MIND THE GAP

An Investigation into Maternity Training for Frontline Professionals Across the UK

2020/21

BABY LIFELINE
The Mother and Baby Charity

Baby Lifeline

November 2021

About Baby Lifeline

Baby Lifeline is a unique national charity that works to give every mother, birthing person, and baby the safest and best care possible. It does this by supporting and working with NHS professionals – buying equipment, developing and providing critical training, and conducting research.

The goal of the charity is to give every mother and baby the best outcome possible, driven by the personal loss of Founder Judy Ledger's first three premature babies in 1981. Baby Lifeline is celebrating its 40th anniversary this year, and is more motivated than ever to work tirelessly towards achieving the national ambition of reducing stillbirths, neonatal and maternal deaths, and brain injuries in babies that occur during or soon after birth by 50 per cent by 2025.

Funding Information – *Mind the Gap*

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Foreword – Honorary President

Maternity services are facing a difficult set of circumstances. The Covid pandemic has placed unprecedented demands on healthcare everywhere, and has led to increased staff sickness absence and departures. At the same time, ambitious targets to improve outcomes for babies and mothers remain to be achieved. The move to more personalised maternity care, with continuity of carer, brings the need to adapt to different working patterns. Meanwhile, high profile maternity unit failures have continued to occur, extremely harmful to those affected, and damaging confidence generally.

Providing high quality care always requires significant commitment to training, and this is more important than ever in view of the challenges. Yet difficult circumstances themselves bring competing priorities for time and resources, and increase the pressure on staff. The need for effective training is greater, but it is harder to sustain the necessary commitment.

This Baby Lifeline report is, therefore, particularly timely. The findings, derived from questionnaire responses from 124 of the UK's 150 maternity units, are salutary. The pandemic has created barriers that have decreased the amount of training. Only a minority of maternity services provided all of the training identified to reduce avoidable harm and death. Gaps were evident in how training is planned and delivered to benefit local populations and reduce inequalities in outcomes. Investment is required in the maternity workforce to improve the response to safety incidents.

There are significant opportunities for maternity services in the immediate future. It is vital that the gaps set out in this report are addressed in grasping these opportunities, to improve the outcome of care for all, to reduce inequality, and to prevent future serious failures.

Dr Bill Kirkup CBE
Honorary President, Baby Lifeline
Chair, Independent Investigation into East Kent Maternity Services

Foreword – Honorary President

Underpinning the provision of safety in maternity services is the need to ensure that all women receive high-quality and safe care throughout their pregnancy and postnatal pathway. Women are at their most vulnerable during childbirth and supporting mothers to achieve a positive and safe childbirth and postnatal period is central to the care maternity services provide. However, we know that some mothers and their babies do not always receive the safe care they deserve.

Maternity services across England are facing significant challenges and these challenges have increased during the COVID-19 pandemic. This means that mothers and their babies are not always receiving the support they need throughout their pregnancy pathway.

Earlier in 2021, NHS England and Improvement committed to invest £95 million for increasing the maternity workforce, training and development programmes; as well as strengthening surveillance to identify issues earlier. Whilst this is a major stride in the right direction, the COVID-19 pandemic has clearly exacerbated already existing pressures within maternity services and inequalities in health and wellbeing; so even with this significant and welcome commitment from the NHS, more funding and support for training still needs to be implemented. This is essential to both keep mothers and their babies safe and to support Trusts to learn the lessons and share that learning when things do go wrong. Families tell us how important it is to them to receive safe maternity care and when things do go wrong to ensure meaningful, sustained, system wide learning occurs.

We are currently facing unprecedented challenges within the NHS as a whole, and this alongside both the scale and speed of change needed to transform maternity services is also giving rise to additional pressure. The attrition and retention of midwives and other members of the multi-professional maternity team has been a continual theme for many years. Poor or limited access to good quality multi-professional training provision during a career across maternity services can only exacerbate the workforce issues that NHS maternity services are facing. Shared learning, which is properly funded, is vital to ensuring that we can continue to retain and upskill all maternity staff across the country.

This report seeks to highlight the key issues around training in maternity services, evidencing the urgency of improvement needed. You will be able to gain an understanding of how investigations into avoidable harm to mothers and babies in maternity services in NHS Trusts around the country have uncovered lessons which need to be learnt; as well as how other events in maternity services impact on the need to transform training programmes and provision in all maternity services.

Donna Ockenden FRSA
Honorary President, Baby Lifeline
Chair of the Review of Maternity Services at Shrewsbury and Telford Hospital NHS Trust

Foreword – Baby Lifeline's Family Voices Group

The Baby Lifeline Family Voices Group recognise the extraordinary efforts of staff in the maternity services during the COVID-19 pandemic. While other NHS services can be paused, maternity services cannot and, as the pandemic has continued, more pregnant women have become seriously ill with Covid. The challenges cannot be understated.

It is encouraging to see that, while COVID-19 has had a significant impact limiting training, there has remained a commitment to training provision, especially for specific clinical skills training relating to COVID-19, emergency skills and drills, Newborn Life Support and adult/maternal life support.

However, the Mind the Gap report reveals how the pressures faced managing staffing have necessitated a reactive, limited approach to training. While almost 9 out of 10 providers included 'COVID-19 positive emergency' in their emergency skills & drills training, over one-third of service providers did not provide tailored training to staff who were redeployed to an area within maternity that differed to their usual role.

Patient safety depends on both adequate staffing and continuous training. It is only with enough staff that training can happen. However, patient safety is not only about patients; it also involves the clinical staff experience of delivering care. When two-thirds of midwifery staff indicate they are not happy with the standard of care they can provide, it follows that dissatisfaction will have consequences for staff retention. We cannot afford to lose maternity staff. As the authors comment, 'It should not be optional for the NHS to provide professionals with the resources and tools to feel safe and valued in their jobs, and to give the best care to women, birthing people and their babies.'

The Baby Lifeline Family Voices Group particularly note the report highlighting the rarity of training aimed at achieving equity and equality in healthcare. Fewer than 3 in 4 organisations consider their local population needs when deciding training priorities, just 1 in 5 include scenarios involving women whose first language is not English in their emergency skills & drills training, and fewer than 1 in 3 include identification of clinical signs in Black and Brown skin in their emergency skills & drills training. With the stark evidence from MBRRACE-UK of worse outcomes for mothers and babies from the most deprived areas, and from Black, Asian and mixed ethnic groups, and with these trends being exacerbated during the pandemic, the scarcity of relevant training is of great concern. Addressing training to the needs of the most vulnerable represents a tremendous opportunity to make a positive difference.

The Family Voices Group welcome this report and are proud of Baby Lifeline's continued work lobbying for increased support for the maternity frontline.

Everyone wants safe maternity care.

The Baby Lifeline Family Voices Group

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Sandra Igwe
Laura Middleton
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BABY LIFELINE
The Mother and Baby Charity

EXECUTIVE SUMMARY

Mind the Gap 2021 explores what training looked like for the maternity services workforce during the COVID-19 pandemic, and how this relates to the factors that contribute to the avoidable harm and deaths of mothers, birthing people, and their babies. It is an ongoing piece of research by the charity Baby Lifeline. The report directly surveys recommendations from reports investigating avoidable harm and takes into account wider events affecting maternity care.

Training is a central recommendation for improving safety in maternity services. Gaps which already existed in training due to chronic underfunding and staff shortages have become worse, and this report will give recommendations to improve training nationally and locally at a critical time for maternity.

Survey Findings

Report Recommendations

1. URGENT SUPPORT IS NEEDED TO RETAIN SKILLED PROFESSIONALS IN MATERNITY

Staffing, venues, and sufficient resources remain a significant barrier to providing and attending training on the frontline.

Baby Lifeline's previous Mind the Gap report in 2018 demonstrated the need for urgent action to fill detrimental gaps in training to improve care and to retain skilled professionals. It should not be optional for the NHS to provide professionals with the resources and tools to give safe care and feel valued in their jobs. It was clear from survey responses that there is an appetite for change in maternity and a frustration that more could not be done due to fundamental systemic barriers.

The COVID-19 pandemic has put increased pressure on already fragile and depleted maternity services. It looks to get worse, with reports from the Royal College of Midwives that half of surveyed midwives will leave the NHS in the next year - the majority stressing that they are not satisfied with the quality of care they are able to give. Even before the pandemic, the Royal College of Obstetricians and Gynaecologists reported that most units had detrimental staffing gaps, and around a third of doctors training to be obstetricians were leaving.

There needs to be a significant increase in funding to allow professionals to develop and maintain skills and retain staff within maternity. This funding needs to properly support the expansion of the maternity workforce, attendance and backfill on professional development training, suitable IT facilities and equipment, and venues.

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2. THE PANDEMIC HAS CREATED MORE BARRIERS, AND TRAINING HAS SUFFERED

Training provision has decreased from 2017/18, and there are more barriers to providing and attending training. The biggest barrier identified was the COVID-19 pandemic.

Methods of training have changed dramatically during the COVID-19 pandemic, with less opportunity for interaction with training facilitators and between professional groups.

Despite exceptional efforts by practice development teams, training nationally has suffered in the last year. Teams adapted by putting training online, but the amount of interactive team-training suffered as a result. Almost all maternity services (97%) identified barriers to providing training to the workforce. There was an increase in barriers identified overall from 2017/18, with venue availability and restrictions becoming more of an obstacle, and inadequate and insufficient IT systems inhibiting attendance. Staffing remains a significant barrier to providing and attending training.

As maternity services move toward a more blended approach of online and face-to-face training, it is important that training is developed to facilitate discussions and interactive learning, especially in a multi-professional environment.

3. TRAINING RELATING TO AVOIDABLE DEATHS AND HARM WAS PATCHY

Training elements of national initiatives to improve safety and save lives were not widely implemented. There were significant gaps identified in the provision of training elements within guidance, such as the Saving Babies' Lives Care Bundle and the Maternity Incentive Scheme.

Although there was an increase in the provision of training recommended by the Saving Babies' Lives Care Bundle, fewer than one quarter of maternity services provided all of the training elements outlined by the bundle. Similarly, two thirds of NHS Trusts in England provided training on all of the general topics relating to the safety actions within the Maternity Incentive Scheme, but only three Trusts provided training on the detailed aspects of safety training as specified within the guidance. National guidance like the Core Competency Framework is an opportunity to support practice development teams to prioritise and standardise life-saving training.

To support the level of demand on maternity services to implement quality and safety improvement initiatives, maternity services need to be properly staffed and resources for training should be prioritised. The current workforce does not have the infrastructure to support what is expected of them.

There should be a nationally agreed specification of ongoing training competencies for all staff, founded on evidence-based best practice, themes in avoidable harm, and clinical data. Compliance with training competencies should be externally validated regionally or by a national body, and actions taken to support any barriers identified.

4. THE NEEDS OF THE LOCAL POPULATION MUST BE CONSIDERED WITHIN TRAINING TO TACKLE INEQUITY AND INEQUALITY

There are training gaps for risk factors that influence health inequalities, and local population needs were not considered by 1 in 4 organisations when determining training priorities.

The COVID-19 pandemic has amplified pressure on the need to address health inequalities, and the newest reports looking at babies and mothers who died found that risks increased due to deprivation, maternal age, ethnicity, language, co-morbidities, and disability. Trusts need to understand their local population needs, and so it was discouraging that 1 in 4 trusts did not consider the needs of the local population when deciding training priorities. In addition, there were significant gaps in training for clinical signs on darker skin in an emergency, social complexities, communication, and cultural awareness.

Maternity services should use local population data to determine clinical and social risk factors and determinants of health, which should then guide their training priorities. Evidence-based training should be co-produced with family voices groups, both local and national to keep service users at the heart of improving the care.

5. DATA COLLECTED AND STORED ON MATERNITY TRAINING VARIES

Information provided by organisations regarding training was not consistent in its detail, and many organisations could not give us information on budgets for training. The time taken to complete the survey varied widely, with some accessing information more easily than others.

There were varying degrees of detail and gaps in information across all sections of the training survey, with responses on training budgets not being provided by one third of organisations and inconsistent information provided by most. The survey took some organisations less than 3 hours, but other organisations stated that it took them over 16 hours. The wide range in time it took for organisations to complete the survey, and variance in the quality of information provided, show the lack of a standard process to collect and store data on training happening on the maternity frontline. If we wish to measure the impact of quality improvement initiatives nationally, there need to be meaningful data on what training looks like.

There should be a nationally agreed method of monitoring training, and an auditing system developed to support professionals on the frontline to collect and utilise the data easily. This is particularly important if the training relates to national safety initiatives designed to save lives and reduce harm, and will enable a meaningful analysis of the impact of certain initiatives.

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Abbreviations and Glossary

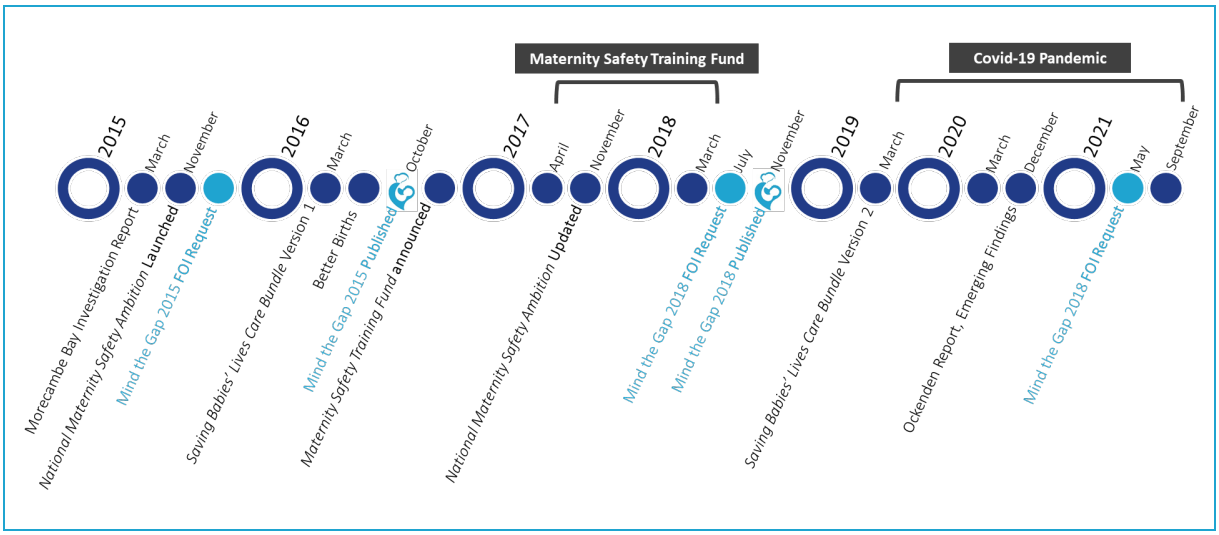
AHP	Allied Health Professional
AIMS	Association for Improvements in the Maternity Services
ANNP	Advanced Neonatal Nurse Practitioner
BLL	Baby Lifeline
BMI	Body Mass Index
CCG	Clinical Commissioning Group
CNST	Clinical Negligence Scheme for Trusts
CO	Carbon Monoxide
CPD	Continuing Professional Development
CQC	Care Quality Commission
CTG	Cardiotocography
DHSC	Department for Health and Social Care
ESMiE	Enhancing the Safety of Midwifery-Led Birth Enquiry
FGR	Fetal Growth Restriction
FOI	Freedom of Information
GBS	Group B Streptococcus
GMC	General Medical Council
HSIB	Health Safety Investigation Branch
IA	Intermittent Auscultation
LGA	Large for Gestational Age
MBRRACE-UK	Mothers & Babies: Reducing Risk through Audits and Confidential Enquiries across the UK
MIS	Maternity Incentive Scheme
MEOWS	Modified Early Obstetric Warning Score
MSW	Maternity Support Worker
NHS	National Health Service
NHSE	NHS England
NHSR	NHS Resolution
NMPA	National Maternity & Perinatal Audit
NICE	National Institute for Health and Care Excellence
NICU	Neonatal Intensive Care Unit
NLS	Newborn Life Support
OASI	Obstetric Anal Sphincter Injury
ODP	Operating Department Practitioner
ONS	Office for National Statistics
PPE	Personal Protective Equipment
RCoA	Royal College of Anaesthetists
RCM	Royal College of Midwives
RCOG	Royal College of Obstetricians and Gynaecologists
RFM	Reduced Fetal Movement
SBAR	Situation, Background, Assessment, Recommendation (communication tool)
SBLCB	Saving Babies' Lives Care Bundle
SFH	Symphysis Fundal Height
SGA	Small for Gestational Age
UKOSS	UK Obstetric Surveillance System

Introduction

This report will explore what training looked like for the maternity services workforce during the COVID-19 pandemic, and how this relates to the factors that contribute to the avoidable harm and deaths of mothers, birthing people, and their babies.

Mind the Gap is an ongoing piece of research by the charity Baby Lifeline. This report outlines the findings of the project's third cycle of work since the first report was published in 2016. Methodology and aims have evolved with each cycle and grown in scope to try to gain a more accurate picture of training. The report responds directly to recommendations from reports into avoidable harm, and takes into account wider events affecting maternity care.

The *Mind the Gap* project: A Timeline



Mind the Gap 2015

Baby Lifeline's first Mind the Gap report, *Mind the Gap: An Investigation into the Training Gap Between NHS Trusts in the UK* [1] was published in 2016 in collaboration with researchers at the University of Hull.

There were challenges during input and analysis due to the degree of variability in detail and quality of responses, but the report was able to demonstrate inconsistencies in the provision and quality of maternity staff training across England.

Mind the Gap 2017/18

The second Mind the Gap report [2] widened in scope from England alone to all providers of NHS maternity services in the UK (n= 157). The survey was also adapted, and closed questions allowed for more robust reporting.

Baby Lifeline received 140 responses (89% response rate) via email and Survey Monkey. Although we were able to highlight examples of excellence, an overarching finding was that 'there is still little/no standardisation in the way maternity training is prioritised, provided, funded, assessed or attended across the UK.'

Mind the Gap 2020/21

The most recent Freedom of Information (FOI) request asked organisations to provide training data relating to the financial year 2020/21. The request was initially delayed to avoid putting extra pressure on NHS maternity services during the first wave of the COVID-19 pandemic. It was sent to all providers of NHS maternity services in the UK (n=150) on 6 May 2021. The last responses were accepted for inclusion on 26 July 2021.

Why audit training for frontline maternity professionals?

Improving care would save the lives of mothers and babies

According to recent perinatal reports, three out of four babies surveyed who died or were brain injured could have had a different outcome with different care [3] [4]. Training is a central recommendation for improving safety in maternity services in most reports investigating avoidable harm in maternity and the deaths of mothers and babies. Baby Lifeline's previous report found detrimental gaps in maternity training when compared to themes in avoidable harm [2].

The National Ambition to halve rates of stillbirths, neonatal deaths, maternal deaths and brain injuries that occur during or shortly after birth by 2025 was introduced in 2016. From that commitment, safety initiatives were development and implemented on the frontline. The latest perinatal surveillance report stated that between 2013 and 2019, the number of babies that were stillborn or died in the first few weeks of life decreased by 18% [5]. Over two fifths of that reduction has happened since 2017. This shows the value of the work being undertaken nationally, and shows that proper implementation of best-practice, evidence-based guidance should be prioritised.

Staff retention

The COVID-19 pandemic has increased pressure on already fragile and depleted maternity services. This looks likely to get worse; the Royal College of Midwives revealed in October 2021 that over half of midwives have said that they would leave the NHS in the next year [6]. Two-thirds of those who have left or intend to leave said that they were not satisfied with the quality of care they were able to give. Even before the pandemic, the Royal College of Obstetricians and Gynaecologists reported that most units had detrimental staffing gaps and around a third of doctors training to be obstetricians were leaving.

Baby Lifeline has been lobbying for increased support for the maternity frontline, both to increase staffing levels and, crucially, to retain those professionals already in place. The NHS should provide professionals with the resources and tools to feel safe and valued in their jobs, and to give the best care to women, birthing people and their babies. This should not be optional.

Research questions for the 2020/21 report

- What does national training look like for maternity professionals?
- Are there any gaps within that training which relate to avoidable harm?
- Are there any barriers to providing or attending training?
- How do the data from this report compare with findings from 2017/18?

METHODOLOGY

The Freedom of Information request

The Freedom of Information request sent to organisations consisted of a detailed survey based on the one sent to organisations in 2017/18. Modifications were made to reflect current challenges (including the COVID-19 pandemic) and updates to national guidance and reports. Baby Lifeline's Multi Professional Advisory Panel carried out a multi-professional review of the survey. A copy of the FOI can be downloaded via the Baby Lifeline website.

Responses to the request

Most organisations sent a response to the 2021 request (83%, n=124). Twenty-six organisations provided no response. In total 127 responses were received as organisations that had recently merged answered separately: 13 responses were received via Survey Monkey and 114 responses via email as PDF or Word documents. These were inputted to Survey Monkey manually by the research team; ambiguous responses were recorded as 'unclear.'

Refusals

The Freedom of Information Act 2000 gives the public the right to access information held by public bodies such as NHS providers. Public organisations are legally obliged to provide information requested under the act unless one of a predefined set of exemptions applies [7] – for example if an organisation estimates that the time needed to respond to the request would be greater than 18 hours. Though the majority of the organisations that refused to submit a response to Baby Lifeline did so on this basis, the average time taken for respondents to complete the FOI was around 5 hours (see below).

Analysis

Data were coded using Microsoft Excel and collated into a master database for analysis. Any exclusions or specific analysis notes are detailed in the relevant sections of this report. The Mind the Gap appendix document, which can be downloaded from the Baby Lifeline website, lists the responses from all organisations to survey questions relating to topic and sub-topic provision.

DATA QUALITY

Survey findings

- There is significant variation in how Freedom of Information requests are processed and responded to by NHS organisations.
- There appears to be significant variation in the accessibility of information held by NHS organisations relating to maternity services staff training and the format in which this is held.
- Midwives were most likely to respond to the FOI request regarding maternity staff training.

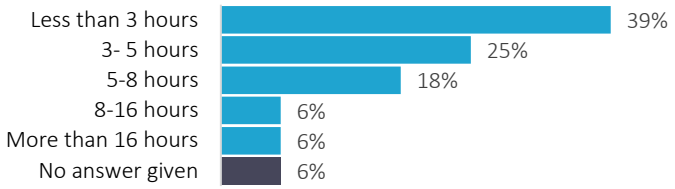
Report recommendations

- There should be a nationally agreed method of monitoring training, and an auditing system developed to support professionals on the frontline to collect and utilise the data easily. This is particularly important if the training relates to national safety initiatives designed to save lives and reduce harm, and will enable a meaningful analysis of the impact of certain initiatives.

Time taken to compile a response to the FOI

There was a significant degree of variability in time taken by providers to complete their survey response. The majority of providers (63%, n=80) stated that their response took no more than five hours to compile. Eight providers, however, stated that their response took in excess of 16 hours – three times longer than average (Graph 1).

Graph 1: Time to compile the response to the Baby Lifeline request, as reported by providers (% of responses)



Number of individuals involved in responses

Organisations were asked to list the roles of all individuals who contributed to the response. Almost two in five responses were answered by a single individual, though the request contained questions which may require input from individuals based in different NHS departments (such as training budgets, delivery of training, and time allocated for CPD for different professional groups).

Professionals involved

Almost half of responses (47%) were completed by a single midwife or group of midwives, and 115 responses indicated that a midwife was part of the response team. Input from obstetricians was included in 21% of responses (n=27). Seventeen responses mentioned input from the accountants, finance or business management teams. Only six responses included anaesthetic input.

This lack of multi-professional input may have impacted on respondents' ability to complete all questions, as one qualitative response from the survey suggests:

> "I have only been able to provide answers specific to midwifery care. I cannot comment on specific obstetrician/anaesthetist training."

Providers with different facilities and workforce

All organisations were included in all analyses unless otherwise stated.

Some organisations surveyed provide midwife-led services only and thus did not employ obstetricians. Parts of the FOI request, such as questions relating to training attendance for certain professional groups, were not applicable for these organisations.

> "We are a community midwifery service providing antenatal and postnatal care in the community. We are not an acute unit and do not have a labour ward... Questions unanswered are not applicable to the trust."

Organisations that provided small or rural services but did offer some obstetric care were included in all analyses unless otherwise stated. A small minority of providers (around two) reported that, although they employ obstetricians, the service did not employ junior doctors or speciality obstetric anaesthetists. This impacted on

responses to questions around multi-professional attendance at training and CPD budgets. N/A options were thus added to the survey where relevant.

> "We're a remote and rural hospital so women have to be really low risk to deliver here... We rarely do forceps and don't do assisted deliveries."

Completeness and quality of information received

Incomplete responses

Almost all responses had at least some minor questions which remained unanswered. Some providers submitted responses which were significantly incomplete, missing several main questions or missing topic questions entirely.

Questions most often missed by providers were those relating to amount of study leave available to junior and senior doctors, and those relating to the amount spent on training.

Conflicting information

Sometimes, responders provided conflicting information. When this occurred during manual inputting, the research team recorded the answer as 'unclear,' or selected the closest true answer. A common example of this occurred where providers ticked both 'provided mandatory' and 'provided not mandatory' when asked about topic provision.

TRAINING: THE NATIONAL PICTURE

This section will give a picture of how training for maternity staff was prioritised, organised, delivered, attended and funded at NHS organisations in the financial year 2020/21. The barriers to providing and attending training will also be explored, with a focus on the impact of the COVID-19 pandemic.

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Training: The National Picture

DECIDING TRAINING PRIORITIES

Survey findings

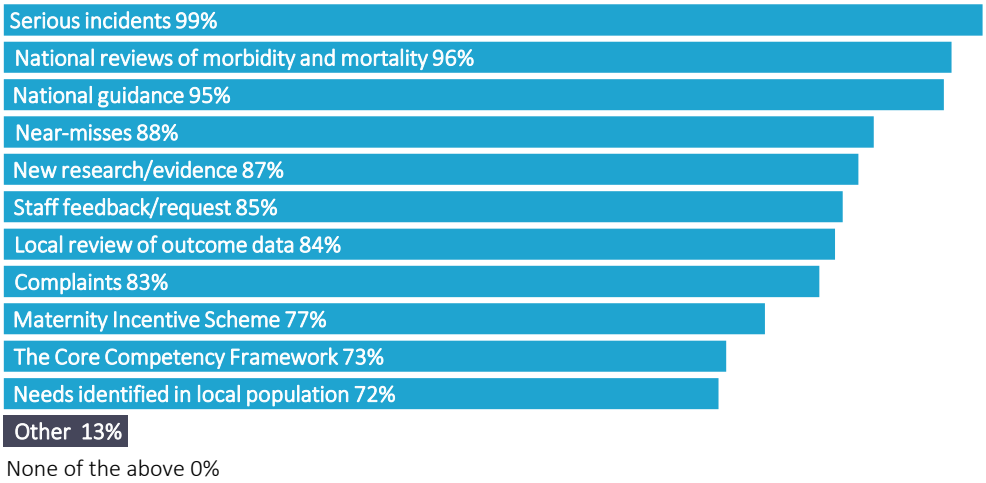
- Many information sources were considered, but the needs of the local population were considered least often.

Report recommendations

- Training to improve safety and care should consider all risk factors for women and birthing people and be universal across all regions with an increase in certain training based on local population needs.
- All relevant training should be planned by a multi-professional group.

Many information sources considered, but needs of local population considered least often

Graph 2: What information is considered when deciding training priorities/Training Needs Analyses for maternity services within your organisation?



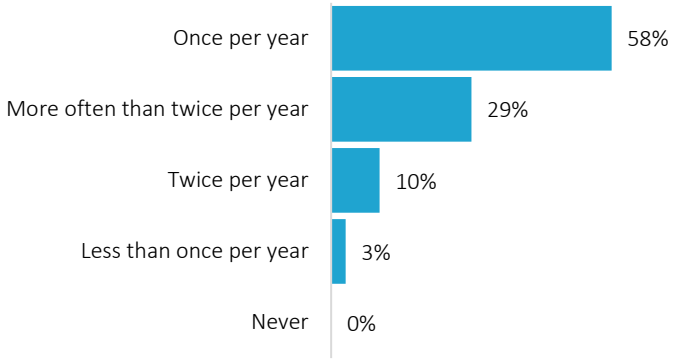
Responses indicate that most maternity service providers consider a lot of information when deciding training priorities, and that these information sources were both local and national (Graph 2). The most-considered information was serious incidents (99%) followed by national reviews of morbidity and mortality (96%) and national guidance (95%). More than one in four providers did not consider the needs identified by their local population when deciding their training needs.

When asked to specify any other factors considered relevant for deciding training priorities, respondents included 'CQC recommendations' and 'the pandemic.'

Training priorities mostly considered annually or more often

More than half of providers assessed their training priorities on an annual basis, though many providers reassessed more frequently (Graph 3). Very few stated that they reviewed their training priorities less than once a year (3%, n=4).

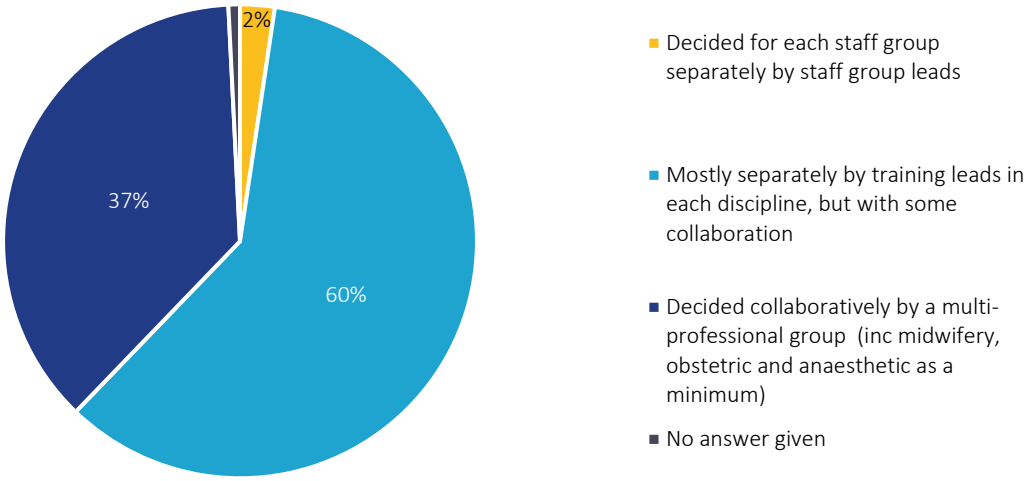
Graph 3: How often are training priorities reviewed and updated for your maternity service?



Training needs mostly decided collaboratively within a multi-professional team

Most providers specified that they decided training priorities completely collaboratively with other disciplines (37%) or with some collaboration on specific topics or aspects (60%). Very few providers stated that they decided training needs in separate staff groups (2%, n=3).

Graph 4: How do maternity services providers prioritise staff training?



Training: The National Picture

TOPICS

Survey findings

- Training in topics related to national recommendations and incentives are most likely to be provided consistently to maternity staff, but training in other topics does not appear to correlate with trends in maternal and perinatal mortality.
- Overall, training topics were provided less often in 2020/21 than in 2017/18.
- As in 2017/18, training was considered mandatory for midwives more often than all other staff groups.

