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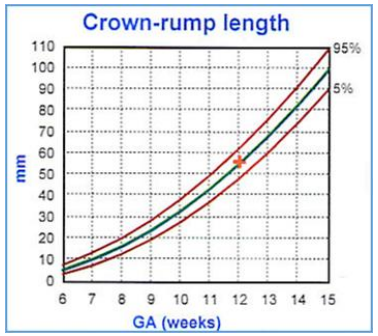
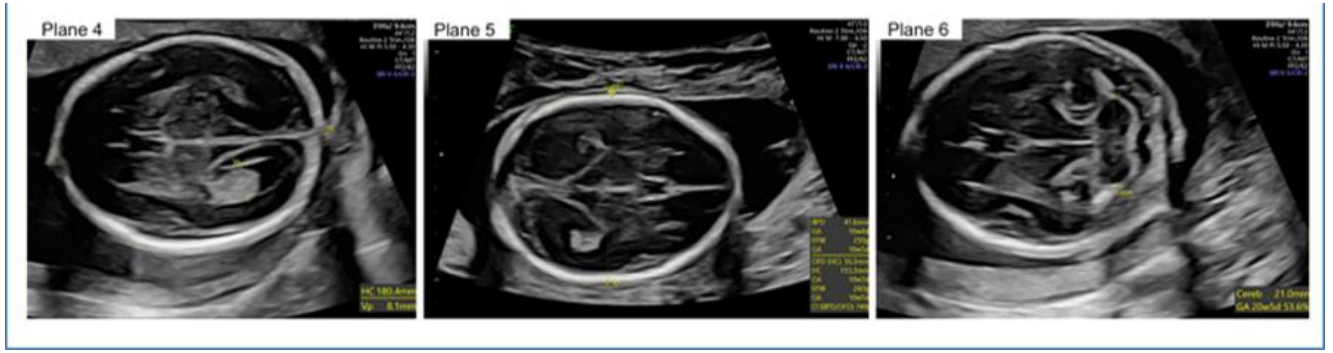
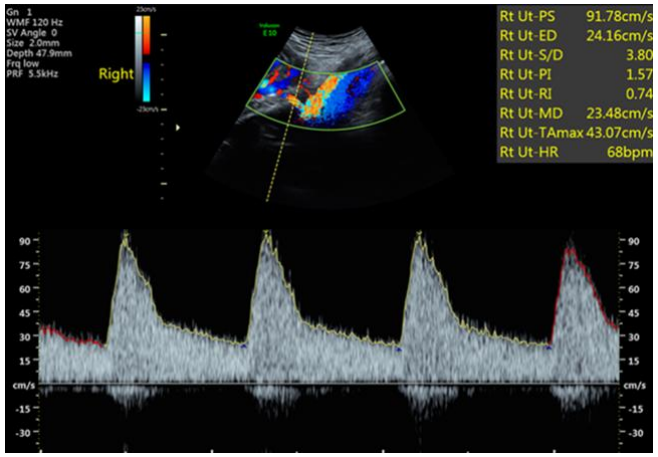
# Finding a Realistic Balance between the Expectations of Obstetric Ultrasound Service Users & its Providers

## The BMUS Obstetric Ultrasound White Paper

Presented by : Trish Chudleigh

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# Disclaimer

This presentation is based on research conducted to the best of the presenter's abilities, acknowledging inherent uncertainties and limitations. The findings may be influenced by factors such as data quality, methodology, and interpretation, and do not guarantee real-world accuracy.

