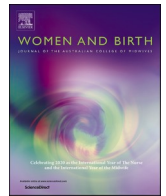




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The United Kingdom and the Netherlands maternity care responses to COVID-19: A comparative study

Lauri M.M. van den Berg^{a,*}, Marie-Clare Balaam^b, Rebecca Nowland^b, Gill Moncrieff^b, Anastasia Topalidou^b, Suzanne Thompson^{a,c}, Gill Thomson^b, Ank de Jonge^d, Soo Downe^b, ASPIRE-COVID19 Research Team

^a Amsterdam University Medical Centre, Vrije Universiteit Amsterdam, Department of Midwifery Science, AVAG/Amsterdam Public Health, The Netherlands

^b School of Community Health and Midwifery, Faculty of Health and Care, University of Central Lancashire, UK

^c Research Centre of Midwifery Science Maastricht, Zuyd University, The Netherlands

^d Amsterdam University Medical Centre, Vrije Universiteit Amsterdam, Department of Midwifery Science, AVAG/Amsterdam Reproduction and Development, The Netherlands

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ABSTRACT

Background: The national health care response to coronavirus (COVID-19) has varied between countries. The United Kingdom (UK) and the Netherlands (NL) have comparable maternity and neonatal care systems, and experienced similar numbers of COVID-19 infections, but had different organisational responses to the pandemic. Understanding why and how similarities and differences occurred in these two contexts could inform optimal care in normal circumstances, and during future crises.

Aim: To compare the UK and Dutch COVID-19 maternity and neonatal care responses in three key domains: choice of birthplace, companionship, and families in vulnerable situations.

Method: A multi-method study, including documentary analysis of national organisation policy and guidance on COVID-19, and interviews with national and regional stakeholders.

Findings: Both countries had an infection control focus, with less emphasis on the impact of restrictions, especially for families in vulnerable situations. Differences included care providers' fear of contracting COVID-19; the extent to which community- and personalised care was embedded in the care system before the pandemic; and how far multidisciplinary collaboration and service-user involvement were prioritised.

Conclusion: We recommend that countries should 1) make a systematic plan for crisis decision-making before a serious event occurs, and that this must include authentic service-user involvement, multidisciplinary collaboration, and protection of staff wellbeing 2) integrate women's and families' values into the maternity and neonatal care system, ensuring equitable inclusion of the most vulnerable and 3) strengthen community provision to ensure system wide resilience to future shocks from pandemics, or other unexpected large-scale events.

Statement of significance

Problem

Countries with comparable maternity and neonatal care systems which experienced similar numbers of COVID-19 infections differ

in the way they balance human rights in the areas of safety and personalisation in care provision.

What is already known?

There are key differences in responses to the pandemic in the areas of choice of birthplace, companionship, and vulnerable families in maternity care between the United Kingdom and the Netherlands.

* Correspondence to: Amsterdam University Medical Centre, Vrije Universiteit Amsterdam, Van der Boerhorststraat 7, 1081 BT Amsterdam, The Netherlands.

E-mail address: L.m.vandenberg@amsterdamumc.nl (L.M.M. van den Berg).

¹ Co-investigators.

² Research Staff.

³ Steering committee.

⁴ Stakeholder Group.

What this paper adds?

Differences in policy drivers identified in this study could help inform how to optimise maternity care in normal circumstances, and during future crises.

1. Introduction

The World Health Organization (WHO) considers respectful maternity care (RMC) to be based on the principles of universal human rights [1]. The WHO define RMC as “care organised for and provided to all women in a manner that maintains their dignity, privacy and confidentiality, ensures freedom from harm and mistreatment, and enables informed choice and continuous support during labour and childbirth” [1]. In the United Kingdom (UK), the National Health Service (NHS) England Better Births maternity review emphasises the need for both safety and personalisation in maternity and neonatal care [2]. Safe care is more than good perinatal outcomes: it also includes the importance of women having choices and making decisions based around their personal circumstances, values, social norms, and needs [2].

The coronavirus (COVID-19) pandemic has impacted health care capacity worldwide, including maternity and neonatal care. At the beginning of the pandemic, there was uncertainty about the effect of COVID-19 infections on perinatal health outcomes, and actions were taken to protect pregnant women and babies [3,4]. Changes in maternity care provision were made to reduce infection rates and to protect maternity and neonatal care capacity [5]. These changes included switching to online and telephone consultations, limiting birth partner companionship, and ensuring extra hygiene precautions during breastfeeding for COVID-19 positive mothers [5]. While it can be considered acceptable to limit some rights to contribute to security, safety, and emergency resource management [6], some of the changes have raised fierce opposition [7]. Complaints have been made about restrictions in women’s birth choices, and about women being alone during labour or while attending potentially highly sensitive appointments (i.e. anomaly scans). For some, this has been seen as a direct violation of women’s rights [8].

The UK and the Netherlands (NL) are European countries with similar social structures and norms, comparable maternity care systems, and, by population size, experienced similar numbers of COVID-19 infections. In principle, therefore, they should not differ drastically in the way they balance human rights in the areas of safety and personalisation in maternity care [9]. However, key differences in maternity and neonatal services organisation have been noted, particularly in terms of rules about companionship during labour and birth, and accessibility to community maternity care provision [5].

This paper reports on the findings from a multi-method study that was undertaken to compare the UK and Dutch COVID-19 maternity and neonatal care responses. We considered that an understanding of why and how similarities and differences occurred in similar health and social contexts could help inform how to optimise maternity and neonatal care in future, both in normal circumstances, and during future crises. Therefore, our research question was: how and why did maternity and neonatal care policies adapt to the COVID-19 pandemic in the UK and the NL?

2. Methods**2.1. Study design**

This study was undertaken as part of the Achieving Safe and Personalised maternity care In Response to Epidemics (ASPIRE-COVID19) project designed to determine ‘what works’ in providing care for mothers, babies, and families during and after a pandemic [10].

One of the work packages of the ASPIRE study comprised a

comparison between the UK and the NL maternity care responses, including documentary analysis of public maternity care organisational documents that influenced national maternity care policy and interviews with national maternity care stakeholders. Three domains are reported in this paper, because they emerged during the study as areas where there were evident differences between the two countries. These domains were choice of birthplace, companionship during the perinatal period, and the extent to which women and families in vulnerable situations had been considered. A modified “Framework Method”, with a combined inductive and deductive approach was used to examine similarities and differences in policy in these areas, and, more importantly, to identify drivers that might explain these similarities and differences [11].

