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Could Morbidity and Mortality meetings be a tool for fostering a sense of belonging in Resident Doctors?

Kellie Bateman
Surgical Registrar
Aneurin Bevan University Health Board
Email: kellie.bateman@wales.nhs.uk

Abstract:

Workforce wellbeing, retention, and inclusive cultures are central to innovation and sustainable transformation in health and social care systems. Resident doctors play a critical role in frontline service delivery and organisational learning, yet frequently report limited influence, reduced engagement, and a weak sense of belonging. These factors undermine innovation capacity and patient safety. This study examines whether Morbidity and Mortality meetings, which are long established as governance and learning mechanisms, can be reimagined as innovation enabling spaces that foster belonging, psychological safety, and inclusive participation among resident doctors. Using a qualitative case study design across two United Kingdom surgical units, data were collected through participant observation, unstructured interviews, document review, and a cultural survey. Thematic analysis identified system level enablers and barriers including organisational structure, time pressures, leadership behaviours, autonomy, emotional support, and links to quality improvement. Findings suggest that while Morbidity and Mortality meetings possess substantial potential as platforms for collective learning and innovation, prevailing practices often constrain resident doctors to passive or administrative roles. Aligning these meetings with innovation principles such as inclusive leadership, psychological safety, coproduction, and continuous improvement can strengthen organisational learning while enhancing belonging and professional identity formation. The study highlights practical pathways for redesigning routine clinical forums into innovation assets that support workforce wellbeing, capability development, and safer, higher quality care across health and social care systems.

Keywords: Health and Social Care Innovation, Organisational Learning, Morbidity and Mortality Meetings, Workforce Wellbeing and Belonging, Psychological Safety, Inclusive Leadership.

1 Appendix 1

Trainee Culture and Leadership Survey

Thank you for participating in this survey, which aims to explore how the culture and environment support leadership development for trainees.

Participation is voluntary, and by completing the survey, you consent to take part with the sharing of data in line with data protection guidance. The findings from this survey are intended for international publication. The study is in collaboration with ASGBI and Swansea University and has been determined to not require review by the National Health Service (NHS) Research Ethics Committee. All responses are anonymous, and data will be securely stored by the survey lead. Please contact for any questions - Kellie Bateman (kellie.bateman@wales.nhs.uk). By proceeding participants confirm that they have read, understood, and agree with the provided information and consent to participate in the survey.

Grade: Gender: Ethnicity:

Did you train in a UK based medical school: Yes / No

Please tick the appropriate box below:

1.	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have a contract of employment that provides information about hours of work					
2. My clinical teachers set clear expectations					
3. I have protected education time in this post					
4. I had an informative induction prgoramme					
5. I have the appropriate level of responsibility in this post					
6. I have good clinical supervision at all times					
7. There is racism in this post					
8. I have to perform inappropriate tasks					
9. Theres is an informative junior doctors handbook					
10. My clinical teachers have good communication skills					
11. I am bleeped inappropriately					
12. I can participate actively in educational events					
13. There is sex discrimination in this post					
14. These are clear clinical protocols in this post					
15. My clinical teachers are enthusiastic					
16. I have good collaboration with other doctors of my grade					

17. My hours conform to the contract					
18. I have the opportunity to provide continuity of care					
19. I have suitable access to careers advice					
20. The hospital has appropriate rest facilities or accommodation, especially when on call					
21. There is access to an educational programme relevant to my needs					
22. I get regular feedback from seniors					
23. My clinical teachers are well organised					
24. I feel physically safe within the hospital environment					
25. There is a no blame culture within this post					
26. There are adequate catering facilities when I am on call					
27. I have enough clinical learning opportunities for my needs					
28. My clinical teachers have good teaching skills					
29. I feel part of a team working here					
30. I have opportunity to acquire appropriate practical procedures for my grade					
31. My clinical teachers are accessible					
32. My workload in the job is fine					
33. Senior staff utilise learning opportunities effectively					
34. The training in the post makes me feel ready to progress to the next grade					
35. My clinical teachers have good mentoring skills					
36. I get a lot of enjoyment out of my present job					
37. My clinical teachers encourage me to be an independent learner					
38. There is good support for trainees who are struggling to meet their competencies					
39. The clinical teachers provide me with good feedback on my strengths and weaknesses					
40. My clinical teachers promote an atmosphere of mutual respect					
41. I find the department welcoming					
42. My colleagues understand me as a person					