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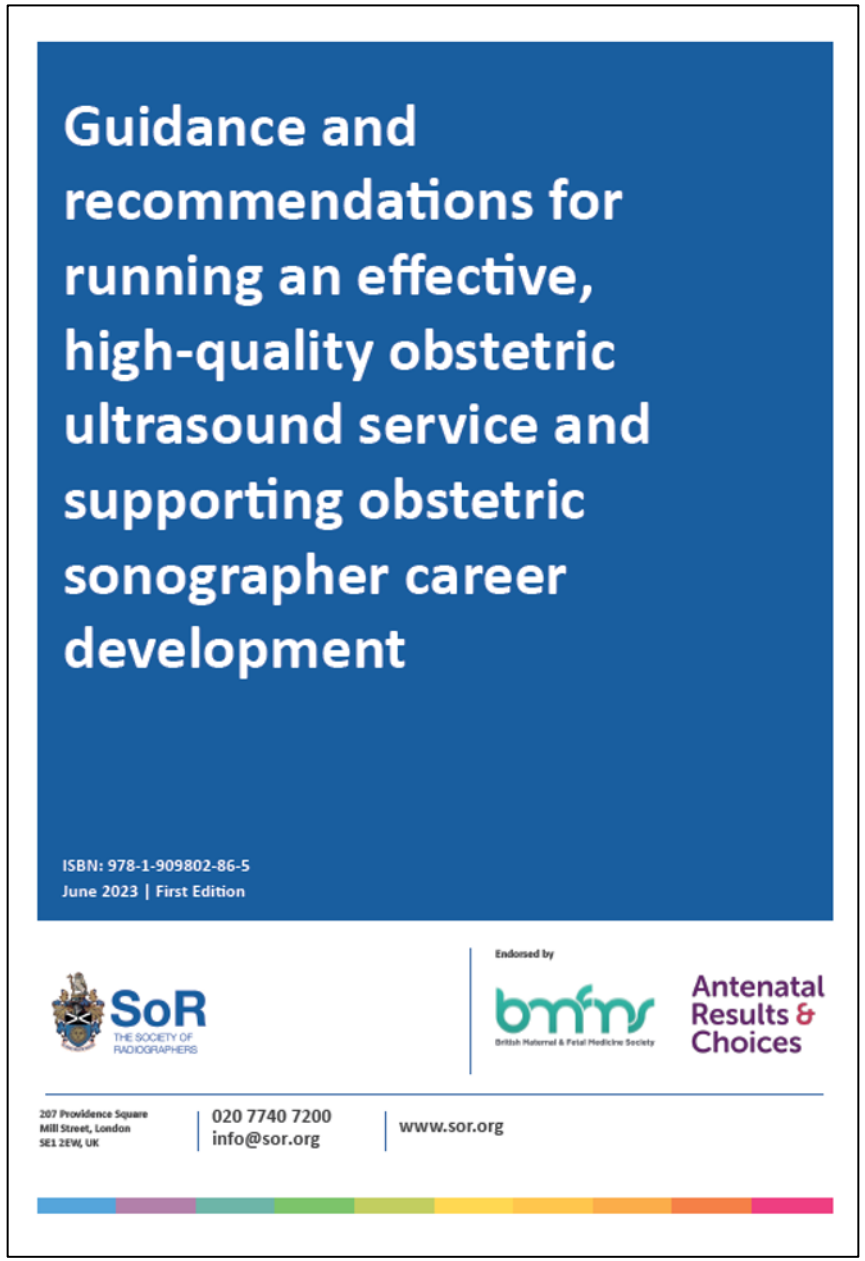
# Relevant recent publications
# 2019 - 2023




Non scanning time

2023

## 5.3 Job planning

All sonographers should have a job plan as part of their role. NHS guidance on allied health professionals' job planning should be used to provide consistency across the obstetric ultrasound workforce.[97] Included within the job plan should be direct clinical care, specified supporting professional activities (SPA), including CPD, audit, teaching and research, additional NHS responsibilities such as input into MDT working groups, external NHS committees such as work with the screening committees, and consultations and externally funded duties such as consultancy, guest lecturing and externally funded research.[97] At the time of writing, the authors have been unable to source a job plan specifically for obstetric sonographer roles.

> **Sonographers' job plans need to be reviewed. Currently due to the workload pressures they do not have time within their job plan for other activities that might be expected of a Band 7 member of the antenatal team or comparable allied health professional. (MDT Case study, appendix 4.1.1)**

2023

NHS England

# Three year delivery plan for maternity and neonatal services

March 2023

## Summary

With this plan we aim to make care safer, more personalised, and more equitable, by:

**Listening to women and families with compassion** which promotes safer care.

- All women will be offered personalised care and support plans. By 2024, every area in England will have specialist care including pelvic health services and bereavement care when needed; and, by 2025, improved neonatal cot capacity.
- During 2023/24, integrated care systems (ICSs) will publish equity and equality plans and take action to reduce inequalities in experience and outcomes.
- From 2023/24, integrated care boards (ICBs) will be funded to involve service users.

**Developing and sustaining a culture of safety** to benefit everyone.

- Throughout 2023, effectively implement the NHS-wide "PSIRF" approach to support learning and a compassionate response to families following any incidents.
- By 2024, NHS England will offer a development programme to all maternity and neonatal leadership teams to promote positive culture and leadership.
- NHS England, ICBs, and trusts will strengthen their support and oversight of services to ensure concerns are identified early and addressed.

