to the emergency department in whom there is clinical suspicion of this diagnosis have on decision-making in your organisation?	*No impact (not considered)* *Minor impact (considered but did not inform decision making)* *Moderate impact (considered and had moderate impact on decision making)* *Major impact (considered and had major impact on decision making)*	*Comments:*
11. Were you aware of, or was your organisation using, any other guidance on this technology prior to the issue of HTW's guidance?	*Yes* *No* *Unsure*	*Comments:*
12. Do you have any other comments or reflections on this guidance?	*Comments:*	

Request for procurement data

We would be grateful if you could provide time series data for the following:

If this data is not held, please do let us know.

Technology Name:

N-terminal pro B-type natriuretic peptide (NT-proBNP)

Indication and Setting:

Adults with suspected acute heart failure in the emergency department setting

Known systems or products:

- Roche Elecsys/Cobas NT-proBNP
- Abbott Alinity NT-proBNP

Data items[1]:

Monthly spend by Local Health Boards

Monthly volume / usage by Local Health Boards

Time period[2]:

From November 2020 to November 2022 (guidance issued in November 2021)

Notes:

[1] HTW will provide an annual report to Welsh Government and NHS Wales on adoption of our guidance. HTW is conscious of the commercial sensitivities surrounding spend and volume of use of technologies and the ability to calculate unit costs from this data. HTW will assess whether spend or volume of use provides the best indicator of adoption and will include only one of these indicators in reports, which may be publicly available.

[2] HTW is aware that time trends in procurement have been disrupted by the pandemic.