43. My colleagues respect me					
44. I am happy coming to work each day					
45. I am a valuable member of the team					
46. The culture where I work make it easy to learn from errors					
47. The medical and nursing leaders in my areas listen to me and care about my concerns					
48. I would feel safe being treated as a patient in this service.					
49. Leadership is driving us to be a safety-centred organisation					
50. I am an integral part in promoting patient safety					

Which of the following leadership development opportunities are available to you:

Lead handover		Co-ordinate MDT		Mentor colleagues	
Lead ward rounds		Lead teaching sessions		Feedback to senior leaders	
Participate in simulation training		Lead team brief		Leadership development training	
Participate in QI		Local trainee rep role		Engage in audit process	
Lead QI		Present at M&M		Protected self development time	

Does this post support appropriate clinical skill development for you, please explain:

Does this post support appropriate personal development for you including development of leadership, teamwork and communication skills, please explain:

Any other thoughts / comments

Public Involvement in Health Service Design: A service provider perspective.

Robert Caine
Orthopaedic and Musculoskeletal Network Manager,
Betsi-Cadwaladr University Health Board,
Email: robert.caine@wales.nhs.uk

Abstract:

Service user engagement is critical to the development of effective healthcare services that are both quality driven and patient centered. The literature is extensive and convincing yet despite Government direction there remains a gap between the theory and practice of effective public and patient engagement within the NHS. This paper explores the results of a questionnaire-based methodology targeted at service providers, exploring their perspective on the use of the public and patients to co-produce service change. With a satisfactory questionnaire return rate the results demonstrated that increased service user engagement attracted overwhelming support, however due to many factors the reality of achieving this is challenging. The study highlights good insight around these challenges, including inadequate service user knowledge, lack of a recognised protocol, and limited resource, which in turn provides a good foundation for further research, as well as a practical roadmap to increase service user engagement levels in practice.

Keywords: Service provider, Service user, Engagement, Co-production.

2 Appendix A: The Questionnaire

Improving public involvement in health service design: A service provider perspective.

Throughout this questionnaire you will be asked to provide responses to questions about the use of the public in health service design. Health service design in this context is an umbrella term for any service change and may refer to service improvement, service development, service strategy, etc.

Consent

Purpose of the Study It is widely accepted that public involvement (patients, relatives, and local community) in health service design is underutilised (Sheldon et al, 2024). This work-based study seeks to understand why by asking service providers their opinions. This will be achieved through a comprehensive questionnaire which aims to identify and explore the barriers and enablers to health service co-production.

Further details about the study can be found in the Participant Information Sheet (PIS) included in the survey invite email, which also clearly outlines confidentiality, right to withdraw and other key information.

- I confirm that I have read and understood the PIS (dated 20th June 2025, version number 02), and that I have had the opportunity to consider the information.
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. I understand that if I withdraw from the study data collected up to my time of withdrawal may still be used with my express consent.
- I accept that, in the unlikely event of loss of capacity, the research team will retain my personal data already collected and will continue to use this data for the sole purpose for which it was sought.
- I have read and understood the information in the PIS about what will happen with my personal data collected in this study.

By completing this questionnaire I agree to take part in the study. *

○ Yes

○ No

About you

What is your age range in years (please circle the correct age range bracket) *

○ 21-30 years

○ 31-40 years

○ 41-50 years

○ 51-60 years

○ 60 years and above

What is your gender? *

○ Female

○ Male

○ Non-binary

○ Prefer not to say

○ Prefer to self describe

Gender Self Description

☐

How many years have you spent in your current post (please circle as appropriate). *

○ 0-5

○ 6-10

○ 11-15

○ 16-20

○ 21-25

○ 25+

Do you feel that you have the autonomy to invite members of the public (patients, relatives, general public) into service design projects? (please circle as appropriate) *

○ Yes

○ No

○ Don't know

Do you agree with the use of the public in health service design? *

○ Yes

○ No

○

Maybe

To what extent do you involve the public in health service design? *

○ Not at all

○ Sometimes

○ Most of the time

○ At every opportunity

At which stage of a service design would you schedule public involvement? (Please select all that apply) *

☐ At the very start ie concept phase

☐ As close to the start as possible but not necessarily at the very beginning

☐ When required

☐ When the design is complete and you need public opinion

☐ After the new design is fully implemented and you want to test it with the public

Involving the public has had a positive impact on your service re-designs? Please rate on the Likert scale below. *

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

It would be useful if you could provide some further detail to support your response to the previous question.

