



Bristol JSNA Chapter 2017-18

Breastfeeding JSNA

Chapter information	
Chapter title	Breastfeeding JSNA
Chapter reference group	Breastfeeding Strategy Group Joint Health Outcomes Challenge Group
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Quality reviewed by who/date	Jo Williams, Consultant in Public Health, 13/12/2018
Chapter endorsed by	Joint Health Outcomes Challenge Group, Children and Families Partnership Board 20/04/2018
Chapter approved by	Jo Williams, Consultant in Public Health, 13/12/2018
Linked JSNA chapters	Healthy Weight in Children and Young People Dental health Perinatal mental health

Executive summary

Introduction

Breastfeeding contributes to improvements in the health of populations by reducing mortality and morbidity in mothers (Horta et al 2015, Chowdhury et al 2015) and babies (Sankar et al 2015, Rollins 2016). This effect is seen both in low and high income countries alike (Sinha et al 2015, Rollins 2016). Optimal breastfeeding reduces inequalities, (PHE 2016, Victora et al 2016) health care costs and improves life chances. It also supports the development of close and loving relationships, raises IQ and enhances brain development (Rollins 2016). Low levels of breastfeeding to one year, are estimated to cost the US \$302 billion per year (Lancet Breastfeeding series 2016).

Breastfeeding is a key public health priority locally, nationally (PHE 2016, NHS 2016, SOCH 2017, WBTi 2016) and internationally (WHO 2016, WBTi 2016, SACN 2017). The time period from conception to two years of age is an important time in which the foundations of good health are laid down (1001 Critical Days 2016) and where investment leads to the greatest health gains and optimal nutrition plays a vital role in this (PHE 2016, 1001 Critical Days 2017). It is one of the Public Health Outcomes Framework (PHOF) measures (PHE 2016) and a key outcomes indicator of the *Healthy Child Programme* (PHE 2009).

Breastfeeding has previously been viewed as a matter of individual women's choice, and whilst informed choice must be fully protected, it is now recognised that infant feeding decisions and practices are shaped by the society in which they take place and that governments, health systems, communities, families and individuals all play their part in supporting mothers to breastfeed (Rollins et al 2016). The UNICEF *Call to Action* (UNICEF 2015) details ways in which governments can support breastfeeding, the *World Breastfeeding Trends Initiative* (WBTi 2017) monitors and updates on progress and Public Health England/ UNICEF's Local Authority Commissioning guidance Local Authorities can effectively support and protect breastfeeding in their communities (PHE/UNICEF 2016).

In the UK, many women face practical, structural and cultural barriers to breastfeeding and 8:10 women who gave up earlier than they planned would have preferred to keep breastfeeding. A 'barrier cycle' has been identified with a background of low breastfeeding rates, normative use of formula milk, a lack of breastfeeding knowledge/experience and a lack of support services leading to high rates of breastfeeding problems which all contribute to low breastfeeding prevalence and exclusivity rates (McAndrew et al 2012). As a consequence, in the UK, many mothers have tried to breastfeed and experience, disappointment, stigma sometimes emotional difficulties leading to a deterioration in mental health (UNICEF 2015, Trickey et al 2017). The barrier cycle needs to be intercepted, by a comprehensive multifaceted approach to protecting breastfeeding and supporting mothers (Rollins 2016, WBTi 2016, UNICEF 2016).

In addition to this, there needs to be national leadership and adequate investment in breastfeeding strategy and support (Rollins 2016, Cochrane 2017, WBTi 2016). This includes a joined up approach that includes supportive national leadership, policy and strategy, as well as governmental legislation that protects breastfeeding and controls formula marketing. Full implementation of The *World Health Organisation (WHO) Code for the Marketing of Breast Milk Substitutes*, known as the 'the WHO code' (WHO 1981) is

recommended, but the UK, in common with many countries only has partial implementation (Rollins 2016, WBTi 2017).