2.2. Data collection**2.2.1. Document collection**

National (UK and NL) and international public maternity care documents (i.e., guidelines, protocols, and position papers) were prospectively collected from maternity care and service-user organisations between February 2020 and December 2020 (Table 1). The collected documents were stored on a University’s shared Microsoft’s SharePoint folder. The majority of the documents had a page length of 1–15 pages, but there were exceptions up to 70 pages. Some documents had several versions, with the authors often briefly listing the changed points with every new version. Our initial plan was to collect documents until September 2020, however, due to the second wave of COVID-19, we felt it would be beneficial to continue data collection, which then ended in December 2020. We chose to focus on fifteen key organisations from September 2020 onwards, due to resource limitations. The fifteen organisations were identified to be those which had been the most influential on maternity service provision during the first wave of the pandemic. The list of key organisations was agreed with the ASPIRE Research Team, comprising stakeholders from professional, service user, and policy backgrounds. The documents from non-key organisations are therefore from before September 2020, but these documents were included.

A framework of key safety and personalisation criteria was developed based on the expert opinion of the ASPIRE Research Team and a policy report of NHS England about safety and personalisation to improve outcomes of maternity service in England (Supplementary File 1) [2]. Data were then extracted and mapped to the framework. From the 391 collected documents, 246 had data of interest and were therefore included in the analysis of this study. In this manuscript the documents are indicated with the organisation name and document number (e.g., organisation_document number).

2.2.2. Stakeholder interviews

We conducted semi-structured in-depth interviews with national and regional level stakeholders (professionals, service user organisation representatives, policy makers) in the interviewees’ native language (English or Dutch). We used an interview guide with a focus on personalisation and safety in maternal and neonatal care during the pandemic (Supplementary File 2). The questions in the interview guide were based on expert opinion of the authors, the ASPIRE Research Team and a policy report of NHS England about safety and personalisation to improve outcomes of maternity service in England [2].

Thirty-nine national and regional maternity care stakeholders were purposively selected and invited to ensure that there was representation from all key maternity and service-user organisations involved in national maternity and neonatal policy during the pandemic in the UK and NL. Some of the selected interviewees were part of the broader setting in which policy decisions are made. Twenty-six participants from the UK and thirteen from the NL were interviewed (Table 2). More stakeholders were interviewed in the UK than in the NL, since the UK has more service-user organisations than the NL and we wanted to make sure we

Table 1

Organisations that documents were collected from⁺ (abbreviation, n = number of documents analysed from this organisation). * = key organisation, data from Sept 2020.

United Kingdom	Netherlands	International
1. Association for Improvements in the Maternity Services (AIMS, n = 8) *	1. Royal Dutch Organisation of Midwives (KNOV, n = 30) *	1. World Health Organisation (WHO, n = 3) *
2. Royal College of Midwives (RCM, n = 38) *	2. Dutch Society for Obstetrics and Gynaecology (NVOG, n = 10) *	2. International Society of Ultrasound in Obstetrics & Gynaecology (ISUOG, n = 4) *
3. Royal College of Obstetricians and Gynaecologists (RCOG, n = 28) *	3. Dutch Association for Paediatrics (NVK, n = 6) *	3. The International Federation of Gynaecology and Obstetrics (FIGO, n = 1)
4. National Health Service England/Scotland/Wales/Northern Ireland (NHS, n = 11) *	4. Knowledge Centre for Maternity Care Assistants (KCKZ, n = 11) *	4. International Confederation of Midwives (ICM, n = 2)
5. Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK (MBRACE-UK, n = 1) *	5. The Birth Movement (GB, n = 3) *	5. UNICEF (UN, n = 2)
6. Birthrights (BR, n = 15) *	6. College of Perinatal care (CPZ, n = 7)	
7. Still Birth and Neonatal Death charity (SANDS, n = 3) *	7. Professional Association of Dutch Sonographers (BEN, n = 4)	
8. Society of Radiographers (SoR, n = 10) *	8. Federation of Medical Specialists (FMS, n = 2)	
9. Institute of Health Visiting (IHV, n = 2)	9. Association of Maternity Care Assistants Organisations (BO, n = 3)	
10. Maternal Mental Health Alliance (MMHA, n = 1)	10. National Institute for Public Health and the Environment (RIVM, n = 0)	
11. National Maternity Voices (NMV, n = 1)	11. National Breastfeeding Association (BA, n = 1)	
12. Faculty of Sexual and Reproductive Health (FSRH, n = 0)	12. Dutch professional association for Doulas (NBvD, n = 3)	
13. Royal College of Nursing (RCN, n = 0)	13. Ambulance Care Netherlands (AS-NL, n = 0)	
14. Royal College of Paediatrics and Child Health (RCPCH, n = 6)		
15. Neonatal Transport group (NTG, n = 0)		
16. British Association of Perinatal Medicine (BAPM, n = 7)		
17. Royal College of Psychiatrists (RCP, n = 2)		
18. Ambulance Services (AS-UK, n = 0)		
19. Department of Health England/Scotland/Wales/Northern Ireland (DOH, n = 7)		
20. Birth Companions (BC, n = 4)		
21. Bliss (Bliss, n = 7)		
22. Royal College of General Practitioners (RCGP, n = 1)		
23. Birthwise Northern Ireland (BW, n = 0)		
24. College of paramedics (CoP, n = 0)		

Table 1 (continued)

United Kingdom	Netherlands	International
25. PROMPT Maternity Foundation (PROMPT, n = 1)		
26. Midwifery Unit Network (MUN, n = 0)		
27. Miscarriage Association (MA, n = 1)		

⁺ Some of the collected documents had no data of interest for analysis for this study so these organisations have n = 0 reported in the table.

Table 2

Interview participants.