Involving the public has had a negative impact on your service re-designs? Please rate on the Likert scale below. *

Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree

It would be useful if you could provide some further detail to support your response to the previous question.

How do you decide who (from the public) to use for health service design projects? *

What benefits do you find from utilising members of the public in health service design? *

What challenges have you experienced from involving the public in health service design? *

Do you find yourself recommending the use of the public in health service design to colleagues? *

Never
Have not had the opportunity
Occasionally
Often
At every opportunity

Can you identify on the Likert scales below how much you agree / disagree with each of the statements as to why you choose not to use the public in health service design. *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Too time consuming					
No added value					
The public don't understand					
I don't know how to use the public for health service design					
Too little benefit					
Service providers know more					
I don't know who and / or how to contact the public for service design purposes					
Its too difficult					
We don't have the resources to support it					
Using the public for service design isn't promoted in our organisation					
It adds unnecessary confrontation and complexity					

Please list any other reasons below as to why you choose not to involve the public in health service design below.

3 Appendix B: Consent Form

How can we improve public involvement in health service design:

A service provider perspective.

Consent Form

Purpose of the Study

It is widely accepted that public involvement (patients, relatives, and local community) in health service design is underutilised (Sheldon et al, 2024).

This work-based study seeks to understand why by asking service providers their opinions. This will be achieved through a comprehensive questionnaire which aims to identify and explore the barriers and enablers to health service co-production.

Further details about the study can be found in the Participant Information Sheet (PIS), which also clearly outlines confidentiality, right to withdraw and other key information.

1. I confirm that I have read and understood the PIS, dated 16th June 2025 version number 01. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. I understand that if I withdraw from the study data collected up to my tie of withdrawal may still be used with my express consent. ☐

3. I accept that, in the unlikely event of loss of capacity, the research team will retain my personal data already collected and will continue to use this data for the sole purpose for which it was sought. ☐

4. I have read and understood the information in the PIS about what will happen with my personal data collected in this study. ☐

5. I agree to take part in the study ☐

Name of Participant	*Date*	*Signature*
Email address		

Please return to: Robert Caine (2456253@Swansea.ac.uk)

4 Appendix C: Participant Information Sheet

How can we improve public involvement in health service design:

A service provider perspective.

Participant Information Sheet

You are being invited to take part in a research project. Before you decide whether or not to participate, it is important for you to understand why the research is being conducted and what it will involve. Please read the following information carefully.

What is the purpose of the Study and who is carrying out the research?

The study seeks to explore the perspectives of health service providers around the use of the public in health service design and service improvement, with the aim of understanding the barriers and enablers to effective co-production. The research will add to the evidence base by offering service provider insights by way of a comprehensive questionnaire, which will take approximately 5 minutes. The study has been created as part of a work-based research project in Betsi-Cadwaladr University Health Board in collaboration with Swansea University, and has been approved by the relevant Health Board and University departments.

Why have I been asked to take part?

You have been identified as an individual who is likely to be involved in health service design projects and as such you are likely to have meaningful insights into the pros and cons of the using the public to inform these processes.

What happens if I agree to take part?

Once you have had the opportunity to read and understand this information sheet and confirm that you wish to proceed you will be presented with a consent form as an initial part of the questionnaire. On answering Yes to taking part this is providing your consent for your results to be included in the study. The questionnaire will consist of up to 18 questions, each requiring either open or closed responses. The answers that you provide will dictate how many questions you are asked in total and MS Forms will automatically take you through the process. The questions will explore your thoughts on public utilisation in health service design and the results will be completely anonymous.

Taking part in research is voluntary.

You are being asked to take part in this study because you have been identified as an individual who is likely to have key insights into service design / improvement within the NHS. However, it is completely voluntary whether you take part and refusing to take part will not result in anything other than not being included within the study.

Confidentiality and Data Protection.

Your data will be processed in accordance with the Data Protection Act 2018 and the UK General Data Protection Regulation (UK GDPR). All information collected about you will be kept strictly confidential. Your data will only be viewed by the researcher/research team.

All electronic data will be stored on a password-protected computer file, within a secure ‘OneDrive’ folder. Your consent information will be kept separately from your responses to minimise risk in the event of a data breach.

Please note that the data we will collect for the study will be anonymous, thus, it will not be possible to identify and remove your data at a later date, should you decide to withdraw from the study.

