

Evidence into Practice

CO monitoring and data collection throughout pregnancy

March 2021

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Action on Smoking and Health and the Smoking in Pregnancy Challenge Group. Evidence into practice: CO monitoring and data collection throughout pregnancy. March 2021

Introduction

This briefing sets out the rationale for carbon monoxide (CO) monitoring and effective data collection throughout pregnancy, and the central role these play in supporting pregnant women to quit smoking. The briefing highlights opportunities for improving data collection, reviews the evidence base for CO monitoring, and includes evidence-based case studies from areas that have improved their data collection and CO monitoring procedures to provide better-quality support to pregnant women who smoke.

Overview:

- » Data collection during pregnancy
 - Data collection points
 - Smoking status at time of delivery
 - Data sharing between maternity and stop smoking services
 - Lessons for practice
 - National recommendations for improving data
- » CO monitoring
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 - Rationale for 4ppm
 - Evidence for CO monitoring
 - Implementing CO monitoring across the system
 - Lessons for practice

1. Impact of smoking and exposure to secondhand smoke during pregnancy

Smoking during pregnancy is the leading modifiable risk factor for poor birth outcomes, including stillbirth, miscarriage, pre-term birth, neonatal complications, and sudden infant death.^{1 2}

	Maternal Smoking	Secondhand smoke exposure
Low birthweight	2 times more likely	Average 30-40g lighter
Heart Defects	9% more likely	Increased risk
Stillbirth	47% more likely	Possible increase
Preterm birth	27% more likely	Increased risk
Miscarriage	32% more likely	Possible increase
Sudden Infant Death	3 times more likely	45% more likely

Source: RCP. Hiding in plain sight: treating tobacco dependency in the NHS, 2018; RCP & RCPCH. Passive Smoking and Children, 2010

2. Data collection during pregnancy

Effective data collection and data sharing are central to designing effective referral pathways for pregnant women who smoke and monitoring the overall performance of the system, both nationally and locally. Good use of data allows services to:

- » Identify gaps in service provision and areas for improvement.
- » Evaluate the effectiveness of stop smoking in pregnancy interventions.
- » Identify key population groups, geographies, localities, and staff groups where there is a need for targeted intervention and support.
- » Develop tailored interventions based on the needs of local smokers.
- » Feed accurately into national data collection to better inform national policymaking.

Collecting and recording data on a woman's smoking status throughout pregnancy and at delivery is recommended by the Saving Babies' Lives Care Bundle³ and NICE guidelines PH26⁴ and PH48⁵. Version 2 of the Care Bundle specifically recommends that CO monitoring should be used to collect data on smoking status at booking and 36 weeks. As of 2018/19, smoking status at time of booking (SATOB) was recorded for 92.6% of pregnant women, having previously not being published for local geographies. There remain missed opportunities to utilise data locally and nationally, for example in targeting stop smoking support for pregnant women where it is most needed.

The third edition of the Clinical Negligence Scheme for Trusts (CNST), which incentivises the implementation of maternity safety actions, requires trusts to record the CO readings of women at booking, 36 weeks, and delivery on the Maternity Services Dataset (MSDS).⁶ However, compliance is partially dependent on whether trust IT systems allow staff to input CO readings and whether data entry fields are mandatory, with significant variation in approaches to data collection across maternity services.

In response to these challenges, Health Innovation Manchester (HInM) and Greater Manchester Health and Social Care (GMHSC) Partnership have launched a digital platform to reduce the administrative burden on midwives and provide improved performance management. This platform digitises the Greater Manchester Smokefree Pregnancy Programme pathway for specialist midwives delivering care and support to pregnant smokers. The platform combines all the information about a pregnant woman's quitting progress including their CO reading throughout pregnancy and on referral, quit date, referral date, gestation at referral, and how quickly the stop smoking service made contact. This allows local commissioners to view data on various outcomes and indicators, enabling better performance management and monitoring. It also enables better identification of key population groups, geographies, localities, and staff groups where there is a need for targeted intervention and support.

2.1 Data collection points

The key points for collecting data on smoking status during pregnancy are set out in Version 2 of the Saving Babies Lives Care Bundle and NICE PH26.^{3 4} All pregnant women identified as smokers should receive very brief advice (VBA) on smoking and be referred to stop smoking support on an opt-out basis. Specific guidance for professionals on how to engage pregnant women in conversations about smoking is set out in the [NCSCCT Standard Treatment Programme for Pregnant Women](#).