Report recommendations

- Organisations should be supported to continue providing training to maternity staff, even during periods of difficulty.
- There should be a nationally agreed specification of ongoing training competencies for all staff, founded on evidence-based best practice, themes in avoidable harm, and clinical data. Compliance with training competencies should be externally validated regionally or by a national body, and actions taken to support any barriers identified.

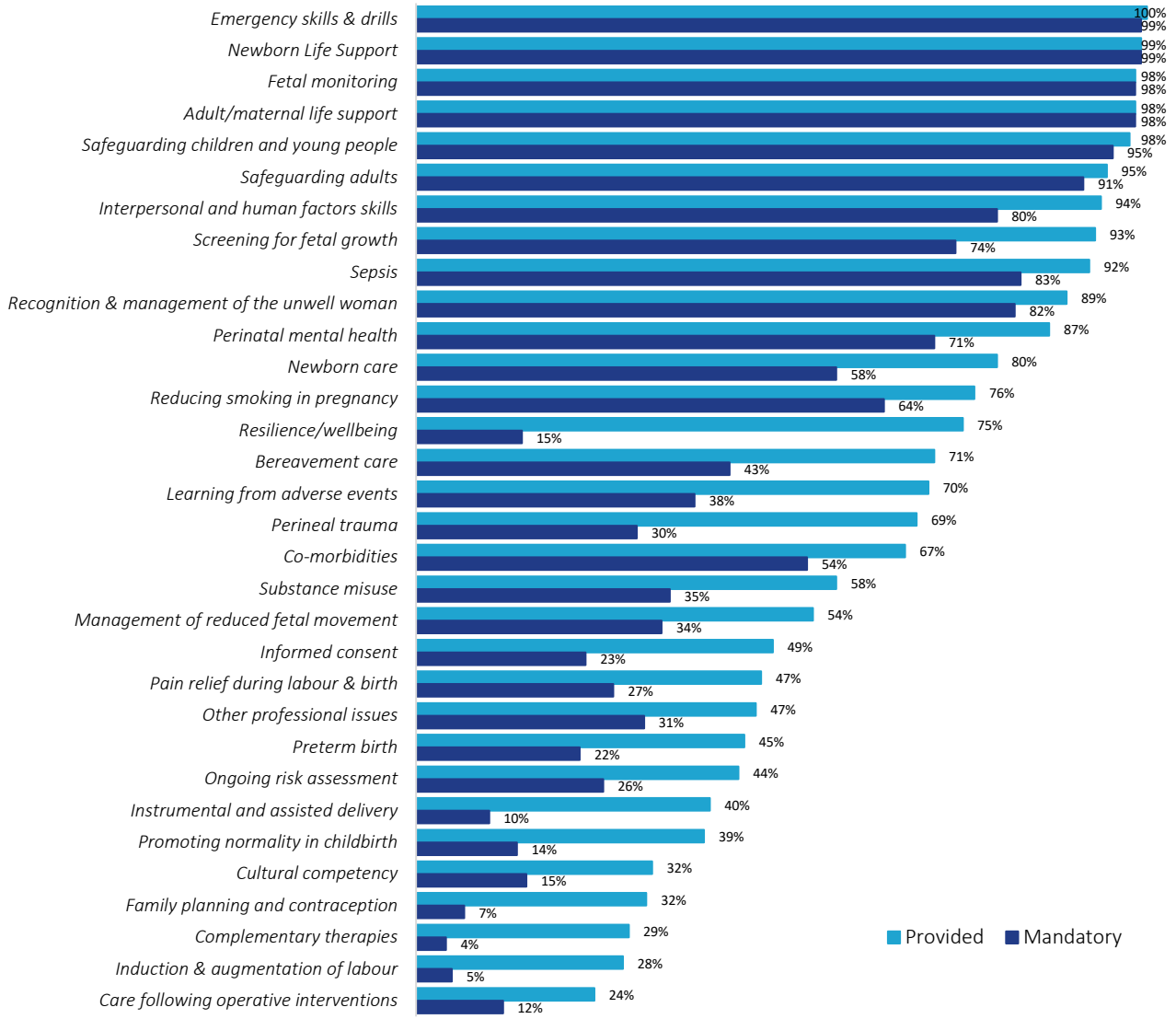
Training topic provision

The training topics investigated by the Baby Lifeline survey are shown in Graph 5. This graph displays the percentage of respondents that indicated:

a. That training in each topic is provided for some or all maternity staff at their organisation
b. That training in each topic was considered mandatory for some or all maternity staff at their organisation.

The topics are listed in order of the percentage of organisations that provided the training to staff at NHS organisations.

Graph 5: How many organisations offered training in each topic to maternity staff?



Topics provided most and least often

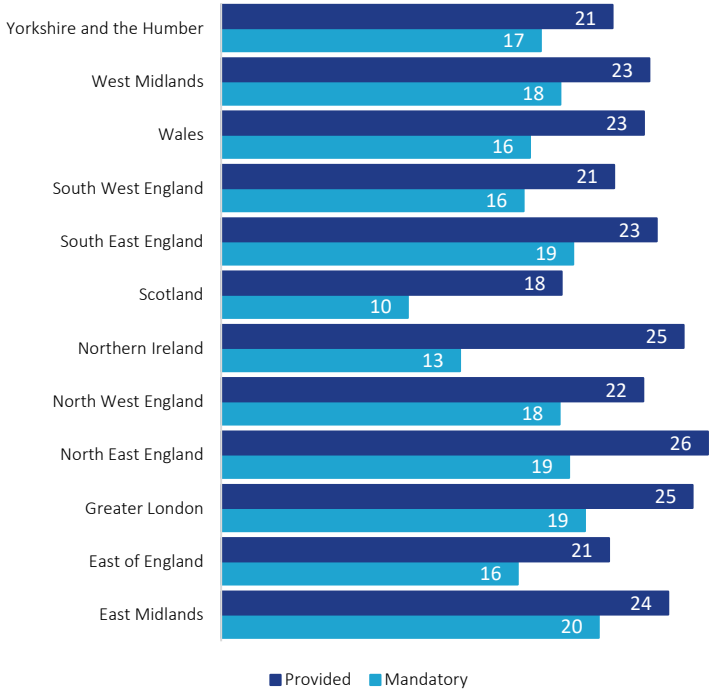
The most provided topics were *Emergency skills & drills, Newborn Life Support*, *Fetal monitoring* and *Adult/maternal life support*. Training in *Care of women following operative interventions* and *Induction and augmentation of labour* were the least provided topics surveyed.

Training in *Preterm birth* was provided in less than half of organisations and considered mandatory by only 22% of providers, even though the importance of predicting and preventing preterm birth – the single more important determinant of adverse infant outcome – is an element of the Saving Babies' Lives Care Bundle, version 2 [8] and has been highlighted by MBRRACE-UK [9].

The survey asked respondents to indicate whether staff qualified in examination of the newborn (NIPE) were required to attend refresher training. Eighty per cent reported that this training was mandatory whilst two trusts did not answer this question.

Topics by region

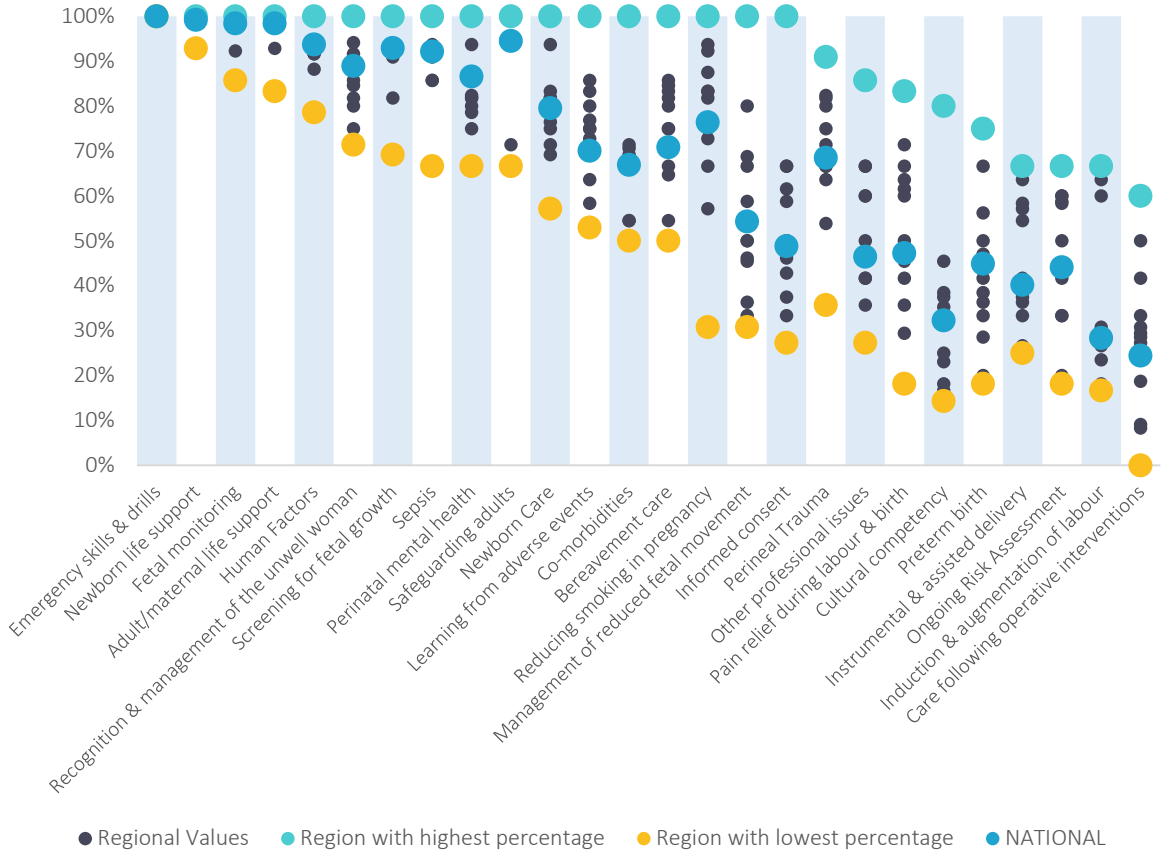
Graph 6: Average number of training topics offered to maternity staff in each UK region



Organisations in the North East of England, London and Northern Ireland offered the largest range of topics to maternity staff, whilst organisations in Scotland provided the lowest average number of training topics (Graph 6). The regions that considered the fewest topics to be mandatory were Scotland and Northern Ireland.

Variation in tropic provision across the UK

Graph 7: Regional variability in training topic provision



Training topic provision and topic prioritisation was not consistent across the UK. Many topics were provided by surprisingly few organisations in some regions, even when there was a relatively high percentage of organisations providing that topic nationally. Graph 7 shows the variability in training topics offered to staff across regions.

Topic provision with the greatest variation

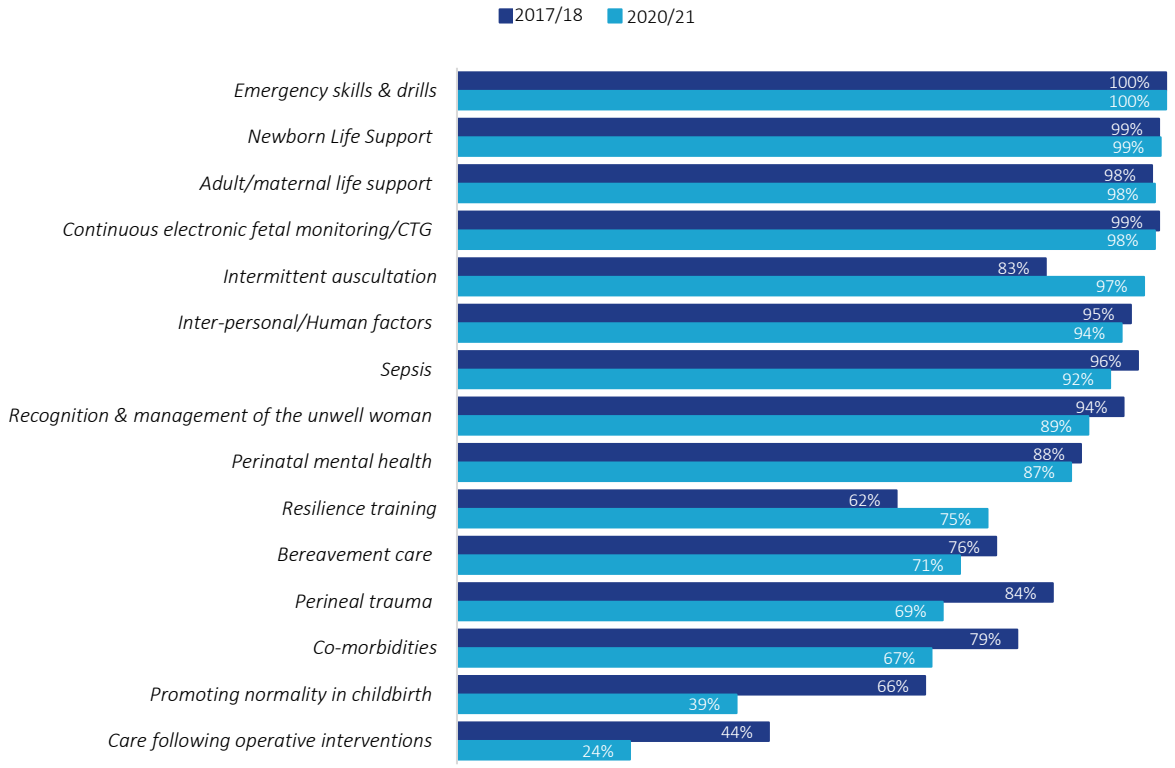
The greatest variation in topic provision across regions was in *Reducing smoking in pregnancy*, *Management of reduced fetal movement*, *Informed consent*, *Pain relief during labour & birth* and *Cultural competency.* For example, whilst training in *Reducing smoking in pregnancy* was provided by three quarters (76%) of organisations nationally on average, one region provided training in this topic in fewer than one third of organisations (31%). Similarly, *Care of women following operative interventions* was provided nationally by one quarter (24%) of organisations but was not offered by any providers in Scotland.

How has topic provision changed since 2017/18?

Overall, topic provision decreased in 2020/21 when compared with the 2017/18 financial year reported in the last Mind the Gap report (2018) [2]. Nine topics were provided significantly less often whilst only two were provided significantly more often. This may reflect the impact of COVID-19 as organisations faced increased barriers to providing training.

All training topics were nevertheless provided more frequently than in 2015, when the first Mind the Gap report was published [1].

Graph 8: Topic provision in 2017/18 and 2020/21 (in order of most-provided in 2020/21)[1]



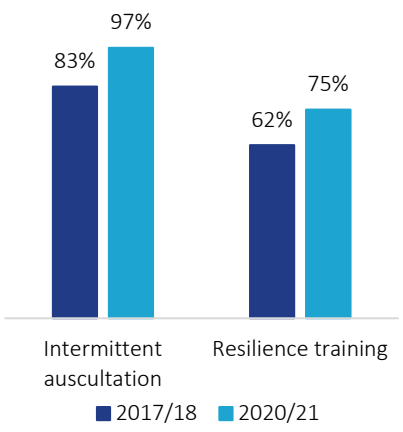
[1] Some of the 32 training topics were new to the 2021 Baby Lifeline survey. This graph displays information relating to training topics covered by all three surveys. In 2020/21 the Baby Lifeline survey asked about training relating to intermittent auscultation and CTG, grouped under the topic *Fetal monitoring*. However, in previous years these topics were surveyed separately and thus appear individually here.

Topics provided consistently in 2017/18 and 2020/21

Though the majority of organisations reported that the COVID-19 pandemic had a significant impact on their training provision, many topics including *Emergency skills and drills, Newborn Life Support* and *Adult/maternal life support* were consistently provided in the 2020-21 financial year and the 2017/18 financial year (Graph 8).

Intermittent auscultation and Resilience training had the biggest increase in provision in 2020/21

Graph 9: Topic provision increase 2017/18-2020/21



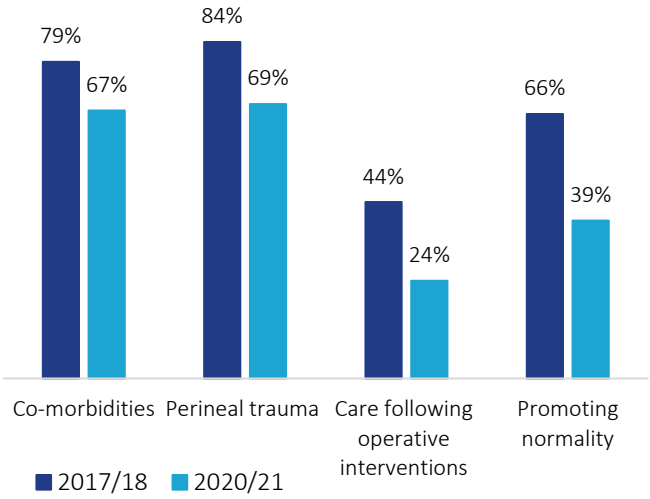
Training in both *Intermittent auscultation* and *Resilience training for healthcare professionals* had the biggest increase in provision across all topics in 2020/21 when compared to 2017/18 (Graph 9). The increase in *Resilience training for healthcare professionals* was expected following the last Maternity Safety Training Fund in 2016 – *Resilience training* was amongst the top training courses chosen by trusts in England [10]. It is encouraging to see that provision of this topic has continued in increase even though the fund is no longer available.

Training in Care of women following operative interventions nearly halved in 2020/21 from 2017/18

Graph 10 shows the topics that were provided significantly less often in the 2020/21 financial year than in 2017/18. Training provision in *Co-morbidities in pregnancy and management of high-risk pregnancies* has fallen significantly since 2017/18 even though co-morbidities such as cardiac disease and obesity are well-known significant causes of maternal death, stillbirth and/or fetal death [11] [12].

Though the RCOG stipulates that operative procedures require specific expertise and training [13] and 29% of deliveries in the period surveyed were elective or emergency caesarean sections [14], the percentage of organisations offering training in *Care of women following operative interventions* has almost halved since the period surveyed in the 2017/18 report.

Graph 10: Biggest decreases in topic provision 2017-2021



Which training topics were mandatory for whom?

Table 1 shows the percentage of organisations that indicated that training topics were mandatory, by individual staff group. There is considerable variation in which staff groups were expected to attend mandatory training across topics.

Table 1: Mandatory training for staff groups by topic 2021

	Midwives	Obstetricians	Obstetric anaesthetists	Maternity support workers	Other maternity allied health professionals
Emergency skills & drills	99%	97%	87%	84%	62%
Adult/maternal life support	98%	93%	80%	90%	67%
Recognition & management of the unwell woman	82%	78%	64%	65%	43%
Interpersonal/human factors skills	80%	77%	60%	64%	45%
Sepsis	82%	75%	58%	63%	39%
Newborn Life Support	97%	54%	30%	52%	30%
Fetal monitoring (CTG)	96%	94%	9%	4%	4%
Co-morbidities	54%	46%	33%	37%	21%
Perinatal mental health	71%	39%	16%	43%	13%
Fetal monitoring (intermittent auscultation)	95%	70%	2%	2%	2%
Reducing smoking in pregnancy	63%	24%	4%	43%	10%
Screening for fetal growth	68%	46%	2%	5%	7%
Newborn care	55%	13%	4%	40%	9%
Learning from adverse events	36%	26%	12%	17%	6%
Bereavement care	41%	12%	0%	25%	1%
Informed consent	19%	20%	13%	14%	9%
Management of reduced fetal movement	32%	28%	2%	3%	0%
Other professional issues	18%	12%	4%	6%	4%
Cultural competency	14%	12%	9%	12%	9%
Perineal trauma	29%	16%	0%	4%	1%
Ongoing risk assessment	9%	8%	3%	2%	1%
Pain relief during labour and birth	26%	9%	7%	2%	0%
Care following operative interventions	12%	8%	7%	7%	6%
Preterm birth	3%	7%	1%	0%	0%
Instrumental & assisted delivery	2%	9%	1%	1%	1%
Induction & augmentation of labour	4%	5%	1%	0%	0%

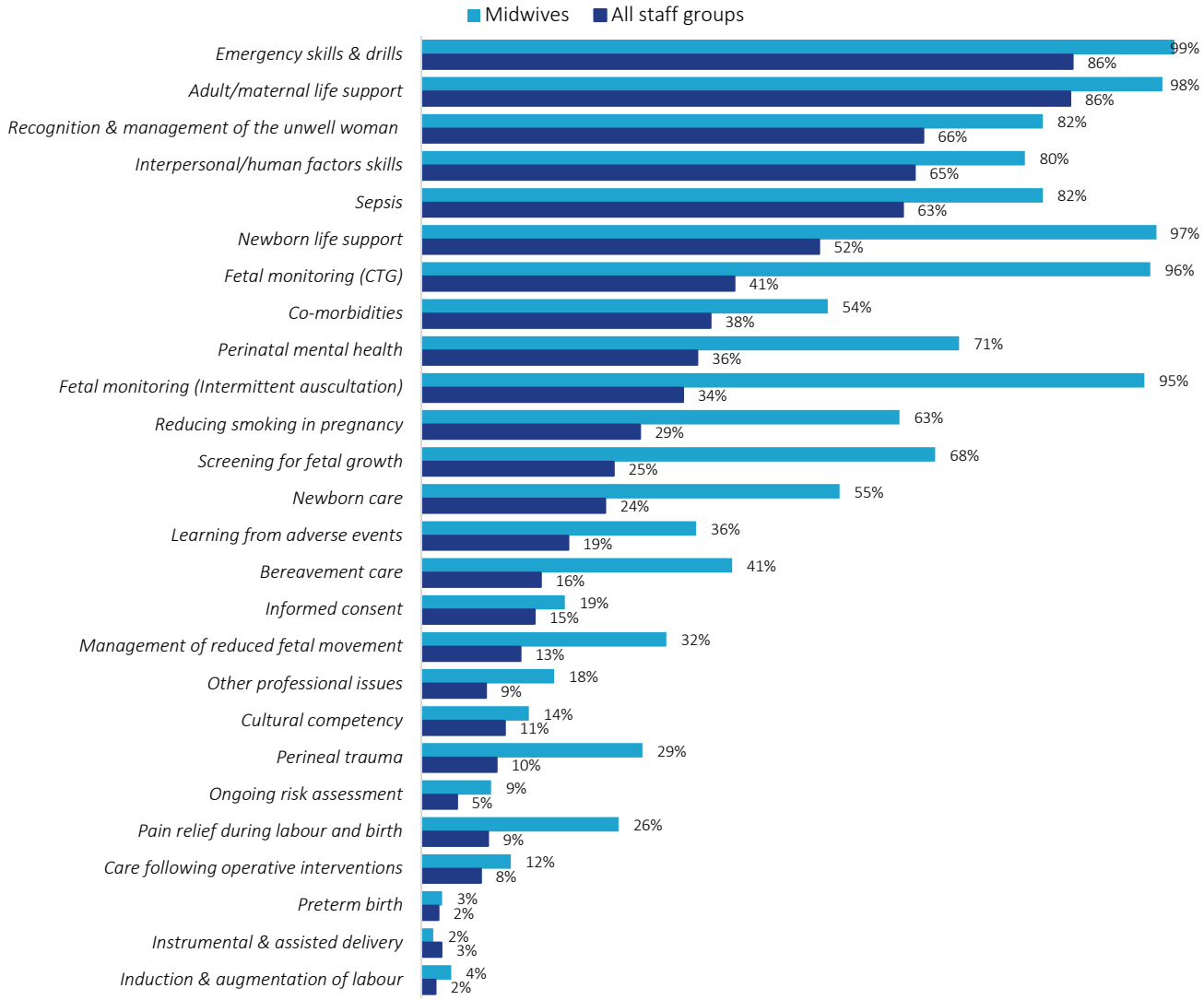
Anaesthetic staff are less likely to be required to attend maternity training

The Baby Lifeline survey results show that anaesthetic staff are less likely to be required to attend mandatory training than other staff groups. Around 60% of women and birthing people require anaesthetic intervention during delivery, and the recent Ockenden Report recommends anaesthetic involvement in multi-professional training [15] [16]. The RCoA recommends specific maternity training for obstetric anaesthetists; for example, annual maternal resuscitation training and emergency skills drills stations [16]. However, obstetric anaesthetists were required to attend training in *Adult/maternal life support* in only four in five (80%) organisations, and *Emergency skills & drills* in 87% of organisations.

The RCoA also recommends that anaesthetists be included in multi-professional team antenatal planning for women with complex needs [16]. Obstetric anaesthetists were required to attend training in *Ongoing antenatal and peripartum risk assessment* in only 5% of organisations.

Midwives are required to attend mandatory training most often

Graph 11: How often was training mandated for midwives compared with average for all staff groups?



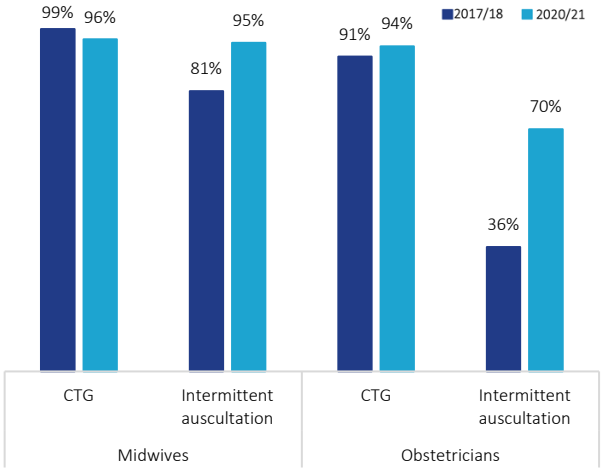
Training was considered mandatory for midwives more often than for other staff groups (Graph 11). This was consistent with 2017/18. Whilst nearly all providers considered training in *Newborn Life Support* to be mandatory for midwives, the average across all staff groups was 52%. A similar picture is seen with *Adult life support*.

How did training change for different staff groups from 2017/2018 to 2020/21?

A comparison of training topics considered mandatory in 2017/18 and 2020/21 (by topic and by staff group) can be found in Appendix V.

Increases in staff training in Intermittent auscultation

Graph 12: How often was training in *Fetal monitoring* (CTG and Intermittent auscultation) considered mandatory for midwives and obstetricians in 2020/21 compared with 2017/18?

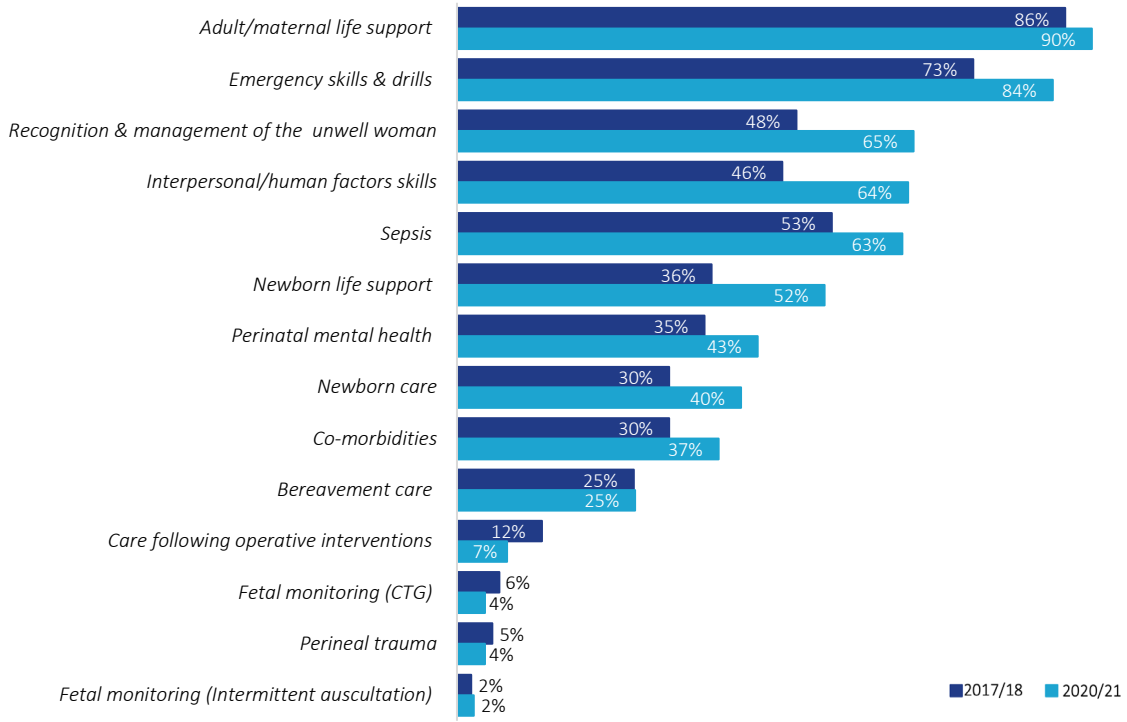


The percentage of organisations that considered training in *Fetal monitoring* (CTG) to be mandatory for midwives decreased slightly when compared with findings from the 2017/18 report (Graph 12). However, there was an increase in the percentage of both midwives and obstetricians required to complete training in *Fetal monitoring – Intermittent auscultation*.

Mandatory training increased for Maternity Support Workers

Training for Maternity Support Workers increased in almost all topics between 2017/18 and 2020/21 (Graph 13).