The *Lancet Breastfeeding Series* (Victora et al 2016, Rollins et al 2016, Acta Paediatrica 2015) demonstrates that optimum health gains to individuals and populations are most significant when breastfeeding is exclusive and prolonged (Rollins 2017). It is recommended that babies are breastfed within the first hour of birth (WHO 2004, WHO 2017), breastfed exclusively for 6 months and then continue to breastfeed alongside the introduction of family weaning foods for as long as mothers and babies wish (PHE 2016) for two years and beyond (WHO 2003, WBTi 2004, PHE 2016, WHO 2004, Rollins 2016, WHO 2017). Breast milk is a dynamic, bioactive fluid and has many hundreds of molecules that help to protect against infection and inflammation. It contributes to immune maturation, organ development, and healthy gut microbial colonization (Ballard and Morrow 2013) and can be viewed as a personalised medicine (Rollins et al 2016). Breastfeeding has a low carbon footprint, contributes to environmental sustainability, food security and can be considered as part of climate smart development goals at national and global levels (Rollins et al 2016). Formula substitutes contribute to climate issues (Correa 2015) generation of waste, increased carbon emissions and require a greater use of resources (Linnecar et al 2015).

The World breastfeeding Trends Initiative (WBTi 2016) monitors countries progress towards supporting breastfeeding and breastfeeding mothers. These measures include; national leadership; a national infant feeding lead, a national infant strategy and policy, adequate paid maternity leave, lactation breaks, comprehensive data collection and monitoring and national health promotion information campaigns (WBTi 2016). The National Institute for Clinical Excellence (NICE) offer best practice guidance on how best to support breastfeeding mothers (NICE 2008a, NICE 2006) and are currently reviewing their guidance in this area. Recommends on support include joined up provision of individual support for mothers and families that meets their needs throughout their breastfeeding journey (Rollins 2016, UNICEF 2016, WHO 2004, WHO 2017).

Key issues and gaps (summary of section 8)

Key issues:

- Investment in the early years, especially the first 2 years of life, offers the greatest impact and financial return
- Optimal breastfeeding saves lives, reduces illness, improves health, reduces costs, improves life chances and narrows the inequalities gap
- Support for breastfeeding and raising breastfeeding rates confers considerable health, social and educational cost savings
- The UK has some of the lowest breastfeeding rates in the world.
- It is recommended that babies are fed breastfed exclusively for 6 months and then continue alongside the introduction of solid foods for as long as the mother wishes (PHE 2016). The World Health Organization (WHO) recommends that babies are fed in the first hour of life, are breastfed exclusively for 6 months and then continue for two years or more (WHO 2016).
- UK mothers face societal, structural and practical barriers to breastfeeding. There is weak implementation of the World Health Organisation (WHO) Code for the Marketing of Breast Milk

Substitutes, aggressive formula milk marketing including cross marketing of products and the normalisation of formula feeding

- Women may face a lack of skilled support services, concerns about feeding in public/in front of others, inadequate workplace support and a lack of support within their own wider community and with their own partners, family and friends.
- Bristol breastfeeding rates are higher than the national average and the core cities. Initiation rates have been stable for 4 years but may be declining slightly
- 6-8 week continuation rates, in particular exclusive breastfeeding, have risen over the past 8 years amongst all groups, although inequalities remain. It is probable that support for breastfeeding has an impact on mothers and babies and has contributed to the rise in rates, although improved continuation data coverage is needed.
- Bristol's Public Health alongside and within the Local Authority has been committed to raising breastfeeding rates and addressing health inequalities since 2007 as part of their work towards improving maternal and child health and other outcomes.
- The evidence shows that care and support for mothers and babies should be 'joined up' and seamless for women within and between services in hospital, at home and in communities with expert support available for additional challenges
- Local mothers value support in all its forms and want support and care that is accessible, kind, individualised and recognises individual circumstances. They want care that upholds their decisions, protects mental health and provides continuity of information, care and support within and between services.
- The UNICEF UK Baby Friendly Initiative (BFI) standards are recommended as best practice care, information and support for mothers within and across health and early years services
- Bristol was the first 'Baby Friendly' city in England and Wales, this status has currently lapsed because of restructures to teams and services and changes to commissioning arrangements. However, work is now on track to regain accreditation within and across all services.
- Training forms a key part in the maintenance of best practice standards around infant feeding and enhancing wider community awareness and support.
- The multidisciplinary Infant, Nutrition and Nurture Network (INNN) provided opportunities for collaboration and learning
- The value of breast milk to all babies is undoubted and to vulnerable babies even more so. There is a milk bank at Southmead Hospital funded by NHS England and pasteurised, donor breast milk is currently available for babies who are born under 32 weeks gestation who can't have their mother's milk
- The Bristol Breastfeeding Support Service (BBSS) provides a 1:1 antenatal and postnatal targeted service for mothers in areas of the city with lowest breastfeeding prevalence
- The Family Nurse Partnership and the BBSS provides breastfeeding support for teenage mothers
- Gypsy, Roma and Traveller (G,R &T) community can access support for feeding via the community midwifery and the G, R &T health visitor and drop-ins in three Children's Centres
- The BBSS trains and supervises volunteers to support mothers in their own communities
- Social media provides an important aspect of informal support that mothers can access in Bristol
- The maternity services offer specialist infant feeding support and a frenotomy (tongue tie) assessment/division service.
- The provision of specialist support across the city has recently grown and is due to increase by the appointment of an infant feeding specialist in the health visiting service and some additional midwifery