Booking appointment:

- » First chance to intervene
- » Should include CO test with the outcome recorded
- » Opt-out referral for anyone with elevated CO levels (4ppm or above) or who advises that they are a smoker
- » CO test is non-judgmental and a great way to start conversation about smoking

Other points throughout pregnancy:

- » All women should be CO tested “as appropriate” throughout pregnancy. Women who have previously been recorded as smokers should be prioritised for CO monitoring at each antenatal appointment
- » In addition to during antenatal appointments, CO monitoring can take place during home visits and, where possible, ultrasound scans
- » Should include CO test with the outcome recorded
- » Ideally, women should be CO tested at every contact with maternity services to ensure that women who smoke or have relapsed to smoking are (1) identified; (2) receive consistent messaging about the benefits of being smokefree throughout pregnancy; and (3) given multiple opportunities to engage with stop smoking support

36-week appointment:

- » Still an important chance to intervene, refer to support, and deliver advice about the importance of having a smokefree home once the baby is born
- » Should include CO test with the outcome recorded
- » More accurate data point than SATOD due to CO verification test
- » Opportunity to plan for a smokefree delivery and provide info about other benefits of being smokefree e.g. faster wound healing
- » Can be incorporated into the birth planning discussion with the midwife

At time of delivery:

- » Nationally mandated data point which serves as the primary measure of smoking in pregnancy
- » Trusts and CCGs are free to take their own approach to collecting SATOD data – this approach should be clearly defined so that recording of SATOD is consistent across the service. In Greater Manchester for example, women are asked if they have “used a tobacco product within the last 14 days” (see section 2.2)
- » Potential opportunity to deliver advice about the importance of having a smokefree home once the baby is born

Some areas also collect data on the smoking status of partners and other household members. This allows services to deliver stop smoking support to partners or household members, both as a means of protecting the pregnant woman from secondhand smoke and supporting her quit attempt. Women who live with a smoker are 6 times more likely to smoke throughout pregnancy and those who live with a smoker and manage to quit are more likely to relapse to smoking once the baby is born.⁷ Consequently, it is imperative that maternity services capture information about the smoking status of partners and household members. The NHS Long Term Plan commitment to introduce an opt-out smokefree pregnancy pathway for pregnant women and their partners recognises the impact of the home environment on pregnant women’s smoking behaviour.⁸

2.2 Smoking status at the time of delivery

Smoking status at the time of delivery (SATOD) is currently used as the measure for rates of smoking in pregnancy in England. NHS Digital publishes SATOD data collected by CCGs on a quarterly and annual basis through the [Statistics on Women's Smoking Status at Time of Delivery: England](#).

There are several limitations with the use of SATOD as the measure for smoking in pregnancy. Collecting data during delivery is imperfect. It can be a poor time to ask about smoking, particularly where there have been complications during the birth.

Despite efforts to improve the consistency of data at the time of delivery, there is still significant variation in the quality and comparability of SATOD data across the country. This can be partly attributed to a lack of clinical guidance on how and when to identify and record smoking status at the time of delivery, with NHS

trusts and CCGs free to take their own approach. Additionally, because SATOD data is self-reported rather than CO verified it *“may be susceptible to “satisficing” where the woman is tempted to give an answer which is more socially acceptable, i.e., to say she is a non-smoker.”*⁹

To overcome this variation, colleagues in Greater Manchester (GM) have implemented a standardised approach to collecting data on smoking status throughout pregnancy and delivery across all 10 boroughs. SATOD is collected post-delivery when completing the maternity record, with all women being asked if they have “used a tobacco product within the last 14 days.” While this approach enables more effective benchmarking within GM, it highlights the challenge of like-for-like comparison of SATOD within and across localities and regions nationally.

2.3 Data sharing between maternity and stop smoking services

There are significant challenges with data sharing between maternity services and community stop smoking services, with maternity staff often left with no way of knowing whether a pregnant woman has been referred to a local stop smoking service, whether they have attended that referral, whether they have quit and for how long, or whether they have relapsed. This makes it much more challenging for maternity services to see what impact they are having on smoking in pregnancy rates and creates a considerable administrative burden for maternity staff who must repeatedly ascertain women’s quit status across multiple appointments.