**Meeting and improving standards and structures** that underpin our national ambition.

- Trusts will implement best practice consistently, including the updated Saving Babies Lives Care Bundle by 2024 and new "MEWS" and "NEWTT-2" tools by 2025.
- In 2023, NHS England's new taskforce will report on how to better detect and act sooner on safety issues, arising from relevant data, in local services.
- By 2024, NHS England will publish digital maternity standards; services will progress work to enable women to access their records and interact with their digital plans.



- Listening to women with compassion
- Supporting our workforce
- Developing & sustaining a culture of safety
- Meeting & improving standards & structures

2022

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# Preceptorship and Capability Development Framework for Sonographers

Produced by the British Medical Ultrasound Society

Commissioned by Health Education England

July 2022

Preceptorship and Capability Development Framework for Sonographers

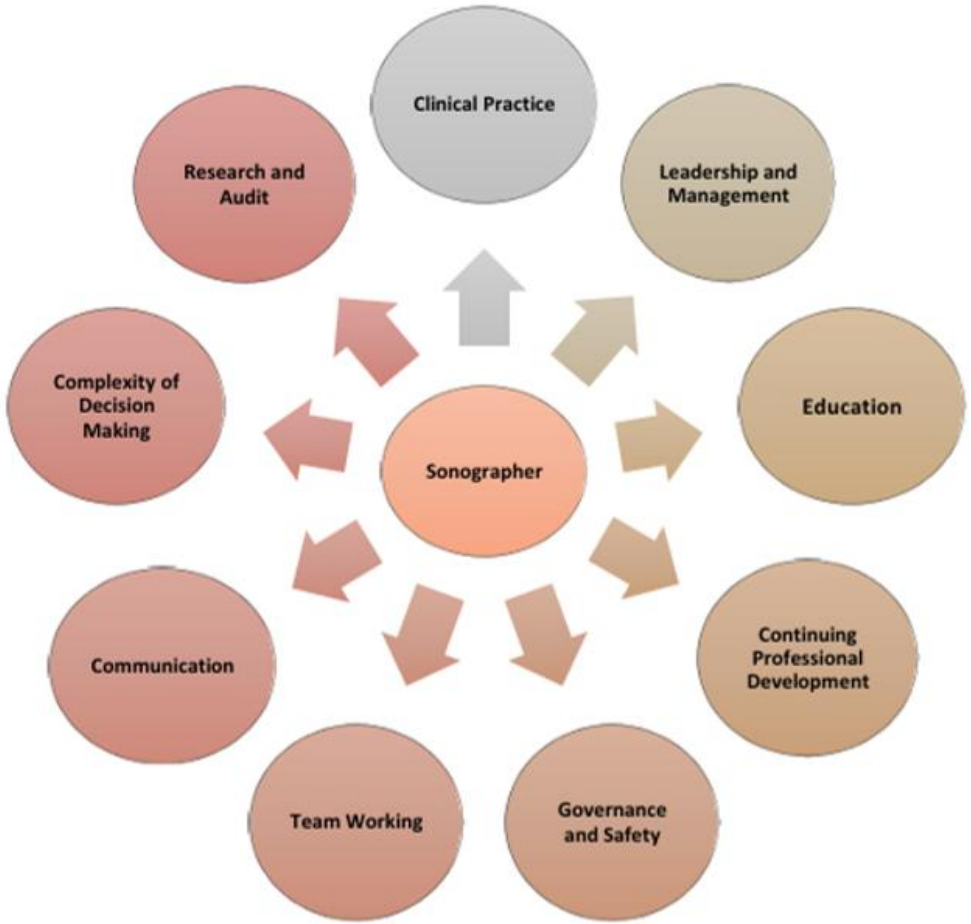


Figure 3: Main capability descriptors

2019

# Job planning the clinical workforce – allied health professionals

A best practice guide

July 2019

NHS England and NHS Improvement

**Figure 3: Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust AHP job planning**

Example from one Trust & not nationally recommended % split

| band | Percentage of week allocated to clinical activity (DCC) | Percentage of week allocated to non-clinical activity (SPA, ANR, ED) |
|---|---|---|
| 1 | | 5% |
| 2 | 95% | 5% |
| 3 | 90% | 10% |
| 4 | 90% | 10% |
| 5 | 90% | |
| 6 | 85% | 15% |
| 6* | 80% | 20% |
| 7 | 70% | 30% |
| Clinical 8 | 85% | 15% |