resource

- There is a network of breastfeeding support groups that provide peer and some specialist support to mothers with their on-going feeding journey-mothers usually access 2-3 weeks after their baby is born, these are well evaluated by mothers
- The Bristol Breastfeeding Welcome Scheme supports mothers to feed when out and about with their baby, is active and (probably) the largest in the UK , recent research suggest that mothers who are concerned about public breastfeeding find this helpful
- Health promotion campaigns and events in Bristol over the last few years have focused upon the support available to mothers e.g. *The Big Bristol Breastfeed* (2011-16) and the South Bristol breastfeeding campaign (2016)

Gaps:

UNICEF UK Baby Friendly Initiative and WHO Code

- The city is not currently fully BFI accredited, although there is considerable work underway to address this
- There is not a formal Local Authority guardian to support the protection of the WHO Code and BFI standards across the city

Local Authority strategic support

- Breastfeeding is embedded in some, but not all relevant policies, strategies, projects
- Protection for infant feeding is not currently in the emergency plan to protect infant feeding in local policies, although there is work underway to address this
- There is currently no formal workplace support scheme/strategy for continued lactation although resources have been circulated to key organisations, there is information on the website and national guidance on workplace health is awaited

Community support for mothers

- There is signposting to breastfeeding support services information but this may need to be enhanced
- The Bristol Breastfeeding Welcome Scheme is probably the largest in the country but has fewer members in area with low prevalence
- There is currently no formal workplace support scheme/strategy for continued lactation, although resources have been circulated to key organisations and national guidance on workplace health is awaited

Data

- initiation data is not fully accessible for breakdown by electoral ward, postcode, age and ethnicity to track progress and support the commissioning of services
- 6-8 week data coverage has declined since the data was collected via the health visiting service
- breastfeeding rates across the first year of life are not currently collected and mapped

Antenatal support

- NHS classes have an infant feeding session based on the BFI standards, some mothers would like more antenatal information to prepare for feeding
- Not all mothers are currently receiving an antenatal home visit as part of the health visiting contract due

to capacity issues which offers an opportunity to individually discuss feeding preparation and concerns

Postnatal care

- Some mothers would like more home visiting from health visiting and community midwives-the flexibility to offer additional supportive home visits
- Some mothers experience a lack of continuity and consistency of advice and information within and between services
- Some mothers would like more support with mixed (breast and formula)feeding
- Some mothers experience stigma and mental health issues around early cessation of breastfeeding

Specialist services

- There is not currently a specialist referral pathway for mothers to be referred to from the health visiting team, but there will be in Spring 2019 when a new Infant feeding lead is in post
- Some mothers would like increased and quicker access to the tongue tie assessment/division service

Donor milk

Donor breast milk is available to all babies under 32 weeks who need this but not to others who may need supplementary feeding in the early part of their life e.g. those who are small for gestational age, and premature babies over 32 weeks gestation and babies of diabetic mothers

Information and signposting

Breastfeeding support services information is on the Bristol City Council website and women are signposted by health professional and the Bristol Breastfeeding Mummies social media , but some mothers do not see this information.