These challenges are highlighted by NREADY survey data showing that 40% (12 of 30) of NHS trusts with a stop smoking offer for pregnant women were unable to say how many women set a quit date after receiving support from the trust.¹⁰ The most common reason provided was a lack of access to data on quit outcomes, with some respondents saying they were unable to obtain outcome data from the service provider. This is compounded by a lack of consistency in the database software 35 used to record quits, with trusts using a mixture of local systems, excel spreadsheets, bespoke systems, and patient care notes.¹⁰

Case study 1: Using data to improve service delivery in Norfolk

Strategic aim

Colleagues at Norfolk County Council and the Norfolk and Norwich University Hospital (NNUH) NHS Foundation Trust undertook an analysis of maternity data to gain a greater understanding of the smoking habits, characteristics and birth outcomes of pregnant women delivering at NNUH. The key aims of the project were to:

- » Identify the demographics and characteristics of local pregnant smokers.
- » Inform the design of local health promotion campaigns.
- » Strengthen partnership working between Public Health and NNUH maternity services.
- » Design a model of working that enables ongoing maternity data analysis and evaluation which could be rolled out across Norfolk & Waveney Local Maternity & Neonatal System (LMNS).

Design

The team conducted statistical analysis on 5526 unique anonymised maternity records (1 July 2017 - 30 June 2018). For each of the maternal records, retrospective data was included with information captured at booking, delivery and discharge. A total of 42 parameters were analysed resulting in 4 result categories: ‘smoking status’, ‘parental demographics’, ‘birth outcomes’ and ‘deprivation related smoking status’.

Findings

- » 12% of women were recorded as smoking at booking, however only 20% of records had a recorded smoking status. Missing answers were assumed to be non-smokers for the purpose of the study.
- » Only half of women had their CO levels recorded at booking – this likely reflects the opt-in rather than opt-out approach undertaken during this period.
- » Almost 70% of smokers wanted to quit at time of booking but only 25% accepted a referral to cessation services – there was no significant difference in quit rates between those who accepted referral and those that declined.
- » A fifth of women lived with someone who smoked. Pregnant smokers were more likely to live with a fellow smoker and, where this was the case, they were less likely to have quit by the time of delivery.
- » There was insufficient data recorded on fathers' smoking status to analyse.
- » Smoking women were more likely to have a miscarriage, stillbirth, or premature baby than non-smokers. Babies of smokers were more likely to need NICU/Transition care.
- » Women living in the most deprived areas were more likely to be smokers.

Key learning

- » Identified need for a collaborative and multifaceted approach across all agencies to encourage a more uniform approach to data collection across the LMNS.
- » Greater understanding of local demographics for women who smoke during pregnancy and where they differ.
- » Highlighted the low referral rates to smoking cessation services.
- » Shows the significant influence living with a fellow smoker has on maternal quit attempts.
- » Confirmed what was already known about the association between smoking during pregnancy and adverse birth outcomes.

Impact on local practice

- » Creating a culture of continuous improvement using data (data quality improvement): review of trust and LMNS maternity data capture and dissemination process, production of regular reports (SATOD/SATOB, referrals per trust) to a wide audience including posters for midwives.
- » Upgrading of local training offer: review of training material for midwives with inclusion of data collection and importance of data quality, embedding a variety of commissioned training channels/sessions for healthcare professionals working with pregnant women.
- » Integrating effective and robust pathways and processes across the LMNS: launch of a CO monitoring and referral pathway, recruitment of 3 smoking cessation specialist midwives (one per trust) across the LMNS – now one lead at LMNS level, referral and feedback pathway between maternity and Smokefree Norfolk.
- » Targeted social media campaigns: Facebook/Instagram video campaign reaching over 100,000 and producing over 5600 unique click-through to local smoking cessation website (Smokefree Norfolk).
- » Interest from other trusts to conduct a similar exercise.
- » Encouraged collaborative working with multi-agencies and across organisational boundaries.
- » Review of smoking in pregnancy resources to include accessible information that meets the needs of key demographic groups.

2.4 Lessons for practice

- » Trusts should set out a standardised process for data collection across the trust and ensure that this process is clearly communicated to staff. This should cover *when* data on smoking status should be collected throughout pregnancy, *how* it should be collected, and *who* should collect it. This is particularly important for the collection of SATOD data which is not CO verified and can be collected however trusts see fit.
- » Trusts should review the quality of data collected at key points throughout pregnancy to identify any gaps and areas for improvement. See the Norfolk case study above for more detail.