Consent and Data Collection

The study will utilise a comprehensive questionnaire via MS Forms to gather data. The initial section of the questionnaire will ask you about consent and will ask you to answer Yes or No as regards whether you give consent to take part. Answering Yes will allow you to access the questionnaire. Answering No will take you to the end of the questionnaire. The questions require a range of responses including Likert scale, Yes/No and Free text.

What will happen if I chose to withdraw from the study?

Data is gathered anonymously (ie no name is required and no email address is recorded on MS forms). Additionally, because the data is fully anonymised we are unable to identify and remove your data after submission of the questionnaire.

What will happen to the results of the study?

The results of the study will form part of a service-based project and will be written up to inform wider use of the public in health service design and service improvement.

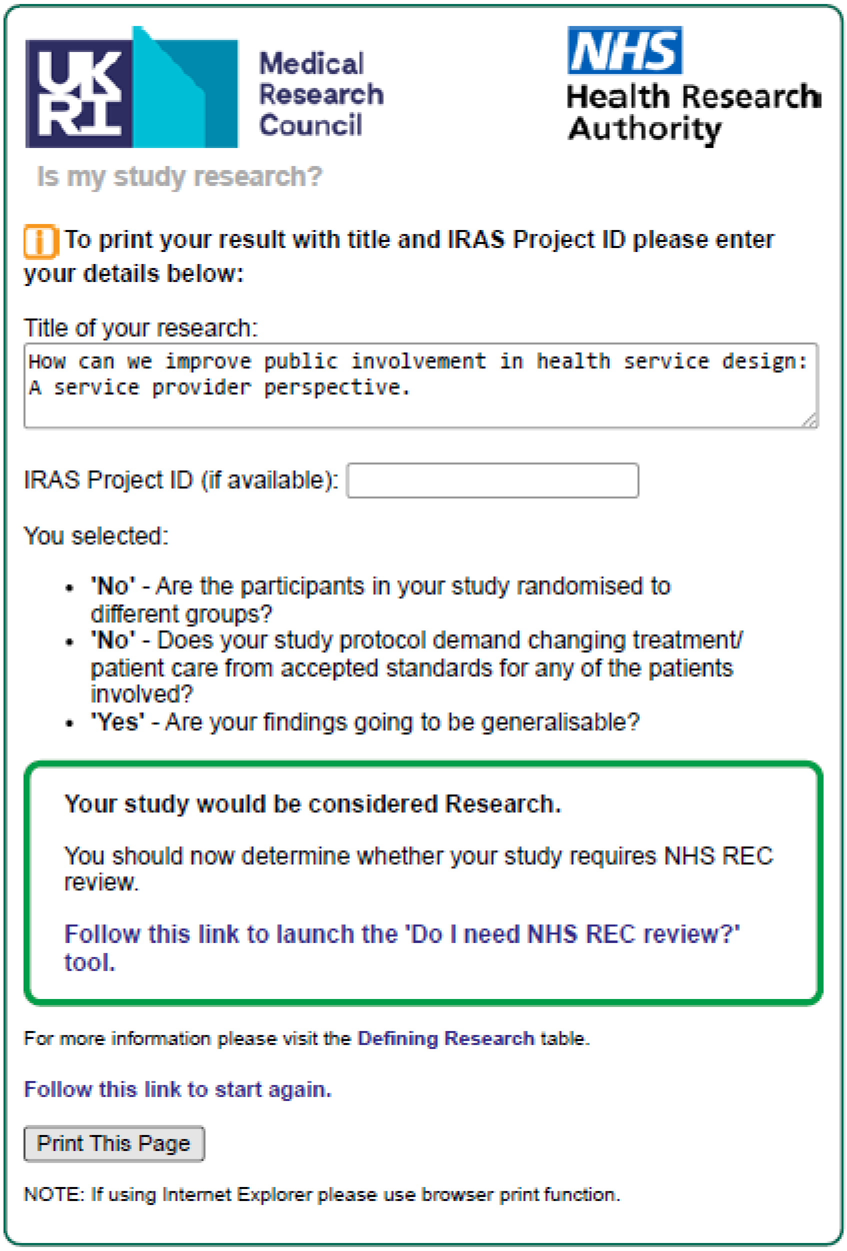
What if there is a problem and who can I contact if I have further questions?

If there are any further questions about the study or if there are any problems before, during or after taking part in the research please contact:

Robert Caine

2456253@Swansea.ac.uk

5 Appendix D: Health Research Authority Outcome



Is my study research?