Inequalities

- Gypsy and Traveller families experience very low breastfeeding rates
- Teenage mothers who aren't part of the Family Nurse Partnership or Bristol Breastfeeding Support Service don't get extra support with feeding, but have the lowest breastfeeding rates although they may have additional health visiting support
- The targeted breastfeeding support service in areas of low prevalence is well received by mothers, but only half of all mothers access the service
- Whilst there has been increased prevalence across the city, there is still a large inequalities gap

Training/education

- There is currently no multidisciplinary learning opportunity since the Public Health co-ordinated multidisciplinary Infant Nutrition and Nurture Network (INNN) ceased in February 2018 (ran from 2013-2018)
- There are some gaps in training opportunities for some NHS staff groups such as the Children's Hospital, the dietetics service and some community/voluntary groups

Dental

- More research is needed into the effect of breastfeeding on prevention of dental decay past 12 months

Recommendations (summary of section 10)

Recommendations for consideration

It is recommended that

UNICEF UK Baby Friendly Initiative and support for the WHO Code for the Marketing of Breast Milk Substitutes

- maternity, health visiting services and Children's Centres continue to be commissioned to achieve, sustain and extend UNICEF UK Baby Friendly accreditation to ensure that best practice standards around the support for all mothers with infant feeding (breast, formula and mixed feeding) is provided and that there is continuity of information and approach
- all accredited services to work towards the gold and sustainability awards to further embed the best practice standards
- the Local Authority formally supports the WHO Code and appoints a 'Baby Friendly' guardian as part of regaining full 'Baby Friendly Bristol' status
- Develop the new Bristol, North Somerset and South Gloucestershire infant feeding network (to replace the Baby Friendly leads meetings & Infant Nutrition Nurture Network), via the Local Maternity System postnatal work stream

Local Authority support

- the maintenance of the Bristol Breastfeeding Welcome Scheme continues, that more venues are recruited throughout the city, especially in areas of low prevalence
- support for continued lactation is included in any new, 'health in the workplace' scheme/strategy
- support for lactating members of staff in the healthy schools awards
- inclusion of breastfeeding in Personal Social Health Education /other relevant school curricula
- breastfeeding is included within all relevant Bristol City Council policies/strategies
- safe formula feeding and breastfeeding is protected within emergency plans

Community breastfeeding support

- the BBSS service continues to provide expert support within the breastfeeding support groups, to work with the Children's Centres to provide governance for support groups and to ensure best practice standards are maintained
- the BBSS continues to train, support and supervise volunteer peer supporters

Improving data

- initiation data is accessible for breakdown by electoral ward, postcode, age and ethnicity to track progress and support the commissioning of services
- coverage of data at 6-8 weeks data is improved to enable Bristol's data to be submitted nationally and tracked locally
- consideration is given to the mapping of breastfeeding data across a baby's first year of life (2,3,4 month immunisation contacts and one and two year health visiting reviews) to enable interventions to be monitored and services commissioned accordingly

Antenatal care and support

- the content and efficacy of the antenatal NHS preparation for parenthood classes infant feeding session evaluated to ensure that it meets parent's needs for information (via the LMS)
- that all parents have an antenatal home visit to discuss their infant feeding concerns with their health visitor/breastfeeding supporter
- that a woman's partner, mother, significant other or friend are included in antenatal clinic discussions or antenatal classes to increase self-efficacy and confidence in the mother and preparedness of the wider family thereby increasing her 'circle of support' when establishing breastfeeding
- health, early years and breastfeeding support services to support the antenatal identification of women who may require extra support with feeding e.g. women with perinatal mental health issues, those who may have previously suffered a pregnancy bereavement, those who are expecting a multiple birth, a pre-term baby or a baby who may have additional needs

Postnatal care and support

- a pilot volunteer peer support one year project 2019 to provide additional emotional, practical infant feeding support and service signposting to mothers-via the LMS postnatal work stream
- midwifery and health visiting services commissioned to enable more support in the home
- a pilot of the new *individual feeding plans* to aid continuity of care, information and support for mothers with breastfeeding challenges- via the LMS postnatal/continuity of care work streams
- staff in health and early years are trained to identify mothers who may need psychological help/additional supportive listening by signposting to breastfeeding/mental health community or other psychological help

Specialist services

- the health visitor breastfeeding specialist service is piloted and evaluated
- a specialist referral pathway is further updated

Donor milk

Increase provision to ensure that donor breast milk is available to all babies who may need this

Information and signposting

Ensure up to date information on community services is maintained and possibly enhanced, by increasing the prominence of the BCC breastfeeding webpage or developing a new social media page or website

Inequalities

- the Bristol Breastfeeding Support Service (BBSS) 1: 1 Support continues to provide targeted proactive, antenatal and early postnatal support to address inequalities in wards with the lowest prevalence
- a voucher scheme for mothers living in the areas with the very lowest breastfeeding prevalence e.g. Hartcliffe and Withywood or in all wards with lower prevalence in South Bristol could be considered
- the Family Nurse Partnership & the BBSS to continue to provide support for teenage parents with infant feeding and that commissioned health services consider the development of a pathway for those who do not access these two services

- resumption of an award/recognition scheme (certificates/donated gifts or vouchers) for young mothers and extended to mothers who are aged under 25 years
- development of innovative approaches/research with health and early years to work with the community to further support Gypsy and Traveller communities with infant feeding-consider applying for research funds for this.