United Kingdom	Netherlands
1. Obstetrician with a national role	1. Royal Dutch Organisation of Midwives (KNOV)
2. Birth Trauma Association	2. Dutch Society for Obstetrics and Gynaecology (NVOG)
3. Maternity Voices Partnership (MVP)	3. Dutch Collaboration of Maternity Care Assistant Organisations (BO)
4. Royal College of Midwifery Scotland (RCM)	4. College of Perinatal Care (CPZ)
5. National Maternity Voices Partnerships (NMV)	5. Dutch Organisation for Paediatricians (NVK)
6. BLISS	6. National Taskforce COVID-19 for midwives
7. Birthrights (BR)	7. The Birth Movement (GB)
8. Midwife with a national role	8. Health Care Insurance Associations (ZN)
9. Consultant midwife with a national role	9. Inspectorate of Health and Youth Care (IGJ)
10. Stillbirth and Neonatal Death Charity (SANDS)	10. Ministry of Health, Welfare and Sport (VWS)
11. Neonatologist with a national role	11. Hospital board member
12. Maternity Voices Partnership	12. Regional Consultation of Acute Care (ROAZ)
13. Association for Improvements in the Maternity Services (AIMS)	13. Regional ambulance services
14. Senior Midwife Leader	
15. Professor of Midwifery/ previous Head of Midwifery	
16. Twins Trust	
17. NHS England and NHS improvement	
18. Independent Midwifery Advisor	
19. Maternity and Neonatal Services Manager (N. Ireland)	
20. Miscarriage Association	
21. Midwife with a national role	
22. Owner of a doula training company	
23. Consultant anaesthetist	
24. Midwife sonographer	
25. Clinical Network Lead (Wales)	
26. The Society and College of Radiographers (SoR)	

had representation of all devolved nations (Scotland, Wales, Northern Ireland). No international organisations were interviewed, since the focus was on UK and NL maternity care policy.

The interviews were held from July 2020 to December 2020 and were video- or audio-recorded in Microsoft Teams and transcribed using Sonix (Sonix Inc., San Francisco, CA) and MaxQDA software (v18.2.5) and were subject to post-transcription manual checks and editing. Interviews were undertaken by four researchers in the UK and two researchers in NL. All interviewees were experienced qualitative researchers and most of them had experience of undertaking research in maternity and/or neonatal care.

2.3. Data analysis

Regardless of their length, documents were first analysed deductively by three members of the research team using the safety and personalisation checklist previously described ([Supplementary File 1](#)). Two researchers from the UK analysed the UK documents and one researcher

from the NL analysed the Dutch documents. Relevant data segments were extracted and recorded in excel files. Analytical frameworks were established for each domain through repeated and extensive discussion by the three researchers, and then reviewed by all authors.

The interviews were transcribed and anonymised and then analysed inductively by open coding supported by the MAXQDA software package (v18.2.5) by two members of the research team (one UK, one NL). Open coding was conducted in the native language by English or Dutch speaking researchers. Codes were grouped together into categories across the open coding for each country to develop a framework through discussion.

The documentary and interview analytical frameworks were interpreted together within each domain to explore relationships within and between the categories. This led to explanation of the policy drivers in both countries. Differences in opinion in the research team were resolved with mutual agreement. The research team consisted of nine women from a range of academic and clinical backgrounds including midwifery, psychology, and sociology. Three researchers work in the NL and six researchers in the UK. All researchers believe in value-based maternity care, where maternity care is based on what women and their partners view as important (their values).

3. Findings

In [Section 3.1](#) we present the similarities and differences in maternity care policy between the UK and NL during the COVID-19 pandemic for each of the chosen domains. Most of the data in this section are taken from national level documents. [Section 3.2](#) describes the policy drivers behind these similarities and differences between the two countries, and is more interview-based. In both cases, however, we include evidence from both types of data.

3.1. Similarities and differences between the British and Dutch maternity care response during the COVID-19 pandemic

3.1.1. Choice of birthplace

Organisations in both countries adjusted their advice for the choice of birthplace according to whether the woman giving birth was suspected of being positive for COVID-19 ([Table 3](#)). The most striking difference between the UK and the NL was the provision of home birth services. Although most guidance advised that the provision of home birth and midwifery-led choices should continue, a Royal College of Midwives (RCM) survey of the heads and directors of midwifery reported that 32% of services had stopped or restricted home births in the UK (RCM_33). Home birth services were discontinued in some UK regions, mainly due to (anticipated or actual) staff shortages in hospitals and ambulance services (RCOG_2a, _11). Conversely, in the NL, women who were considered to be low-risk were initially advised not to give birth at the hospital to reduce the potential impact on hospital capacity (KNOV_1, 22 March 2020). However, this advice was withdrawn within a month (24 April 2020), as it became clear that there were no actual capacity issues due to COVID-19.

In preparation for the second wave of the pandemic, several UK organisations published statements about the importance of the choice of birthplace (RCM_30; RCOG_15). Many advantages to keeping place of birth choices unrestricted were emphasised and included reducing the risk of infection for women and babies (ICM_1; RCOG_2; AIMS_1) and the reduced pressure on already overstretched hospitals (RCOG_2a; AIMS_2; NHS_1).

In both countries, concerns were expressed that COVID measures may have influenced choices around place of birth, such as Dutch hospitals not allowing primary care midwives to be present at medium risk births, for example when a woman has a postpartum haemorrhage after a previous birth, leading women to choose home birth while this was not their first choice (GB_3). In the UK, some of the documents described a potential rise in the number of unassisted births, with several

Table 3
Choice of birthplace.

	United Kingdom	Netherlands
Women without COVID-19 symptoms or with a negative test result	No national restrictions on choice of birthplace. However, there were differences in the home birth policy by region (AIMS_5; RCM_14, _33); several regions/Trusts limited home birth services to protect capacity in the hospitals and ambulance services (RCOG_2a, _11).	No restrictions on choice of birthplace, only the advice for women who were considered to be low-risk to not to give birth at the hospital to reduce the potential impact on hospital capacity. A document from the Dutch Royal Organisation for Midwives mentioned that if there was a future lack of capacity in the hospital, hospital births without medical reasons would not be possible (KNOV_1, _2). In contrast, the document also mentioned that if there was a lack of ambulances, home births might not be possible (KNOV_13).
COVID-19-positive women with mild symptoms or women who were asymptomatic	All women with COVID-19 symptoms were advised to choose a hospital for the birth (RCM_7, _15). However, there needed to be an informed discussion about the place of birth in case the woman had mild symptoms or was asymptomatic (RCM_1; RCOG_1j).	No restrictions on choice of birthplace when a woman's temperature was below 38 °C with no respiratory insufficiency (KNOV_4, _5; FMS_1, _4). If the woman's temperature was above 38 °C or if the woman had respiratory insufficiency, a hospital birth was advised (KNOV_4, _5; FMS_1, _4).
COVID-19-positive women with severe symptoms	The advice was to give birth in the hospital and have continuous cardiotocography (CTG) (RCM_7, _15).	The advice was to give birth in the hospital and have continuous cardiotocography (CTG) (KNOV_5; FMS_1, _4).