- » Trusts should collect data on partner/household member smoking status to enable staff to deliver advice on the harms of secondhand smoke for pregnant women and the importance of keeping the home smokefree. Where possible, smoking partners/household members should be referred to stop smoking support.
- » Trusts should consider how best to utilise patient data to identify key population groups, geographies, localities, and staff groups where there is a need for targeted intervention and support. This should be an ongoing process and should inform routine service delivery.
- » Trusts and Integrated Care Systems should review the referral pathways and data sharing between maternity services and local stop smoking services and ensure feedback and follow up processes are in place as per Element 1 of the Saving Babies Lives Care Bundle.

2.5 National recommendations for improving data

In February 2021, Action on Smoking and Health (ASH) and the Challenge Group published a report which included several recommendations for improving the collection and utilisation of data on smoking status during pregnancy. Key recommendations cover:

- Developing standardised national guidance on how and when to record SATOD data.
- Introducing a new 'smoking cessation during pregnancy' indicator to capture the number of women recorded as smokers at their booking appointment who quit by delivery.
- Mandating the collection of data on whether pregnant women are exposed to secondhand smoke in the home.
- Identifying a practical way of sharing patient data between stop smoking services, maternity services, and health visiting services.
- Publishing combined data showing the numbers of women receiving stop smoking support within NHS services and local authorities and the outcomes from that support.
- Establishing a national working group to address the challenges around data collection and data sharing.

View the full report and recommendations: ASH & the Smoking in Pregnancy Challenge Group. [Getting back on track: delivering a smokefree start for every child](#). February 2021

2.6 Further resources

- Smoking in Pregnancy Challenge Group. [Evidence into practice: Supporting partners to quit smoking](#). March 2020
- Smoking in Pregnancy Challenge Group. [LMS Smokefree Pregnancy Pathway](#). Jan 2020
- NICE. [Smoking: stopping in pregnancy and after childbirth. Public health guideline \[PH26\]](#). 2010.
- NHS England. [Saving Babies' Lives Care Bundle Version Two](#). 2019.

3. CO monitoring

Carbon monoxide (CO) monitoring allows health professionals to identify whether someone has been exposed to carbon monoxide. CO monitoring is a key part of the smokefree pregnancy pathway and should be offered to all pregnant women, with the outcome recorded.³

CO is a poisonous and colourless gas which binds to red blood cells in place of oxygen,¹¹ meaning when a pregnant woman is exposed to CO, it restricts the amount of oxygen getting to the baby.

Babies exposed to CO during pregnancy are at risk of stillbirth, low birth weight, premature birth, and miscarriage.^{12 13} Pregnant women can be exposed to carbon monoxide from tobacco smoke, or other environmental sources such as faulty gas boilers and exhaust fumes.

3.1 Rationale for CO monitoring

A person's CO levels can be measured through a simple exhaled breath test using a CO monitor.¹⁴ This is a quick, non-invasive biochemical test for assessing whether someone smokes (or has been exposed to CO from other sources) and it gives a reading in parts per million (ppm).^{4 14} CO monitoring should be carried out in maternity services and local stop smoking services.

CO monitoring of pregnant women should be carried out in maternity services and local stop smoking services and serves two key functions:

1. As a diagnostic tool in maternity appointments to assess a women's exposure to CO and identify a way of managing that risk – generally through an opt out referral to smoking cessation services.
2. To assess progress of smokers making a quit attempt and validate quit success.

Evidence suggests that routine CO monitoring of smokers increase smokers' motivation to stop smoking and improves the effect of quit advice in the general population.^{14 15} CO monitoring provides smokers with visible proof of the harm caused by smoking, and it gives people a practical measurement of their smoking status with which to chart their progress after they stop smoking.

NICE guidelines for pregnant smokers stipulate a level of 7 ppm as the identification of a non-smoker.⁴ The guidance states: *“Some suggest a CO level as low as 3ppm, others use a cut-off point of 6–10ppm. It is important to note that CO quickly disappears from expired breath. As a result, low levels of smoking may go undetected and may be indistinguishable from passive smoking. When trying to identify pregnant women who smoke, it is best to use a low cut-off point to avoid missing someone who may need help to quit.”*

3.2 Rationale for 4 parts per million

The Smoking in Pregnancy Challenge Group recommends that women with a reading of 4ppm or above should be referred for smoking cessation support or considered to be experiencing environmental CO exposure, the source of which – such as a faulty gas boiler – should be identified.