To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

```
How can we improve public involvement in health service design:
A service provider perspective.
```

IRAS Project ID (if available):

You selected:

- **'No'** - Are the participants in your study randomised to different groups?
- **'No'** - Does your study protocol demand changing treatment/ patient care from accepted standards for any of the patients involved?
- **'Yes'** - Are your findings going to be generalisable?

Your study would be considered Research.

You should now determine whether your study requires NHS REC review.

Follow this link to launch the 'Do I need NHS REC review?' tool.

For more information please visit the **Defining Research** table.

Follow this link to start again.

NOTE: If using Internet Explorer please use browser print function.

6 Appendix E: NHS Research Ethics Requirement Outcome

Do I need NHS REC review?

To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

```
How can we improve public involvement in health service design:
A service provider perspective.
```

IRAS Project ID (if available):

Your answers to the following questions indicate that **you do not need NHS REC review for sites in Wales.**

This tool only considers whether NHS REC review is required, it does not consider whether other approvals are needed. You should check what other approvals are required for your research.

7 Appendix F: Swansea University Research Ethics Approval Outcome

Swansea University
Prifysgol Abertawe

Approval Date: 25/06/2025

Research Ethics Approval Number: 1 2025 13717 13191

Thank you for completing a research ethics application for ethical approval and submitting the required documentation via the online platform.

Project Title	How can we improve public involvement in health service design: A service provider perspective.
Applicant name	MR ROB CAINE
Submitted by	MR ROB CAINE /
Full application form link	https://swansea.forms.ethicalreviewmanager.com/Project/Index/16204

The Humanities and Social Sciences ethics committee has approved the ethics application, subject to the conditions outlined below:

Approval conditions

1. The approval is based on the information given within the application and the work will be conducted in line with this. It is the responsibility of the applicant to ensure all relevant external and internal regulations, policies, and legislations are met.
2. This project may be subject to periodic review by the committee. The approval may be suspended or revoked at any time if there has been a breach of conditions.
3. Any substantial amendments to the approved proposal will be submitted to the ethics committee prior to implementing any such changes.

Specific conditions in respect of this application:

The application has been classified as Low Risk to the University.

No additional conditions.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees. It complies with the guidelines of UKRI and the concordat to support Research Integrity.

Humanities and Social Sciences Research and Ethics Chair

Swansea University.

If you have any queries regarding this notification, then please contact your research ethics administrator for the faculty.

- For Science and Engineering contact FSE-Ethics@swansea.ac.uk
- For Medicine, Health and Life Science contact FMHLS-Ethics@swansea.ac.uk
- For Humanities and Social Sciences contact FHSS-Ethics@swansea.ac.uk

Navigating Medical Ultrasound Demand in Wales: What are the solutions to create capacity

Gillian Lingwood

Programme Manager, National Imaging Programme,

NHS Performance and Improvement Wales

Email: Gillian.lingwood2@Wales.nhs.uk

Abstract:

Background:
Ultrasound is a key diagnostic tool in Wales, but rising demand, limited training capacity, and persistent workforce shortages have led to long waiting times and increased service pressures. National policy highlights the urgent need for sustainable, evidence-based strategies to expand capacity and strengthen workforce resilience.

Methods:
This mixed-methods study combined a national workforce survey, semi-structured interviews with imaging leads across the UK and Ireland, and an All-Wales focus group with ultrasound leaders and policy stakeholders. Quantitative workforce modelling projected future capacity requirements, while thematic analysis explored workforce challenges, training capacity, demand management, and retention barriers.

Results:
The survey revealed a significant and growing sonographer workforce deficit, with modelling indicating that, under current training and retention conditions, capacity for planned care waits will fall far short of demand by 2031. Qualitative findings highlighted interconnected challenges, including training bottlenecks, limited career progression, occupational health concerns, and inconsistent demand management practices. Stakeholders identified potential solutions, such as establishing a national ultrasound academy, creating principal sonographer roles, improving workforce analytics, standardising referral pathways, and addressing musculoskeletal injury and burnout risks.

Conclusions:
The findings underscore the need for a coordinated, data-driven strategy to ensure safe, timely, and sustainable ultrasound services in Wales. Expanding training pipelines, improving retention through career development and occupational health initiatives, and adopting standardised demand management frameworks are essential for long-term workforce resilience and service sustainability.