organisations implying that the restrictions on birth place choices were a potential cause (RCM_2; AIMS_2, _5; BR_1). A UK interviewee agreed with this:

‘Closure of services, so women haven’t had choices. Yeah, and might have ended up making choices like to freebirth that they wouldn’t otherwise.’ (Interview UK stakeholder 5, National Maternity Voices Partnerships)

3.1.2. Companionship

In both countries, the initial response was to limit companionship for women during the antenatal, natal, and post-partum periods. Many organisations in the UK and NL recommended no companionship during antenatal check-ups (KNOV_1; BEN_01; NVOG_4; CPZ_7; ISUOG_6; SoR_11; NHSE_1; RCOG_1c; RCM_8). In the early days of the pandemic there was some guidance in the NL documentation to make exceptions to companionship restrictions in the antenatal period (CPZ_7).

‘Pregnant women can face difficult and emotional decisions. In such situations, it is realistic that health care providers deviate from this advice’ [no companionship during antenatal check-ups]’ (Document of the Dutch College for Perinatal Care, CPZ_7, 27 March 2020).

There were differences between UK and NL policies for companionship throughout childbirth. In the NL, only one person could be present, but this could be throughout labour and birth (KNOV_1, _4). In the UK, in the early phases of the pandemic, recommendations were that birth companions were not allowed during early labour in spontaneous birth or during the early phase of induction of birth (RCM_8, _28;

AIMS_8). When the woman was in established labour, only one birth companion was allowed to be present (RCOG_1g). The documentary evidence we reviewed did not advise on how established labour should be confirmed, but there are reports that this requirement may have led to unwanted vaginal examinations (AIMS_5; BR_8_18_23). In the UK, concerns were expressed that an unintended consequence of the restrictions on companionship was that some women chose an unassisted birth (AIMS_2_5; RCM_11; BR_8; AIMS_8):

‘Restrictions imposed by the majority of trusts (86%) have meant many women are alone in hospital during early labour which can last hours or even days. Although all trust policies allowed birth partners to attend once labour is established, the unpredictable nature of birth has meant that in some circumstances women have given birth alone’ (Document of the Association for Improvements in the Maternity Services, AIMS_8).

When the first COVID-19 wave had passed its peak, various service-user organisations in both countries began lobbying for companionship rules to be relaxed. In the UK, the focus was on companionship during early labour, while in the NL, the concern was focused on enabling the presence of a second companion (AIMS_2; BR_1_14; NBvD_3; GB_2). The pressure resulting from these efforts led to restrictions slowly being relaxed. For instance, the following text of the Dutch Birth Movement (GB_2) led to hospitals in the Netherlands adapting their companionship policy during birth, making the presence of an extra person besides the partner possible for women (KNOV_37_44):

‘Especially in a clinical setting, where there are often unknown caregivers, a trusted person is so incredibly important. For these women, it is important that they are seen and heard during birth, with an extra person of their own choice. This allows a good start for them now and for the future of the baby that they are bringing into the world. For some women, this will be a doula, midwife or birth photographer, or their mother; for others, a trainee care provider is welcome.’ (Document of the Birth Movement, GB_2, 22 May 2020).

In the UK, companionship on the post-partum ward was limited; in some hospitals, visitors on the post-partum ward were not permitted, while in others, visitors were restricted to a specific timeslot (AIMS_6; NHSE_8; BR_1_8_16_17_23; SANDS_1; RCM_7_28). In the NL, there was no national guidance about post-partum companionship restrictions in hospital. However, interviewees suggested that in many Dutch hospitals, only the woman’s partner could visit the post-partum ward but without being restricted to a timeslot. Furthermore, there was national guidance restricting visitors to all Dutch homes. This impacted on the presence of maternity care assistants and family (BO_1; KNOV_31). From 11 May 2020, women that had just given birth could appoint one family member to visit them during the first week postpartum; during the second COVID-19 wave, the number of visitors was linked to national or regional infection rates (KCKZ_4_13; BO_4; KNOV_44). In the UK, rules about companionship in the home were limited in maternity care organisation documents, but rules regarding home visits were linked to nationwide lockdown measures, leading to fewer physical visits from maternity care professionals (RCM_15).

At the beginning of the pandemic, guidelines were published which advised that newborn babies should be separated from COVID-positive parents (NVK_05; BAPM_3). Moreover, in both countries from May 2020 onward, increased attention was placed on whether parents (not necessarily infected with COVID-19) were seen as visitors to the neonatal ward, thereby limiting their visiting hours (GB_1; ICM_1_2). However, over time many hospitals started to adapt and relax their policy due to increased focus on the negative impact of limited parent-infant contact (KNOV_15; BAPM_5_6_7; RCOG_9_2a; SCOT_3).

‘Neonatal services present a unique situation in terms of “visitors” and it is essential that the mother and her partner are never considered to be visitors within the neonatal unit – they are partners

in their baby’s care, and their presence should be encouraged’ (Document of the British Association of Perinatal Medicine, BAPM_5, 6 May 2020).

3.1.3. Women and families in vulnerable situations

We define women and families in vulnerable situations broadly. A woman and/or her family are in a vulnerable situation if they have a higher risk for adverse pregnancy outcomes based on ethnicity, language barriers, migration status, deprivation and/or mental health problems.

In the documents published during the first weeks of the pandemic, there was almost no mention of women and families in vulnerable situations in either country. From the end of March 2020, the attention on women and families in vulnerable situations increased, especially in service-user organisation outputs.

On 22 March 2020, the Dutch organisation Birth Movement published an ethical statement about maternity care during the COVID-19 pandemic, in which they encouraged healthcare professionals to continue to consider exceptions in certain situations; for example, if a pregnant woman had different needs because she was anxious after a previous traumatic birth or a previous stillbirth (GB_1). In response, several professional organisations started to offer advice specifically relating to families in vulnerable situations, e.g., the Royal Dutch Organisation of Midwives published a document on 1 April 2020 in which the objectives of post-partum care during COVID-19 included ‘coping with how birth went, pay attention to the transition to parenthood’ (KNOV_14). In the UK there were similar changes: service user organisations emphasised the need to consider women and families in vulnerable situations following which some professional organisations adjusted their policies.