Training/education

- training to be available for staff/voluntary groups that come into contact with families e.g. nursery staff, childminders, foster carers, perinatal and infant mental health service workers, Children's Nurses and dieticians, churches and community groups
- the UNICEF on-line GP BFI training is monitored, advertised and promoted when new curriculum is available. There may be an additional cost to this.
- develop the BNSSG shared education/learning group via the LMS postnatal work stream
- develop the infant feeding network group (to replace the Bristol Infant Nutrition and Nurture Network)

Dental

Dental care is highlighted for all babies/toddlers as part of all commissioned services

JSNA chapter report

A: What do we know?

1) Who is at risk and why?

Babies who are not breastfed experience poorer health and other outcomes including decreased mortality and morbidity (Rollins 2016). Only 1:5 children in high income countries breastfeeds to a year. Drop off rates are high in the UK in the first few days and weeks after birth and by 6-8 weeks only 44% of mothers are giving any breast milk and only 26% exclusively (Mc Andrew et al 2012). The UK experiences lower breastfeeding rates of babies ever breastfed (table 1 below) and recent statistics suggest that breastfeeding rates may be dropping, although the stats are experimental. Women least likely to breastfeed are young women aged under 25 years and white women living in economically disadvantaged communities. Drop off rates are high in the UK in the first few days and weeks after birth and by 6-8 weeks only 44% of mothers are giving any breast milk, only 26% exclusively. By 6 months only 1% are exclusively breastfeeding (McAndrew et al 2012).

Babies who are not breastfed are at greater risk of death and illness (Rollins 2016). It is estimated that a third of infant deaths caused by Sudden Unexplained Infant Death (SIDS) could be prevented in high income countries like the UK if more babies were breastfed for longer (Sankhar et al 2015). Breastfeeding also reduces the risk of a baby developing necrotising enterocolitis by 58% (Zani & Agostino (2015). This is a severe bowel condition that can cause serious illness/death in pre-term/sick babies) can lead to serious illness and death. It is estimated that there would be 361 fewer cases of necrotising enterocolitis if breastfeeding rates were increased (UNICEF 2012b).

Breastfed babies are 72% less likely to be admitted to hospital in the first year of life for serious episodes of gastroenteritis and have a 57% reduced risk of being admitted for respiratory illness. This effect is found in low and high income countries alike (Rollins 2016). Breastfeeding reduces the number of visits to General Practitioners (GP's) in the first year of life by 15% (UNICEF 2012b). Economic modelling suggests that over 50,000 GP visits would no longer be needed to assess children with gastroenteritis, respiratory illness and ear infections alone if breastfeeding rates were increased (UNICEF 2012b). The risk of a child developing otitis media (middle ear infections) is reduced by 43% up to age 2 years of age where breastfeeding duration and exclusivity follow the WHO guidelines (Bowatte et al 2015).

Breastfeeding has been found to enhance brain development, increase IQ, educational attainment and earning potential at age 30 (Victora et al 2016). The full mechanism is not known but imaging studies have shown an increase in white matter in a group of babies who were breastfed for at least 4 months (Deoni et al 2013). Increases in IQ have been noted in a number of studies (Del Bono and Rabe (2012, Deoni et al 2013, Victora et al 2016). The increase in IQ achieved by breastfeeding may have a role in reducing health inequalities and has been found to increase the earning potential of 30 year olds (Victora et al 2015, Sinha 2015). Also, breastfed babies are less likely to develop type 1 diabetes mellitus (Alves et al 2011)

The rates of asthma in children are rising (Bristol JSNA 2016/17) and there is some evidence that

breastfeeding may offer some protection in children aged 5-18 years (Lodge et al 2015). There is also some weaker evidence for a protective effect for eczema in children aged under 2 years and allergic rhinitis in children under 5 years of age, with greater protection for asthma and eczema in low-income countries (Lodge et al 2015). Dental decay is reduced if babies are breastfed in the first year of life. The effect upon children aged over one year who are breast fed nocturnally may be increased although further research is needed due to the lack of studies that explored eating, drinking and dental care. Optimal dental care is recommended for all children (Tham et al 2015). Malocclusion (overcrowding of teeth) is also reduced in children who have been breastfed (Glazer-Peres et al 2015).