Graph 13: Mandatory training for Maternity Support Workers 2017/18 compared with 2020/21



'Other' training topics

Respondents were invited to detail any further training provided to maternity staff not already covered by the Baby Lifeline survey. Nearly half of respondents (44%) provided qualitative evidence in this section relating to further training, and/or providing further information about the preceding topics. Other training topics listed by respondents and not covered in the survey included:

- Advanced Labour Ward course
- AIMS: High Dependency
- Antenatal and Newborn Screening update
- Aromatherapy
- Birth trauma
- Blood transfusion
- Breastfeeding
- Cannulation
- Civility
- Conflict resolution
- Continuity of carer
- Data security
- Emergency evacuation of the birthing pool
- Equality, diversity and human rights
- Health and safety
- Home birth and home delivery emergency
- Hypnobirthing
- Infant nutrition
- Infection control
- Leadership training
- Lessons learned from national guidance
- Morbidity and mortality training
- Motivational interviewing
- Moving and handling
- Nasogastral tube feeding
- Newborn non-invasive prenatal screening
- PPE: donning and doffing
- Pressure ulcer prevention
- Preventing radicalisation
- Professional Midwifery Advocacy (PMA)
- Research training
- SBAR and handover
- Social Services
- Student supervision, assessment and preceptorship

Training: The National Picture

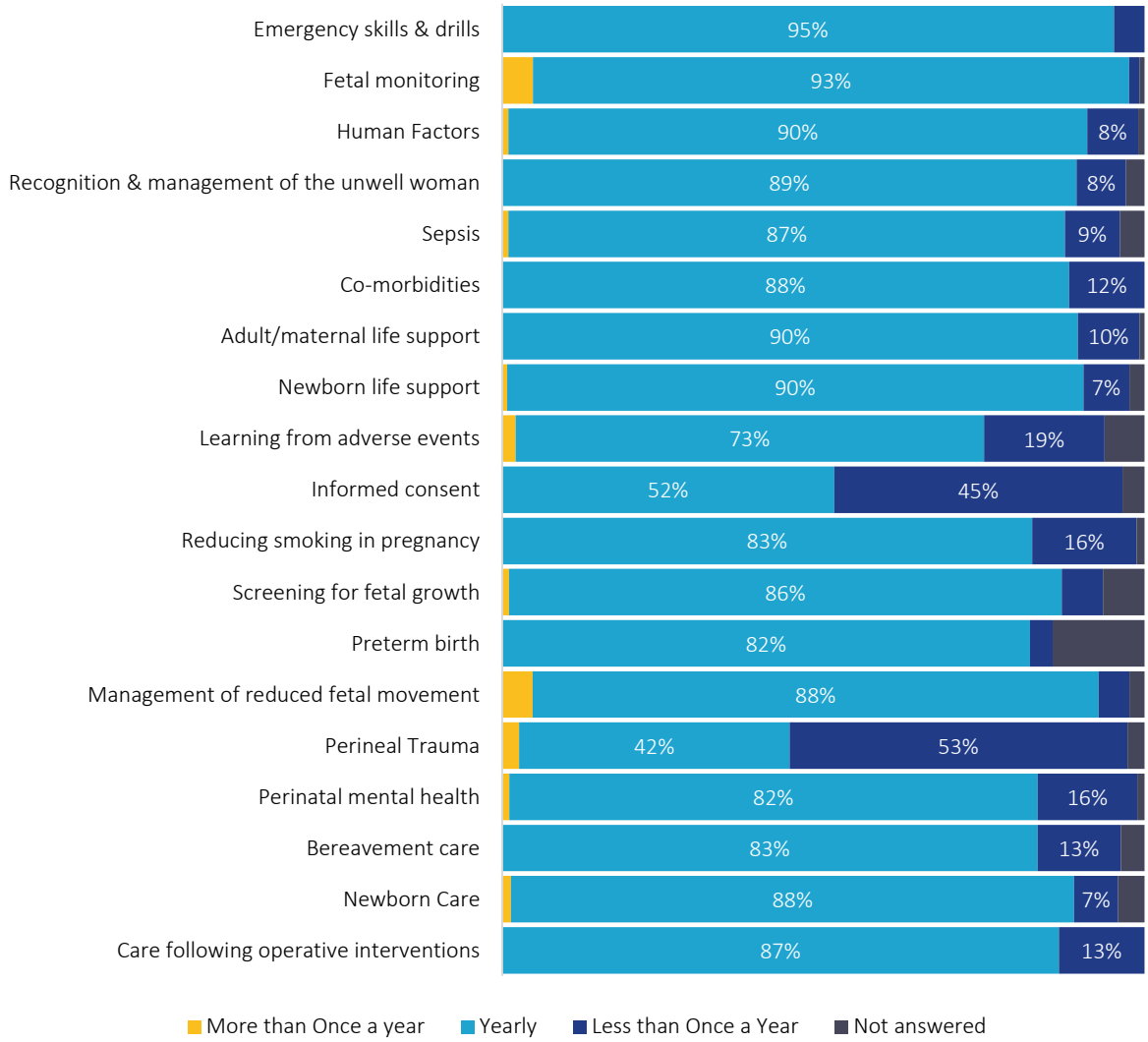
DURATION AND FREQUENCY

Survey findings

- Where training was provided, most topics were provided on an annual basis.
- Most training topics had a duration of less than two hours.

Most training took place on an annual basis

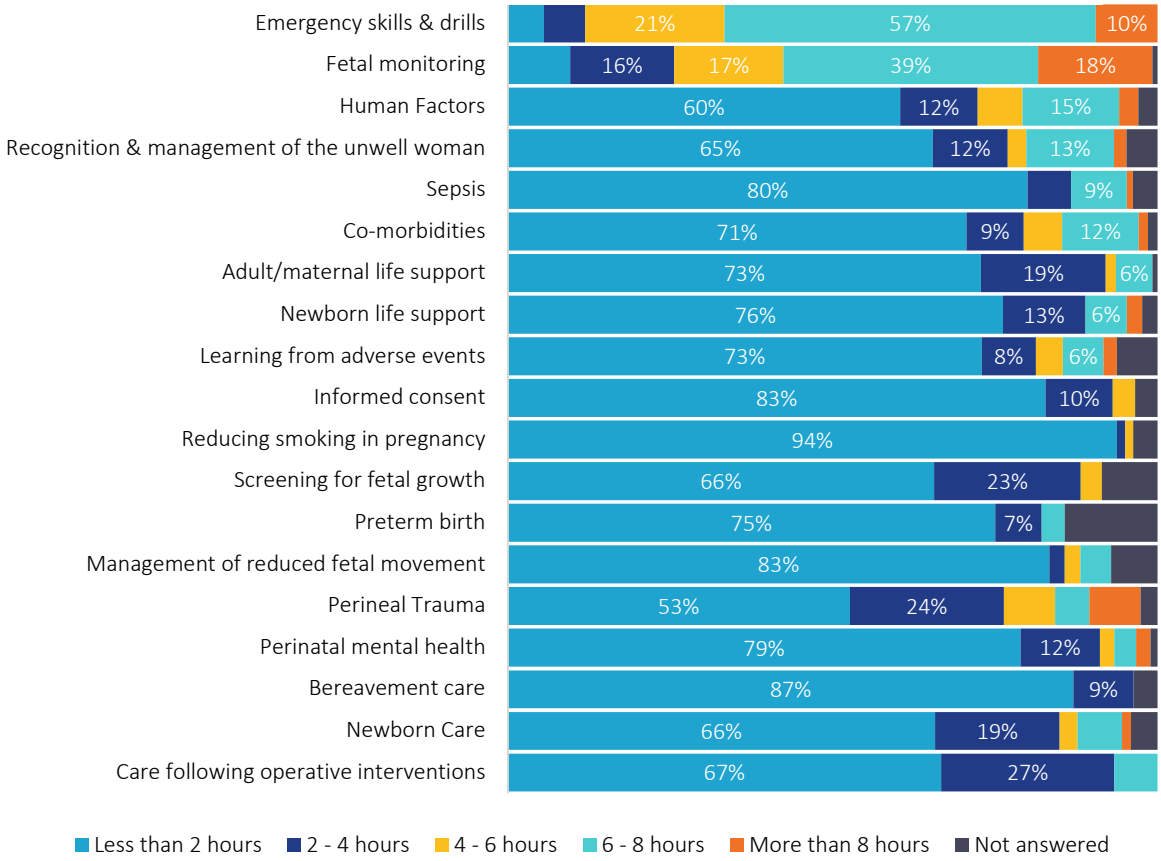
Graph 14: Training frequency by topic



Where topics were considered mandatory, training most often occurred annually (Graph 14). Training in *Informed consent* and *Perineal trauma* was more likely to occur less frequently – these were the only topics where there was significant deviation from average training frequency.

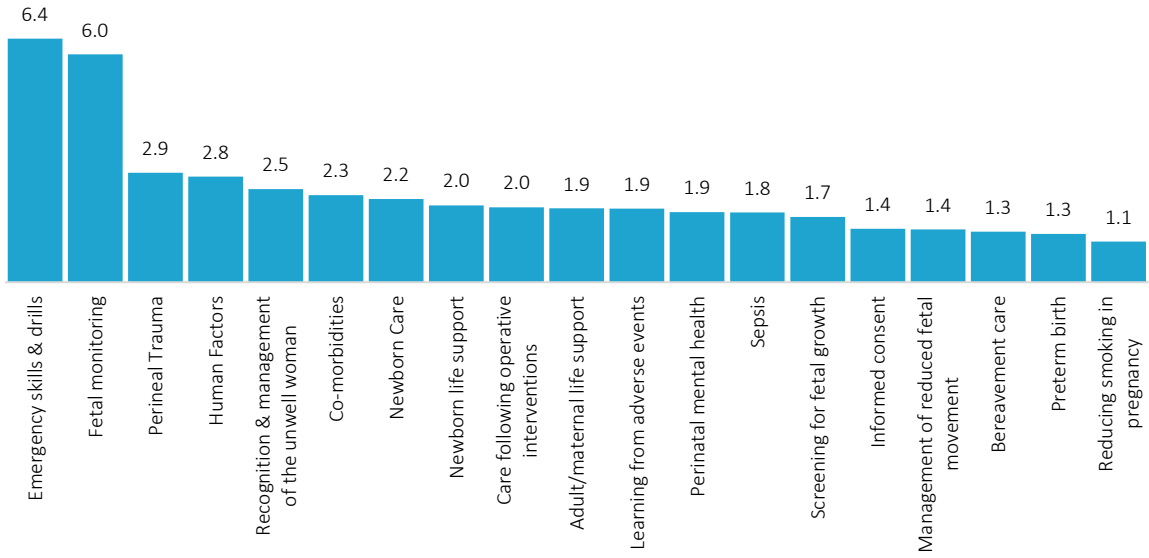
Variability in duration by topic

Graph 15: Training duration by topic



Where topics were considered mandatory, most organisations indicated that the training had a duration of less than 2 hours (Graph 15). The main exceptions to this were in *Emergency skills & drills* and *Fetal monitoring*, where the average durations were 6.4 hours and 6.0 hours respectively (Graph 16).

Graph 16: Average duration by topic (hours)



Training: The National Picture

METHOD OF DELIVERY

Survey findings

- National restrictions imposed to help combat the pandemic have had an impact on the way that maternity training is delivered to staff.
- More organisations delivered training using no interactive training methods in 2020/21 than in 2017/18. eLearning was more widely used in 2020/21, as was pre-recorded audio/video.
- Face-to-face training was still prioritised in certain key topics.

Report recommendations

- Thorough evaluation and assessment of the changes in training delivery methods should take place – particularly where changes are to be made permanent.

Methods of training delivery

Respondents were asked whether their training utilsed any of 12 different delivery methods. For each training topic, providers were asked to select all of the methods that were used.

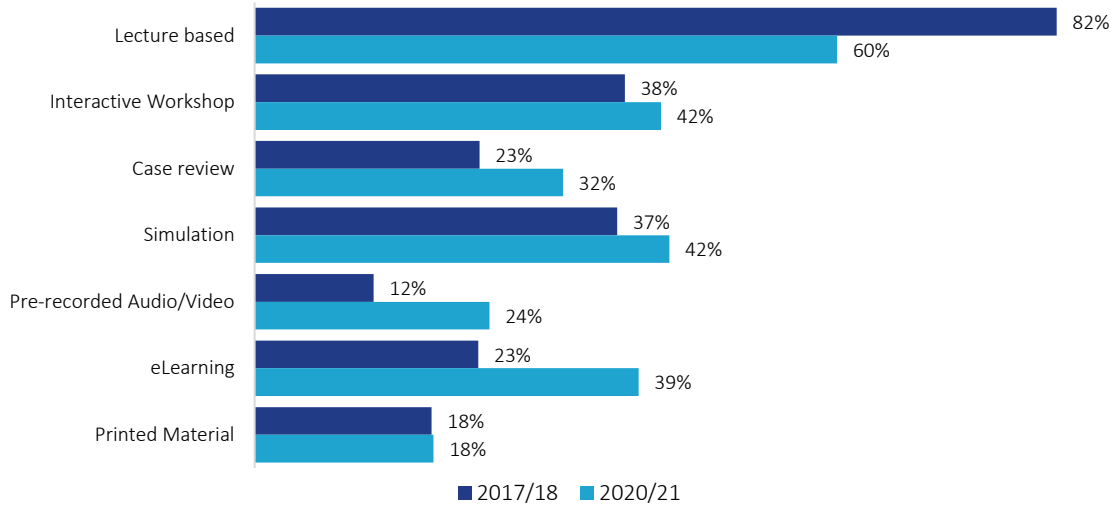
Table 2: Relative usage of each method of training delivery

Method of Training Delivery	Total usage across all topics and providers
1. Live Lecture-Based (face-to-face)	693
2. Live Lecture-Based (online)	705
3. Interactive Workshop-Based (face-to-face)	586
4. Interactive Workshop-Based (online)	349
5. Case-review sessions (face-to-face)	364
6. Case-review sessions (online)	362
7. In-Person Practical Based Team Training/Simulation	681
8. Online Interactive Team Simulation	196
9. Non-Live Online Simulation	162
10. Pre-Recorded Audio/Video	444
11. eLearning Module (non-live)	726
12. Printed Material	338

The figures in Table 2 give an indication of the relative usage of each of the different training methods. The most widely-used methods were Lecture-based (both online and face-to-face), In-Person Practical Based Team Training/Simulation, and eLearning. The darker the shade of green in the above table, the more widely used the delivery method was used.

The way that training is delivered has changed since 2017/18

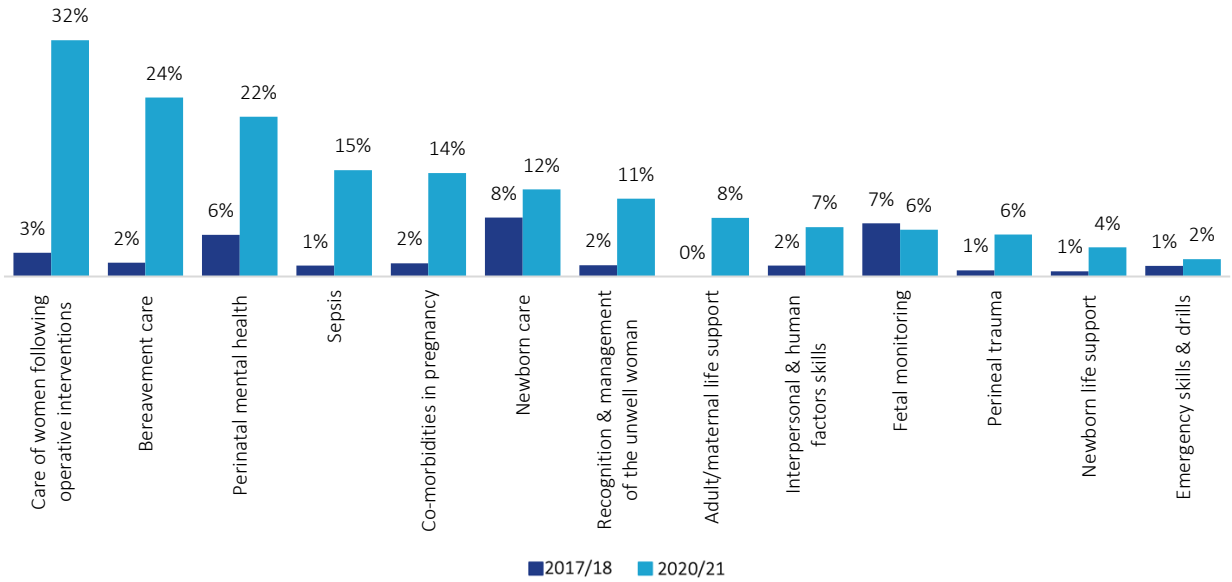
Graph 17: Likelihood of a provider using various training methods in any given topic – comparison with 2017/18



Though the previous *Mind the Gap* report did not differentiate between online and face-to-face training, it was possible to make a comparison of the broader training methods (Graph 17). Lecture-based training remained the most widespread in 2020/21, but was not as common as in 2017/18. There was a significant increase in the use of pre-recorded audio/video and eLearning in 2020/21.

Training was less likely to be interactive than in previous years

Graph 18: Providers delivering topics using **no** interactive training methods – comparison with 2017/18

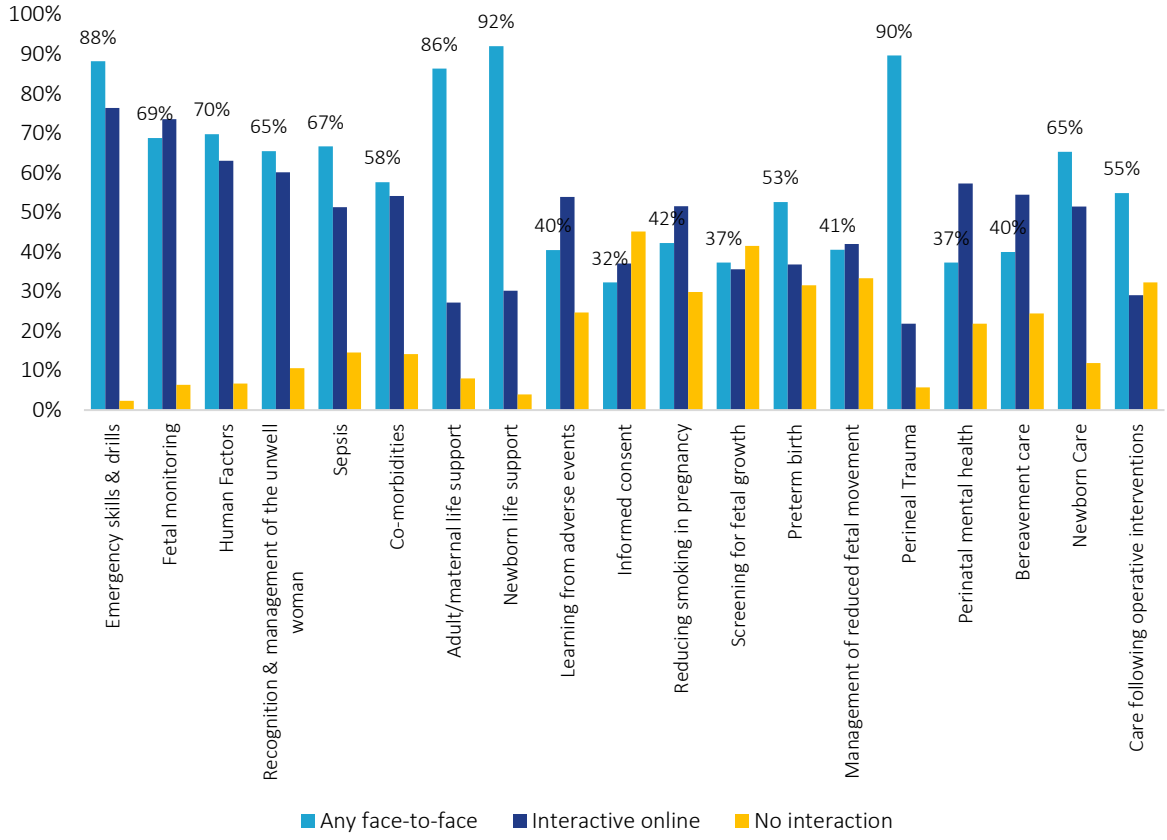


The most noticeable change in the way that training was delivered was the number of organisations using no interactive training methods in various topics. Interactive training was defined as using live lectures, workshops, case review sessions, or simulation – whether these were online **or** face-to-face. There was significant variability between topics and, since 2017/18, there was an increase in the exclusive use of non-interactive training methods for every topic where a comparison was available apart from fetal monitoring (Graph 18).

Certain topics appear to have been prioritised in terms of interactive training; the proportion of providers not utilising any interactive elements for *Emergency skills & drills* remained very low. Conversely, almost a third of providers did not use interactive elements for *Care of women following operative interventions.*

Prioritisation of face-to-face and interactive training varied between topics

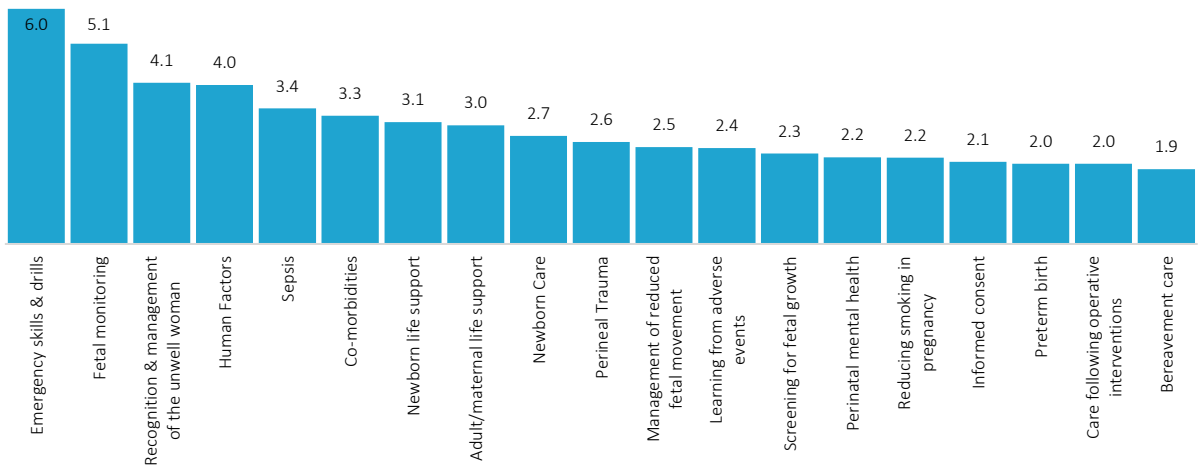
Graph 19: Percentage of providers using face-to-face, interactive online, and non-interactive training by topic (n.b. data labels give the value for any face-to face training)



Around 9 out of 10 providers used some element of face-to face training for *Emergency skills & drills* (88%), *Adult/maternal life support* (86%), *Newborn Life Support* (92%), and *Perineal trauma* (90%) (Graph 19). For the latter three topics face-to-face training was much more likely than interactive online training. For many of the other topics, there was a fairly even split between face-to-face training and interactive online training. Fewer than a third of providers offered face-to-face training in *Informed consent* (32%).

Most topics were delivered using mixed methods of training

Graph 20: Average number of training methods used by topic

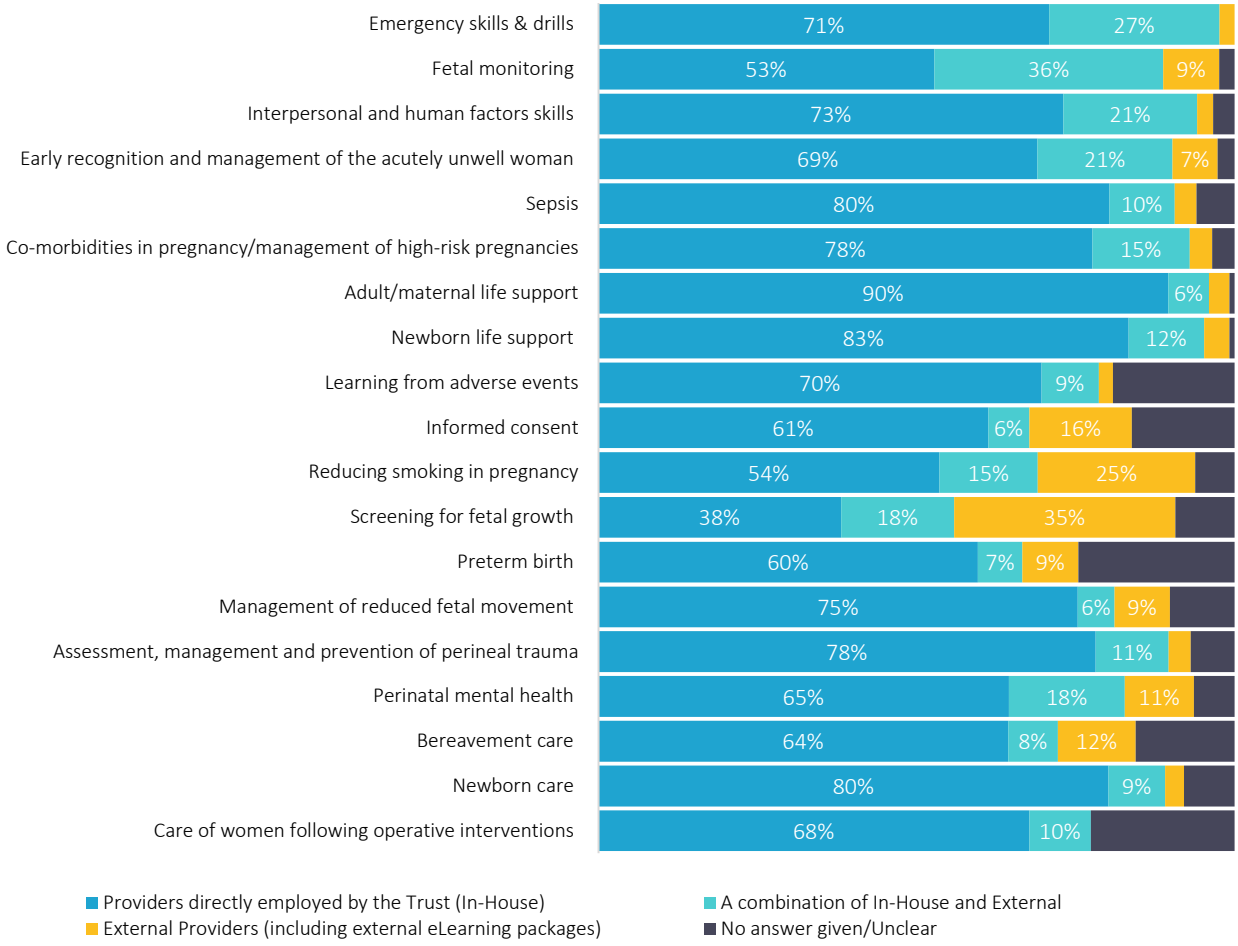


Mixed methods of training were used across all topics – it was very unusual for any provider to offer training in a topic using only one method. On average, providers used 6 different training methods to deliver *Emergency skills & drills* training (Graph 20). Eighty-five percent of providers used in-person simulations for this topic, 63% used online lectures, and 42% used online case reviews.

> "It has been an immensely difficult year to deliver safe practical and optimum training. The pressure of providing the best training possible without compromising staff safety has been challenging."

The majority of training was delivered in-house but external providers were still used

Graph 21: How was training provided?



Most training was delivered by in-house training providers or by a combination of in-house and external training providers. The topics where external providers alone were most likely to be used were *Reducing smoking in pregnancy* (25%) and *Screening for fetal growth* (35%) (Graph 21).

> "The Maternity training team have had to think outside the box to deliver the highest standard of training in the most difficult of circumstances."

Training: The National Picture

ATTENDANCE

Survey findings

- Five out of six providers (84%) indicated that they audit staff attendance at mandatory training/updates. This has decreased since the 2017/18.
- Fewer than half (43%) of organisations reported that over 90% of all staff attended mandatory training/updates. The rate of timely attendance was highest amongst midwifery staff.

Report recommendations

- Every organisation should audit training attendance and service leads for training should ensure that attendance on mandatory training is audited against an expected standard of 90%. If barriers are identified, these should be reported to regional supervisors.
- Clinical duties of individuals with poor attendance rates should be considered *[repeated key recommendation from 2017/18].*

The rate of timely attendance has not improved since 2017/18

In 2018 Baby Lifeline made a recommendation, based on expected national standards [17], that attendance on mandatory training should be audited against an expected standard of 90% [2]. In the same year, NHS Resolution's Maternity Incentive Scheme (year one) specified that maternity staff training attendance should reach at least 90% [18]. The Baby Lifeline survey results for the financial year 2020/21 indicate that the rate of timely attendance has not improved since that recommendation was made.

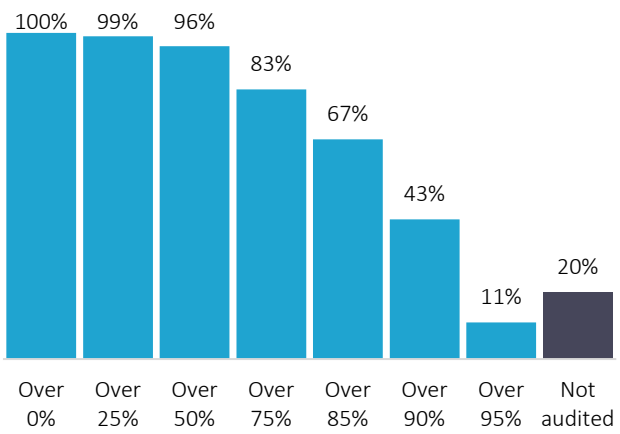
Do organisations audit staff attendance at mandatory training/updates?

Five out of six organisations (107 out of 127, or 84%) indicated that they audit how often maternity staff attend mandatory training updates within the time specified by their organisation's guidelines. Eighteen providers (14%) reported that they do not audit any staff attendance at mandatory training updates. Fewer organisations audited staff attendance at mandatory training in the last financial year than three years ago, when 87% audited attendance.

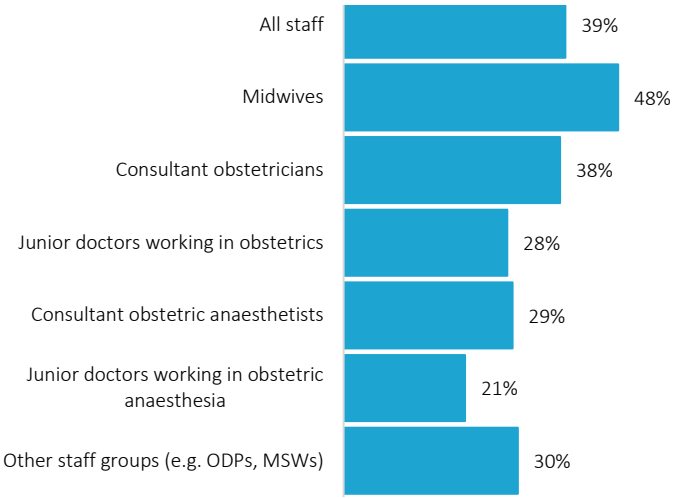
Rate of attendance for all staff

Of the 98 organisations that audited staff attendance at mandatory training/updates, fewer than half (43%) indicated that the rate of timely attendance for all staff was 90% or higher (Graph 22). One in five (20%) reported that they do not audit attendance for all staff at mandatory training/updates.

Graph 22: When audited, what was the rate of timely attendance for all staff at mandatory training/updates?



Graph 23: When audited, how many organisations recorded at least 90% attendance, by staff group?

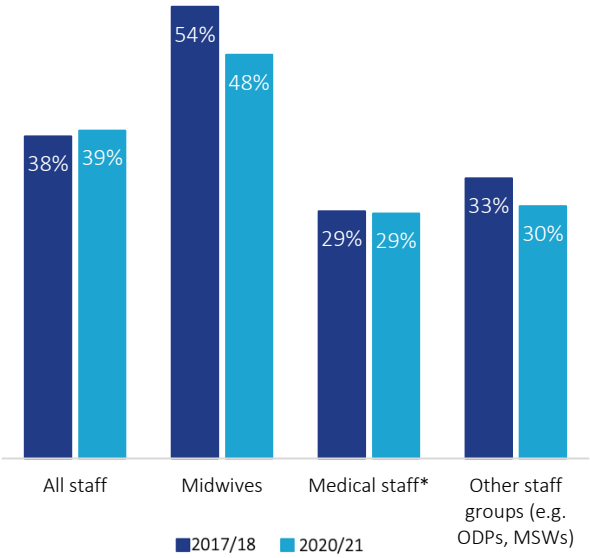


Rate of attendance was highest amongst midwives

The rate of timely attendance was highest amongst midwifery staff, with nearly half (48%) reporting that midwives attend mandatory training and updates at least 90% of the time (Graph 23). Consultant obstetric anaesthetists and junior doctors working in obstetric anaesthesia were least likely to reach the 90% attendance threshold. There is work to be done before organisations achieve the local action that obstetric anaesthetists attend and participate in multi-professional training as outlined in the Ockenden Report [15].

How do attendance rates compare with 2017/18?

Graph 24: Training attendance at 90% or higher by staff group, 2017/18 compared with 2020/21



As Graph 24 shows, the percentage of organisations reporting that all staff achieved 90% attendance rates improved slightly from 38% in 2017/18 to 39% in 2020/21. However, the rates of attendance for midwives and other staff groups including Operating Department Practitioners and Maternity Support Workers decreased.