Keywords: Ultrasound workforce; sonographer shortages; training capacity; demand management; workforce retention; occupational health; diagnostic imaging; health service planning; mixed-methods research; Wales

8 Appendix A: Ethical approval letter

ethics approval.pdf

Approval Date: 24/06/2025

Research Ethics Approval Number: 3 2025 13499 13106

Thank you for completing a research ethics application for ethical approval and submitting the required documentation via the online platform.

Project Title	Navigating Medical Ultrasound Demand in Wales, What are the solutions to create capacity.
Applicant name	MRS GILL LINGWOOD
Submitted by	MRS GILL LINGWOOD /
Full application form link	https://swansea.forms.ethicalreviewmanager.com/Project/Index/15947

The Humanities and Social Sciences ethics committee has approved the ethics application, subject to the conditions outlined below:

Approval conditions

1. The approval is based on the information given within the application and the work will be conducted in line with this. It is the responsibility of the applicant to ensure all relevant external and internal regulations, policies, and legislations are met.
2. This project may be subject to periodic review by the committee. The approval may be suspended or revoked at any time if there has been a breach of conditions.
3. Any substantial amendments to the approved proposal will be submitted to the ethics committee prior to implementing any such changes.

Specific conditions in respect of this application:

The application has been classified as Low Risk to the University.

No additional conditions.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees. It complies with the guidelines of UKRI and the concordat to support Research Integrity.

Humanities and Social Sciences Research and Ethics Chair

Swansea University.

If you have any queries regarding this notification, then please contact your research ethics administrator for the faculty.

- For Science and Engineering contact FSE-Ethics@swansea.ac.uk
- For Medicine, Health and Life Science contact FMHLS-Ethics@swansea.ac.uk
- For Humanities and Social Sciences contact FHSS-Ethics@swansea.ac.uk

9 Appendix B: Participant consent and information

Participant Consent Form

Project title: Navigating Medical Ultrasound Demand in Wales: What are the solutions to create capacity.

Gill Lingwood, Programme Manager, National Imaging Programme. Gill.lingwood2@wales.nhs.uk

		Participant initial
1.	I (insert name) confirm that I have read and understand the information sheet for the above study which is attached to this form.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reasons.	
3.	I understand what my role will be in this research, and all my questions have been answered to my satisfaction.	
4.	I understand that I am free to ask any questions at any time before and during the study.	
5.	I have been informed that the information I provide will be safeguarded	
6.	I am happy for the information I provide to be used (anonymously) in academic papers and other formal research outputs.	
7.	I am willing for my information to be audio recorded.	
8.	I have been provided with a copy of the Participant Information Sheet.	
9.	I agree to the researchers processing my personal data in accordance with the aims of the study described in the Participant Information Sheet.	

Thank you for your participation in this study. Your help is very much appreciated.

Print name of participant Signature Date

Print name of researcher Signature Date

This study is being conducted by Swansea University.

When complete: Original copy for participant, one copy to be retained by researcher if paper copy.

This study is being conducted by Swansea University

Thank you for your participation in this study. Your help is very much appreciated.

PARTICIPANT INFORMATION SHEET

Navigating Medical Ultrasound Demand in Wales: What are the solutions to create capacity.

You are being invited to take part in some research. Before you decide whether to participate, it is important for you to understand why the research is being conducted and what it will involve. Please read the following information carefully.

What is the purpose of the research?

We are conducting research on Sonographer numbers in Wales and looking at what other areas within the UK and Ireland are doing to tackle the patient waits for ultrasound scans. The purpose of the study is to find some solutions that could be scaled in Wales to help with our current long patient waiting times for ultrasound scans. Your participation in this study will take approximately 1 hr. – 1 hr. 15 mins if you are being interviewed. If you are undertaking the Survey to understand current staff numbers in your department the survey should take no longer than 1 hr. to complete.

If you are part of the focus group, the meeting is expected to take no more than 2 hrs.

Who is carrying out the research?

The data is being collected by Gill Lingwood, Programme Manager at the National Imaging Programme/post grad student on the advanced management (applied innovation) course at Swansea University. Gill is working under the supervision of Prof Hamish Laing. The research has been approved by the Faculty of Humanities and Social Sciences Research Ethics Committee.

What happens if I agree to take part?

The survey is available on MS forms, and you will be sent a link as part of your role as an ultrasound leader in Wales. The survey data will be required within a specific time frame which will be indicated within the introduction section. As an interviewee or focus group member you will be invited to attend a meeting via Microsoft Teams where the discussions and conversations will be recorded and transcribed for analysis by the researcher (Gill).

Are there any risks associated with taking part?