Being overweight or obese as a child increases the risk of cardiovascular disease, type 2 diabetes, asthma, osteoarthritis and chronic kidney disease in adulthood. In childhood it can affect self-esteem, educational attainment and is a cause of depression. Being an overweight or obese child often continues in to adulthood (Fitsimmons & Pongiglione 2017). Optimal breastfeeding practices (WHO 2003, WHO 2016) can contribute towards reducing the risk of child overweight and obesity (Horta et al 2015) particularly if it is exclusive and prolonged (Bosi et al 2016). The *Lancet Breastfeeding Series* (Victora et al 2015) concludes that breastfeeding probably reduces child obesity rates (Giugliani et al 2015). A recent large Swedish cohort study found that breastfeeding to 9 months decreased the risk of child obesity at age 4 (Walby et al 2017), Gibson et al (2016) found that exclusively breastfeeding for 4 months resulted in lower BMI at age 7 years and *The Millenium Cohort* study recently found that breastfeeding for at least 90 days reduces the risk of a child being overweight or obese in adolescence at age 14 (Fitsimmons & Pongiglione 2017).

Breastfeeding significantly reduces the risk of women developing invasive breast cancer and following the WHO recommendations of exclusive breastfeeding for 6 months and continued breastfeeding until the child is two or beyond (WHO 2017) is one of the recommendations of the World Cancer Research Fund (WCRF 2017). It is thought breastfeeding reduces the risk of breast cancer in three ways; by helping mothers to reduce excess weight, by lowering levels of cancer related hormones and ridding the breast of cells that may have DNA damage (WCRF 2017). There is a 4.3% reduced incidence for each 12 month period of breastfeeding. It is estimated that there would be 865 fewer cases of breast cancer would occur annually if breastfeeding rates increased (UNICEF 2012b).

It is thought that breastfeeding also probably reduces the risk of ovarian cancer. An 18% reduction was found by Chowdury et al (2015) in a systematic review for the *Lancet Breastfeeding Series*. Breastfeeding probably also reduces the risk of diabetes and obesity (Victora et al 2016). A recent meta-analysis has shown that breastfeeding also reduces the risk of mothers developing endometrial (uterus/womb lining) cancer (Jordan et al 2017). Breastfeeding can help birth spacing by suppressing ovulation. This is known as lactational amenorrhoea, which has a contraceptive effect. It is achieved when breastfeeding is the only food given and the breast is offered to babies in a responsive way, as the baby needs, day and night (Chowdury et al 2015).

Perinatal mental health conditions are common and thought to affect somewhere in the region of 10-20% of women. Untreated poor perinatal mental health can have long term effects upon women and their

children and can affect the emotional attachment and connection between mothers and babies It is important therefore that this is recognised early and that women can access the support and care that they need (Hogg 2015).

Breastfeeding can have a protective effect and women who plan to breastfeed and successfully do so, have been shown to have a 2.5 reduced risk of developing postnatal depression (Borra et al 2015). It in part, may be due to some of the physiological effects of the hormones of lactation, prolactin and oxytocin, that can induce a feeling of wellbeing, reducing the stress response and promoting interaction between mothers and babies supporting emotional attachment (LCGB 2017). Skin contact can support closeness between mothers and babies as well as help with establishing or ameliorating problems with breastfeeding and has also been shown to decrease maternal stress (Bigelow et al 2012).