Though the percentage of organisations reporting that midwives achieved a 90% attendance rate at mandatory staff training/updates decreased in 2020/21, midwives were still the staff group most likely to reach 90% attendance.

** Medical staff including consultant obstetricians, junior doctors working in obstetrics, consultant obstetric anaesthetists, junior doctors working obstetric anaesthesia.*

Rate of attendance by region and staff group

Graph 25: How many providers achieved at least 90% attendance by staff group and region?

Midwives attend training more often than other staff groups

Organisations in Greater London, South East England, Wales and the West Midlands were most likely to report that maternity staff attendance at training was at least 90% (Graph 25). In Northern Ireland, and the East of England, no organisations indicated that a 90% attendance rate was achieved for all staff. Though on average midwives attended training most often, consultant obstetricians in South East England and the West Midlands were most likely to achieve 90% attendance.

This regional variation might reflect the impact of COVID-19 (and regions' ability to cope with the pressure of COVID-19) on attendance at training.

> "The maternity service training agenda had significant disruption during 2020 due to the COVID-19 pandemic. Essential mandatory training was provided to maintain essential emergency care."

Training: The National Picture

BARRIERS

Survey findings

- More barriers to training provision were identified in the last financial year than in 2017/18. The COVID-19 pandemic was the most frequently identified barrier to providing and attending training.
- The percentage of providers who identified venue restrictions and availability as a barrier has doubled since 2017/18.
- Staffing has remained a significant barrier to both attending and providing training.

Report recommendations

- As a minimum, maternity services should be given both appropriate and available venues to train in, and – where education will retain a blended approach – resources to facilitate remote and online learning.
- Safe staffing levels in maternity need to be prioritised.
- Training budgets must include backfill to ensure that units are staffed safely and professionals are able to keep up to date with important skills and knowledge.

The pandemic significantly impacted training

The pandemic was the most frequently identified barrier to providing and attending training. Respondents indicated that training often had to be suspended or postponed due to staff shortages:

> "All non-mandatory training was cancelled last year due to COVID-19 and the inability to release staff due to shortages."

Staffing remains a significant issue for training

The last Mind the Gap report [2] found that the most identified barriers to training in the 2017/18 financial year related to staffing and finance. This time staffing was identified by almost the same proportion of providers.

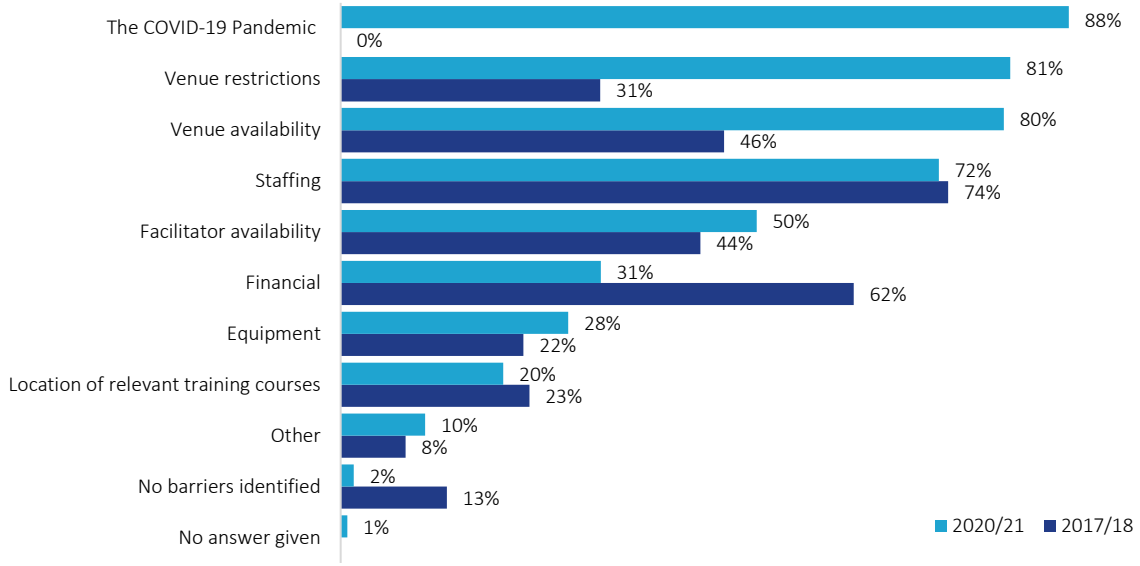
There are more barriers to training than before

More barriers were identified overall in the last financial year, both in terms of provision of and attendance at maternity staff training. The pandemic seems to have widened gaps and exacerbated barriers that already existed.

> "Social distancing meant that course sizes were reduced significantly yet the faculty numbers remain the same."

Barriers to providing training

Graph 26: Barriers to providing training, 2017/18 and 2020/21

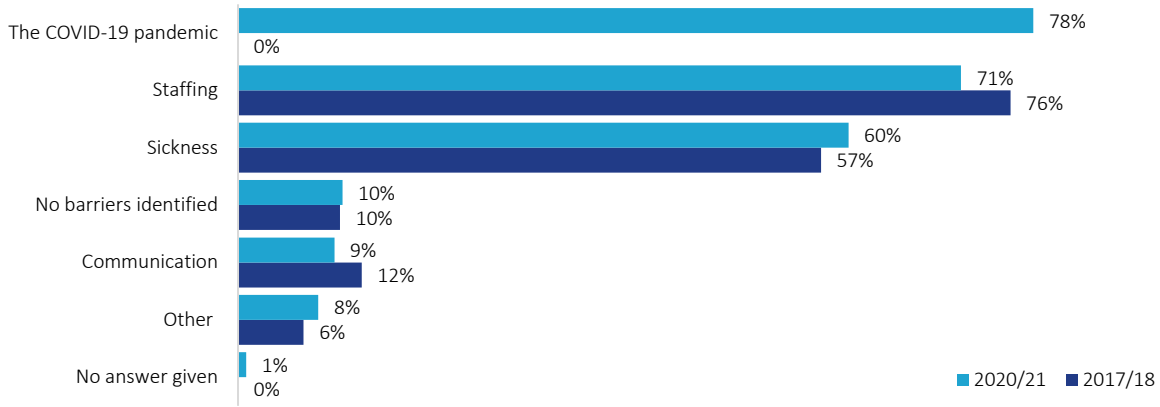


The most identified barriers that organisations faced when providing training in 2020/21 were the COVID-19 pandemic, venue restrictions, venue availability, staffing, and facilitator availability (Graph 26). In contrast, the most identified barriers in 2017/18 were staffing and finance. The percentage of providers that identified funding as a barrier to training provision decreased between 2017/18 and 2020/21. This may have been because training delivery moved online for many topics, meaning that travel and accommodation was not needed. When respondents were asked to indicate 'other' barriers to training provision, they mostly stated IT issues; their systems and resources could not support remote and online learning.

> "It has been an immensely difficult year to deliver safe practical and optimum training. The pressure of providing the best training possible without compromising staff safety has been challenging."

Barriers to attending training

Graph 27: Barriers to attending training, 2017/18 and 2020/21



In terms of staff attendance at training, staffing issues and staff sickness were identified as significant barriers – this is consistent with 2017/18. However, the COVID-19 pandemic was the most significant barrier to attending training in 2020/21 (Graph 27).

ASSESSMENT

Survey findings

- Two thirds of training was evaluated by maternity service providers and most providers stated that they used evaluations to change future training.
- Training evaluation forms mostly assessed delegate satisfaction, and one in three providers stated that they did not use clinical outcomes to evaluate any training.
- The most frequently identified barriers to assessing training were lack of guidance/information on methodologies, and lack of resource.

Report recommendations

- All training provided to maternity service staff should be evaluated for impact and quality.
- Assessment should go beyond delegate satisfaction to assess whether training impacts knowledge, skills, behaviours and clinical outcomes.
- Practice development staff should be given adequate resource and guidance to enable meaningful assessment of training.

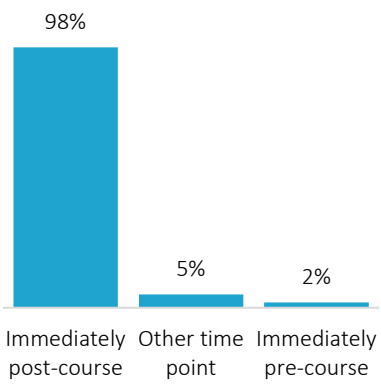
Notes on Analysis

The analysis in this section relates to the 55 maternity service providers who submitted evaluation forms to Baby Lifeline as part of the FOI request. Ninety-seven evaluation forms were submitted across 59 organisations. Four organisations' forms were not reviewed due to broken links or erroneous submissions. As classifications were subjective in nature, the analysis was conducted by two researchers, and where agreement could not be reached a consensus was agreed using the four-person research team. Initial concordance across the research team was 80%.

Findings

Nearly all maternity service providers used their evaluation forms to modify future courses (98%), but course evaluation methodologies varied.

Graph 28: At which time points do you collect evaluation data on your in-house training?

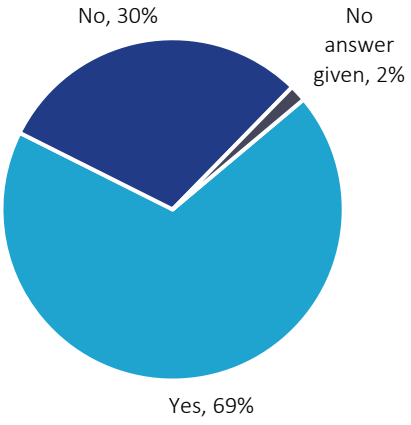


Evaluation data for in-house training was mostly collected immediately after the course

As Graph 28 shows, most providers indicated that they collected evaluation data immediately post-course (98%). None collected evaluation data across three time points (e.g. pre-course, immediately post-course, and 12 weeks post-course). Most providers indicated that they evaluated at only one time point (96%). When asked to specify the 'other' time point, answers ranged from 2 weeks up to 6 weeks post-course.

Over two thirds of organisations looked at clinical outcomes when assessing some of their training

Graph 29: Do you evaluate whether any training you provide has an impact on clinical outcomes?



Almost one third of trusts did not evaluate whether the training they provided to their maternity staff had an impact on clinical outcomes (Graph 29).

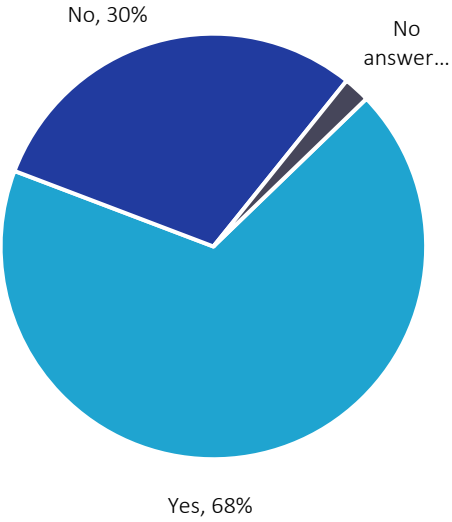
When providers assessed clinical outcomes relating to training, most were in reference to:

- Post-partum haemorrhage
- Fetal monitoring (particularly CTG)
- Neonatal admissions
- Perineal repair (OASI).

Most providers monitored outcomes using their maternity dashboard and discussed them at maternity meetings. Some practice development teams were innovative in their approach:

> "The Practice Development Midwifery team will attend emergency situations to embed learning in practice and evaluate how effective it is. Quality improvements can be tracked against the ongoing audit to assess."

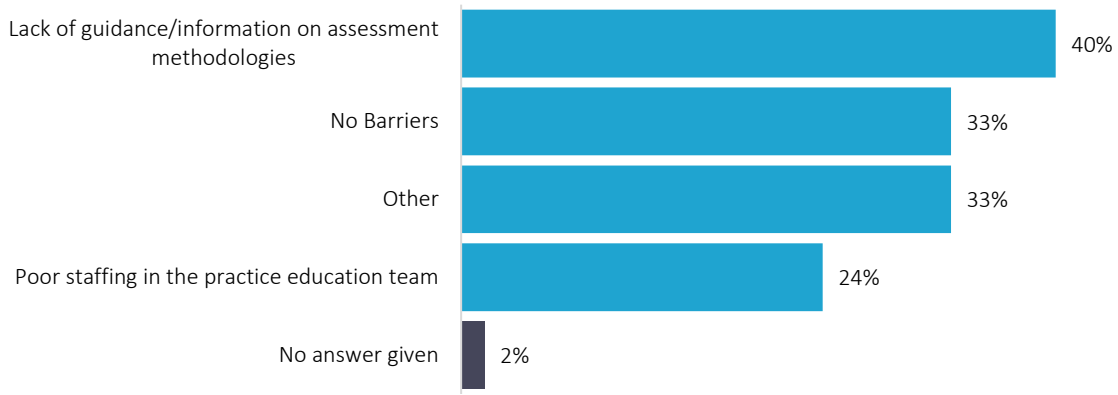
Graph 30: How many providers evaluated their training using clinical outcomes (%)?



Around two thirds of organisations stated that they evaluated at least 1 training topic using clinical outcomes. 1 in 10 stated that they used clinical outcomes to assess all training provided, and 3 in 10 organisations did not use clinical outcomes to assess any training provided.

Barriers to evaluation related to lack of guidance and resource

Graph 31: What were the barriers to evaluation?



The most identified barrier to evaluating training was lack of guidance/information on assessment methodologies. Around one quarter of providers identified poor staffing as a barrier, which was also commonly identified as a barrier to provision and attendance at training. One third of maternity service providers stated that they had not identified any barriers to evaluating training.

Where providers selected 'other,' the most highlighted issues were related to resources, time, staff engagement, the amount of training provided in the time allowed, staff not being released for training, virtual training, and the pandemic.

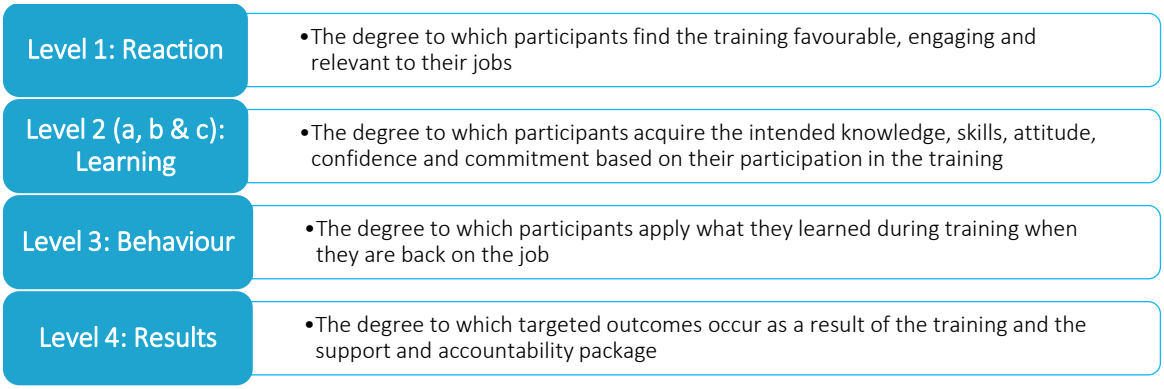
"Lack of IT infrastructure to evaluate the impact of maternity training on clinical outcomes."

"The education team consists of two midwives combining the role with patient safety. Any other staff contribute whilst within their substantive roles to help develop individual elements of training. The midwives have had no specific training in evaluation of the maternity training and how to deliver training based on this."

Evaluation forms mostly assessed delegate reaction to training

The Baby Lifeline team used the Kirkpatrick classification system to assess evaluation forms provided by organisations (Figure 1). We found that evaluation forms tended to only assess levels one (reaction) and two (learning) as most providers assessed immediately post-course only.

Figure 1: The Kirkpatrick classification system for assessing evaluation



Source: Kirkpatrick Partners

Of the 55 evaluation forms submitted, over half only assessed delegate satisfaction following training (56%, n=31), shown in Graph 32. When evaluation forms did assess other areas, it was mostly a mix of delegate satisfaction with knowledge. Very few evaluation forms assessed all components of levels 1 and 2 – delegate satisfaction, knowledge, skills, and attitudes and perceptions (Table 3).

Graph 32: Did evaluation forms assess impact across multiple levels of the Kirkpatrick classification system?

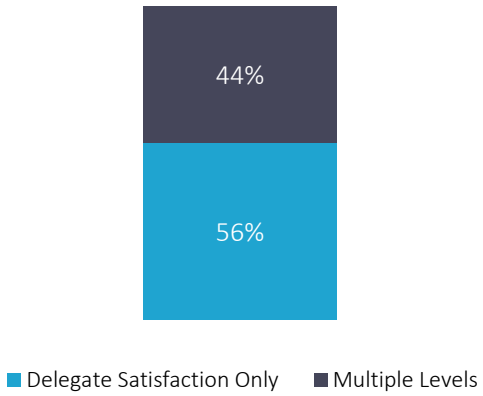


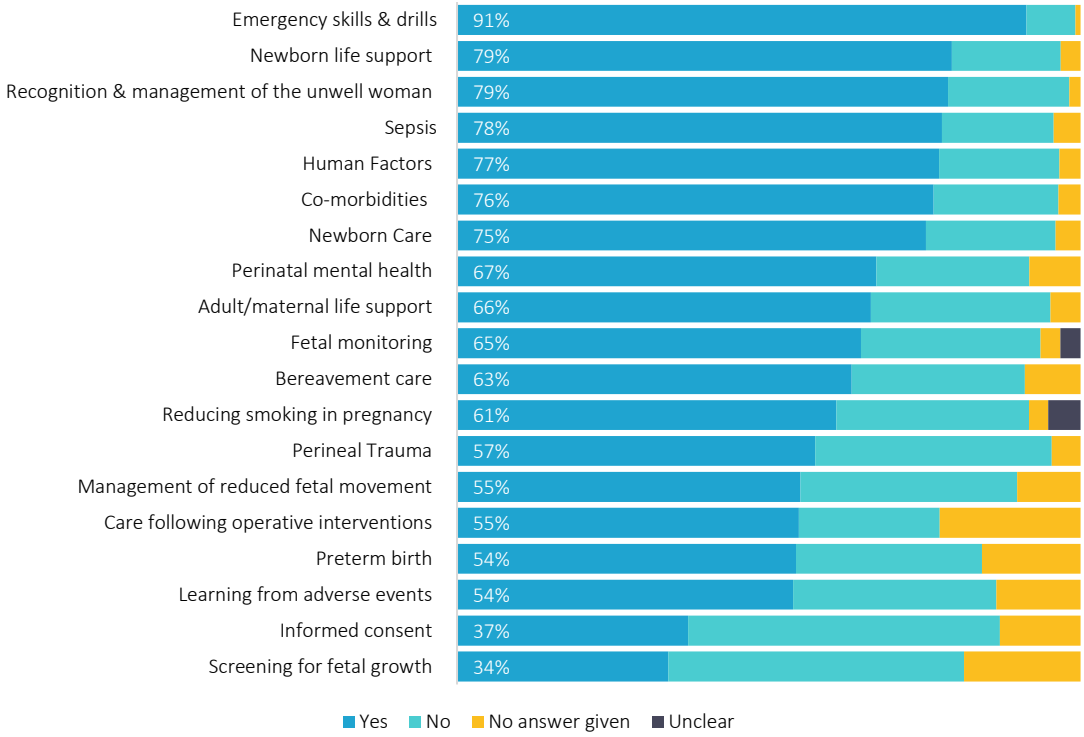
Table 3: Which Kirkpatrick levels did organisations' evaluation forms achieve?

Levels of Evaluation	% Organisations
Delegate Satisfaction (Level 1)	98 %
Attitudes and Perceptions (Level 2a)	15 %
Knowledge (Level 2b)	38 %
Skills (Level 2c)	15 %

A spotlight on evaluation by topic

Overall, two thirds (67%) of topics were evaluated by organisations. Eight organisations evaluated all training topics, and five stated that they did not evaluate any training.

Graph 33: How many organisations that evaluated training, by topic (%)?



Graph 33 shows that the most widely evaluated topic was *Emergency skills & drills.* Providers were least likely to evaluate *Screening for fetal growth*; around one-third of trusts evaluated this training. Almost a quarter of providers did not give us an answer about evaluation for *Care of women following operative interventions.*

Training: The National Picture

TRAINING BUDGETS

Survey findings

- The average spend on maternity training was significantly lower in 2020/21 than it was in 2017/18.
- Almost two thirds of providers were able to supply a figure for the amount spent on direct costs of maternity CPD training (66%). However, data quality was inconsistent.

Report recommendations

- Guidance should be issued on how best to record and report on maternity training spending.
- Thorough guidance on individual budgets and study leave should be issued for all staff groups, particularly for midwives and non-medical staff.

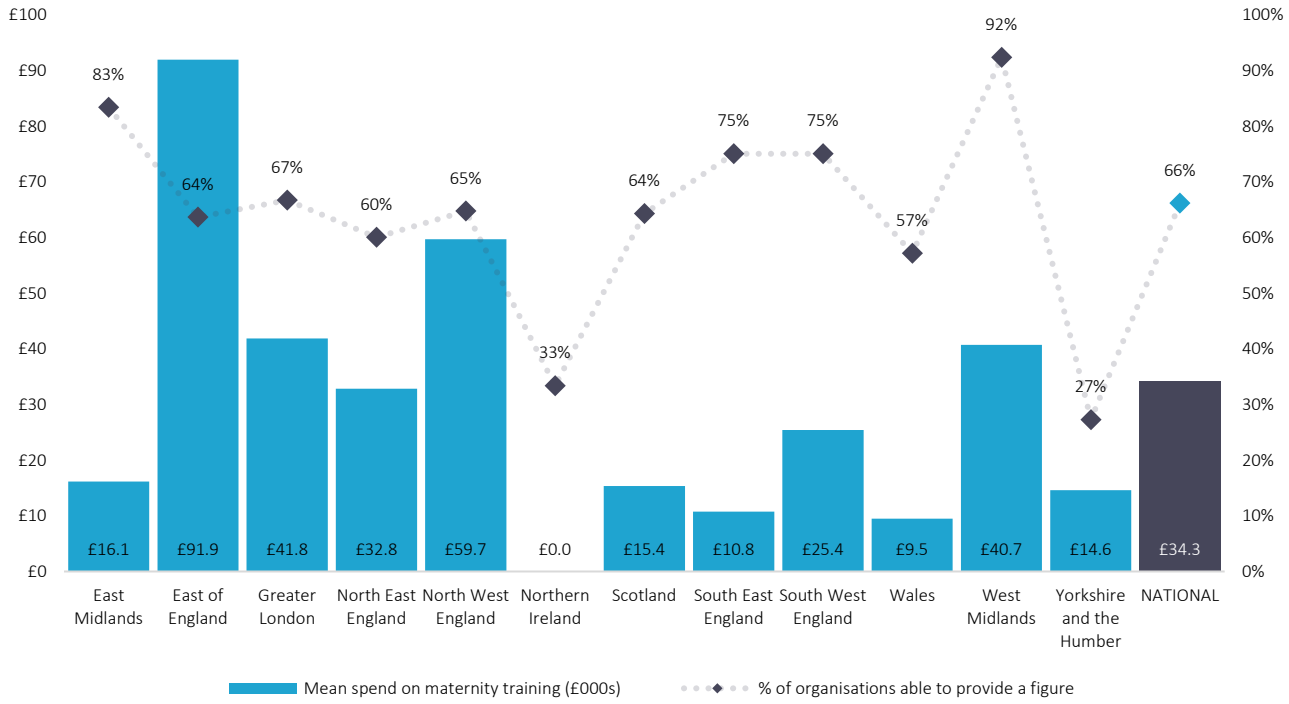
Overview

Responses to the training budgets section of the Baby Lifeline survey were among the most varied of all sections surveyed. There was little consistency in either the quality or quantity of information provided. Many providers stated that it was impossible to separate and extract the relevant information, and some of the figures provided may include funds awarded rather than actual spend.

What was spent on direct costs of training?

Significant variability in training spend

Graph 34: Mean spend and organisations able to provide answer by region



Nationally, around two thirds of providers were able to provide a figure for the amount spent on the direct costs of maternity training over the last financial year (66%, n=84). Direct costs may include venue expenses, travel expenses, equipment costs, or fees paid to external providers. This is an increase from 46% in 2017/18.

The percentage of providers able to provide a figure was fairly consistent between regions, with figures generally remaining close to the national average. Notably, only 27% of providers in Yorkshire and the Humber were able to provide a figure whereas 92% in the West Midlands could do so. Mean spend between regions was much more variable, though these values should be approached with care as they can be greatly influenced by outlier values or small numbers of respondents form the region.

> *"Unable to answer [direct training spend] with a numerical amount on this occasion. No annual learning and development plan was completed due to the pandemic. All face-to-face training and simulation sessions were halted and replaced with virtual training."*

Training spending has decreased since 2017/18

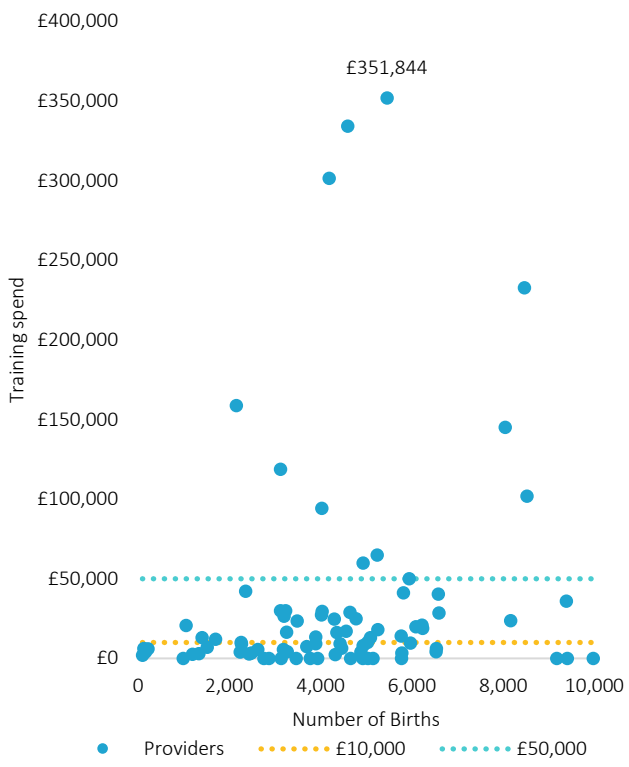
Table 4: National Spending: 2017/18 and 2020/21

National Spending: 2017/18 and 2020/21		
Measure	2017/18	2020/21
Mean	£59,873	£34,290
Median	£40,000	£10,000
Maximum	£372,878	£351,844
Minimum	£1,052	£0
% of providers able to answer	46%	66%

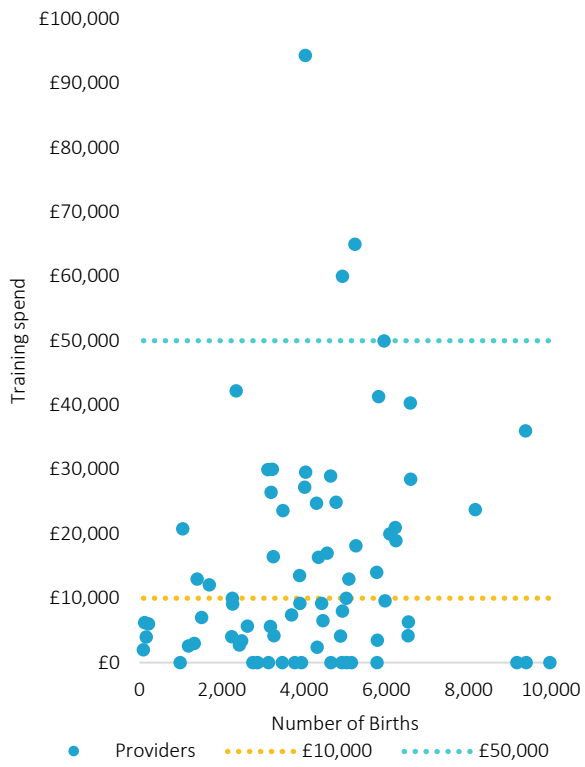
The mean spend across the UK in 2020/21 was £34,290, around £25,000 less than in 2017/18. There was a similar decrease in the median value, though the maximum and minimum values were broadly similar. The increase in the number of providers able to provide a figure is significant.

Most providers spent less than £10,000

Graph 35: Providers by training spend and number of births



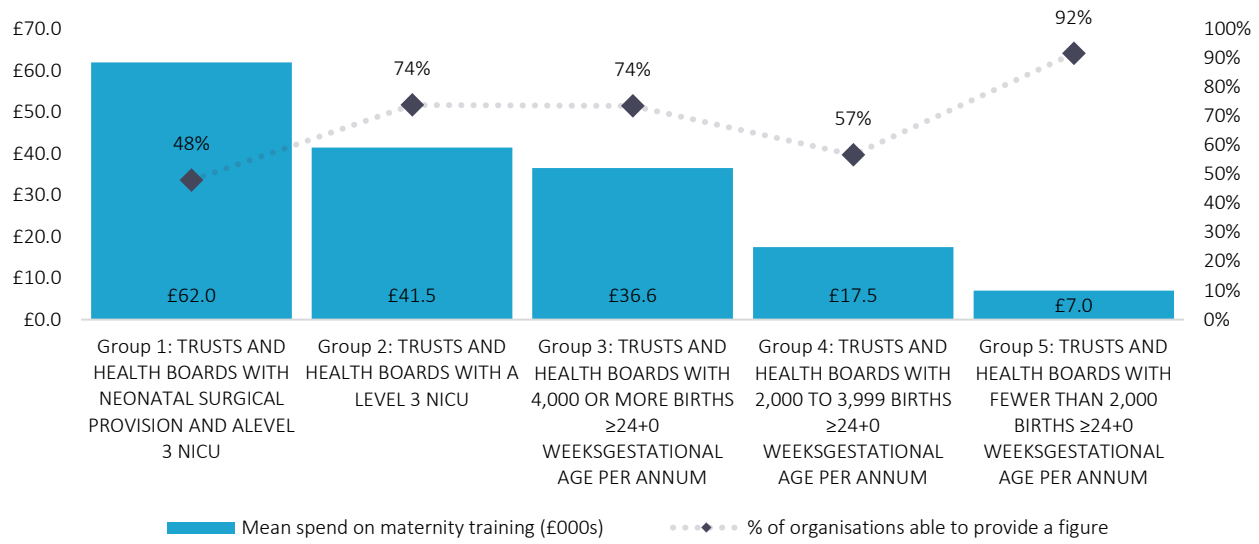
Graph 36: Providers by training spend and number of births (zoomed in)



Graph 35 shows training spend by number of births. Over 51% of providers spent £10,000 or less on the direct costs of maternity training and 87% spent less than £50,000. The national mean is skewed by the 8 organisations that spent over £100,000; Graph 36 eliminates these outliers to show training spend by number of births for organisations that spent less than £100,000. There is no clear correlation between the number of births and the amount spent on training.

Clear trend by MBRRACE groups

Graph 37: Maternity training spending by MBRRACE group



As shown in Graph 37, providers categorised in MBRRACE Group 1 spent the most on maternity training and those in Group 5 spent the least. This is probably to be expected given the relative workforce sizes, though it is perhaps surprising that the trend is reversed when examining the proportion of providers able to provide a figure.