‘To prevent avoidable suffering – in some cases tragedy – and reduce the huge economic burden on society, the mental health of pregnant women and new mums needs to be given equal priority to physical health, including by mums and families themselves’ (Document of the Maternal Mental Health Alliance, MMHA_1, 5 May 2020).

‘Women with known psycho-social vulnerabilities, operative birth, preterm/low birth weight baby and/or other medical or neonatal complexities need to be prioritised for face-to-face care’ (Document of the Royal College of Midwives, RCM_14, 20 May 2020).

In June 2020, a study was published that demonstrated that in the UK, women from ‘Black or minority ethnic groups’ were significantly more likely to be admitted to the hospital with COVID-19 than other women [4]. In response to this, several UK documents were produced which emphasised that women from Black or ethnic minority communities were more vulnerable to COVID-19 infection, were more likely to be hospitalised for COVID-19, and had an increased risk of adverse perinatal outcomes during the COVID-19 pandemic (BR_10_18; MBRR_1; NHSE_5_12; NHSR_1; RCM_2_3_5_6_13_14_16_17_17a_21_32_34_37; RCOG_1_1e_1i_1j_2_2a_3_7b_9_11_13_14_15). As well as addressing and clarifying the increased risk for women from minority ethnic backgrounds, many of these documents also provided recommendations for practice, such as to lower the threshold for admission for women from these groups where necessary (RCM_1_32_37; NHSE_5). In the NL, no data were published about the percentage of women from a Black or other ethnic minority group that were hospitalised with COVID-19.

In NL documents, there was some emphasis on the increased vulnerability of migrant women, asylum seekers, and women with Dutch as a second language during the COVID-19 pandemic (NVOG_1; KNOV_30). But in general, less attention was placed on women and families in vulnerable situations in NL documents, compared to those from the UK.

3.2. Policy drivers behind the British and Dutch maternity care response during the COVID-19 pandemic

As mentioned earlier, this section is more interview-based than documentary-based, however, documentary data has been included.

3.2.1. Focus on infection control

According to stakeholders in both countries, at the beginning of the COVID-19 pandemic, there was a strong focus on reducing infection rates. Several interviewees indicated that this was due to strong societal pressure to ‘flatten the (epidemic) curve’ and uncertainty relating to the risks posed by COVID-19 to pregnant women and babies, particularly at the beginning of the pandemic. There was also fear amongst policy-makers and healthcare providers regarding capacity within the healthcare system (i.e., staff and beds), due to the strain on resources relating to COVID-19 infections. These factors were perceived to have influenced the introduction of strict measures in maternity care during the early days of the pandemic.

‘The RCM, in normal circumstances, takes the clear position that women should be given the full range of birthplace options, with evidence-based guidance to aid their decision-making and that midwives should staff women and not buildings. However, the current crisis requires those leading and managing services to make difficult decisions to ensure the safety of pregnant women, their babies and the staff supporting them’ (Document of UK Royal College of Midwives, RCM_23, March 2020).

As the pandemic progressed, more information became available that suggested that pregnant women and babies were not at serious risk of severe COVID-19 complications (though this situation has changed with the advent of the delta variant, that arrived after the end of the data collection period for this paper) [12]. However, maternity and neonatal care remained focused on infection control, especially in the UK, largely due to the fear of staff becoming infected with COVID-19. This fear was exacerbated by a shortage of personal protective equipment (PPE) in the healthcare sector.

‘But that’s the message I’m hearing back and back from the trust, is that we only just kept our home birth services staffed and staff was super worried about going into people’s homes and we had to put a lot of restrictions on to make them feel safer.’ (Interview UK stakeholder 12, Maternity Voices Partnership)

This contrasted to the situation in the NL, where, according to the interviewees, there was a shortage of PPE but there was little fear amongst maternity care providers of becoming infected.

‘I didn’t experience that the midwives were so scared of becoming infected. Of course, there were a few, but most of the measures were taken to prevent a shortage of midwives [if they had to go on sick leave because of COVID-19 infection]’ (Interview NL stakeholder 7, Royal Dutch Organisation of Midwives).

According to a number of the interviewees, the negative impact of restrictions on women was justified by the need to reduce the spread of infection. However, others indicated that the restrictions were not proportionate and that more attention should have been placed on women’s experiences and psychological wellbeing.

‘So it [perinatal experience] is a really crucial life event. And however difficult the circumstances, the wishes and the needs and the sort of thoughts and everything else to do, the women should remain paramount.’ (Interview UK stakeholder 18, Independent Midwifery Advisor)

3.2.2. Facilitators and barriers for personalised care

In both countries, as the pandemic continued, there was more discussion in documents and also reflected by interviewees about the

balance between safety and personalisation. However, depending on different facilitators and barriers for personalised care, the results of this balancing process differed. Some interviewees reported that in countries and regions with more embedded community- and personalised care, such as continuous choice for and access to home birth services, it was easier to uphold these services.

‘But it seems to me. And with my cynical hat on, a lot of trusts went great, we don’t have to provide home births anymore and it was used as an excuse. And what always happens is that is that the sort of the wagons are circled around the labour ward. All the other options are dropped. And that has a really detrimental impact in so many ways (Interview UK stakeholder 18, Independent Midwifery Advisor)

Many interviewees felt that making exceptions to the rules for specific needs or to enhance equity was important in principle, but that this was particularly difficult to do in practice during the pandemic. Respondents felt that pregnant women could not ask for exceptions to be made for them, because they respected the rules, and because health care providers were seen as heroes during the COVID-19 pandemic. Several Dutch participants indicated that they thought it was difficult for health care providers to make exceptions, due to the sense of unity among health care providers. The national policy of the professional organisations was also aimed at preserving unity among maternity care providers. According to some Dutch interviewees, this sense of unity limited maternity care providers in making decisions on whether to make a special case for any specific individual.