* Denotes a Band 6 post with additional leadership responsibilities

# In the beginning

- The requirements of 3rd trimester growth scans, & uterine artery Doppler (UtA) have increased dramatically since publication of 1st version of Saving Babies Lives Care Bundle (SBLCB, March 2016), & its evolving iterations

- BMUS ASM 2024 presentation by Umber Agarwal (FM Cons, Liverpool)

  *'How can sonographers, midwives & fetal medicine specialists work together to meet SBLCBv3 & balance the ever increasing demand for growth scans?'*

- Jan 2025, Umber - *why is there no sonographer workforce document similar to RCOG document for its consultants? BMUS & SCoR to co-create?*

- Jan 2025, BMUS approached, BMUS officers – *good idea*

  TC invited to lead White Paper group on behalf of BMUS, with assistance from Ruth Reeve (BMUS Development Officer, Donna Holdcroft (BMUS Professional Officer) & Pam Parker (BMUS Workforce Officer)

# White Paper first steps

- White Paper (WP) group set up March 2025
  - *Umber, Ruth, Donna, Pam, Trish & Chris Honor, Bolton (April 2026)*

- Document aim – to produce realistic recommendations relating to what the routine obstetric ultrasound service:
  - *<u>can</u> provide for its service users*
  - *<u>should</u> provide for its staff*
  - *how best to address any evidence-based mismatch between machine and sonographer capacity & national surveillance recommendations*

- Recommendations informed by the number of scan appointments that:
  - *one machine can provide a year*
  - *one sonographer can provide a year*
  - *are required to meet FASP requirements (dating/combined & anomaly scans)*
  - *remain once FASP requirements met, & therefore available for 'other' scans including growth, 'AFI & Doppler', serial growth scans etc*

# Data collection & analysis

- Questionnaire circulated via BMUS CIG3 group
- Responses received from 5 units – 3 DGH & 2 tertiary
- Data from two calendar years - 2014 & 2024
- Recommendations based on 2024 data analysis
- Scan length calculations based on published BMUS guidance or WP recommendations, rather than any other guidance such as NICE

# 2024 – 5 units

- Total number deliveries = 24,825 (352 twins)
- Average number deliveries/unit = 4,965 (70 twins)
- Draft data currently based on 5,000 singleton bookers/deliveries

- Scan numbers across 4 gestation intervals:
  1) 11+0 – 14+1wks (dating/combined)
  2) 14+2 – 17+6 wks (late bookers etc)
  3) 18+0 – 23+0 wks (anomaly, rpt anomaly, UtA)
  4) >23+0wks (growth, placental localisation, 'AFI & Doppler' etc)

  5) EPU treated separately

# Preliminary data analysis – appts/booker

| Gestation interval (wks) | All (n = 24,825) | Appts per booker | Appts for 5,000 bookers |
|---|---|---|---|
| 11+0 – 14+1 | 27,513 | 1.11 | 5,550 |
| 14+2 – 17+6 | 1,609 | 0.08 | 400 |
| 18+0 – 23+0 | 28,430 | 1.14 | 5,700 |
| >23+0 | 89,032 | 3.59 | 17,950 |

# Sonographers

# Sonographer hours availability

- Potential total availability = 37.5 hrs /wk = 1,950hrs/year
- Non-availability - A/L [27, 29, 33 days], BH [8 days] + IST [1 day] = 285hrs
- One sonographer departmental availability = **1,665hrs/year**
- *What non-clinical activities should sonographers undertake on a weekly basis?*

# Non-clinical weekly sonographer activities?

- Total availability = 37.5 hrs /wk

| Weekly non scanning activities | hours/week |
|---|---|
| • Update of abnormal cases | 0.5hrs |
| • Ultrasound/FMU MDT* | 1.0hrs |
| • Obstetrics MDT* (1 hour), over lunch | 0.5hr |
| • RSI/coffee break (20 mins x 5) | 1.7hrs |
| • Monthly 2 hour staff meeting | 0.5hrs |
| • **TOTAL** | **4.2hrs** |

*Published guidance varies as to whether MDTs & patient related administration are DCC or SPA