This research has been approved by the Faculty of Humanities and Social Sciences Ethics Committee. There are no significant risks associated with participation.

Data Protection and Confidentiality

Your data will be processed in accordance with the Data Protection Act 2018 and the General Data Protection Regulation (GDPR). All information collected about you will be kept strictly confidential. Your data will only be viewed by the researcher/research team. Workforce metrics collected via the survey will be shared with the National Imaging Programme which sits within NHS Performance and Improvement as sonographer numbers can currently not be accessed accurately via ESR.

All electronic data will be stored on a password-protected computer file upon the researchers One Drive NHS Performance and Improvement. It is planned that all records will be electronic with no paper records kept. Your consent information will be kept separately from your responses to minimise risk in the event of a data breach.

Please note that the data we will collect for our study will be made anonymous, in July 2025 thus it will not be possible to identify and remove your data at a later date, should you decide to withdraw from the study. Therefore, if at the end of this research you decide to have your data withdrawn, please let us know before you leave the interview.

Please note that if data is being collected online, once the data has been submitted online you will be unable to withdraw your information.

What will happen to the information I provide?

An analysis of the information will form part of our report at the end of the study and may be presented to interested parties and published in scientific journals and related media. The information you provide will be kept anonymous although the researcher will have your contact details purely for the purpose of data collection. Staff numbers and retirement metrics will be shared with the National Imaging Programme to assist with other projects such as delivering education and obtaining funding for staff/workforce initiatives in Wales. The interview and focus group information will be used to understand what is going on elsewhere and to understand what could be achieved in Wales. People's identities and comments will be kept anonymous within the research, but their opinions would be used to assist with gathering conclusions and recommendations.

Is participation voluntary and what if I wish to later withdraw?

Your participation is entirely voluntary – you do not have to participate if you do not want to. If you decide to participate, but later wish to withdraw from the study, then you are free to withdraw at any time, without giving a reason and without penalty. But please note that the research data you have provided cannot be disaggregated after anonymisation (July 2025).

Data Protection Privacy Notice

The data controller for this project will be Swansea University. The University Information Compliance Manager provides oversight of university activities involving the processing of personal data and can be contacted at dataprotection@swansea.ac.uk.

Your personal data will be processed for the purposes outlined in this information sheet. Standard ethical procedures will involve you providing your consent to participate in this study by completing the consent form that has been provided to you.

The legal basis that we will rely on to process your personal data will be if processing is necessary for the performance of a task carried out in the public interest. This public interest justification is approved by the Faculty Research Ethics and Governance sub-committee, Swansea University.

The legal basis that we will rely on to process special categories of data will be if processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes.

How long will your information be held?

We will hold any personal data and special categories of data for 12 months post data collection (July 2025).

What are your rights?

You have a right to access your personal information, to object to the processing of your personal information, to rectify, to erase, to restrict and to port your personal information. Please visit the University Data Protection webpages for further information in relation to your rights.

Any requests or objections should be made in writing to the University Information Compliance Manager

University Information Compliance Manager (FOI/DP)
Swansea University
Singleton Park
Swansea
SA2 8PP
Email: dataprotection@swansea.ac.uk

How to make a complaint

If you are unhappy with the way in which your personal data has been processed, you may in the first instance contact the University Information Compliance Manager using the contact details above.

If you remain dissatisfied, then you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at -

Information Commissioner's Office,
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www.ico.org.uk

What if I have other questions?

If you have further questions about this study, please do not hesitate to contact us:

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10Appendix C: Focus group agenda

Welsh Ultrasound Focus Group

16th July 2025

Opening information and purpose:

Dear colleagues,

Thank you so much for agreeing to attend.

This focus group is the final part of data collection for a research report I am conducting as part of a leadership and innovation post grad qualification based at Swansea University. Some of this information will also be utilised by the Imaging programme to help assist us with potential projects to improve ultrasound outcomes in Wales.

There have been three separate parts to data collection which some of you have already been involved in. They are:

- Survey of the sonographer workforce numbers/metrics in Wales.
- Interviews
- Welsh Ultrasound Focus Group.

The purpose of the focus group is not to make decisions. However, representation from all health boards is desirable so that a comprehensive assessment of national thoughts and feelings is achieved. The focus group is also an opportunity to hear about successful initiatives taking place in other organisations across the UK and Ireland.