‘We [maternity care providers] are not going to make an exception for you. We need to be consistent. Maternity care providers who made an exception did so under conditions of strict secrecy’ (Interview NL stakeholder 3, The Birth Movement)

In the UK there were issues regarding making exceptions as well. According to the UK interviewees, this was mainly due to advice provided in national guidance, which devolved decisions to individual regions, Trusts, and units, which were then made dependent on local resources, capacity, and infection levels.

‘And I think there is a bit of a vacuum because there isn’t strong guidance from the centre, but that Trusts should be looking at relaxing those restrictions and maternity services. So, I guess that’s just left to the local dynamics.’ (Interview UK stakeholder 7, Birthrights)

The lobbying of service user organisations may have had an effect on the increased emphasis on personalised care in the UK in the public and policy agenda that informed and influenced policy at local and national level. There are more service user organisations in the UK than in the NL, and service user organisations in the UK are more formalised. This may have been beneficial for women and families in vulnerable situations in the UK. In this document of AIMS, a UK service user organisation, their lobbying for personalised care and possible exceptions for women with different mental health needs is clear:

‘The personalisation of care must remain a priority during this period. We suggest that Trusts should be advised to consider individual requests for support to birth at home, for example, on a case-by-case basis, bearing in mind the needs of the woman (including her mental health needs) as well as what can be done to mitigate staffing constraints.’ (Document of the Association for Improvements in the Maternity Services, AIMS_2, 9 April 2020)

3.2.3. Learning how to work together during a time of crisis

The interviewees indicated that the unexpectedness of the COVID-19 pandemic caused tension and stress because there did not appear to be a clear plan of action, at least in the early stages. On the other hand, some interviewees felt that the acute crisis caused by COVID-19 created a sense of a common purpose. Action had to be taken quickly and health

care workers pulled together to make it happen. In both countries, there was multidisciplinary collaboration before the pandemic, but the response at the beginning of the pandemic was to issue mono-disciplinary guidelines. According to the interviewees, and based on the guidelines collected (such as the RCM/RCOG joint guidelines), as the pandemic progressed, it became evident that multidisciplinary collaboration was required to ensure policy alignment, prevent delay in care, and provide coordinated information to service users and the media; both at the care provider and stakeholder level.

‘So, if you look at the collaboration, there were some incidents in the beginning. Parties were still communicating a certain message from their own sector. And later on in the process, things got better and better: there was more of a joint effort’ (Interview NL stakeholder 11, College of Perinatal Care).

According to the interviewees, one of the important factors about working together during a crisis is the ability to understand each other’s interests, opinions, and expertise. The interviewees indicated that when the importance of collaboration became widely felt among all professional groups within maternity care, respect for each other’s expertise and perspective developed. Although some experienced or witnessed some friction in collaboration, many Dutch interviewees seemed proud of the collaboration in maternity and neonatal care,

‘Well, one party reported to the press on how they were going to do it, but then it was totally out of sync with the rest, which created a bit of a disagreement’ (Interview NL stakeholder 6, Ministry of Health, Welfare and Sport).

According to some interviewees in both countries, service user participation was missed out on many levels, including developing guidelines, implementing policy, and providing feedback on practice. The longer the crisis went on, the more service user participation took place. However, some interviewees considered the amount of participation to be insufficient to provide women with a real voice in decision-making about balancing their safety and other rights.

‘It was a such a technical discussion about how to reduce COVID-19 [infection rates] and the social aspect and the impact was forgotten. That would perhaps be my main recommendation. Why aren’t there women, pregnant women, people who don’t come from healthcare at the table? They were just not asked.’ (Interview NL stakeholder 3, The Birth Movement)

4. Discussion

This study examined the similarities and differences in maternity and neonatal care policy during the COVID-19 pandemic between two European countries, the UK and the NL, and stakeholder views about the drivers behind these policies. The focus on infection control in both countries meant that little attention was paid to the impact of restrictions by policy makers. Furthermore, it was difficult for care providers to make exceptions for women and families in vulnerable situations. The most striking differences between the UK and the NL related to birth place choices for women and companionship during birth. Differences in policy during COVID-19 between the two countries seemed to be influenced to a greater or lesser degree by differences in the extent of fear of maternity care providers contracting COVID-19, the degree to which community based care is normative, the extent to which personalised care was embedded in the maternity care system, and the involvement of service user organisations in policy making.

4.1. Interpretation

One of the main findings of this study is that the focus on infection control significantly restricted the choices and rights of women and their partners/families over the perinatal period in order to achieve the

lowest possible risk of infection [8,13]. Restricting women’s rights in an attempt to prevent risk, with little attention paid to the short and long-term effects on women’s psychological wellbeing, has been argued to generate greater harm than benefit [14,15]. For example, it appears that separation of parents and new-borns may have negatively influenced breastfeeding success, with negative emotional and health implications [16–18]. Furthermore, restricting companionship during antenatal ultrasounds can negatively influence the transition of partners becoming parents [19]. However, the present study suggests that it was difficult during a time of uncertainty (e.g., during an international crisis) to weigh up the short-term and long-term risks, especially as there was a lack of information relating to the risk posed by COVID-19 infection, particularly at the beginning of the pandemic.

Measures taken to reduce infection during COVID-19 had a significant impact on maternity and neonatal care for all who experienced it. However, there may have been a particularly adverse impact for women and families in vulnerable situations. In the UK, there was an over-representation of pregnant Black and minority ethnic women admitted to hospital with severe COVID-19 infection [4]. Moreover, based on the views of national level stakeholders, the restrictions that were introduced seemed to affect vulnerable women more than the general population. For example, when women with low health literacy or with communication difficulties were not allowed to be accompanied by a companion during prenatal visits, the consequences were likely to be greater than for those with better communication capacity [14]. Some of the measures taken to prevent infection created inequities in maternity care, and, potentially, increased risks for some [14]. It is critical that measures taken to prevent one kind of harm in some groups should not increase the risk of harm in other groups, or in other outcomes [20].