Decrease in spending is unsurprising

The apparent decrease in maternity training spending should come as no shock; the impact of the pandemic has had a profound effect on all elements of training, but in particular the budgetary side. Several providers indicated that they did not spend anything on training during the year, or spent a greatly reduced amount. This was perhaps primarily due to the shift in training from externally-delivered face-to-face training to in-house and often virtual training. Indeed, in some cases, training was simply provided much less or not at all.

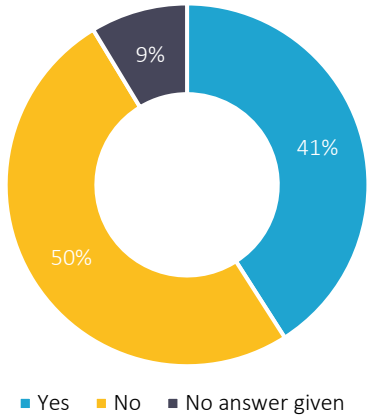
How were staff supported to attend training?

Staff backfill not universally prioritised

Half of the providers indicated that they did not budget for backfill of staff attending training sessions (Graph 38). There was no significant difference between MBRRACE groups and, regionally, 71% of providers in Wales budgeted for backfill whereas fewer than 10% of providers in the East of England did.

Funding for staff backfill was one of the recommendations from the Health and Social Committee's report into maternity safety. The report states that a failure to adequately account for backfilling is one of the main causes of cancellation of training [19].

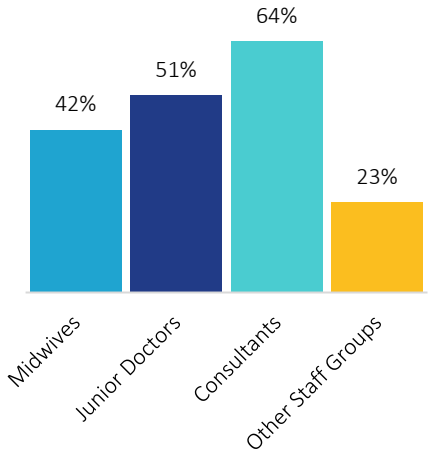
Graph 38: Percentage of organisations that budgeted for backfill



Midwives less likely to have individual CPD budget

Graph 39 shows that midwives were the least likely of the named staff groups to have an individual allocated budget for professionals to attend CPD training (42%). This was followed by junior doctors (51%) and consultants (64%). Twenty three percent of providers stated that there were individual budgets for other staff groups – examples include neonatal nurses, ODPs and AHPs. One provider stated that there was an individual budget for all registered healthcare professionals.

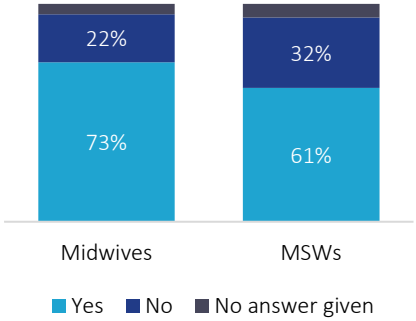
Graph 39: Percentage of organisations that individual CPD budgets by staff group



Much more consistency with study leave for consultants

Providers were also asked whether a percentage uplift was allocated for midwives and maternity support workers to attend training. Nearly three quarters of organisations indicated that they provided a percentage uplift for midwives to attend training and, in general, the uplift figure tended to be between 1% and 5%. However, many providers were unable to differentiate from the overall uplift which would also include sickness and maternity leave. The most frequent answer was 2%. As with the overall training budgets, there was little consistency with how providers record and report uplift information.

Graph 40: Organisations that provided a percentage uplift for midwives and MSWs



There was much more consistency when looking at individual study leave for doctors, particularly for those at consultant level. Of the 98 organisations able to provide an answer, almost three quarters (72%) said that consultants working in obstetrics were entitled to exactly ten days of study leave per year (or 30 days over a three year period).

Eleven percent of providers stated that consultants were entitled to less than ten days. The average entitlement of annual study leave for consultants was 11.4 days. Study leave for junior doctors tended to vary more, but the most common answer was between 21 and 30 days.

LEARNING DURING A PANDEMIC

Survey findings

- The high rate at which training was adapted in response to the pandemic shows that quick adaptation to national guidelines and current trends in maternity safety is possible.
- However, the pandemic often had a significant effect on individual organisations' ability to provide multi-professional, mandatory training.
- Most providers have stated that they will keep online learning as part of a blended approach after pandemic restrictions are lifted.

Report recommendations

- Resource may be required to enable maternity service providers to adapt quickly to changing training demands within their service.
- Maternity professionals should be supported with additional training and competency assessment prior to redeployment to areas they do not usually work in.
- Training must retain interactive, multi-professional and inter-organisational elements to enable shared learning, particularly if online training is to continue. It is also vital that evaluation data is collected to assess impact.

Improvements in care would have saved lives

MBRRACE-UK found that improvements in care may have made a difference for 7 in 10 women who died with COVID-19 whilst pregnant or in the immediate post-pregnancy period [20].

Nine out of ten women who died from complications of COVID-19 were not managed according to guidelines set out by the Royal College of Obstetricians and Gynaecologists (RCOG), and there were multiple examples of inappropriate care which resulted from a lack of understanding of treatments that can be used in pregnancy. Cultural and structural biases further contributed to mismanagement of care.

Services had to adapt their training quickly during the pandemic

The COVID-19 pandemic has brought new challenges relating to workforce pressures and widened those that already exist. It is important to understand how services adapted their training in order to assess the flexibility of services as guidance changed, and to address future risks to the birthing population and their babies.

NHS Resolution's Maternity Incentive Scheme for the period 2020-21 specified that training be provided in topics relating to COVID-19 in its guidance on Safety Action 8 [21].

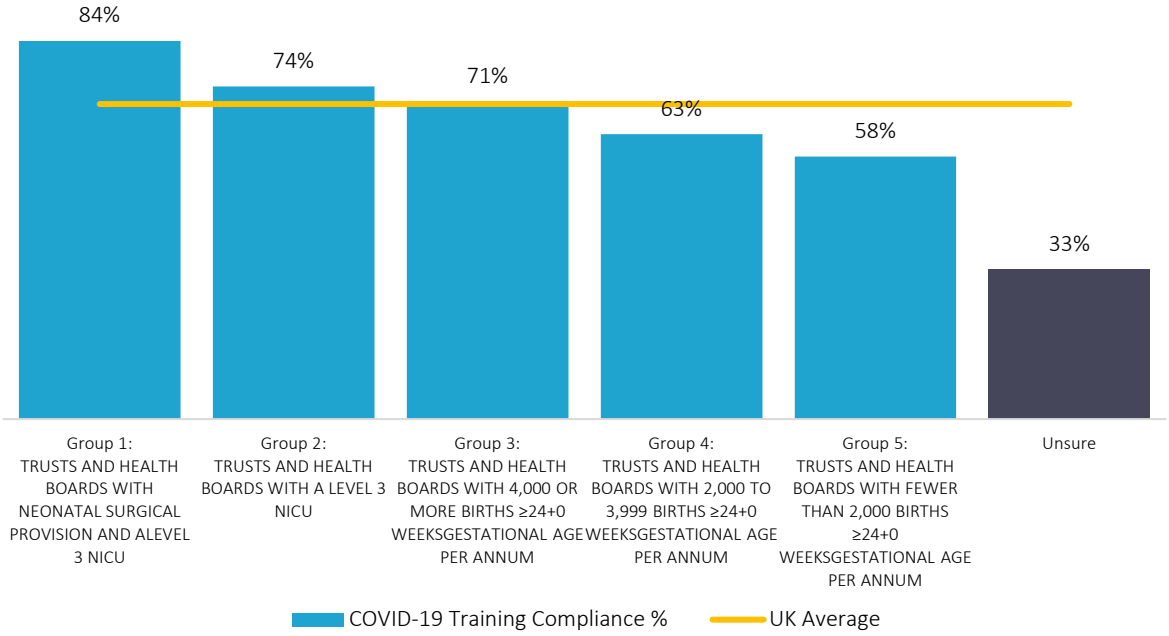
Findings

Most but not all organisations included clinical skills specific to COVID-19 in their training

Almost nine out of ten providers included 'COVID-19 positive emergency' in their *Emergency skills and drills* training (87%). Similarly, around three out of four providers included 'assessment and management of a COVID-19 positive woman' in their *Maternal critical care* training (75%). Seven out of ten organisations offered both subtopics.

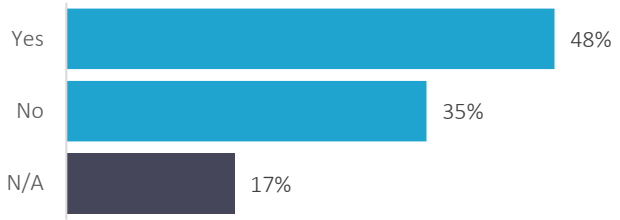
Training in clinical skills relating to COVID-19 was more common in providers in MBRRACE Group 1 (i.e. Those with more births and facilities for complicated births) – see Graph 41.

Graph 41: Providers who included training in clinical skills specific COVID-19, by MBRRACE-UK group (%)



A significant number of organisations did not provide tailored training to staff who were redeployed or shielding

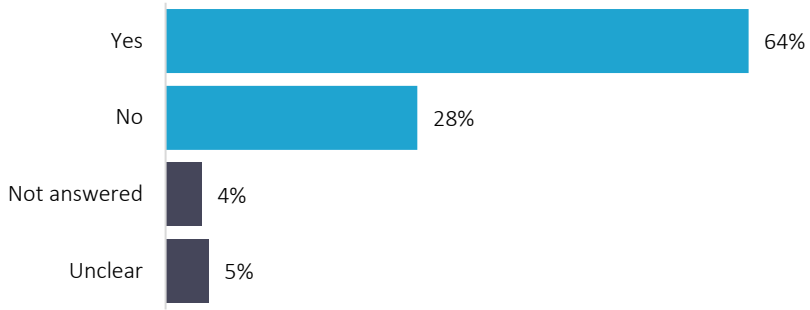
Graph 42: Did you provide tailored training to staff who, due to the pandemic, were redeployed to an area within maternity services that differed to their usual role?



Over one-third of service providers did not provide tailored training to staff who were redeployed to an area within maternity that differed to their usual role due to the pandemic and staffing pressures (Graph 42).

Of those who provided this training, **75% of providers assessed competency** in necessary skills prior to them being redeployed to their new area.

Graph 43: Did you provide tailored training to staff who shielded and planned to return to their usual place of work?

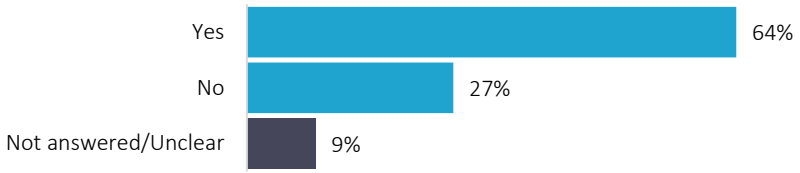


Around two out of three maternity services provided tailored training to staff who needed to shield and were planning to return to their usual place of work (Graph 43). Of these, **almost 9 out of 10 maternity service providers assessed competency in necessary skills** prior to them practicing independently.

Most organisations provided training in addition to what was planned

Graph 44 shows that nine out of ten maternity services provided other additional training, specifically delivered to help maternity staff meet the potential additional needs and/or risks to women and birthing people during the pandemic including PPE donning and doffing, COVID-19 updates or infection control. Cultural competency and 'risks to ethnic groups' were also listed amongst the extra training provided in this section.

Graph 44: % services that provided additional training specifically delivered to help maternity staff meet the potential additional needs of/risks during the pandemic



Nearly all providers adapted their existing training during the pandemic

Around 98% of providers stated that they adapted their existing training. Most stated that training was moved online, others adapted training to adhere to social distancing measures with smaller groups and no hands-on, and some respondents said that some training was paused or cancelled. Some respondents stated that evaluations were not undertaken.

Most providers (89%) stated that they planned to retain changes when prioritising and delivering training in the future (i.e. When pandemic restrictions are no longer in place). Many stated that they would keep elements of online learning and use a more blended approach with both face-to-face and online components.

> "We have had to reduce training time given to midwives and support staff to one day and this has been delivered online due to room capacity of academy spaces. There have been occasional ad-hoc practical skills sessions but these are not regular as staffing and acuity is the priority."

> "The delivery of our maternity role specific day will likely remain virtual as this has evaluated very well with staff and has allowed us to increase our class sizes to help increase and maintain compliance."

Respondents emphasised challenges posed by the pandemic

The survey offered a platform for some to explain the challenges and frustrations of providing training under difficult circumstances. Qualitative responses to the survey emphasised respondents' commitment to offering training and prioritising safety where possible.

"COVID-19 has had a real impact on the training compliance this year as seen through this FOI report. In previous years we have consistently achieved 90%+ training compliance but this year has been very different. The challenges have been social distancing, venue availability (especially during the vaccination programme as many training venues were used for this), staff sickness, and staff shielding or self-isolating. COVID-19 did affect staff wellbeing and many staff worked extra hours to cover staffing levels."

The pandemic, social distancing and staff availability had a particular impact on organisations' ability to provide multi-professional training.

"Training [in Co-morbidities in pregnancy and management of high-risk pregnancies] would normally be considered mandatory but was not delivered during this financial year as face-to-face training was suspended with COVID-19."

Due to COVID-19, all our training was individually completed online and not in the normal multi-professional groups




TRAINING TO IMPROVE MATERNITY SAFETY

In this part of the report, maternity workforce training in the financial year 2020/21 is considered alongside the factors that contribute to the avoidable harm and deaths of mothers, birthing people and their babies. This section will highlight gaps in training and make recommendations for improvement.

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EQUITY AND EQUALITY

Survey findings

- Fewer than three out of four organisations considered their local population needs when deciding training priorities in 2020/21.
- There were gaps and shortfalls in training provided relating to NHS England's priorities on achieving equity and equality.
- Very few organisations provided training relating to cultural proficiency, ethnic diversity and improving communication with those whose first language is not English.

Report recommendations

- Training to improve safety and care should consider all risk factors for women and birthing people and be universal across all regions with an increase in certain training based on local population needs.
- Training in *Cultural competency* should be mandated for all maternity staff in order to improve communication, respect and care; this is now a recommendation from NHS England.

All maternity service users should receive the same high standard of care

Achieving equity and equality in healthcare is an integral part of improving outcomes and experiences for women, birthing people and their babies – this means everyone accessing maternity services should receive the same quality of care. *Build Back Fairer: The COVID-19 Marmot Review* explored the amplification of health inequalities during the COVID-19 pandemic. It specifies the need for universal solutions that are proportionate to need (proportionate universalism): responding to individual health and social needs across all systems, with scale and intensity proportionate to the level of disadvantage [22].

Existing health inequalities for mothers, birthing people and their babies

Reports investigating the deaths of mothers and babies show worse outcomes in those from the most deprived areas and from Black, Asian and mixed ethnic groups [5] [9] [11] [20] [23] [24] [25]. The COVID-19 pandemic has reinforced the need to address this disparity as Black, Asian and minority ethnic groups have been overrepresented amongst whose who were pregnant and admitted to hospital with, or who died from, the virus [20] [26] [27].

The latest Perinatal Surveillance Report by MBRRACE-UK explores the impact of three risk factors on perinatal mortality – deprivation, maternal age and ethnicity – and shows that there has been no reduction in mortality for babies born to those in deprived areas, despite a reduction in perinatal mortality overall [5]. Babies born to those living in the most deprived areas are two times more likely to be stillborn than babies born to those in the least deprived areas.

Similarly, Black babies are two times more likely and Asian babies were one and a half times more likely to be stillborn than their White counterparts. Both Asian and Black babies were around 60% more likely to die in the neonatal period than White babies [5]. Starkly, Black babies had the worst outcomes of all ethnic groups: overall, Black babies born to those in the least deprived areas had higher rates of stillbirth than White babies born to those in the most deprived areas [5].

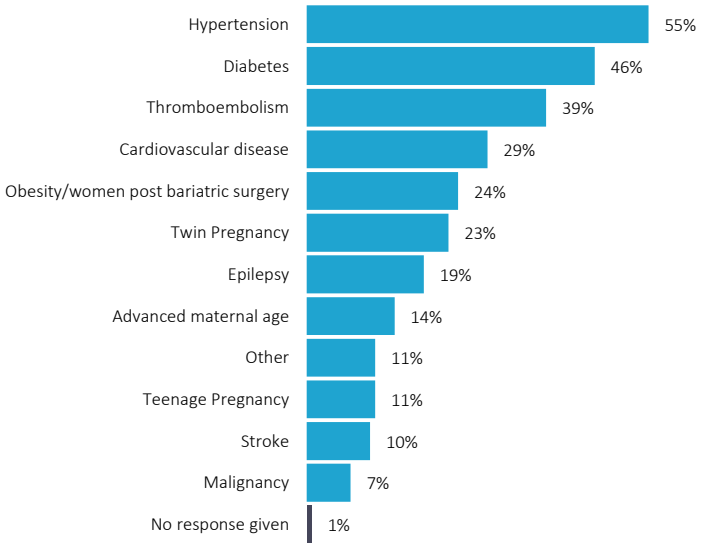
Guidance to improve care

NHS England's recent guidance document, *Equity and Equality: Guidance for Local Maternity Systems* outlines priorities for achieving equity and equality in maternity care [28]. Although equity cannot be achieved solely by changes to frontline knowledge and skills alone, the guidance highlights key priorities to improve standards of care on the themes of inclusivity, improving data, preventative programmes, and leadership and accountability. The analysis below compares this guidance with training data collected by Baby Lifeline. Though the guidance is new and was introduced after the period surveyed, this analysis may act as a benchmark for measuring the success of interventions being implemented on the frontline.

Findings

Table 5 details the subsections of NHS England's *Equity and Equality* guidance Priority 4, 'accelerate preventative programmes that engage those at greatest risk of poor health outcomes.' Relevant findings on training from the Baby Lifeline survey are displayed in the right-hand column. Only one maternity service provided their frontline professionals with training in all relevant topics within or which relate to NHS England's *Equity and Equality* guidance.

Table 5: Training relating to NHS England's *Equity and Equality: Guidance* (2021) 'Priority 4: Accelerate preventative programmes that engage those at greatest risk of poor health outcomes'

Guidance	Relevant Mind the Gap Findings
4a: Understand your population and co-produce interventions *Intervention 1: understand the local population's maternal and perinatal health needs (including the social determinants of health).*	***Less than three quarters of organisations considered the needs of the local population when deciding training priorities.***  Responses to this question varied from 56% of organisations in one region to 100% in others. In four of twelve regions, fewer than 60% of organisations stated that they considered the needs of the local population when deciding training priorities.
4b: Action on maternal mortality, morbidity and experience The guidance found no significant difference in the risk of death between women from different ethnic groups, when they adjusted for the following: • Medical co-morbidities • Maternal age • Inadequate use of antenatal care • Previous pregnancy problems • Substance misuse	***Co-morbidities*** **Which subtopics were provided as part of training in *Co-morbidities in pregnancy/management of high-risk pregnancies* (%)?** 

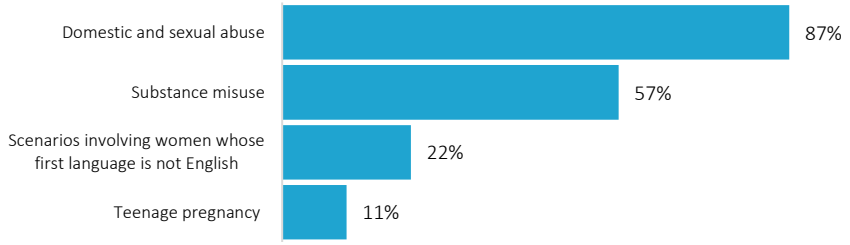
- Anaemia
- Diabetes
- Multiple pregnancy
- Unemployment

These factors should, therefore, be considered when seeking to reduce health inequalities in maternal mortality. We have assessed how often these factors, and related factors, are prioritised in training from the data we have.

Antenatal care and complex social factors

Six percent of organisations provided training in **all aspects** of 'complex social factors' (as determined by NICE 2010, below).

How many organisations provided training in areas related to complex social factors (as determined by NICE, %)?



Main elements of severe and multiple disadvantage

Overall, half of UK organisations (50%) provided all of the main elements of severe and multiple disadvantage in their training.

How many organisations provided training in subtopics as part of training in *Safeguarding adults* (%)?

4c: Action on perinatal mortality and morbidity

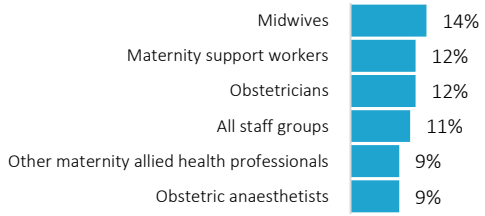
Intervention 2: implement a smoke-free pregnancy pathway for mothers and their partners.

How many organisations provided training in reducing smoking in pregnancy (%)?

4d: Support for maternity and neonatal staff

Intervention 1: roll out multidisciplinary training about cultural competence in maternity and neonatal services.

How many organisations mandated Cultural competency training, by staff group (%)?



Cultural competency training was one of the least provided topics in the last financial year. It was provided by fewer than a third of organisations (32%); only around one in ten mandated this training for all staff groups (11%).

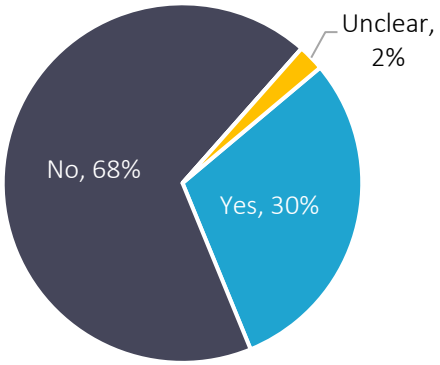
Diversity and Communication in Health Education

Due to their social complexity, all areas of health inequality identified above could not be explored in detail within this training audit. Nevertheless, specific gaps in training provision linked to diversity and communication in health education are highlighted.

Diversity

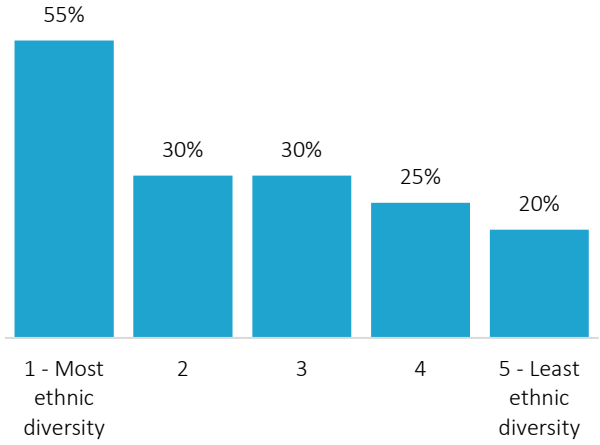
According to the General Medical Council's *Equality, diversity and inclusion strategy 2018-2020*, doctors should be 'equipped to treat the diversity of patients and service users in the UK population, irrespective of where they train' [29]. Similarly, *Mind the Gap: A handbook of clinical signs in Black and Brown skin* [30], published in 2020, highlighted the need to educate clinicians to recognise signs and symptoms on darker skin tones to avoid delays in diagnosis or misdiagnosis. As this publication states, language, descriptors and images used in medical textbooks 'often assume the patient is white.'

Graph 45: Did training in emergency skills & drills include **identification of clinical signs in people with Black and Brown skin**?



The Baby Lifeline survey results indicate that fewer than one-third of maternity service providers included training in the identification of clinical signs in people with Black and Brown skin in their *Emergency skills & drills* training.

Graph 46: % of organisations that provided training in identifying clinical signs in Black and Brown skin, by ethnic diversity quintiles.



To some extent, training in identifying clinical signs in Black and Brown skin appears to be more prevalent in areas with more ethnic diversity (Graph 46). However, even in the most ethnically diverse quintile, this training was provided by just over half of maternity service providers (55%). Other quintiles ranged from 30% of organisations to 20% providing this training.

When considered alongside national population data, our data show that **teaching in identifying clinical signs in people with Black and Brown skin is not universally offered across the UK.**

Population data source: NHS Digital Maternity Services Monthly Statistics Jan-Mar 2021

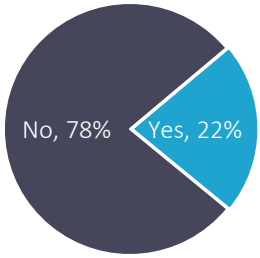
Communication

MBBRACE-UK [11] emphasised that several women who died in 2016-18 were women who did not have English as a first language. These women died because healthcare workers could not understand them, or because their different cultural expressions of illness were misunderstood:

> Communication difficulty seems to have been magnified as the women became more unwell, because of their inability to express themselves or misinterpretation by healthcare workers of different cultural expressions of illness. Ensuring appropriate communication is necessary to identify the severity of illness and any significant symptoms or signs
>
> *– Saving Lives, Improving Mothers' Care – MBRRACE-UK, 2020* [11]

MBRRACE-UK reported that five percent of women who died in 2017-2019 did not understand or speak English [24].

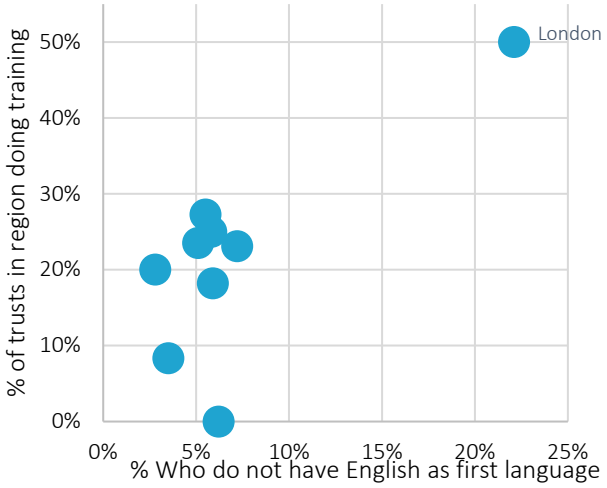
Graph 47: Does training in emergency skills & drills include **scenarios involving women whose first language is not English?**



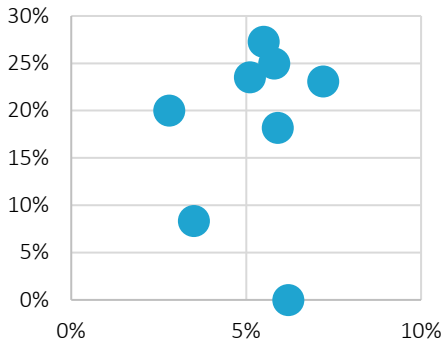
Around 1 in 5 maternity service providers indicated that they included scenarios involving women whose first language is not English in their *Emergency skills & drills* training (Graph 47).

Graph 48 demonstrates that there appears to be a positive correlation between those who do not have English as a first language and the percentage of maternity service providers that included scenarios involving women whose first language is not English. However, when the anomalous data point is removed – data from London – the trend line becomes weaker (Graph 49).

Graph 48: % in region who do not have English as a first language vs % Trusts in region including scenarios involving women whose first language is not English



Graph 49: % in region who do not have English as a first language vs % Trusts in region that included scenarios involving women whose first language is not English – London removed from graph.



Data source: Office of National Statistics, 2011 Census: Detailed analysis – English language proficiency in England and Wales, Main language and general health characteristics.

AVOIDABLE HARM AND DEATHS IN BABIES

Survey findings

- There are detrimental gaps in training happening which relates to themes in avoidable harm, and provision across organisations varies significantly.

Report recommendations

- Guidance must set out clear priorities in training relating to avoidable harm. The Core Competency Framework, devised by NHS England, is a step towards this but the framework must adapt and change based on national trends.

Improvements needed to reduce the number of baby deaths and injuries nationally

The National Maternity Safety Ambition aims to halve the rates of stillbirths, neonatal and maternal deaths, brain injuries occurring during or soon after birth, and reduce the rate of preterm birth by 2025 in comparison to 2010 levels [17].

The rate of extended perinatal deaths (stillbirths and neonatal deaths) fell by 18% between 2013 and 2019, likely due to the implementation of national initiatives to reduce perinatal mortality [5]. However, the Office for National Statistics predicts that the rate is not decreasing fast enough for the National Ambition to be achieved by 2025 [31]. Significantly, the proportion of avoidable deaths and injuries has not changed – around three in four perinatal deaths and injuries could be avoided with better care [3] [9].

Recurring themes in avoidable harm

In the past few years, contributory factors, trends or themes have recurred across the many studies, reports, enquiries and reviews which survey perinatal deaths and injuries in the UK [3] [4] [5] [8] [9] [11] [12] [15] [18] [25] [32] [33] [34]. These repeated themes show areas of care that require improvement in order to reach the National Ambition. Each Baby Counts concluded that where different care might have made a difference to outcome, 'education and training issues' was the second-highest contributory factor in death or injury, after risk recognition [3].

Avoidable harm and maternity training: our analysis

The survey targeted themes in confidential enquiries and investigations into perinatal deaths and injuries to identify the recurring themes that relate to avoidable harm. The overarching themes are summarised below, roughly listed in order of how frequently the research team observed the themes occur in perinatal enquiries and reports.[2]

1. Clinical risk recognition
2. Human factors and communication
3. Fetal monitoring
4. Management of labour/delivery
5. Cultural considerations and communication
6. Newborn Life Support and neonatal collapse
7. Reducing smoking
8. Reduced fetal movement
9. Co-morbidities
10. Fetal growth
11. Management of complications and emergencies

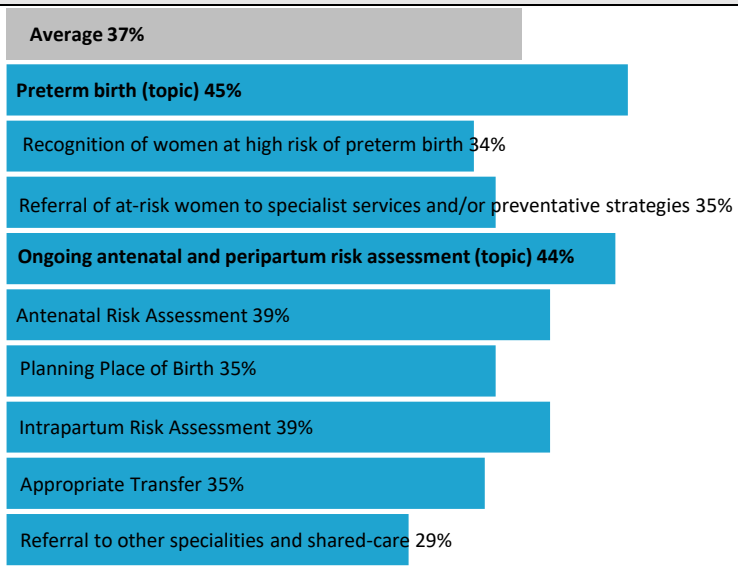
[2] Reports differ both in their means of reviewing, and in their means of categorising perinatal death and injury.

Theme One: Clinical risk recognition

The research team observed that errors associated with the recognition of risk were amongst the most frequently occurring themes in reports investigating baby deaths and injuries.