# Non-clinical sonographer activities (cont)?

| Weekly non scanning activities | hours/week |
|---|---|
| • Update of abnormal cases | 0.5hrs |
| • Ultrasound/Fetal Md MDT | 1.0hrs |
| • Obstetrics MDT (1 hour), over lunch | 0.5hr |
| • RSI/coffee break (20 mins x 5) | 1.7hrs |
| • Monthly 2 hour staff meeting | 0.5hrs |
| • **TOTAL** | **4.2hrs** |
| • 1 session personal CPD | 4.0hrs (am) or 3.5hrs (pm) |
| • **ALL** | **8.2hrs or 7.7hrs** |

NHS

# Job planning the clinical workforce – allied health professionals

A best practice guide

July 2019

NHS England and NHS Improvement

Example from one Trust
& not nationally recommended % split

2019

**Figure 3: Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust AHP job planning**

| Job banding | Percentage of week allocated to clinical activity (DCC) | Percentage of week allocated to non-clinical activity (SPA, ANR, ED) |
|---|---|---|
| 1 | 95% | 5% |
| 2 | 95% | 5% |
| 3 | 90% | 10% |
| 4 | 90% | 10% |
| 5 | 90% | 10% |
| 6 | 85% | 15% |
| 6* | 80% | 20% |
| 7 | 70% | 30% |
| Clinical 8 | 85% | 15% |

* Denotes a Band 6 post with additional leadership responsibilities

# Non-clinical sonographer activities – options?

*Sonographer working hours = 37.5 hours/week*

Option A – weekly non scanning activities + 4hrs CPD = 8.2hrs = 22%

Option B – weekly non scanning activities+ 3.5hrs CPD = 7.7hrs = 21%

Option C – option A + 3.5hrs training session = 8.2 + 3.5 = 11.7hrs = 31%

Option D – option B + 3.5hrs training session = 7.7 + 3.5 = 11.2hrs = 30%

| Direct clinical care | time per week | | SPA | time per week |
|---|---|---|---|---|
| 70% | 26 hrs | | 30% | 11 hrs |
| 80% | 30 hrs | | 20% | 7.5hrs |
| 85% | 32hrs | | 15% | 5.5hrs |

# Machines

# Annual machine availability

- Non-availability - 8 bank holidays + servicing + 1 spare = 10 days (2wks)

- **One machine availability** = 50 weeks of 37.5hrs = **1,875hrs**

- 1,875hrs = 3,750 x 30 min appts (anomaly, singleton growth*)
  = 5,625 x 20 min appts (11+0-14+1wks)
  = 2,500 x 45 min appts (twin growth*)
  = 7,500 x 15 min additional time slot (e.g. + 20wk UtA Dopplers)

* *BMUS Professional Guidance for Fetal Growth Scans document, 2022*

# Joining up machine & sonographer availability

- One **machine** availability = **1,875hrs**
- One **sonographer** availability = **1,665hrs**
- **One F/T machine** (37.5hrs for 50wks) **requires 1.13 sonographers**

| Number of machines (F/T obs) | Number of sonographers (F/T obs) | Sonographers rounded up |
|---|---|---|
| 1 | 1.13 | 1+ |
| 5 | 5.65 | 6 |
| 6 | 6.78 | 7 |
| 7 | 7.91 | 8 |
| 8 | 9.04 | 9-ish |

# Appointments

# Converting sonographers & machines into hours

| Number | Sonographer hrs | Machine hrs |
|---|---|---|
| 1 | 1,665hrs | 1,875hrs |
| 5 | 8,325hrs | 9,375hrs |
| 7 | 11,655hrs | 13,125hrs |
| 9 | 14,985hrs | 16,875hrs |
| 10 | 16,650hrs | 18,750hrs |

# Converting hours into appointments - examples

| 5,000 bookers<br>% | 1 extra<br>30 min scan | 3 extra<br>30 min scans |
|---|---|---|
| 100% | 2,500hrs | 7,500hrs |
| 50% | 1,250hrs | 3,750hrs |
| 30% | 750hrs | 2,250hrs |
| 20% | 500hrs | 1,500hrs |
| 10% | 250hrs | 750hrs |

# Preliminary data analysis 2

| Gestation interval (wks) | All (n = 24,825) | Appts per booker | Appts for 5000 bookers |
|---|---|---|---|
| **11+0 – 14+1** | 27,513 | 1.11 | **5,550** |
| 14+2 – 17+6 | 1,609 | 0.08 | 400 |
| **18+0 – 23+0** | 28,430 | 1.14 | **5,700** |
| >23+0 | 89,032 | 3.59 | 17,950 |

# Annual FASP requirements & EPU

For 5,000 bookers:

‘FASP’