Evidence suggests that 4ppm is the optimal cut-off for correctly identifying pregnant women who smoke and minimising the number of false positives.^{16 17} A significantly higher cut-off risks missing smokers with relatively low levels of CO, with evidence showing that even low levels (6 to 10ppm) of exhaled maternal CO may be associated with significantly lower birthweight.¹⁸ The Saving Babies Lives Care Bundle recommends that all pregnant women should be tested for CO at their booking appointment and other points throughout pregnancy, including at 36 weeks. Women who show a reading of 4ppm or above should have their smoking status ascertained and should be offered a referral to smoking cessation support in line with NICE guidance on smoking.^{4 5}

3.3 Evidence for CO monitoring

There are several barriers to accurately identifying and supporting pregnant women who smoke. Evidence shows that pregnant women often deny or under-report the number of cigarettes smoked.^{19 20} This is also referred to as ‘*satisficing*’: “where the woman is tempted to give an answer which is more socially acceptable, i.e. to say she is a non-smoker.”²¹ This is likely due to the social stigma around smoking in pregnancy and the feeling of being judged.

Research evidence indicates that CO monitoring increases the accurate identification of smokers, who can then be referred to stop smoking support.^{4 22 23 24} CO monitoring also provides a practical and objective route into conversations with pregnant women about smoking. This makes it easier for health professionals to discuss the impact of smoking on the woman and her baby, and emphasise the importance of quitting in a medicalised, non-judgemental way.

Evidence shows that women are generally happy to accept CO monitoring as part of their routine antenatal care,²⁵ with one study finding that pregnant women considered CO monitoring to be the most valuable element of the pathway as it was easy, non-invasive, and quick.²⁶ Some women report that seeing their CO reading had a larger impact on their motivation than just being given smoking cessation advice. However, many women also expressed dissatisfaction about the perceived lack of contact by stop smoking services following referral.²⁶

CO monitoring also facilitates referrals to specialist stop smoking support.^{17 27} Opt-out referral to specialist stop smoking support is a key part of the smoking in pregnancy care pathway recommended by NICE⁴ and set out in the Saving Babies Lives Care Bundle.³ One evaluation found that introducing CO monitoring and ‘opt-out’ referrals at 12-week ultrasound scan appointments increased the numbers of pregnant smokers setting quit dates and reporting smoking cessation.²⁷ This approach might be challenging to implement in some trusts as women are not routinely seen by a midwife following ultrasound scans. An evaluation of the babyClear approach in the North East, which included the provision of CO monitors, universal CO monitoring, and opt-out referral, found that as a result of the intervention:²⁸

- » Referrals to stop smoking services more than doubled.
- » The probability of quitting by delivery almost doubled.

3.4 Implementing CO monitoring across the system

Maternity services have made significant progress in implementing universal CO monitoring of pregnant women since the publication of the Saving Babies’ Lives Care Bundle in 2015. However, the COVID-19 pandemic has significantly disrupted the provision of maternity care and stop smoking support for pregnant women, with CO monitoring paused between March and November 2020.^{29 30} Although it has now resumed, this pause has almost certainly delayed the implementation of CO monitoring at 36 weeks, and there are likely to be significant challenges to reinstating CO monitoring across the system in the short-to-medium term. Additionally, since 2015 there has been a gradual decline in the use of CO monitors to verify quit attempts by pregnant women in local authority stop smoking services, which is a cause for concern given that this is a marker of quality for service delivery.³¹ Consequently, there needs to be a renewed focus on:

- » Ensuring health professionals understand the rationale for CO monitoring
- » Ensuring that maternity and stop smoking services have an adequate supply of CO monitors, batteries, mouthpieces, and cleaning products
- » Re-skilling health professionals to carry out CO monitoring with pregnant women

The COVID-19 pandemic has led to widespread implementation of remote service delivery e.g. over the phone or through video conferencing. Survey data indicates that this remote service model is seen as popular with clients by stop smoking services and is likely to endure in some form post-COVID.³² There may also be advantages to delivering remotely for pregnant women if referrals can be made more quickly, women do not

have to travel to a service, and can avoid the stigma they perceive to be associated with their smoking. However, this will create new challenges in verifying quits and assessing the quality of the service delivered to pregnant women. Alternative verification or other service delivery methods therefore need to be explored to ensure service quality can be maintained.