To explore the provision of training in topics related to risk recognition, selected training topics were audited: *Ongoing antenatal and peripartum risk assessment*, and risk relating to *Preterm birth* (Table 6). As three out of four babies who died in the latest mortality surveillance report were premature, identifying those who are pregnant and at risk of preterm birth is an area for improvement that could have a significant impact on achieving the National Ambition [5]. Training in topics and subtopics related to risk recognition and assessment of risk were offered by just over one third (37%) of providers.

Table 6: Relevant reports and training provision in topics and subtopics related to clinical risk recognition

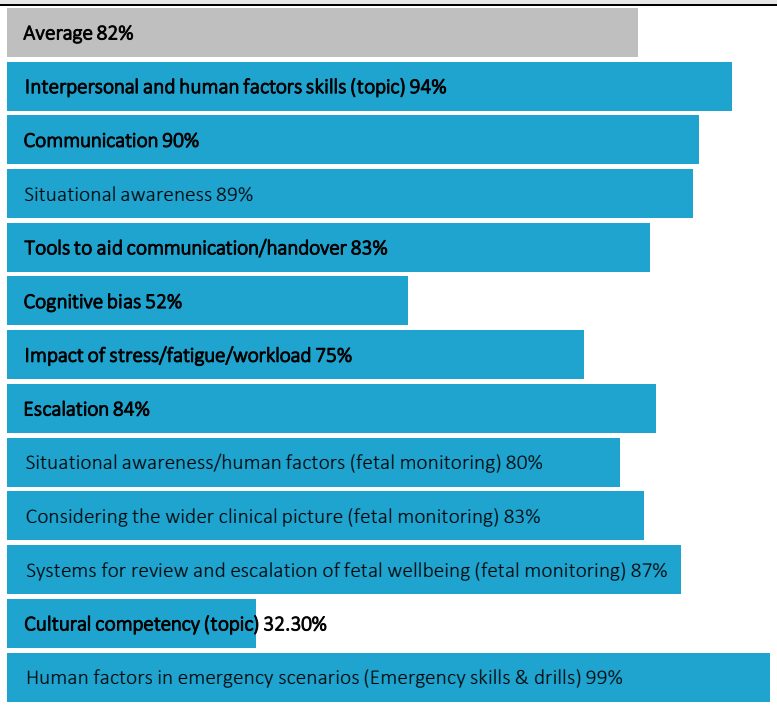
Theme One: Clinical risk recognition	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34]: – Early recognition of risk – Reduced fetal movements – Lack of follow-up/referral – Fundal height measurements not plotted on chart – Safety of intrapartum care	
Each Baby Counts Final Progress Report (2021): – **Risk recognition** theme total (76%) – Incorrect assessment of risk (56%) – Failure to escalate/act/transfer (50%) – Risk recognition other (8%)	
ESMiE Confidential Enquiry (2020): – Recognising risk – Risk assessment – Development of a care plan	
MBRRACE-UK Perinatal Confidential Enquiry (2021): – Preterm birth	
What do the reports say?	
"[…] lack of appropriate risk assessment for planning birth in a midwifery-led setting, lack of care planning in the presence of risk factors, or lack of discussion or documentation about the risks and benefits of different birth settings. For 12 women, this was judged to be probably or almost certainly relevant to the outcome for the baby." [32] *"Given the slower progress towards the reduction in neonatal mortality rates emphasis should be placed on reducing rates of preterm birth, particularly the most extreme preterm group… The data shows the marked impact of preterm birth in relation to both stillbirth and neonatal death rates in the UK, with data for 2019 showing that almost three-quarters of stillbirths (including late fetal losses) and neonatal deaths were for births before 37 weeks gestational age (75% and 73% respectively."* [5]	

Theme Two: Human factors and communication

Problems with escalation, lack of situational awareness and communication issues have a significant impact on care, and reports highlighted that these problems were especially significant when situations involved staff and parents from Black, Asian and minority ethnic communities. HSIB described such miscommunications as having a 'catastrophic effect' on both pregnant people and their babies.

Cultural competency was therefore included as a 'human factor' alongside training in *Interpersonal and human factors skills* and *Fetal monitoring*. Training in *Interpersonal and human factors skills* was offered by most providers (94%), and training in human factors skills was provided by more than four fifths of providers as part of training in *Fetal monitoring* (Table 7). Provision of subtopics varied, however, and *Cultural competency* was offered by fewer than one-third of providers (32%).

Table 7: Relevant reports and training provision in topics and subtopics related to human factors and staff communication

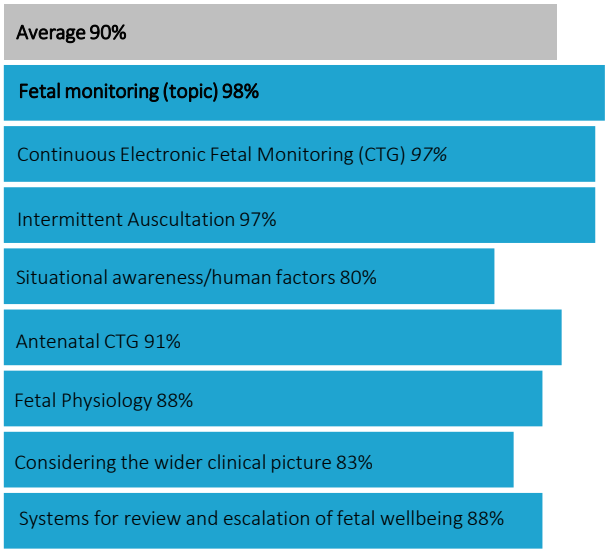
Theme Two: Human factors and staff communication	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34] – Escalation – Handovers – Cultural considerations – Fetal monitoring	
Each Baby Counts Final Progress Report (2021) [3] – **Individual human factors** total (58% of cases): – Lack of situational awareness (47%) – Lack of team leadership (24%) – Stress (5%) – Fatigue (3%) – Other (10%) – **Team communication issues** total (53%) – Poor intra- or inter-professional communication (43%) – Poor record-keeping/written documentation (23%) – Other (6%) – **Patient factors** total (15%) – including Communication issues (4%)	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Communication – Delays to referral – Situational awareness – Failure to recognise a problem	
ESMiE Confidential Enquiry (2020) [32] – Situational awareness and capacity	
What do the reports say?	
"HSIB investigations found a disproportionate number of misunderstandings and miscommunications between staff and parents from Black, Asian, minority and ethnic communities. This can lead to the mother receiving inappropriate care during her pregnancy and influence the choices she makes, sometimes with serious or catastrophic effects on mother and baby." [34] *"Human factors such as situational awareness, stress, fatigue, clinical leadership and communication in multidisciplinary frontline teams as crucially important to safety and quality of care."* [3]	

Theme Three: Fetal monitoring

Errors with cardiotocography (CTG) and blood sampling were a contributory factor in over half of cases reviewed by Each Baby Counts, and issues with intermittent auscultation were a contributory factor in almost one fifth of cases.

Fetal monitoring training was provided by almost all of organisations (98%). However, content within the training that related to avoidable harm was patchy (Table 8). Organisations were less likely to provide training in the non-technical skills (human factors/situational awareness) than the clinical aspects of fetal monitoring.

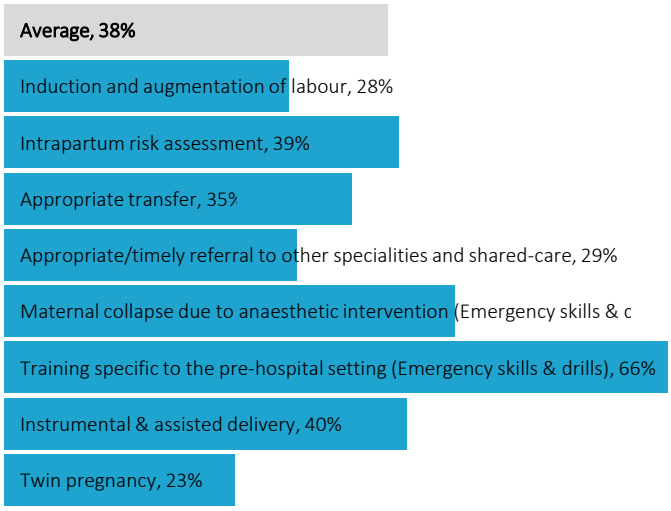
Table 8: Relevant reports and training provision in topics and subtopics related to fetal monitoring

Theme Three: Fetal monitoring	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34] – Early recognition of risk – Errors in CTG reading – Delays in escalation	
Each Baby Counts Final Progress Report (2021) [3] – **CTG and blood sampling** theme total (56%) – CTG technique/equipment (13%) – Errors of interpretation of CTG (29%) – Failure to act upon suspicious/pathological CTG (37%) – Other (15%) – **Intermittent auscultation** theme total (18%) – Technique/equipment/timing (10%) – Errors of interpretation/failure to detect pathology (6%) – Failure to act upon suspicious findings (8%) – Other (4%)	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Method of monitoring incorrect in 20% of cases – Errors in method, interpretation, escalation and response to Fetal monitoring: – Intermittent auscultation error – Failure to start CTG following abnormal intermittent auscultation – Hourly review not documented – Delays in referral – Lack of situational awareness	
ESMiE Confidential Enquiry (2020) [32] – Continuous electronic fetal monitoring – Lack of systematic review – Delay in obstetric review of continuous electronic fetal monitoring – Failure to recognise, or delay in recognising, pathological – Cardiotocographs and/or to act appropriately – Delay in establishing CTG after transfer – Poor quality cardiotocographs trace	
What do the reports say?	
"Panels highlighted fetal monitoring before the onset of labour as being problematic, due to delays in initiating or continuing fetal monitoring or the incorrect interpretation and management of abnormal CTGs." [4] *"Revisiting the issue of training in fetal monitoring (both intermittent auscultation and CEFM) would be appropriate as the same issues are present today as they were 25 years ago, despite the introduction of more formalised and mandatory training."* [4]	

Theme four: Management of labour/delivery

Each Baby Counts found that 'Management of labour including induction/augmentation issues' was a contributory factor in one third of cases reviewed, and training in *Induction and augmentation of labour* was provided by fewer than one third of organisations. Training in topics related to management of labour/delivery were provided by fewer than four in ten (38%) organisations (Table 9).

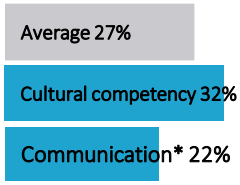
Table 9: Relevant reports and training provision in topics and subtopics related to management of labour/delivery

Theme Four: Management of labour/delivery	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34] – Safety of intrapartum care	
Each Baby Counts Final Progress Report (2021) [3] – **Management of delivery (delay)** theme total (46%) – Delay in delivery due to staff/theatre Availability (10%) – Delay in delivery due to waiting for results (1%) – Other (41%) – **Management of labour** theme total (33%) – Induction/augmentation issues (24%) – Other (12%) – **Management of delivery** theme total (22%) – Inappropriate delivery technique (9%) – Anaesthetic issues (4%) – Other (11%)	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Induction of labour – Delays to referral – Delay in expediting birth (38%)	
ESMiE Confidential Enquiry (2020) [32] – Transfer during labour	
What do the reports say?	
"There were problems for a third of women who required induction of labour [including] delays in starting or continuing induction or both." [4] *"Delay in expediting the birth was noted by the review panels in over a third of cases."* [4] *"Investigations found that where a low risk admission categorisation was assigned there could be delayed consideration of alternative care pathways when indicated by changes in the mother's or baby's condition. […] A significant number of investigations found emphasis on advising mothers to remain at home, and mothers not being invited into the clinical setting in what was perceived as 'early labour', without full assessment of the clinical picture."* [34]	

Theme Five: Cultural considerations and communication

Improving outcomes by tackling health inequalities linked to those with increased risks factors like social deprivation and ethnicity is a key area for progress towards the National Ambition [5]. Communication and cultural awareness are central to improvements to care for these women and birthing people at higher risk and their babies. Training relating to cultural considerations and communication was carried out by less than a third of organisations (27%) – the least included in training of the avoidable harm themes identified in this section (Table 10).

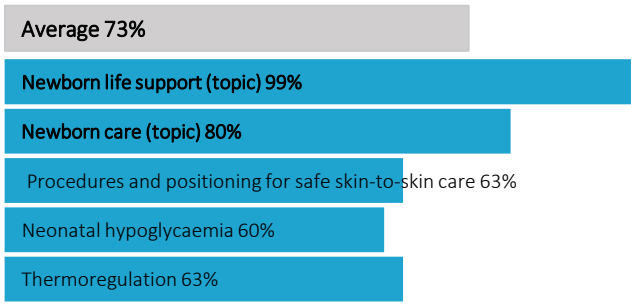
Table 10: Relevant reports and training provision in topics and subtopics related to cultural considerations and communication

Theme Five: Cultural considerations and communication	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34] – **Cultural considerations** – Culture – Language – Ethnicity	 *Emergency skills drills training which involves scenarios with women whose first language is not English.
Each Baby Counts Final Progress Report (2021) [3] – **Patient factors** theme total (15%) – Access issues (2%) – Communication issues (4%)	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Language (21%)	
What do the reports say?	
"The impact of culture, ethnicity and language of parents needs to be discussed and considered during the antenatal risk assessment process, during initial assessment and during follow up." [34]	

Theme Six: Newborn Life Support and neonatal collapse

Nearly all organisations surveyed (99%) provided training in *Newborn Life Support*. However, fewer than two thirds (63%) included training in safe skin-to-skin care in their *Newborn care* training.

Table 11: Relevant reports and training provision in topics and subtopics related to Newborn Life Support and neonatal collapse

Theme Six: Newborn Life Support and neonatal collapse	
Relevant reports and subtopics	**Training provided %**
HSIB Summary of Themes (2020) [34] – Neonatal collapse alongside skin-to-skin contact	
Each Baby Counts Final Progress Report (2021) [3] – Inappropriate Newborn Life Support (NLS) technique (9%)	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Newborn Life Support (NLS) – Resuscitation	
Esmie Confidential Enquiry (2020) [32] – Failure to follow resuscitation guidance – Inadequate leadership around resuscitation	
What do the reports say?	
"In seven cases [...] The attending staff did not follow the guidelines in terms of approach. This may have been because of a lack of training, a lack of experience or human error." [4]	

Themes seven, eight and ten: Reducing smoking in pregnancy, Reduced fetal movements and Fetal growth

Training in topics related to *Reducing smoking in pregnancy*, *Reduced fetal movements* and *Screening for fetal growth* is mentioned in best-practice guidance – such as the latest version of the Saving Babies Lives Care Bundle – along with *Fetal monitoring* and *Reducing preterm birth*. *Reducing smoking in pregnancy* is the biggest modifiable risk factor for negative outcomes for both mother and baby. [35]

Training seems to be provided more consistently in topics where guidance such as version two of the Saving Babies' Lives Care Bundle exists.

Table 12: Relevant reports and training provision in topics and subtopics related to reducing smoking in pregnancy

Theme Seven: Reducing smoking in pregnancy	
Relevant reports	**Training provided %**
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] Smoking associated with intrapartum-related perinatal death	Reducing smoking in pregnancy (topic) 76%
What do the reports say?	
"Failure to adequately screen for smoking in over half of the deaths considered here represents a potential lost opportunity to intervene to improve outcomes." [4]	

Table 13: Relevant reports and training provision in topics and subtopics related to reduced fetal movements

Theme Eight: Reduced fetal movements	
Relevant reports	**Training provided %**
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Advice about reduced fetal movements – Failure to follow national guidance	Management of reduced fetal movement (topic) 54%
Esmie Confidential Enquiry (2020) [32] – Failure to follow national guidance	
What do the reports say?	
"For those women who attended with reduced fetal movements, management did not follow national guidance in a third of cases." [4]	

Table 14: Relevant reports and training provision in topics and subtopics related to fetal growth

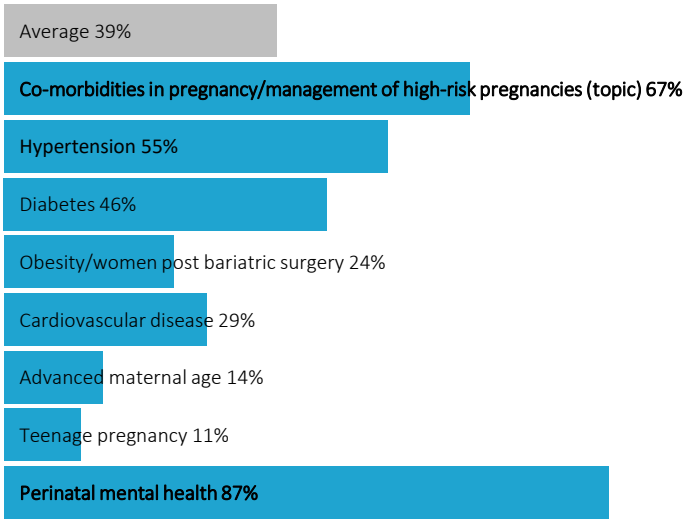
Theme Ten: Fetal growth	
Relevant reports	**Training provided %**
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Appropriate screening for fetal growth	Average 88% Screening for fetal growth (topic) 93%
Maternity Incentive Scheme Year 3 (2021) [21] – Measuring fundal height, plotting on charts – Interpreting appropriately & referring	Measurement of symphysis fundal height 87% Plotting and interpretation of symphysis fundal height using local charts 87%
ESMiE Confidential Enquiry (2020) [32] – Inconsistent or incorrect plotting or frequency – Failure to refer	When to refer 86%
What do the reports say?	
"Screening for fetal growth disorders was not performed according to national evidence-based guidance in a quarter of cases [...] and for most this was considered by the panel to be major or significant." [4]	

Theme nine: co-morbidities

Studies acknowledge that intrapartum-related perinatal deaths may occur as a result of co-morbidities associated with the mother or birthing person, or problems in the antenatal period [4]. Training provision in *Co-morbidities* was offered by 67% of providers in 2020-2021 compared with 79% in 2017-18 and the subtopics offered as part of this training varied widely (Table 15).

Only one quarter (24%) of organisations included training in obesity/women post-bariatric surgery, despite evidence that women are increasingly likely to have a stillbirth or antenatal fetal death as BMI rises [12]. Improved strategies to reduce obesity in pregnancy was recently highlighted by MBRRACE-UK as a key strategy for progressing towards the National Ambition [5].

Table 15: Relevant reports and training provision in topics and subtopics related to co-morbidities

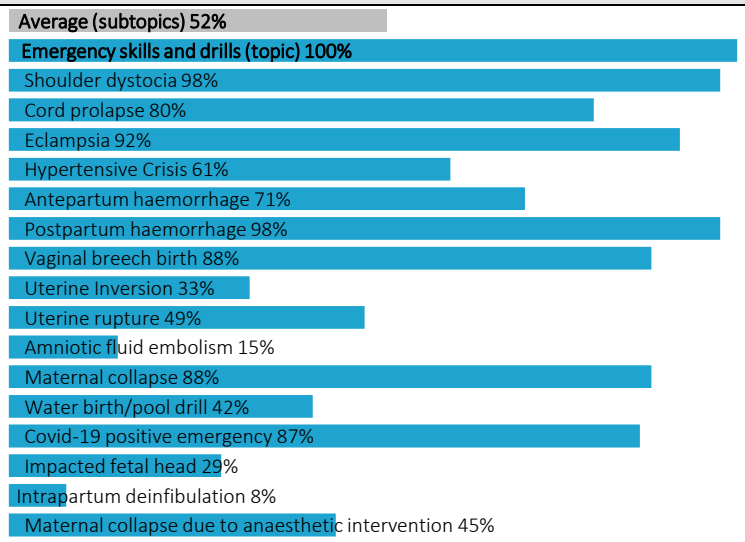
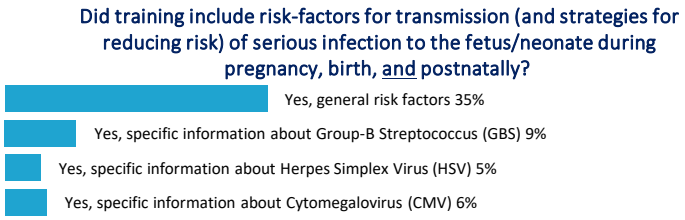
Theme Ten: Co-morbidities	
Relevant reports	**Training provided %**
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Diabetes – Hypertension – Maternal age >35 – Mental health conditions – Cardiac disease	
National Maternity and Perinatal Audit (2021) [12] – Obesity – Multiparity – Diabetes – Hypertension – Previous caesarean section	
Ockenden Report: (2020) [15] – Pre-existing co-morbidities/other medical risk factors	
What do the reports say?	
"Although an intrapartum-related perinatal death occurs due to events that take place in or around the time of labour, the events which culminate in the death of a baby may have their origins in the antenatal period […] Maternal demographic characteristics and medical conditions include cigarette smoking, maternal age >35, prior caesarean section, diabetes and hypertensive disorders." [4] *"With increasing BMI, women are increasingly more likely to have an LGA or stillborn baby. We know that the majority of fetal deaths occur antenatally (not intrapartum), and that a BMI of 30 kg/m2 or above increases the risk of antenatal fetal death."* [12]	

Theme Eleven: Management of complications and emergencies

Though training in *Emergency skills & drills*, which encompasses many of the 'Management of complications and emergencies' themes such as shoulder dystocia and breech birth, was provided by all organisations, there was inconsistency across the provision of subtopics in this theme, shown in Table 16. Training in 'uterine rupture,' for example, was provided by fewer than half of organisations, despite being identified as a significant complication in intrapartum stillbirths and intrapartum-related neonatal deaths reviewed by MBRRACE-UK [4].

Mismanagement of Group B streptococcus (GBS) also appears as a significant avoidable harm theme in perinatal reports [4], and yet training which gives specific information regarding risk factors for transmission of GBS was offered to maternity staff by fewer than 1 in 10 organisations (9%).

Table 16: Relevant reports and training provision in topics and subtopics related to Management of complications and emergencies

Theme Eleven: Management of complications and emergencies	
Relevant reports	**Training provided %**
HSIB Summary of Themes (2020) [34] – Group B streptococcus – Larger babies	
MBRRACE-UK Perinatal Confidential Enquiry (2017) [4] – Complications including: – Shoulder dystocia – Cord prolapse – Uterine rupture – Antepartum haemorrhage – Pyrexia – Group B streptococcus – Meconium	
NHSR Five years of Cerebral Palsy Claims (2017) [33] – Breech birth – Shoulder dystocia	
What do the reports say?	
"Investigations found problems where positive tests for GBS [Group B streptococcus] were not communicated to the mother or noted clearly in the case records. As a result, the recommended care and antibiotic treatment in labour was not given. Also, the identification and escalation of care for babies who show signs of GBS infection after birth was missed. This has resulted in severe brain injury and death for some of the affected babies." [34] *"Babies that are significantly larger than average are at increased risk of a birth injury, brain damage or, very rarely, death, because their shoulders get stuck during birth."* [34] *"Trust boards, alongside their obstetric and midwifery leads, must ensure that all staff undergo annual, locally led, multiprofessional training, which includes simulation training for breech birth."* [33]	

AVOIDABLE HARM THEMES IN MATERNAL MORTALITY REPORTS

Survey findings

- Training priorities in the last financial year did not seem to reflect the leading causes of direct and indirect maternal death nationally in the last MBRRACE-UK Confidential Enquiry (2020) or in the latest Rapid Reviews relating to COVID-19.
- Training in clinical skills relating to the assessment of a COVID-19 positive woman, or emergencies involving a COVID-19 positive woman were widely provided. Nevertheless, fewer than half of organisations provided this training in a multi-professional setting.

Report recommendations

- National guidance on training should consider avoidable harm themes in maternal mortality.
- Training in maternal mortality should be attended by a multi-professional team, particularly where it is recommended that teams work together to optimise care.

Improvements to care would save lives

The most recent data provided by MBRRACE-UK [24] illustrate that there was no statistically significant difference in maternal mortality between the 2010-12 and 2017-19 triennia. Improvements to care could have made a difference to outcome for over a third of women who died, and for over two thirds of women who died by suicide. Over 80% of women who died did not receive good care [24].

Two thirds of women who died during pregnancy or up to six weeks after pregnancy in 2017-2019 had a pre-existing physical or mental health condition [24]. Similarly, the Healthcare Safety Investigation Branch (HSIB) maternity investigation into women who died during the first wave of the COVID-19 pandemic found that nearly 80% had a pre-existing medical condition [36].

As well as physical and mental conditions, the MBRRACE-UK report pointed to a constellation of systemic biases and stated that 'the imperative to address the systemic issues of cultural and structural biases affecting women's care on the basis of their pregnancy is more fundamental than ever to the prevention of maternal death and disease' [24]. These issues are not solely the responsibility of maternity services, but multi-disciplinary training involving specialists could improve communication and joined-up systemic processes as well as improved recognition of women in need of specialist support. The report highlighted the importance of training both under-graduates and post-graduates in helping to reduce maternal mortality.

Training in co-morbidities is not universal across all maternity services

Despite two thirds of the risk of maternal death being attributed to medical co-morbidities and two thirds of women who died in 2017-19 having a known pre-existing medical condition, **training for the frontline is still only mandated in just over half of organisations and provided by around two thirds** (Table 17).

Table 17: Relevant reports and training provision in *Co-morbidities in pregnancy/management of high-risk pregnancies*

Co-morbidities	
Relevant reports	**Training provided %**
• "Almost two-thirds of the risk of maternal death from direct and indirect causes could be attributed to medical comorbidities." [37] • "Two-thirds of women who died in 2017-19 were known to have pre-existing medical problems" [24]	Did your organisation provide training in *Co-morbidities in pregnancy/management of high-risk pregnancies* to maternity staff?

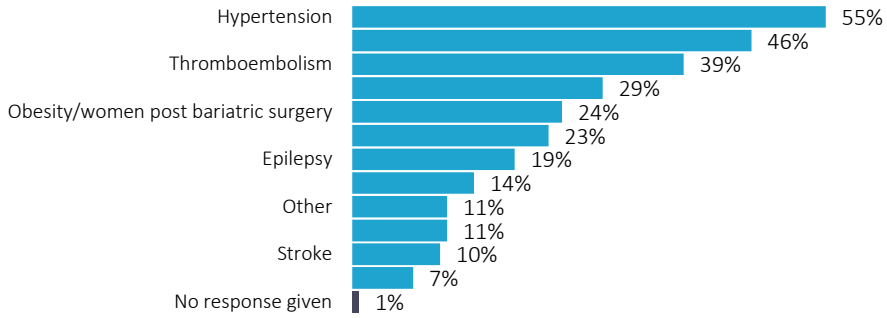
Training in co-morbidities did not seem to reflect leading causes of maternal death

Training priorities in co-morbidities in the last financial year did not seem to reflect the leading causes of direct and indirect maternal deaths nationally. The most frequently provided topic within co-morbidities was hypertension in 2020/21. This appears to correlate with a dramatic decrease in deaths relating to hypertensive disorders in the last maternal mortality data due to the uptake of recommendations from Confidential Enquiries [38], further demonstrating the need to implement recommendations properly and to the frontline.

Despite cardiac disease being the largest single cause of death year-on-year, fewer than one third of trusts provided training in this topic. Similarly, thromboembolism (blood clots) is the leading cause of direct maternal death during or up to six weeks after the end of pregnancy – causing around 1 in 9 deaths in 2017-19 – and yet fewer than 40% of organisations included it within their training.

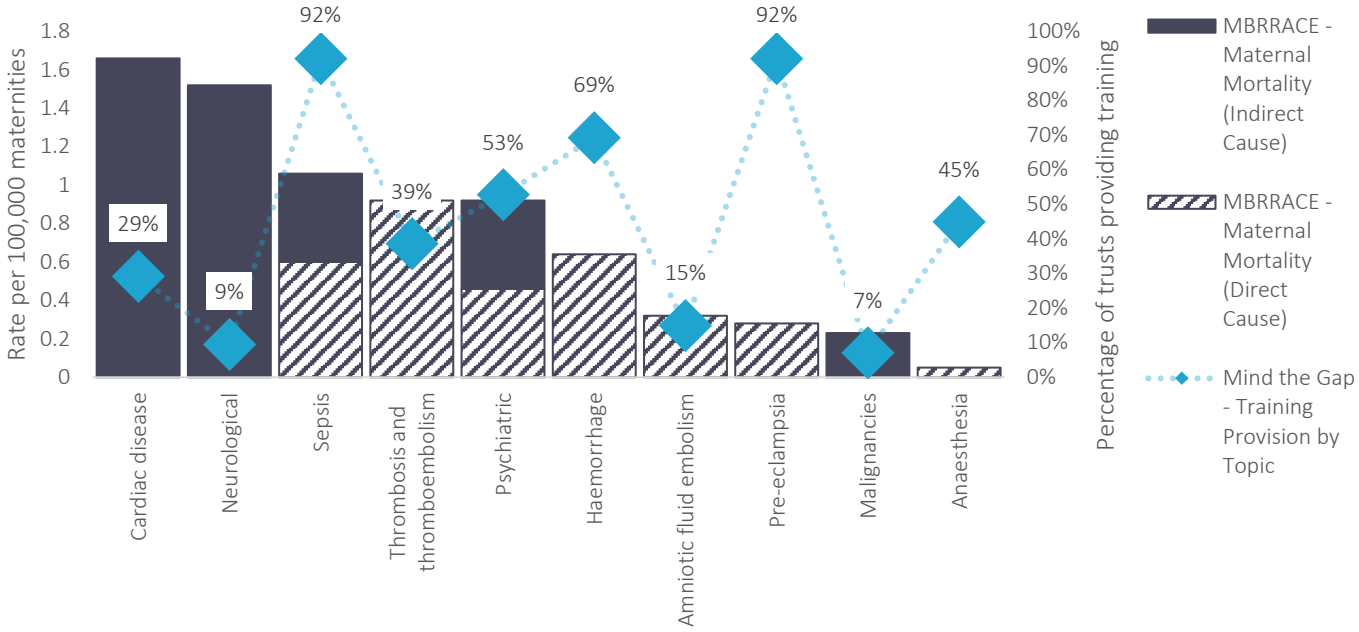
Epilepsy and stroke were the second most common cause of maternal death in 2017-19 but training in epilepsy was provided in fewer than 1 in 5 organisations, and stroke was provided by 1 in 10 organisations.

Content Within Co-morbidities Training	
Maternal mortality	**Training provided %**
Causes of death • Cardiac disease: 36 women (19%) • Blood clots: 20 women (10%) • Epilepsy and stroke: 33 women (17%) **Factors** • Over half of women (52%) were overweight or obese.	Content provided within training on co-morbidities in pregnancy/management of high-risk pregnancies (% of responding providers)



What do the reports say?
"Cardiac disease remains the largest single cause of indirect maternal deaths." [24] *"Nearly a quarter (23%) of the women who died in this triennium were obese and a further 29% were overweight."* [24] *"Thrombosis and thromboembolism remains the leading cause of direct maternal death during or up to six weeks after the end of pregnancy.* [24] *"Maternal suicide remains the leading cause of direct deaths occurring within a year after the end of pregnancy."* *"Neurological causes (epilepsy and stroke) are the second most common indirect cause of maternal death."* [24]

Graph 50: Maternal mortality by cause against training provision by topic



Analysis notes for above data labels:

- Neurological: Training in **both** epilepsy and stroke.
- Psychiatric: Training in **both** perinatal mental health and substance misuse.
- Haemorrhage: Training in **both** antepartum haemorrhage and postpartum haemorrhage.