- 11+0-14+1wks (FASP dating/combined) – 5,550 appts x 20 mins = 1,850hrs
- 18-23wks (FASP anomaly, rpt, UtA) – 5,700 appts x 30 mins = 2,850hrs

- EPU service - assume 4hr service provided 364 days/year = 1,456hrs

- **‘FASP’ + EPU require = 6,156hrs**

# Annual sonographer & machine provision example

- 1 sonographer provision = 1,665hrs
- 1 machine provision = 1,875hrs
- ‘FASP’ + EPU require = 6,156hrs

**‘FASP’+ EPU require:**

- **3.7 sonographers**
- **3.3 machines**

# Departmental staff & machines – preliminary data 3

Averaged data from 5 units:

- **machines = 7** (6-8)
- **wte sonographers = 11.0** (8.0 – 14.4), n = 9 selected below

- **7 machines = 13,125hrs**
- **9 sonographers = 14,985hrs**

- ‘FASP’ + EPU require 6,156hrs
  in department with 7 machines & 9 sonographers,
- **hours available for >23wk scans etc = 6,969hrs machine time**
  **= 8,829hrs sonographer time**

# Converting hours into appointments - example

- Department with 7 machines & 9 sonographers:
- hours available for >23wk scans etc = 6,969hrs machine time
  = 8,829hrs sonographer time
- sonographer availability for 3 scans (7,500hrs) for all bookers
- machine availability for only 2 scans (5,000hrs) for all bookers

| 5,000 bookers % | 1 extra 30 min scan | 2 extra 30 min scans | 3 extra 30 min scans |
|---|---|---|---|
| 100% | 2,500hrs | 5,000hrs | 7,500hrs |
| 50% | 1,250hrs | 2,500hrs | 3,750hrs |
| 30% | 750hrs | 1,500hrs | 2,250hrs |
| 20% | 500hrs | 1,000hrs | 1,500hrs |
| 10% | 250hrs | 500hrs | 750hrs |

# However – apart from ‘FASP’ & EPU

Other requirements (‘Other A’) need to be factored in, including:

- DC twins = 195hrs *(52 x anomaly + 24, 28, 32 & 36wks @45mins)*
- MC twins = 217hrs *(28 x anomaly + 22,24,26,28,30,32,34,36wks @45mins + 16,18wks @30mins)*
- Low lying placenta @20wks = 275hrs *(10% - 32wks +1% - 36wks @30mins)*
- Type 1 diabetics at booking = 40hrs *(1:264 at booking*, +24,28,32,36wks @30mins)*
- Hypertension at booking = 150hrs *(2% at booking, +28,32,36wks @30mins)*
- **Total ‘other’ = 877hrs requires 0.53 sonographers & 0.47machines**

# Annual sonographer & machine provision example

- 1 sonographer provision = 1,665hrs
- 1 machine provision = 1,875hrs
- ‘FASP’ + EPU require = 6,156hrs
- ‘Other A’ (twins, 20 wk low lying placentas, type 1 diabetics & hypertensives at booking) = 877hours

**‘FASP’+ EPU + ‘Other A’ require:**

- **4.2 sonographers**
- **3.8 machines**

# Accommodating all national requirements

- ‘FASP’+ EPU + ‘Other A’ require 4.2 sonographers and 3.8 machines
- Some, but not all, SBLv3 requirements are fulfilled. Our data aid in estimating this potential shortfall
- Sonographer & machine numbers required for a department to accommodate all clinically indicated scans, based on their local booking/delivery numbers, can be estimated
- The shortfall, where present, between evidence based clinical requirements &  accurate machine & workforce capacity can thus be jointly addressed by ultrasound, obstetric, operational and commissioning leads

# Our potential final recommendations

- The White Paper supports evidence-based ultrasound surveillance throughout pregnancy by realistic workforce planning, rather than restricting access to scans because machine &/or sonographer capacity is limited
- It seeks to encourage units to evaluate available equipment & workforce requirements in order to align with national surveillance requirements
- Evidence-based demand should determine the capacity required
- Any gap between required & available capacity must be quantified, escalated & jointly addressed by ultrasound, obstetric, operational and commissioning leads

*My very grateful thanks to BMUS' splendid White Paper Team:*

Chris Honor
Donna Holdcroft
Pam Parker
Ruth Reeve
&
Umber Agarwal

*for their valuable encouragement, help & support*
*(not to mention superior adding up abilities)*
*in putting this presentation together*

Thank you for your attention

&

your kind invitation