Our findings highlight that service user (organisation) involvement in decision-making and in the process of influencing policy is vital for a functioning maternity and neonatal care system during a time of crisis. In both countries, service user organisations played a key role in advocating for all women and parents, including those with additional needs or vulnerabilities. The documentary review highlights that service user organisations put topics such as making exceptions for bereaved families on the agenda of professional organisations. In the last few decades, there has been increased attention placed on service user (organisation) involvement in guidelines and research, which can contribute to making policy more service-user centred, leading to a more meaningful outcome for service users [21]. However, it has been suggested that during the pandemic, service user involvement was initially seen as a non-essential and time-consuming element of guideline development [22]. This focus in the early days of the pandemic was confirmed by some of the stakeholders interviewed in this study. Genuine service user involvement requires a cultural change in the production of healthcare guidelines during crises such as pandemics, to ensure that women, birthing people, parents, and service user organisations are seen as partners in decision-making and that women’s and families’ needs are at the centre of decision-making, especially when critical situations demand rapid responses that may result in knee-jerk reactions from professionals and policy makers.

Finally, this study illustrates that local norms and values in the maternity care system become magnified during times of crisis. For example, in some regions, it was easier to maintain services for home birth than in others. Home birth services were maintained in the NL but stopped in 32% of UK regions. The NL has a long tradition of community midwifery care and home births, unlike the UK [23]. The decision to rapidly revert to institution-based care in many UK settings might be reflective of a dominant belief about the intrinsic safety of hospitals, even when they may be a vector for infection, in line with wider UK rhetoric relating to safety in maternity care [24]. This was despite the fact that choice of birthplace and other personalisation issues are embedded within UK maternity policy [25]. Given the contrasting move towards maintaining or even increasing home birth in NL, as well as in some regions of the UK, it may be that maintaining the capacity to offer a

range of choices to parents during a pandemic or similar crisis is related to the prior organisation, beliefs and values of the maternity care system, as much as with guidelines issued by national bodies.

4.2. Strengths and limitations of this study

To our knowledge, this is the first study that compares maternity care policy and its drivers during the COVID-19 pandemic between two different high-income countries. The multi-method approach that was used enabled us to identify similarities and differences in maternity care policy and their drivers within both the documentary analysis and interviews.

A limitation of this study is that we may have missed certain published policy documents over the period of our data collection. However, the in-depth interviews provided additional information that suggested this was unlikely. Having five interviewers may have led to variations in the kind of data collected, but the team approach meant that participants could be interviewed in their own language, and a detailed semi-structured guide was used to minimise any nuanced differences between interviewer style. Extensive discussion between the interviewers took place regularly, and a joint coding framework between the countries was established.

4.3. Recommendations for policy and practice

Based on our data, we propose three recommendations for maternity care practice to plan for and manage a future crisis such as a pandemic. These recommendations reinforce new NHS England policy documents on post-pandemic preparedness [26–28].

First, a systematic if-then plan for making decisions during times of crisis should be created and stress-tested at all levels of the health care organisation in advance of any such event. Special attention should be placed on optimising multidisciplinary collaboration and staff well-being, and including meaningful and proportionate service-user involvement in every phase of decision-making.

Second, care provision should be closely and effectively tailored to service-user values in all maternity and neonatal care systems to ensure service changes during times of crisis automatically take service user values into account, including those who are most vulnerable, to minimise the risk of over-applying blanket risk-reduction or rescue policies, and to permit staff to make exceptions where this is likely to reduce psychological as well as physical harms.

Third, effective and accessible community provision should be the norm for as many maternity services as possible, to ensure provision is more resilient to future system-wide shocks, especially when these threaten the availability of centralised services.

5. Conclusions

This study identified similarities and differences in maternity and neonatal care policy in the UK and the NL in three key domains: choice of birthplace; companionship; and attention to women from disadvantaged and ethnic minority background. Based on the included national guidelines and policy analysis, and interviews with national stakeholders, both countries had an infection control focus. The differences between the two countries appear to have been influenced by factors such as the fear of providers contracting COVID-19, how community- and personalised care was embedded in the maternity care system, and the extent to which multidisciplinary collaboration and service-user involvement were prioritised. We recommend that countries should: 1) make a systematic plan for decision-making and the protection of staff and service user wellbeing during times of crisis, including service-user involvement and multidisciplinary collaboration; 2) integrate women's and families' values into the maternity and neonatal care system, including the most vulnerable and 3) strengthen community provision to ensure system wide resilience to future shocks from pandemics or other

unexpected events.

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Ethical statement

In the Netherlands the study was submitted to the Medical Ethics Review Committee of the VU University Medical Centre (reference number 2020.255). No ethical approval was needed, since the Medical Research Involving Human Subjects Act did not apply on this study, as there was no infringement of the physical and/or psychological integrity of the participants.

In the United Kingdom the study was submitted to University of Central Lancashire (UCLan) Committee for Ethics and Integrity (Health Review Panel), which approved this study (HEALTH_0079).

Written informed consent was obtained from all subjects involved in the study.

CRedit authorship contribution statement

Lauri van den Berg: Conceptualization, Methodology, Investigation, Formal analysis, Data curation, Writing – original draft. **Marie-Claire Balaam:** Conceptualization, Methodology, Investigation, Formal analysis, Writing – review & editing. **Rebecca Nowland:** Conceptualization, Methodology, Investigation, Formal analysis, Data curation, Writing – review & editing. **Gill Moncrieff:** Methodology, Investigation, Formal analysis, Data curation, Writing – review & editing. **Anastasia Topalidou:** Conceptualization, Methodology, Data curation, Writing – review & editing, Funding acquisition. **Suzanne Thompson:** Investigation, Writing – review & editing. **Gill Thomsson:** Conceptualization, Methodology, Investigation, Formal analysis, Writing – review & editing, Supervision, Funding acquisition. **Soo Downe:** Conceptualization, Methodology, Writing – review & editing, Supervision, Project administration, Funding acquisition. **Ank de Jonge:** Conceptualization, Methodology, Writing – review & editing, Supervision, Funding acquisition. All authors read and approved the final manuscript.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.wombi.2022.03.010](https://doi.org/10.1016/j.wombi.2022.03.010).

References

- [1] World Health Organization, WHO Recommendations: Intrapartum Care for A Positive Childbirth Experience, 2018. Available: (<https://www.who.int/reproductivehealth/publications/intrapartum-care-guidelines/en>).
- [2] National Health Services England, Better Births: Improving Outcomes of Maternity Services in England. A Five Year Forward View for Maternity Care, 2016. Available: (<https://www.england.nhs.uk/wp-content/uploads/2016/02/national-maternity-review-report.pdf>).
- [3] F. Elshafeey, R. Magdi, N. Hindi, M. Elshebiny, N. Farrag, S. Mahdy, et al., A systematic scoping review of COVID-19 during pregnancy and childbirth, *Int. J. Gynaecol. Obst. Off. Organ Int. Fed. Gynaecol. Obstet.* 150 (1) (2020) 47–52.