As Graph 50 shows, priorities in training do not seem to reflect national data on the leading causes of maternal mortality. National awareness campaigns in topics like pre-eclampsia, haemorrhage, and sepsis have had an impact in the provision of training across maternity services.

In the MBRRACE-UK 2021 report, one in twelve mothers who died had severe and multiple disadvantages, often a mental health diagnosis, substance abuse and/or domestic abuse. Training in psychiatric content, which we defined as including training in perinatal mental health **and** substance misuse, was provided by just over half of organisations (53%). Safeguarding adults was provided by 95% of organisations and mandated in around 91%; domestic and sexual violence was included in 87% of organisations.

Maternal mortality during the COVID-19 pandemic

Rapid reviews of maternal mortality during the pandemic were published to share learning and improve care. MBRRACE-UK and HSIB looked at deaths relating to and associated with COVID-19 from March-May 2020, and MBRRACE-UK published a further report looking at June 2020 – March 2021.

COVID-19 Infection

Severe infection with COVID-19 was the leading cause of indirect maternal death during the pandemic [36], [20], [27]. Recommendations from MBRRACE-UK included: the need for timely recognition of deterioration, early assessment by a multi-professional team, and obstetric leadership [20], [27].

Training in clinical skills relating to COVID-19 were provided by most organisations. Training related to both 'COVID-19 positive emergency' (87%) and 'assessment of a COVID-19 positive woman or birthing person' was provided by

75% or organisations. However, this training was only delivered multi-professionally in fewer than half of organisations (47%).

Blood clots

Data show that pregnant women infected with COVID-19 are at increased risk of thromboembolism [39]. The HSIB national learning report into maternal deaths between March and May 2020 concluded that the leading cause of direct deaths was blood clots [36].

The Baby Lifeline survey found that training in thrombosis and thromboembolism decreased slightly during the pandemic when compared to 2017/18 (42%), with fewer than two in five organisations providing the training in 2020/21 (39%).

Domestic violence

Social restrictions and lockdowns brought in to combat the spread of the pandemic may have led to an increase in reported cases of domestic abuse (though research suggests that rates of domestic abuse were rising even before the pandemic [40]). Furthermore, studies have shown that the prevalence of domestic violence increases in pregnancy and postpartum [41]. Two of ten women reported in the MBRRACE-UK Rapid Report (March-May 2020) died as a result of domestic violence [20].

We found that the training topic *Safeguarding adults* was provided to maternity staff in 2020/21 by most organisations (95%), and almost all included content on domestic and sexual violence (87%).

Early warning systems

The rapid reviews into maternal deaths during the pandemic also noted the incorrect use of early warning systems to detect a pregnant woman who is deteriorating.

Training in *Early recognition and management of the acutely unwell woman* was provided by almost 9 out of 10 organisations (89%), and it was mandatory training in over 8 out of 10 (82%). Most organisations (88%) included the appropriate use of maternal early warning systems (MEOWS or similar) in that training.

The training was not always attended by the whole maternity team; it was mostly attended by midwives (82%), with around three quarters of organisations stating that obstetricians attended (78%), and obstetric anaesthetists and maternity support workers attending in around two thirds of trusts (64%, 65%). Training was provided in a multi-professional setting in around two thirds of organisations (68%).

Mental health

Mental health was a theme for both Rapid Reviews carried out by MBRRACE-UK; four of ten women died by suicide in March-May 2020, and six of seventeen women from June 2020-March 2021 had pre-existing mental health conditions [20] [27]. MBRRACE-UK has called for effective multidisciplinary care for women with complex physical and mental health needs since its first report in 2014.

Training in *Perinatal mental health* was provided by 87% or organisations and mandated in 71%. The training was attended mostly by midwives (71%), with fewer than half of organisations mandating the training for obstetricians (39%) and maternity support workers (43%), and only 16% mandating the training for obstetric anaesthetists.

SAVING BABIES' LIVES VERSION TWO – RECOMMENDATIONS SPECIFIC TO TRAINING

Survey findings

- Provision of the training elements of the Saving Babies' Lives Care Bundle (SBLCB) has increased in every region of England and in Wales since 2017/18.
- Around three quarters of organisations (74%) were providing some training in the three elements of the bundle where training is mentioned (82% in England).
- Compliance drops significantly when looking at the precise training recommendations, with 22% of UK providers and 26% of providers in England implementing the training elements of the bundle in full.
- However, this is still an increase from 2017/18 when full implementation was eight percent.

Report recommendations

- Any national or local evaluations of compliance with SBLCB should be based on the specific recommendations within the bundle rather than a more generalised approach.
- Consideration should be given to rolling out SBLCB in Wales, Scotland, and Northern Ireland.
- Providers should consider offering training in the two elements of the bundle in which training is not specifically mentioned, particularly *Preterm birth*.

Saving Babies' Lives Care Bundle Version 2

Introduced in 2019, *Saving Babies' Lives Care Bundle Version Two: A care bundle for reducing perinatal mortality* provides detailed, evidence-based information and guidance for maternity providers with the aim of reducing stillbirths [8]. The original bundle focused on four elements: Reducing smoking in pregnancy; Risk assessment, prevention and surveillance of pregnancies at risk of fetal growth restriction (FGR); Raising awareness of reduced fetal movement (RFM); and Effective monitoring during labour [42]. Version two introduced a fifth element, Reducing preterm birth. Prior to the release of version two, the NHS in England made a commitment to 'support maternity services to fully implement the expanded SBLCB in 2020' [43].

SBLCB (version two) contains recommendations specific to training for three of the five elements: Reducing smoking in pregnancy, Fetal growth restriction, and Effective monitoring during labour. The last Mind the Gap report (2017/18) found that fewer than eight percent of trusts provided all training elements of the first Saving Babies' Lives Care Bundle [2].

The next pages of this report analyse the results of the Baby Lifeline training survey in order to identify maternity service providers' 'compliance' with NHS England's recommendations for training as outlined in SBLCB (version two) [8].

Exclusions

Two providers that responded to the request (one English and one Welsh provider) were excluded from the analyses in this section on the basis of being community services which are midwifery-led. Recommendations regarding training in Element 4 were deemed not to be applicable to these providers. Therefore, specific analyses of implementation of the care bundle and its elements use 'eligible responding providers' as their denominator (n=125). Though SBLCB (version two) has only been rolled out in England, the analysis below includes information from providers across the UK.

Compliance with training recommendations in SBLCB(v2)

Saving Babies' Lives Care Bundle Version Two: A care bundle for reducing perinatal mortality

Recommendations for training are explicitly mentioned in 3 of the 5 Care Bundle Elements. When these were compared to responses to Mind the Gap 2020/21:

63%
provided all training recommendations outlined for
Element 1
Reducing Smoking in Pregnancy

This is an increase from 51% in 2017/18

49%
provided all training recommendations outlined for
Element 2
Risk assessment, prevention and surveillance of pregnancies at risk of fetal growth restriction (FGR)

This is an increase from 31% in 2017/18

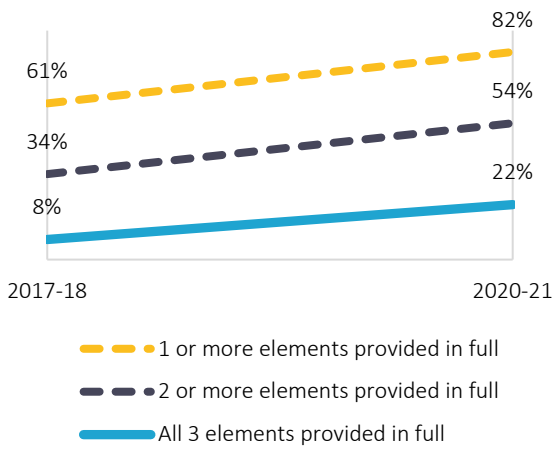
45%
provided all training recommendations outlined for
Element 4
Effective fetal monitoring during labour

This is an increase from 20% in 2017/18

In the UK
21.6%
provided all elements of training recommended by the Saving Babies' Lives Care Bundle
This is an increase from 7.9% in 2017/18*

**% of responding providers in 2017/18 (n=140) and eligible responses in 2020/21 (n=125). Comparisons made based on the current version of the SBLCB at the time of the request: for 2017/18, this was Version 1 and for 2020/21, this was Version 2. For detailed notes on inclusion criteria for each element, see below.*

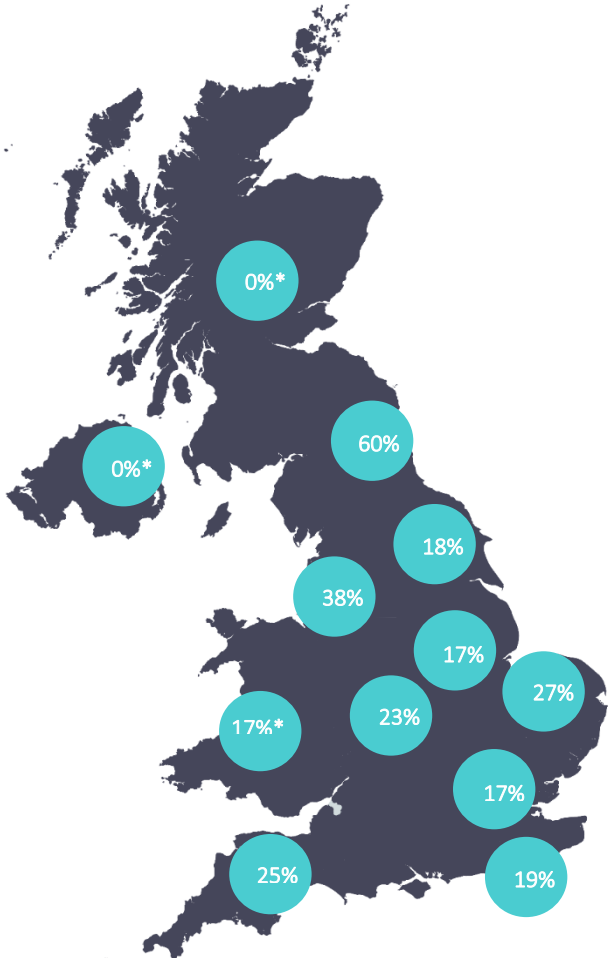
Graph 51: How many organisations provided 1, 2, or all 3 elements of the bundle in full?



Full provision of the training elements of the Saving Babies' Lives Care Bundle has increased almost threefold since 2017/18 from fewer than one in 12 to more than one in five providers (Graph 51). Compliance has increased across all three elements.

The biggest increase in compliance was seen in recommendations for Element 4 (Effective fetal monitoring during labour). This is despite recommendations for this element becoming more detailed in the most recent version of the bundle.

Overall implementation of training recommendations by region



In England

26%

provided all elements of training recommended by the Saving Babies' Lives Care Bundle

This is an increase from 10% in 2017/18

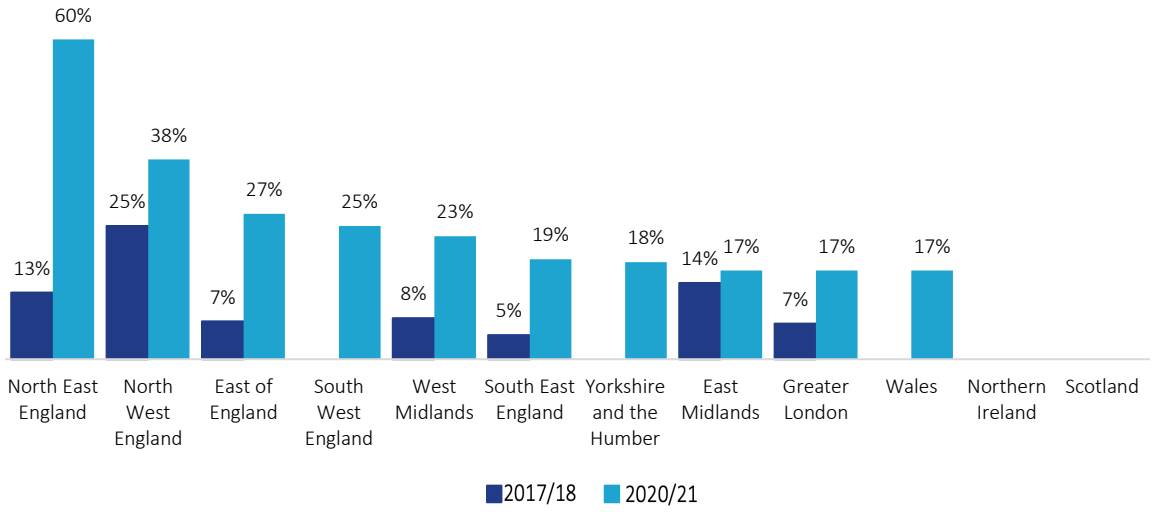
**SBLCB not rolled out in Wales, Scotland, or Northern Ireland*

Figure 2: Percentage of providers (n=125) implementing all training recommended by the SBLCB(v2) in each region of the UK for 2020/21 (training specified by Elements 1, 2, and 4; see below for detailed inclusion criteria)

Training provision has increased since 2017/18

Provision of the training elements of the Saving Babies' Lives Care Bundle has increased in every region of England (and in Wales) since 2017/18 (Graph 52).

Graph 52: Change in proportion of organisations providing all training recommendations within SBLCB(v2) by region



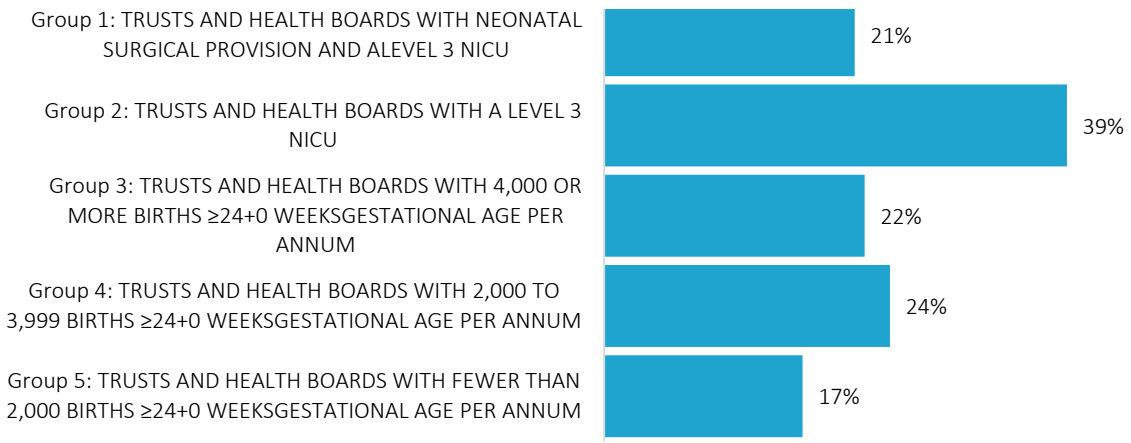
Implementation most notably increased in the North East of England, where full implementation of training recommendations has changed from 13% to 60% of responding providers. It is worth noting that the North East is the English region with the fewest number of respondent providers, and as such the overall figure should be treated with some caution. Nevertheless, this increase should not be discounted.

In Wales, all seven health boards responded to the FOI request; six were eligible for this analysis. Of these, one health board implemented all training recommendations from the care bundle; this is an increase from none in 2017/18. Three health boards implemented training recommended in Element 1 (Reducing smoking), four in Element 2 (Fetal growth) and two are fully implemented training recommendations for Element 4 (Fetal monitoring).

As in 2017/18, none of the 14 Scottish NHS boards and the three Northern Irish Health and Social Care Trusts that responded to this request fully implemented all training elements of the care bundle. Implementation of individual Elements varied: in Northern Ireland, no providers implemented Element 1 or Element 4, but two of the three organisations implemented recommendations for training from Element 2. In Scotland, only one NHS board said that training in 'Reducing smoking in pregnancy' was mandatory (Element 1). None implemented training recommendations for Element 2, and three implemented all training recommendations for Element 4.

No clear trends in compliance by MBRRACE Group

Graph 53: Compliance by MBRRACE Group



Compliance was relatively equal between providers in all MBRRACE groups, with four of the groups within five percent of the national rate. The compliance for group two trusts was higher but the difference is not statistically significant.

Training recommendations for individual elements of SBLCB (version two) and inclusion criteria

The tables below show the specific training recommendations that are mentioned in the SBLCB (version two), the inclusion criteria from the Mind the Gap survey, and the findings from providers' answers. Compliance was calculated using only the three elements where training is explicitly mentioned.

Table 18: SBLCB(v2) Element 1 training recommendations compared with Baby Lifeline FOI survey responses [8]

Element 1: Reducing Smoking in Pregnancy		
Training recommendations from SBLCB(v2) [8]	Baby Lifeline FOI survey criteria	Training provision
*'…1.5 All relevant maternity staff should receive **training** on the use of the CO monitor and having a brief and meaningful conversation with women about smoking…* *…1.8 Maternity providers are encouraged to focus improvement in the following areas: … b. Increase the provision of effective **training** of staff in relation to smoking during pregnancy…* ***…All staff providing antenatal care** should have access to a CO monitor (and **training** in how to use it)…* ***…A multidisciplinary approach** should be utilised to share the workload…'*	Percentage of eligible responding providers indicating that: • *'Reducing smoking in pregnancy'* was considered mandatory training for some/all staff	63% of eligible providers *A further 14% of providers offered this training but it was not considered mandatory for some/all staff.*
Full Compliance (UK):		63.2%
Full Compliance (England):		73.5%

"As part of a trust wide Smoke Free Pregnancy project we keep a dashboard of outcomes which allows us to track training against measures such as referral uptake rates, quit rates etc. Since commencing our Smoke Free Pregnancy training as part of the mandatory training programme we have seen an increase in the engagement of women with the Stop Smoking team and an increase in women setting quit dates. This is now above the national average for quit rates."

Table 19: SBLCB(v2) Element 2 training recommendations compared with Baby Lifeline FOI survey responses

Element 2: Risk assessment, prevention and surveillance of pregnancies at risk of fetal growth restriction (FGR)		
Training recommendations from SBLCB(v2) [8]	Baby Lifeline FOI survey criteria	Training provision
'2.5 In women not undergoing serial ultrasound scan surveillance of fetal growth, assessment is performed using antenatal symphysis fundal height (SFH) charts by clinicians ***trained*** *in their use.* ***All staff performing these measurements*** *are to be competent in* ***measuring, plotting, interpreting appropriately and referring*** *when indicated…* ***'In order to implement this element effectively Trusts must:*** *…ensure that a* ***robust training programme*** *and* ***competency assessment*** *is included in any processes designed to detect a SGA fetus, for example* ***measurement of SFH, use and interpretation of charts, ultrasound scanning for growth and uterine artery Doppler measurement*** *to detect early onset FGR.* *'…This updated element recognises that uterine artery Doppler measurement in high risk pregnancies can improve efficiency by targeting scan resources…The use of uterine artery Doppler measurement in women whose pregnancies are at high risk for placental dysfunction* ***will require training of the ultrasonography workforce****…'*	Percentage of eligible responding providers indicating that: • *'Screening for fetal growth'* was considered mandatory training for some/all staff AND • That, as part of this topic, specific training was provided in *'Measurement of symphysis fundal height'* and *'Plotting and interpretation of symphysis fundal height using local charts'* and *'When to refer.'* AND • That *competency* in processes for screening for fetal growth were assessed	**74% of eligible providers** *A further 19% of providers offered this training but it was not considered mandatory for some/all staff* **98 % of those that mandated this training** *72% of eligible providers considered the training mandatory* ***and*** *included all the sub-topics* **68 % of those that mandated this training** *50% of eligible providers considered the training mandatory* ***and*** *assessed competency*
Full Compliance (UK):		48.8%
Full Compliance (England):		53.9%

Table 20: SBLCB(v2) Element 4 training recommendations compared with Baby Lifeline FOI survey responses

Element 4: Effective fetal monitoring during labour		
Training recommendations from SBLCB(v2) [8]	Baby Lifeline FOI survey criteria	Training provision
*'**All staff who care for women in labour** are required to undertake **annual training** and **competency assessment** on **cardiotocograph (CTG) interpretation and use of auscultation.** Training should be **multidisciplinary** and include training in **situational awareness and human factors**…**No member of staff should care for women in a birth setting without evidence of training and competence within the last year…*** ***'All staff to be trained in the review system and escalation protocol…*** *'…training packages should adhere to the following principles:* • *Include **multidisciplinary** and scenario-based training – **this should involve all medical and midwifery staff who care for women in birth settings.*** • *Teaching about **fetal physiological responses** to hypoxaemia, the pathophysiology of fetal brain injury, and the physiology underlying changes in fetal heart rate (FHR). **In addition, the impact of factors** such as fetal growth restriction and maternal pyrexia.* • *Effective fetal monitoring in low risk pregnancies, including the role of IA in initial assessment, in established labour and indications for changing from IA to CTG.* • *Interpretation of CTG including…**interpretation in specific clinical circumstances**…* • ***Channels of communication** to follow in response to a suspicious or pathological trace, risk management strategies including governance and audit.* • *Application of NICE fetal monitoring recommendations for low risk women.*	Percentage of eligible responding providers indicating that: • That *'fetal monitoring'* was considered mandatory training for some/all staff AND • That midwives **and** obstetricians were required to attend training on both CTG **and** Intermittent Auscultation. AND • That, as part of this topic, specific training was also provided in 'Situational awareness/human factors' **and** 'Fetal Physiology' **and** 'Considering the wider clinical picture' **and** 'Systems for review and escalation of fetal wellbeing' (Continued on Next Page)	**99% of eligible providers** **69 % of those that mandated this training** *95% included these elements for midwives* **70 % of those that mandated this training** *The least commonly provided sub-topic was 'Situational awareness/human factors'*

• *Training in **situational awareness and human factors** to enable staff to respond appropriately to evolving, complex situations…* • ***'Provision of adequate training is a Trust priority – as a minimum all staff should receive a full day of multidisciplinary training (following the principles outlined above) each year with reinforcement from regular attendance at fetal monitoring review events.*** *'**Competency assessment:** all staff will have to pass a **formal annual competency assessment** that has been agreed by the local commissioner (CCG) based on the advice of the Clinical Network. The assessment should include demonstrating a clear understanding of the areas covered in training (see principles above)…should agree a procedure with their CCG for how to manage staff who fail this assessment.'*	<u>AND</u> • That relevant staff are required to complete this training <u>at least</u> yearly <u>AND</u> • That multi-professional training was provided on this topic (i.e. Where more than one professional group attended training, they attended it together) <u>AND</u> • That *competency* in fetal monitoring was assessed.	98% of those that mandated this training 85% of those that mandated this training 93% of those that mandated this training
Full Compliance (UK):		44.8%
Full Compliance (England):		50.0%

"A fetal monitoring lead midwife was appointed in November. Along with mandatory training she does a walk around CTG of the week session using real case studies."

Training was provided less frequently in the elements where training is not specifically mentioned

Element Three: Raising awareness of reduced fetal movement (RFM)

- The Baby Lifeline survey results show that over half of organisations (55%) provided training in *Reduced fetal movement.* The topic was mandatory for around a third (34%)
- Training for midwives and obstetricians was mandated at similar levels
- This topic was the most likely to be delivered by printed material only

"This topic is not offered annually, however, an evidence-based guideline is in place and is the responsibility of individual staff to familiarise themselves with current guidelines and individual training would be offered as required. The area is also discussed as part of CTG training."

Element Five: Reducing Preterm Birth

- Just under half of organisations (46%) provided training in *Preterm birth.* The topic was mandatory for around a fifth (22%)
- Where training was mandatory, 86% mandated training in the subtopic 'Recognition of women at high risk of preterm birth for midwives' and 64% for obstetricians
- Where training was mandatory, 86% mandated training in 'Appropriate referral of at-risk women to specialist services and/or preventative strategies' for midwives and 64% for obstetricians
- Where training was mandatory, 61% mandated training in 'Optimising perinatal care for the extremely preterm infant (as per BAPM framework for practice)' for midwives and 54% for obstetricians

MBRRACE-UK recently cited preterm birth as an area that could have a significant impact on achieving the national ambition – of which the topic as a part [5]. Serious consideration should be given to making training in preventing preterm birth more widespread.

Training in all SBLCB(v2) elements

A third of eligible providers (34%) indicated that training was provided in the topics relating to **all five elements** of the care bundle (37% in England). However, all five topics were considered mandatory by fewer than a fifth of eligible providers (18%)

Training was most likely to be mandated in Element 4 (fetal monitoring, 99% of eligible providers in UK) and least likely to be mandated in Element 5 (preterm birth, 22% of eligible providers in UK).

Even if implementation had **only** been assessed on the basis of organisations indicating that they provided mandatory training for some/all staff in *Reducing smoking in pregnancy, Screening for fetal growth,* and *Fetal monitoring*, only around half of UK trusts, including 62% of trusts in England, would have been compliant. This means that two in five English organisations did not provide mandatory training in all three elements of the care bundle.

Training to Improve Maternity Safety

NHS RESOLUTION SAFETY ACTIONS – MATERNITY INCENTIVE SCHEME

Survey findings

- Most organisations in England considered the Maternity Incentive Scheme to be a priority when deciding on training for maternity staff.
- Almost two thirds of organisations in England (63%) provided training in all topics related to the Maternity Incentive Scheme.
- Only three organisations (3%) indicated that they provided all aspects of training exactly as specified in the Maternity Incentive Scheme guidance document.

Report recommendations

- Clear guidance should be provided for all organisations participating in the Maternity Incentive Scheme.
- Organisations should offer multi-professional training where possible.
- Organisations should aim to provide all aspects and subtopics of each training topic as specified by the guidance.

The Maternity Incentive Scheme

The Maternity Incentive Scheme, introduced by NHS Resolution in 2017, financially rewards trusts that are taking action to improve maternity safety [21]. Participating trusts must demonstrate that they have met ten Safety Actions, which are agreed each year with national maternity safety champions (including the DHSC, NHS England, RCOG, MBRRACE, the CQC and HSIB). Year three of the scheme (December 2019-March 2021) coincides with the financial year surveyed by Baby Lifeline in this report. NHS Resolution has not yet published results from year three.

Safety Action 8: Training

NHS Resolution reported that 116 trusts (89%) achieved all ten safety actions in year two, 2018/19, including all trusts in London and the South West [44]. Ninety-three percent of trusts met Safety Action 8: Training. However, an interim evaluation of the Maternity Incentive Scheme year two found that trusts found Safety Action 8 to be the most challenging aspect of the scheme to achieve, particularly regarding the provision of multi-professional training, achieving 90% attendance, and including staff groups such as anaesthetists [45]. It is likely that these challenges were exacerbated in the financial year surveyed by Baby Lifeline because of the pressures of the COVID-19 pandemic.

In this section, we measure the responses provided by organisations in England against the Maternity Incentive Scheme's training guidance.[3] Because the scheme itself only applies to trusts in England, analysis in this section refers solely to responses provided by the 103 organisations based in England.

[3] Because our survey asked providers to report on training provided in the April 2020-March 2021 financial year, it is possible that our results do not correlate with those reported to the Maternity Incentive Scheme, i.e. if training was completed between December 2019 and March 2020. Nevertheless, most organisations indicated that they completed this training annually.

What does Safety Action 8: Training involve?

In order to meet Safety Action 8, trusts were asked to evidence that maternity unit staff groups attended 'in-house' multi-professional maternity emergencies training since December 2019 covering three key areas:

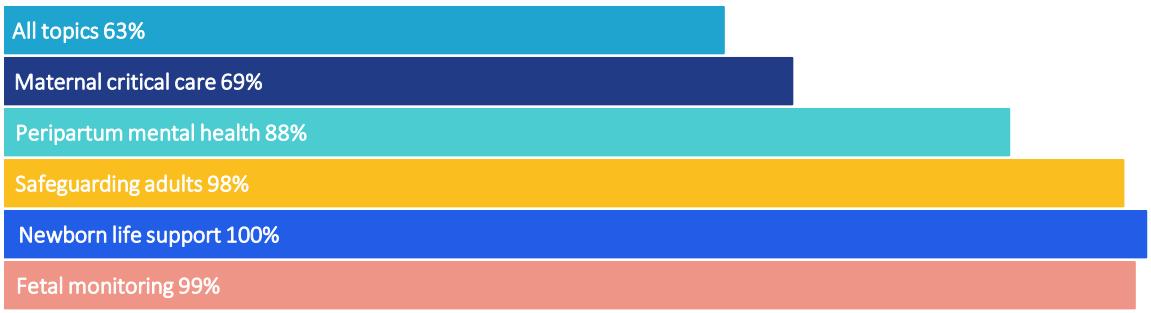
a) COVID-19 specific training (including maternal critical care and peripartum mental health)
b) Neonatal resuscitation or Newborn Life Support
c) Fetal monitoring

Due to COVID-19, the threshold that 90% training attendance be achieved was removed for year three of the Maternity Incentive Scheme. However, trusts were asked to 'commit to addressing' any shortfall in reaching this recognised minimum standard. Organisations were also asked to demonstrate commitment to facilitating multi-professional training sessions in fetal monitoring where possible.

Providing training in topics covered by the Maternity Incentive Scheme

Ninety-seven out of 103 organisations in England (97%) surveyed by Baby Lifeline reported that they considered the Maternity Incentive Scheme to be a priority when deciding on their training provision. We found that around two thirds (63%) of organisations in England provided training in **all topics covered by the Maternity Incentive Scheme**: maternal critical care, peripartum mental health, safeguarding adults, newborn resuscitation and fetal monitoring (Graph 54).

Graph 54: How many organisations in England provided training in topics related to Safety Action 8 of the Maternity Incentive Scheme (%)?



Providing training in all aspects of Safety Action 8: Training

Only three organisations in England (3%), however, provided all aspects of this training multi-professionally to relevant staff **as outlined by the Maternity Incentive Scheme year three guidance**. These organisations:

- Offered multi-professional training to all staff in COVID-19 specific training, maternal critical care, peripartum mental health and safeguarding (see Table 23 for a detailed breakdown of this information)
- Offered multi-professional training in newborn resuscitation to all relevant staff, with maternity staff and the neonatal team attending skills/simulation training together (see Table 24)
- Offered multi-professional training to all relevant staff in fetal monitoring, including all relevant subtopics, and assessed competency in this area (see Table 25)

Organisations were most likely to provide all aspects of training in fetal monitoring as specified by the Maternity Incentive Scheme (56% of organisations did this), and least likely to provide all aspects of Covid-19 specific e-learning training (10% of organisations achieved this). This information is presented in Table 21.

Table 21: Summary – Aspects of Maternity Incentive Scheme offered by organisations in England (based on responses to the Baby Lifeline FOI)

Maternity Incentive Scheme section	Organisations in England that offered all aspects of this training multi-professionally to relevant maternity staff as specified by the Maternity Incentive Scheme % (n=103)
Safety Action 8(a): Covid-19 specific e-learning training	10%
Safety Action 8(b): Newborn resuscitation and management of the deteriorating newborn infant	16%
Safety Action 8(c) – Fetal monitoring	56%
Safety Action 8 – All aspects	**3%**

Multi-professional training

Guidance relating to the staff groups expected to be involved in multi-professional training in each area is detailed in Table 22. Multi-professional provision was often the least-provided element of the guidance. This is unsurprising given the results of NHS Resolution's interim evaluation, which reported that organisations found providing multi-professional training to be challenging. Similarly, even where training in a topic was offered, we often found that training was not provided in all relevant subtopics. These represent areas for improvement if organisations are to provide all aspects of the Maternity Incentive Scheme as specified in the guidance in future.