As part of their remote support offer, maternity services in Greater Manchester have been providing personal CO monitors which can be used at home by individual service users without needing an advisor to be present. The person uses the device which sends an email to their advisor via an associated application (app), then a virtual and remote consultation occurs with their adviser to discuss their results, offer behavioural support, and plan pharmacotherapy. Initial insights from the scheme show that the personal CO monitors have been effective for engaging pregnant women as part of a wider package of remote support.

Case Study 2: Wessex CO monitoring pathway

Strategic Aim

The Wessex CO monitoring pathway was established by the Wessex Clinical Network to support the implementation of CO monitoring at every antenatal appointment across the region and increase the number of smokefree pregnancies. The pathway was developed following a recommendation from the Wessex Stillbirth Review Panel, who identified:

- » No clear pathway for CO Monitoring in some trusts
- » Variation in pathways – some pathways still under development
- » Results and actions not always recorded
- » Lack of evidence regarding referral to smoking cessation services

Implementation

The pathway, which was agreed and signed off by all maternity services in Wessex, sets out what process staff should follow when carrying out CO monitoring at antenatal appointments.

It was implemented by each trust through quality improvement projects, as part of the Wessex '*Supporting the Maternity & Neonatal Safety Improvement Programme*'. This quality improvement approach gave staff from each trust an opportunity to review implementation of each part of the pathway, identify any barriers, and develop solutions and learning which could then be shared with other trusts.

As part of this process, the Wessex Clinical Network identified several barriers to implementation for trusts to address:

- » Lack of working CO monitors
- » Lack of adequate training for midwives
- » Lack of guidance on what and how data should be recorded
- » Lack of knowledge about existing stop smoking services

Outcomes

Prior to the COVID-19 pandemic, antenatal CO monitoring was [adopted](#) by 100% of the maternity services in Wessex, and is now being reintroduced.

3.5 Lessons for practice

- » NHS trusts should review their implementation of Element 1 of the Saving Babies' Lives Care Bundle and ensure that there is a standardised approach to carrying out CO monitoring within the trust. This approach should have buy-in from senior management and include clear expectations about when CO monitoring should be conducted, who should carry it out, who is responsible for acquiring/maintaining monitors, where outcomes should be recorded etc. Custom regional pathways such as the one implemented in Wessex present an additional option for areas that want to improve their implementation of CO monitoring.
- » All trusts should identify a named smokefree pregnancy champion to be responsible for the delivery of smokefree pregnancies. Activities within this role can include supporting the implementation of CO monitoring, ensuring training is available, providing support and performance management, and engaging with external stop smoking services. Challenge Group guidance for champions is available [here](#).
- » Local authority stop smoking services should review their use of CO monitoring to verify quits for pregnant smokers to ensure that all clients are receiving best-practice support to quit smoking.
- » Services must have an adequate supply of CO monitors, batteries, mouthpieces, and cleaning products. Local stakeholders and commissioners should review the availability of this equipment in their NHS trust or stop smoking service to ensure that health professionals are properly equipped to deliver high quality support to help pregnant smokers quit.
- » Health professionals should be adequately trained on how to effectively use CO monitors and deliver very brief advice (VBA) on smoking. Service leads should ensure that all relevant staff receive regular training on CO monitoring as recommended in the Saving Babies' Lives Care Bundle v2. Free online training is available via the NCSCT and e-Learning for Healthcare (e-LfH).
- » Staff who are unsure about reintroducing CO monitoring due to COVID-19 should refer to the [NCSCT guidance on CO monitoring](#). The guidance sets out specific detail about how to reintroduce CO monitoring and face-to-face stop smoking support safely. Public Health England, iPiP, and e-LfH have developed a short 10-minute e-learning session to support midwives and health visitors in refreshing their skills with the CO monitor and ensuring they can undertake a COVID safe intervention: <https://portal.e-lfh.org.uk/Component/Details/679733>

3.6 Further resources

- » NCSCT. [COVID-19: Face-to-face consultations and CO monitoring](#). January 2021
- » E-lfh e-learning on [the reintroduction of CO testing](#)
- » NCSCT e-learning ['Very Brief Advice on smoking for pregnant women'](#) – includes CO monitoring
- » E-lfh e-learning on [CO monitoring and supporting pregnant women and families to be smokefree](#)
- » NCSCT. [Standard Treatment Programme for pregnant women](#)
- » Smoking in Pregnancy Challenge Group [resources and training materials](#) on CO monitoring

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