- [4] M. Knight, K. Bunch, N. Vousden, E. Morris, N. Simpson, C. Gale, et al., Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study, *BMJ Clin. Res. Ed.* 369 (2020) m2107.
- [5] K. Coxon, C.F. Turienzo, L. Kweekel, B. Goodarzi, L. Brigante, A. Simon, M. M. Lanau, The impact of the coronavirus (COVID-19) pandemic on maternity care in Europe, *Midwifery* 88 (2020), 102779.
- [6] P.C. Chi, H. Urdal, O.U. Umeora, J. Sundby, P. Spiegel, D. Devane, Improving maternal, newborn and women's reproductive health in crisis settings, *Cochrane Database Syst. Rev.* (8) (2015).
- [7] J. Lalor, S. Ayers, J. Celleja Agius, S. Downe, O. Gouni, K. Hartmann, et al., Balancing restrictions and access to maternity care for women and birthing partners during the COVID-19 pandemic: the psychosocial impact of suboptimal care, *BJOG Int. J. Obstet. Gynaecol.* 128 (11) (2021) 1720–1725.
- [8] Human Rights in Childbirth, Human Rights Violations in Pregnancy, Birth and Postpartum During the COVID-19 Pandemic, 2020. Available: (<http://humanrightsinchildbirth.org/wp-content/uploads/2020/05/Human-Rights-in-Childbirth-Pregnancy-Birth-and-Postpartum-During-COVID19-Report-May-2020.pdf>).
- [9] E. Dong, H. Du, L. Gardner, An interactive web-based dashboard to track COVID-19 in real time, *Lancet Infect. Dis.* 20 (5) (2020) 533–534.
- [10] ASPIRE-COVID-19, Achieving Safe and Personalised Maternity Care in Response to Epidemics, 2021. Available: (<https://gtr.ukri.org/projects?ref=ES%2FV004581%2F1#/tabOverview>).
- [11] N.K. Gale, G. Heath, E. Cameron, S. Rashid, S. Redwood, Using the framework method for the analysis of qualitative data in multi-disciplinary health research, *BMC Med. Res. Methodol.* 13 (2013) 117.
- [12] J. Allotey, E. Stallings, M. Bonet, M. Yap, S. Chatterjee, T. Kew, et al., Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis, *BMJ Clin. Res. Ed.* 370 (2020) m3320.
- [13] A. Coulter, T. Richards, Care during covid-19 must be humane and person centred, *BMJ Clin. Res. Ed.* 370 (2020) m3483.
- [14] P.M. Niles, I.V. Asiodu, J. Crear-Perry, Z. Julian, A. Lyndon, M.R. McLemore, et al., Reflecting on Equity in Perinatal Care During a Pandemic, *Health Equity* 4 (1) (2020) 330–333.
- [15] A. Asefa, A. Semaan, T. Delvaux, E. Huysmans, A. Galle, E. Sacks, et al., The impact of COVID-19 on the provision of respectful maternity care: Findings from a global survey of health workers, *Women Birth J. Aust. Coll. Midwives* (2021), <https://doi.org/10.1016/j.wombi.2021.09.003> (online ahead of print).
- [16] M.B. Schmid, J. Fontijn, N. Ochsenbein-Kölbl, C. Berger, D. Bassler, COVID-19 in pregnant women, *Lancet Infect. Dis.* 20 (6) (2020) 653.
- [17] H.A. Smith, Impact of COVID-19 on neonatal health: Are we causing more harm than good? *Eur. J. Midwifery* 4 (2020) 9.
- [18] A. Stuebe, Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm, *Breastfeed. Med. Off. J. Acad. Breastfeed. Med.* 15 (5) (2020) 351–352.
- [19] J. Draper, 'It's the first scientific evidence': men's experience of pregnancy confirmation, *J. Adv. Nurs.* 39 (6) (2002) 563–570.
- [20] G. Scally, B. Jacobson, K. Abbasi, The UK's public health response to covid-19, *BMJ Clin. Res. Ed.* 369 (2020) m1932.
- [21] M.J. Armstrong, C.D. Mullins, G.S. Gronseth, A.R. Gagliardi, Impact of patient involvement on clinical practice guideline development: a parallel group study, *Implement. Sci.* 13 (1) (2018) 55.
- [22] T. Richards, H. Scowcroft, Patient and public involvement in covid-19 policy making, *BMJ Clin. Res. Ed.* 370 (2020) m2575.
- [23] R. De Vries, M. Nieuwenhuijze, S.E. Buitendijk, What does it take to have a strong and independent profession of midwifery? Lessons from the Netherlands, *Midwifery* 29 (10) (2013) 1122–1128.
- [24] K. Coxon, A. Chisholm, R. Malouf, R. Rowe, J. Hollowell, What influences birth place preferences, choices and decision-making amongst healthy women with straightforward pregnancies in the UK? A qualitative evidence synthesis using a 'best fit' framework approach, *BMC Pregnancy Childbirth* 17 (1) (2017) 103.
- [25] A. De Jonge, S. Downe, L. Page, D. Devane, H. Lindgren, J. Klinkert, et al., Value based maternal and newborn care requires alignment of adequate resources with high value activities, *BMC Pregnancy Childbirth* 19 (1) (2019) 428.
- [26] E. Waller, N. Kanani, Primary Care Networks – Plans for 2021/22 and 2022/23. NHS England, 2021. Available: (<https://www.england.nhs.uk/wp-content/uploads/2021/08/B0828-i-gp-contract-letter-pvns-21-22-and-22-23.pdf>).
- [27] National Health Services, NHS Pledges to Improve Equity for Mothers and Babies and Race Equality for Staff, 2021. Available: (<https://www.england.nhs.uk/wp-content/uploads/2021/09/C0734-ii-pledges-to-improve-equity-for-mothers-and-babies-race-equality-for-all-staff.pdf>).
- [28] National Health Services England, 2021/22 Priorities and Operational Planning Guidance: October 2021 to March 2022, 2021. Available: (<https://www.england.nhs.uk/wp-content/uploads/2021/09/C1400-2122-priorities-and-operational-planning-guidance-oct21-march21.pdf>).