Safety Action 8(a) COVID-19 specific training, maternal critical care, and mental health and safeguarding

COVID-19 specific training

The first part of the Maternity Incentive Scheme's Safety Action 8 asked trusts to confirm that they provided COVID-19 specific e-learning training including both maternal critical care, and mental health and safeguarding. The guidance is detailed in the left-hand column of Table 23.[4] Organisations should provide 'unit level multi-professional training for all staff caring for pregnant & postpartum women with suspected or confirmed Covid-19,' including 'specific training concerning women requiring maternal critical care and also the triage of pregnant & postpartum women with mental health concerns.'

The Baby Lifeline survey found that just over half of organisations in England (52%) offered training in the assessment and management of a COVID-19 positive woman to maternity staff in a multi-professional format (see Table 23).

Maternal critical care

Just fewer than half of organisations in England (43%) offered multi-professional training in Maternal critical care to all relevant staff. The Maternity Incentive Scheme specified that this training should include:

- The use of maternal critical care observation charts
- Structured review proformas
- Deterioration and escalation thresholds
- Timing of birth
- Postnatal care

The training should also include 'an understanding of COVID-19 specific therapies in pregnancy.'

[4] Though e-learning training is specified in the Maternity Incentive Scheme, we include organisations that indicated that this training was offered in-person as well as online.

Though each of the bullet-pointed sub-topics above was provided by around half of organisations, all aspects of this training were provided by one in five (19%) organisations in England (see Table 23).

Mental health and safeguarding

Organisations were also asked to confirm that they provided multi-professional training for all maternity carers to 'recognise, triage and care for women with mental health & safeguarding concerns in pregnancy.' Almost all organisations (98%) offered training in safeguarding adults and the majority of organisations in England (88%) offered training in perinatal mental health. However, only 56% offered this training in a multi-professional context, and 17% indicated that they offered this training multi-professionally to all relevant staff.

How many organisations provided all aspects of Safety Action 8(a)?

When the above aspects are considered together, the results of the Baby Lifeline survey indicate that one in ten (10%) organisations in England offered multi-professional maternity emergencies training (including COVID-19 specific training, maternal critical care, peripartum mental health and safeguarding adults) to all relevant staff as specified by the Maternity Incentive Scheme (see Table 23).

Safety Action 8(b) – Newborn resuscitation and management of the deteriorating newborn infant

Newborn resuscitation and management of the deteriorating newborn infant guidance

As shown in Table 24, the Maternity Incentive Scheme specified that the team involved in immediate resuscitation of the newborn and management of the deteriorating newborn infant must have attended in-house neonatal resuscitation training or a Newborn Life Support (NLS) course since December 2019. Midwives and neonatal staff should be included in this multi-professional training, but obstetricians, obstetric anaesthetists and maternity support workers were not required to attend (see Table 22).

The Baby Lifeline survey found that training in Newborn Life Support was considered mandatory at all organisations in England. However, this training was only provided multi-professionally by 71% of organisations. Further, this training included multi-professional skills or simulation with the neonatal team (as specified in the Maternity Incentive Scheme) in fewer than half (48%) of organisations.

The Maternity Incentive Scheme specifies that staff should be trained to identify a baby requiring resuscitation, and that training should include recognition of the deteriorating newborn infant with actions to be taken. Though 57% of organisations indicated that training in the appropriate use of neonatal early warning systems was provided to staff, only one in four organisations (25%) indicated that it was provided multi-professionally.

How many organisations provided all aspects of Safety Action 8(b)?

Overall, therefore, around one in six (16%) organisations in England indicated that their training in newborn resuscitation and management of the deteriorating newborn infant satisfied all aspects of the Maternity Incentive Scheme and was provided to the appropriate staff (Table 24). Providing multi-professional training in future would most significantly increase this percentage.

Safety Action 8(c) – Fetal Monitoring

Fetal monitoring guidance

To meet the third part of Safety Action 8 (and the fetal monitoring element of Safety Action 6: Compliance with the Saving Babies' Lives Care Bundle, version 2), organisations needed to confirm a 'commitment' to facilitating multi-professional training sessions, including training in fetal monitoring where possible. Subtopics included intermittent auscultation, electronic fetal monitoring, human factors and situational awareness. Trusts were also asked to show that staff successfully completed mandatory annual competency assessment in this area.

Though almost all organisations in England (99%) offered training in fetal monitoring to staff, only 57% of organisations indicated that all aspects of this training (including intermittent auscultation, electronic fetal monitoring, human factors and situational awareness) was provided to all relevant staff multi-professionally (Table 25).

How many organisations provided all aspects of Safety Action 8(c)?

Almost all organisations indicated that competency in fetal monitoring was assessed. Though fewer than half reported that clinical duties were removed if a staff member did not pass this assessment, the data quality relating to this question was poor so this has not been included in the overall figure in Table 25.

Overall, though 99% of organisations in England indicated that they provided training in fetal monitoring to maternity staff, just over half (56%) provided all aspects of this training as specified by the Maternity Incentive Scheme's guidance.

How many organisations provided all aspects of Safety Action 8: Training?

When all of the above is considered together, the Baby Lifeline survey found that only three organisations (3%) provided all aspects of Safety Action 8: Training, as specified by the Maternity Incentive Scheme.

Table 22: Maternity Incentive Scheme guidance for Safety Action 8 – staff group attendance and exceptions (pp. 50-51) [21]

<table>
<tr><th colspan="3">Safety Action 8</th></tr>
<tr><td colspan="3">Which staff should be included in multi-professional training sessions? (pp. 50-51)
• Obstetric consultants
• All other obstetric doctors (including staff grade doctors, obstetric trainees (ST1-7), sub speciality trainees, obstetric clinical fellows and foundation year doctors contributing to the obstetric rota
• Obstetric anaesthetic consultants
• All other obstetric anaesthetic doctors (staff grades and anaesthetic trainees) contributing to the obstetric rota
• Midwives (including midwifery managers and matrons, community midwives; birth centre midwives (working in co-located and standalone birth centres and bank/agency midwives)
• Maternity critical care staff (including operating department practitioners, anaesthetic nurse practitioners, recovery and high dependency unit nurses providing care on the maternity unit)
• Maternity support workers and health care assistants (to be included in the maternity skill drills as a minimum)</td></tr>
<tr><th>Safety Action 8(a) COVID-19 specific training</th><th>Safety Action 8(b) Newborn resuscitation</th><th>Safety Action 8(c) Fetal monitoring</th></tr>
<tr><td>No exceptions specified.</td><td>Which staff should be included for immediate newborn resuscitation training? (p. 51)
Staff in attendance at deliveries should be included for immediate newborn resuscitation training as listed below:
• Neonatal Consultants or Paediatric consultants covering neonatal units
• Neonatal junior doctors (who attend any deliveries)
• Neonatal nurses (Band 5 and above)
• Advanced Neonatal Nurse Practitioner (ANNP)
• Midwives (including midwifery managers and matrons, community midwives, birth centre midwives (working in co-located and standalone birth centres and bank/agency midwives) and Maternity theatre midwives who also work outside of theatres.

Should the anaesthetic and maternity critical care staff attend fetal monitoring and neonatal resuscitation training? (p. 52)
The below staff groups are not required to attend neonatal resuscitation training:
• Obstetric anaesthetic consultants
• All other obstetric anaesthetic doctors (staff grades and anaesthetic trainees) contributing to the obstetric rota and</td><td>Which maternity staff attendees should be included in the intrapartum fetal monitoring training (SBLCB(v2))? (p. 53)
The following maternity staff attendees should be included:
• Obstetric consultants
• All other obstetric doctors
• Midwives (including midwifery managers and matrons, community midwives; birth centre midwives (working in co-located and standalone birth centres and bank/agency midwives). Maternity theatre midwives who also work outside of theatres.

Should the anaesthetic and maternity critical care staff attend fetal monitoring and neonatal resuscitation training? (p. 52)
Anaesthetic staff and maternity critical staff are not required to attend fetal monitoring training.</td></tr>
</table>

	• Maternity critical care staff (Including operating department practitioners, anaesthetic nurse practitioners, recovery and high dependency unit nurses providing care on the maternity unit)	

Table 23: Percentage of organisations providing COVID-19 specific training as specified by the Maternity Incentive Scheme, Safety Action 8(a)

Maternity Incentive Scheme guidance for Safety Action 8(a) – COVID-19 specific training (pp. 49-50)	Corresponding questions in Baby Lifeline FOI	Baby Lifeline FOI – responses from organisations in England % (n=103)					
		Answered "yes" to this question	Offered multi-professionally	Mandatory for midwives	Mandatory for obstetricians	Mandatory for all staff groups recommended by MIS	All relevant aspects
Covid-19 specific e-learning training Based on the MBRRACE-UK findings and recommendations, maternity units should provide training for the following elements that relate to care of pregnant and postpartum women during the current Covid-19 pandemic. • There should be unit level multi-professional training for all staff caring for pregnant & postpartum women with suspected or confirmed Covid-19, including a general overview of care principles, and individual susceptibility e.g. Ethnicity, hypertension and diabetes. • In addition, there should be specific training concerning women requiring maternal critical care and also the triage of pregnant & postpartum women with mental health concerns.	If your organisation offered training in maternal critical care to maternity staff in the last financial year, did it include assessment and management of a covid-19 positive woman?	81%	67%	85%	82%	67%	52%
Maternal Critical Care training The maternity multi-professional team (as well as representatives from acute medical & critical care) specialists where appropriate should have training in maternal critical care, including:	Did your organisation offer training in Maternal critical care to maternity staff in the last financial year?	69%	67%	64%	61%	52%	43%

• The use of maternal critical care observation charts • Structured review proformas • Deterioration & escalation thresholds • Timing of birth • Postnatal care These training sessions should also cover an understanding of Covid-19 specific therapies in pregnancy, and the importance of twice-daily multidisciplinary structured reviews to ensure comprehensive, multi-disciplinary and coordinated care across different care settings.	Did this training include: the use of maternal critical care observation charts, structured review proformas, deterioration & escalation thresholds, timing of birth and postnatal care?	33%	23%	30%	28%	18%	19%
	Organisations that offered all aspects of Maternal Critical Care training, as specified by the Maternity Incentive Scheme:						19%
Women with mental health & safeguarding concerns There should be training for all maternity carers to recognise, triage and care for women with mental health & safeguarding concerns in pregnancy. This should include information on local pathways and procedures to ensure face-to-face assessments and fast-track access to specialist perinatal mental health and safeguarding support services. Training should also include recognition of concerning 'red flags', particularly repeated referrals that should prompt urgent review	Did your organisation offer training in perinatal mental health to maternity staff in the last financial year?	88%	56%	81%	48%	18%	17%
	Did your organisation offer training in safeguarding adults to maternity staff in the last financial year?	98%	N/A – FOI did not ask this				98%
	Organisations that offered all aspects of training in perinatal mental health and safeguarding adults, as specified by the Maternity Incentive Scheme						17%
Safety Action 8(a): Covid-19 specific training	**Organisations that offered multi-professional maternity emergencies training (including COVID-19 specific training, maternal critical care, peripartum mental health and safeguarding adults) as specified by the Maternity Incentive Scheme**						**10%**

Table 24: Percentage of organisations providing Newborn resuscitation training as specified by the Maternity Incentive Scheme, Safety Action 8(b)

Maternity Incentive Scheme guidance for Safety Action 8(b) – Newborn resuscitation and management of the deteriorating newborn infant (pp. 52-54)	Corresponding questions in Baby Lifeline FOI	Baby Lifeline FOI – responses from organisations in England % (n=103)					
		Answered "yes" to this question	Offered multi-professionally	Mandatory for midwives	Mandatory for obstetricians	Mandatory for all staff groups recommended by MIS and surveyed by Baby Lifeline	All relevant aspects
Can you confirm that: B) the team required to be involved in immediate resuscitation of the newborn and management of the deteriorating newborn infant have attended your in-house neonatal resuscitation training or Newborn Life Support (NLS) course since the launch of MIS year three in December 2019? What is the minimum training that we should include for in-house neonatal resuscitation? • Identification of a baby requiring resuscitation after birth and support immediate neonatal resuscitation until specialist neonatal help is available • Assessed ability to delivery inflation breaths • Knowledge and understanding of the NLS Algorithm • How to call for help within the organisation • Situation, Background, Assessment Recommendation (SBAR) or equivalent communication tool handover on arrival of help The training should also include recognition of the deteriorating newborn infant with actions to be taken.	Did your organisation offer training in Newborn Life Support to maternity staff in the last financial year?	100%	71%	97%	N/A	97%	70%
	Did your organisation offer training in Newborn care to maternity staff in the last financial year?	83%	41%	32%	N/A	32%	32%
	Did training in Newborn care include appropriate use of neonatal early warning systems?	57%	30%	42%	N/A	42%	25%

Staff in attendance at deliveries should be included for immediate newborn resuscitation training as listed below: • Neonatal Consultants or Paediatric consultants covering neonatal units • Neonatal junior doctors (who attend any deliveries) • Neonatal nurses (Band 5 and above) • Advanced Neonatal Nurse Practitioner (ANNP) • Midwives (including midwifery managers and matrons, community midwives, birth centre midwives (working in co-located and standalone birth centres and bank/agency midwives) and Maternity theatre midwives who also work outside of theatres.	Did training in Newborn Life Support include skills/simulation training with the neonatal team?	58%	49%	48%	N/A	48%	48%
Safety Action 8(b): Newborn resuscitation and management of the deteriorating newborn infant	**Organisations that offered multi-professional maternity emergencies training in Newborn resuscitation and management of the deteriorating newborn infant as specified by the Maternity Incentive Scheme**						**16%**

Table 25: Percentage of organisations providing Fetal monitoring training as specified by the Maternity Incentive Scheme, Safety Action 8(c)

Maternity Incentive Scheme guidance for Safety Action 8 (c) – Fetal monitoring (p. 41, p. 49)	Corresponding questions in Baby Lifeline FOI	Baby Lifeline FOI – responses from organisations in England % (n=103)					
		Answered "yes" to this question	Offered multi-professionally	Mandatory for midwives	Mandatory for obstetricians	Mandatory for all staff groups recommended by MIS and surveyed by Baby Lifeline	All relevant aspects
Can you confirm that: C) there is a commitment by the trust board to facilitate multi-professional training sessions, including fetal monitoring training once when this is permitted (See Safety Action 6) Safety Action 6, Element four (p. 41): 1. Percentage of staff who have received training on fetal monitoring in line with the requirements of Safety Action eight, including: intermittent auscultation, electronic fetal monitoring, human factors and situational awareness. 2. Percentage of staff who have successfully completed mandatory annual competency assessment. In the current year we have removed the threshold of 90%. This applies to fetal monitoring requirement of safety action 6. We recommend that trusts identify any shortfall in reaching the 90% threshold and commit to addressing this as soon as possible.	Did your organisation offer fetal monitoring training to staff in the last financial year?	99%	85%	94%	74%	73%	64%
	Did training in fetal monitoring include intermittent auscultation, electronic fetal monitoring, human factors and situational awareness?	83%	73%	81%	66%	65%	57%
	At your organisation, was competency in fetal monitoring assessed?	95%	N/A				95%
	If competency was assessed and not passed, were relevant clinical duties removed until competent?	46% – though data quality was poor	N/A				46%
Safety Action 8(c) – Fetal monitoring	**Organisations that offered multi-professional maternity emergencies training in Fetal monitoring as specified by the Maternity Incentive Scheme**						**56%[5]**

[5] This figure does not include results for the last aspect shown here, removal of relevant clinical duties until competent if competency was assessed and not passed, because the data quality was poor and answers were often unclear.

Training to improve maternity safety

LEARNING FROM ADVERSE EVENTS

Survey findings

- Training in *Learning from adverse events* was considered mandatory for some or all maternity staff in just over one third (38%) of organisations. Over half provided this training multi-professionally.

Report recommendations

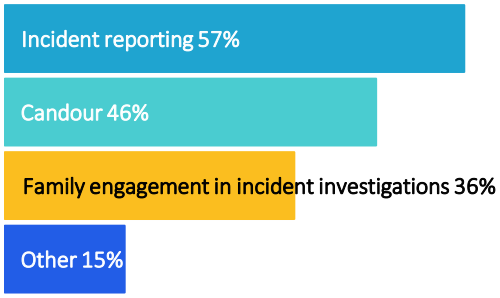
- Training in *Learning from adverse events* needs to be prioritised, especially for those working on local investigations into serious incidents.
- This training should be attended by all relevant professionals working across maternity and neonatal services.
- Family engagement should be included in the training to enhance all incident investigations and learning.

Training in serious incident investigation

In 2017, NHS Resolution expressed concern that recommendations were unlikely to reduce the incidence of future harm [33]. NHS Resolution found that a lack of training in serious incident investigation across the NHS impacted on the quality of investigations and called for more rigorous training for all staff conducing serious incident investigations. Subsequent reports such as the recent Ockenden Review [15] have also expressed concern about the 'rigour and quality' of serious incident investigations such as after a maternal death, and found that local reviews were judged to be of good standard in only a minority of cases [32] [23].

Do trusts offer training in *Learning from adverse events* to maternity staff?

Graph 55: Which subtopics were covered in training in *Learning from adverse events*?



The Baby Lifeline survey found that training in *Learning from adverse events* was offered to staff in 89 organisations (70%). This training was considered mandatory for some or all staff by just over one third (38%) of providers. Training in this topic was most likely to cover 'Incident reporting' and 'Learning from adverse events' (Graph 55). Though a statutory duty of candour became law in 2014 for NHS Trusts, training in 'candour' was offered by less than half of organisations (46%).

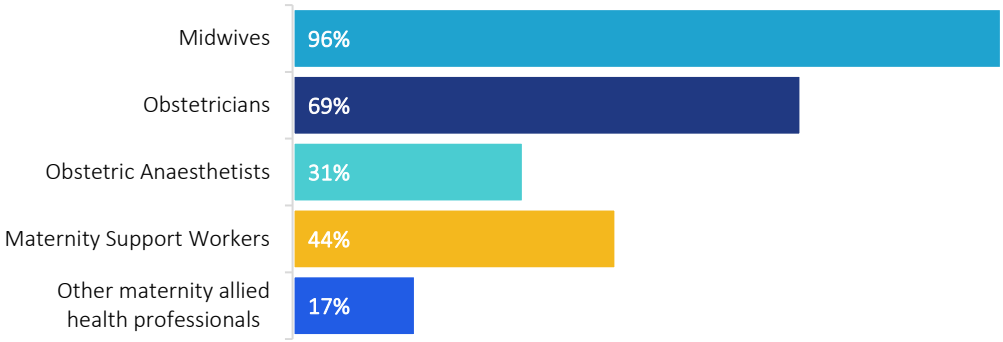
Did organisations provide specific training on conducting serious incident investigations for staff directly involved in this activity?

In 2017, NHS Resolution called for more rigorous training for staff conducting serious incident investigations [33]. Respondents to the Baby Lifeline survey indicated that just less than one third of organisations (32%) provided training in conducting serious incidents investigations to relevant staff.

"We have a monthly clinical review of any cases which have challenging aspects or outcomes. Any member of staff is able to contribute a case. The evaluation of these cases will take into consideration of any identifiable training that has impacted on the care or outcome."

Who trains in Learning from adverse events?

Graph 56: Staff group attendance at training in *Learning from adverse events* (% of organisations)



Training in Learning in adverse events was most frequently offered to midwives and obstetricians. Obstetric anaesthetists were required to attend this training in fewer than one third of organisations (Graph 56). This corresponds with the aforementioned maternity reports and investigations that found that midwives and obstetricians were most often present during the review process but lamented a lack of involvement from obstetric anaesthetists [3] [15].

Multi-professional training

Each Baby Counts found that local reports were more likely to contain sufficient information when they were carried out by multi-professional teams [3]. The Ockenden Review concluded that a lack of input from multidisciplinary teams represented a 'significant weakness' which 'resulted in missed opportunities for learning,' and 'undermined the concept of multidisciplinary teamworking' [15]. The Baby Lifeline survey found that staff from different clinical specialities trained multi-professionally in *Learning from adverse events* in more than half of organisations (Graph 57).

Graph 57: Do staff that work together train together?

Training to Improve Maternity Safety

A SPOTLIGHT ON THE OCKENDEN REVIEW

Survey findings

- Multi-professional training was only indicated in just over half of all topics across all maternity service providers.
- Two-thirds of providers stated that they had identified barriers in providing multi-professional training, and these mostly related to staffing pressures.

Maternity services and governing bodies turned their attention towards the much-awaited *Ockenden Review* last December, which set out seven immediate and essential actions for all maternity services in England following the review of 250 cases of severe harm at Shrewsbury and Telford Hospital NHS Trust, relating to:

- Enhanced safety
- Listening to women and families
- Staff training and working together
- Managing complex pregnancy
- Risk assessment throughout pregnancy
- Monitoring fetal wellbeing
- Informed consent

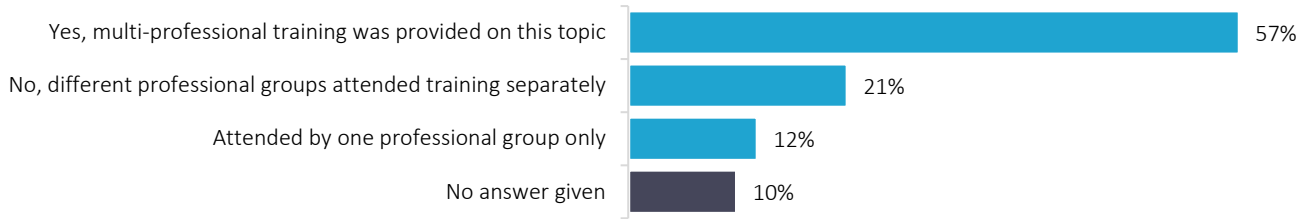
The review found 'missed opportunities to learn in order to prevent serious harm to mothers and babies' [15].

Findings from the Baby Lifeline survey

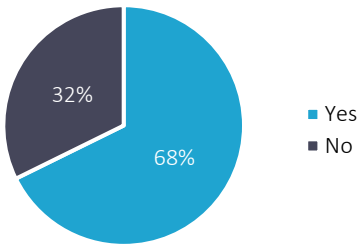
Staff working and training together

The essential action which directly mentions training stipulates that 'staff who work together must train together.' When taking an average across all topics provided by maternity services, just over half were provided multi-professionally (Graph 58).

Graph 58: Multi-professional training across all topics surveyed by Baby Lifeline



Graph 59: Have you identified barriers to multi-professional training?



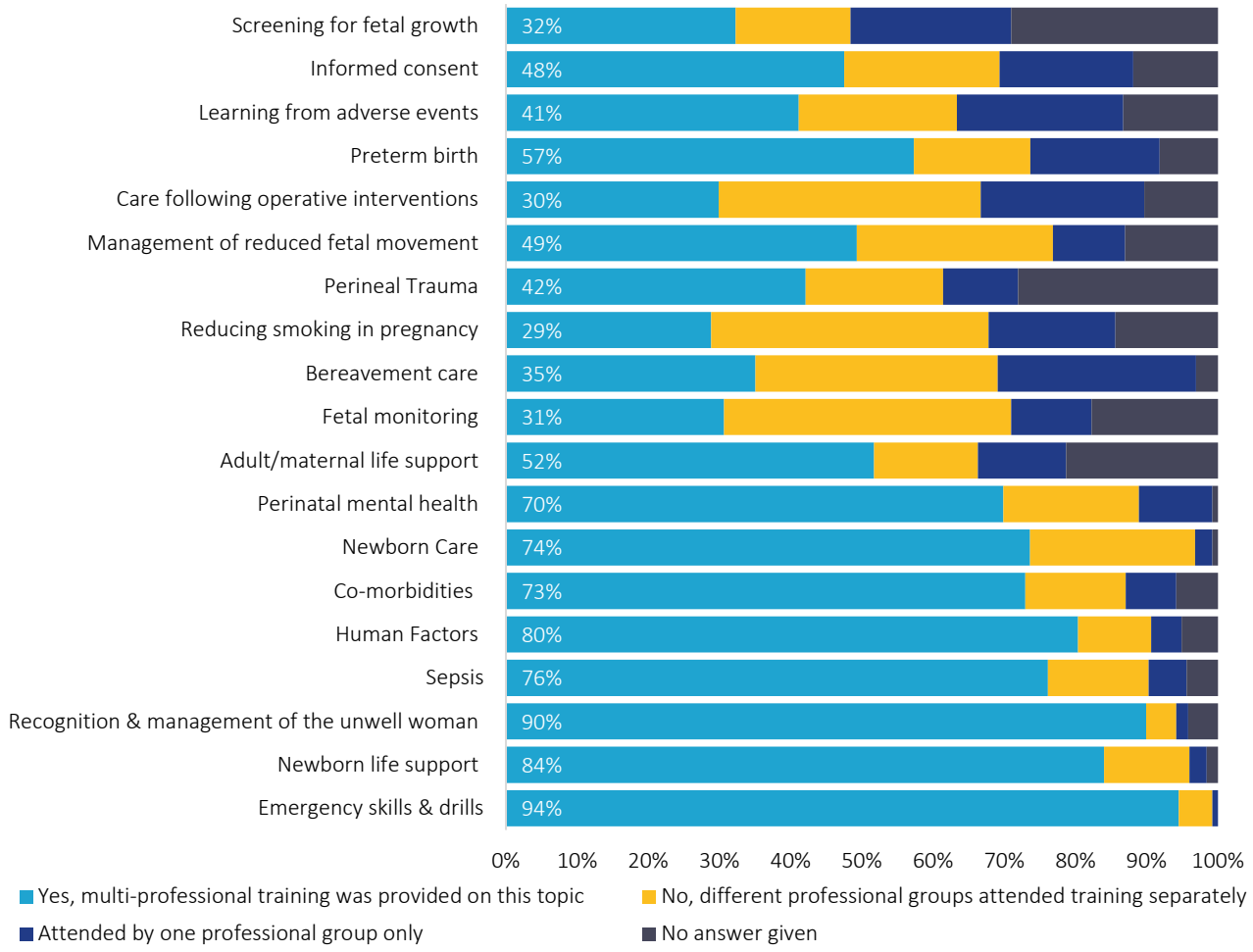
Over two-thirds of maternity services identified barriers to providing multi-professional training.

When asked to detail barriers to providing multi-professional training, respondents mostly detailed staffing pressures:

- Shortages
- Redeployment (particularly anaesthetists)
- Availability of staff
- Venues being available when clinical staff are available
- Sickness and shielding
- Funding to support backfill of staff to attend
- Different staff training budgets
- Engagement in multi-professional training from some staff group

"Delivering multi-disciplinary training which is identified on our CNST requirement is very high on our agenda. Getting compliance from other groups outside of maternity has been difficult. Convincing the multi-disciplinary group has been a long piece of work through liaising with managers/business managers/clinical leads in convincing them it is of high importance. (it isn't always high on their agenda). Often bespoke training has been the answer to be able to deliver training and a lot of flexibility has been required. Staffing has had a definitive impact on training, services are under strain to provide clinical cover and at times the multi-disciplinary group has not been able to be released. There is also controversy as to which division will pay for releasing staff to attend training at times who are not within maternity."

Graph 60: % Multi-professional training by topic



Reducing smoking in pregnancy was the topic least likely to be provided in a multi-professional setting, whilst *Emergency skills & drills* was most likely to be provided to staff multi-professionally. Nevertheless, professional groups still attended training in *Emergency skills & drills* separately in five percent of organisations. Respondents often attributed this to pandemic restrictions such as social distancing, or as a consequence of online training. *Fetal monitoring* was attended by a multi-professional cohort in fewer than one third of organisations; in almost one quarter of organisations the training was attended by one professional group only (23%).

As part of 'staff training and working together' the Ockenden Review also stipulated that 'Trusts must ensure that any external funding allocated for the training of maternity staff, is ring-fenced and used for this purpose only.' The audit process for spend on training seems to differ across maternity service providers with just two-thirds of organisations able to tell us their annual training spend.

Monitoring Fetal Wellbeing

With regard to Fetal Monitoring Leads, the Ockenden Review outlines that 'Leads must ensure that their maternity service is compliant with the recommendations of Saving Babies Lives Care Bundle 2.'

Our analysis of concordance with the Saving Babies' Lives Care Bundle (version two) shows that fewer than half of UK providers provided all training recommendations for effective fetal monitoring during labour (44%). Though this was an increase from 20% in 2017/18, the percentage still appears to be low.

Conclusions

Throughout almost every chapter of this report there are two recurring themes: there is little or no standardisation across maternity training in the UK, and training provision in general has decreased since 2017/18. The COVID-19 pandemic has had a profound impact on maternity services in general, and it is remarkable that organisations across the country were able to provide as much training as they did under such challenging circumstances. There were countless examples of innovative practices to help ensure that as much high-quality training as possible could take place during the period, and for this the maternity workforce should be applauded.

However, in many ways the challenges of the pandemic also served to highlight existing gaps and expose the structural and systemic barriers that prohibit maternity teams from undertaking all of the training that they need and deserve.

There are of course actions that individual trusts and health boards can take to improve the quantity and quality of the training they provide; in particular, this report underlines the importance of local population needs being considered and for training generally to include elements that will help to address issues of equity and equality. These actions, however, will be far more difficult unless steps are taken at the highest level to address the following areas:

- There should be dedicated ongoing funding for the direct costs of training, including the cost of staff backfill.
- There must be investment in systems and infrastructure to allow training to take place. This is particularly important in light of the pandemic, as much training has moved to a virtual setting and venue restrictions have also had an impact.
- A solution to the workforce shortage must be found.
- National and local guidance must have clarity and consistency.

Training is a central recommendation in almost all reports and investigations into avoidable harm in maternity, and urgent action must be taken to give units the support they need to undertake all the training that they require.

Definitions

Provider(s) and organisation(s)

The Freedom of Information (FOI) request used to inform this report was sent to 150 NHS trusts and health boards in May 2021. These 150 trusts and health boards represented all UK providers of NHS maternity services at the time that the request was sent. This report refers to these trusts and health boards as 'providers,' 'provider organisations' or 'organisations.'

Within the request itself, respondents were asked to provide information regarding training provided at their 'organisation,' which was defined in the request as 'the trust or health board that this request was sent to.'

Last financial year

The Freedom of Information Request used to inform this report asked respondents to give specific details about training provided to maternity staff by their organisation 'over the past financial year.'

The request informing this report was sent in May 2021, and so the last financial year was defined within the request as 1st April 2020 – 31st March 2021. This may be referenced in the report as the 2020/21 financial year.

Maternity staff

Responders were also asked to include 'training provided to any member of clinical maternity staff.' This includes midwives, obstetricians, anaesthetists, obstetric anaesthetists, maternity support workers and other allied health professionals.

Training

This report aims to provide a national picture of training provided to NHS staff working within maternity services. Importantly, the report describes ongoing training (often referred to as CPD training) provided to existing staff as opposed to pre-registration training for aspiring healthcare professionals.

This was further defined for responders to the request as 'training considered mandatory; training provided but considered non-mandatory; training provided in-house; training which was commissioned by the organisation but provided by external agencies and also training provided via any medium (e.g. online or workshop based).'

Mandatory training

The following definition of 'mandatory training' was provided for responders to the request: 'compulsory training that is determined essential by an organisation for the safe and efficient delivery of services. This type of training is designed to reduce organisational risks and comply with local or national policies and government guidelines [46].

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