Having undertaken interviews with ultrasound leads from across the UK and Ireland, I have identified some key themes regarding the management of ultrasound services that I would like to discuss with you and understand your thoughts and feelings. There will be no wrong or right answers, the aim is to use this information to develop the discussion section of my project and draw conclusions about any potential next steps to support the reduction of ultrasound waiting times across Wales. If further project work and solutions were to be identified and taken up by the National Imaging Programme, they would be worked up in the usually formal way with suitable stakeholder involvement.

Agenda

12:00 Welcome and introductions

12:10 Discussion around – Referral Criteria and GIRFT recommendations.

12:30 Discussion around – Education models and supporting ultrasound education.

13:20 Discussion around– Ultrasound workforce; the who, the where, the how, and workforce planning.

13:40 Discussion around Sonographer well-being, cultures and managing the sonographer workforce.

14:00 Close

11 Appendix D: Survey results, workforce capacity calculations for planned care waits in Wales.

Ultrasound workforce stats for Wales

Non-Obstetric planned care US demand and capacity.

Survey has found:

We have 191 sonographers Head Count

129.83 WTE

14.6 WTE locum

20.8 WTE due to retire in the next 2 years

We are currently training 23 students - planned WTE unknown upon qualification.

Average obstetric demand on this workforce across Wales = 40.2% - Varies per site due to obstetrics being undertaken on specific HB sites, some demand being covered by midwives in some HBs.

This leaves 77.9 WTE available for non-obstetric ultrasound examinations for acute unplanned and planned care.

Currently there are 40382 on the planned care ultrasound waiting list.

13784 are over the 8-week target,

26598 are within 0-7 weeks waits

The over 8-week position has remained more or less static over the last 12 months with a high of 15187 and a low of 11375 June 2024 position was 13427. The high in May 2025 of 15187 may have reduced due to funded insourcing via planned care recovery money.

Monthly scans required to clear back log:

Scans per month = 13784 ÷ X

$$\text{Daily scans} = \frac{13784 \div X}{25 \text{ days}}$$

(working days in a month – based on 5 day working)

Time to clear	**Scans per month**	**Scans per day**
6 months	2,300 (13784 ÷ 150)	92
12 months	1,150	46
18 months	775	31

Monthly scans required (post backlog) to keep waits below 8-week target:

To maintain a monthly demand of 26, 567 patients.

Assuming average scan time takes 25 minutes, 0.4167 (hour)

Calculation: 26567 x 0.4167 = 11,070.47 scan hours per month

Scan Hours Needed at Different Scan Times (for 26,567 patients/month

Scan Time per Patient Monthly Scan Hours

15 minutes (0.25 hrs) 6,641.75 hrs

20 minutes (0.333 hrs) 8,855.67 hrs

30 minutes (0.5 hrs) 13,283.50 hrs

45 minutes (0.75 hrs) 19,925.25 hrs

60 minutes (1 hr) 26,567.00 hr

Staff required to meet demand:

The Scottish Template 1FTE is the equivalent of 173.4 days scanning time (78,030 minutes)

So, 25 mins = 11, 070.47 scan hours per month =

1 Sonographer = 1, 300.5 hours per year = 108.375 hours per month

11,070.47 ÷ 108.375 = 102.149 FTE sonographers required.

How many more extra staff do we need to meet non-obstetric demand?

We currently have 77.9 WTE available = 77.9 x 108.375 hours = 8442.41 hours per month capability.

Roughly 25% of this will be undertaking urgent/unscheduled care.

So available capacity = 6, 331.8 = 58.42 sonographers

Deficit = 11, 070.47 – 6, 331,8 = 4748.67 hours per month

4738.67 ÷ 108.375 = 43.724 Sonographers

This is assuming referral rates for both non-obstetric and obstetric demand remain consistent with current figures.

Demand is consistently increasing for non-obstetric ultrasound by around 4-6 % per year

So projected workforce demand per year = 5% increase average

Around 11% of the Sonographer workforce is about to retire within the next 2 years (roughly 6% increase need per year for retirement)

Sonographer number need for non-obstetrics over the next 5 years based on demand of % increase only per year.

Total staff numbers needed with increase in demand.

2025 = 43.7 + 77.9 = 121.6

2026 = 127.7

2027 = 134.1

2028 = 140.8

2029 = 147.7
2030 = 155.2
2031 = 163

With 6% additional annual attrition due to retirement
2025 = 128.9
2026 = 135.8
2027 = 142.1
2028 = 148.4
2029 = 156.6
2030 = 164.5
2031 = 172.8

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