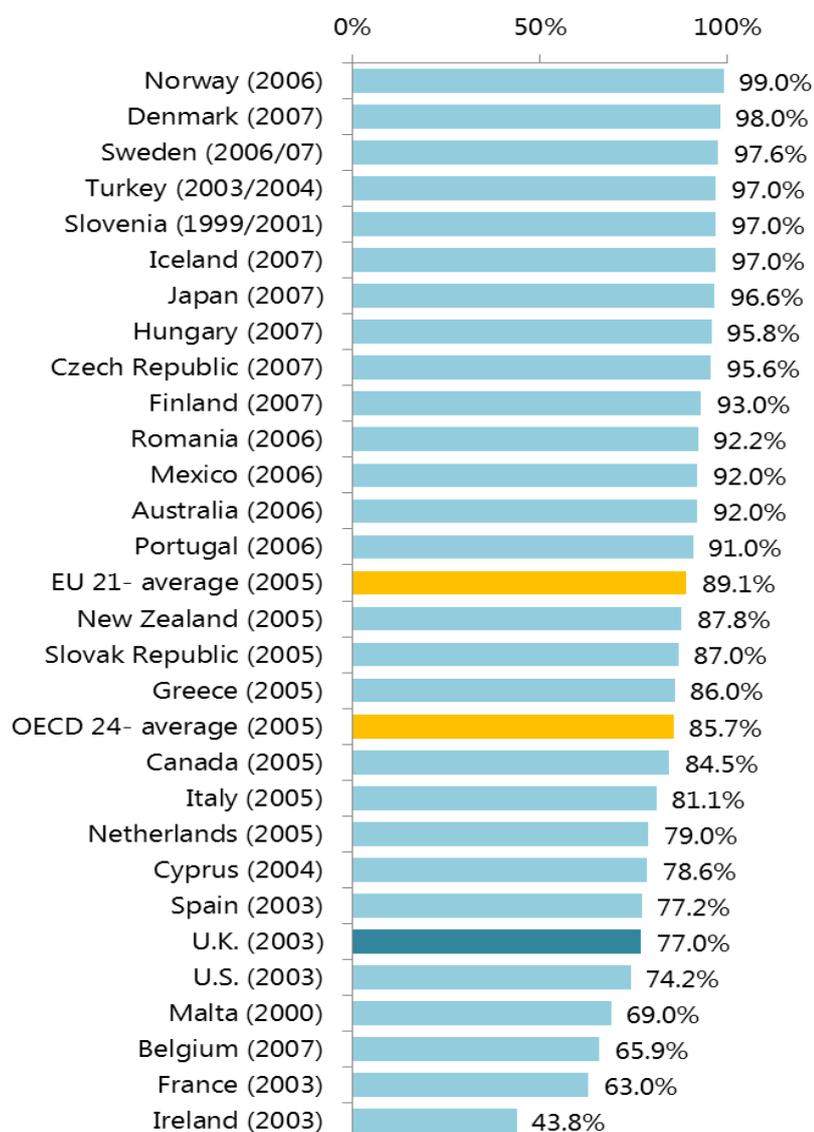
Lack of sleep can be a factor in developing depression and mothers who exclusively breastfeed have been found to report getting more sleep than mothers who are formula or mixed feeding (Kendall-Tackett et al 2011). Mothers who experience antenatal anxiety (or have pre-existing anxiety), have been shown to be less likely to successfully initiate breastfeeding, experience reduced self-efficacy and are more likely to supplement with formula when in hospital, an indicator that reduces the chance of success (Fallon et al 2016).

Breastfeeding challenges are commonplace, many societal barriers exist and for women who wanted to breastfeed and are unable to do so for as long as they wish, it is recognised that they may experience sadness and grief (Trickey and Newburn 2015) that may lead to postnatal depression/anxiety, particularly if they have experienced pain and difficulty (Brown et al 2015).

Global data

Table 1 overleaf shows the proportion of children who were 'ever breastfed' worldwide around 2005.

Proportion of children who were ever breastfed, around 2005 - Source: OECD



Data source: Reproduced from OECD Family Database 2011

National data - UK

The UK has one of the lowest breastfeeding rates in the Organisation for Economic Co-operation and Development OECD (SOCH 2017, WBTi 2017, NHS 2016,). Only 1% of babies receive only breastmilk (exclusive breastfeeding), until the recommended time of 6 months, although 34% of babies receive some breast milk (mixed formula/breast milk) known as partial breast feeding, at this stage. Although in England 17% of babies are receiving just breast milk at this time (McAndrew et al 2012, WBTi 2016) although the mean duration of breastfeeding in the UK is 3 months (McAndrew et al 2012, WBTi 2016). There has been some success in the UK in raising breastfeeding initiation rates over the past decade (McAndrew et al

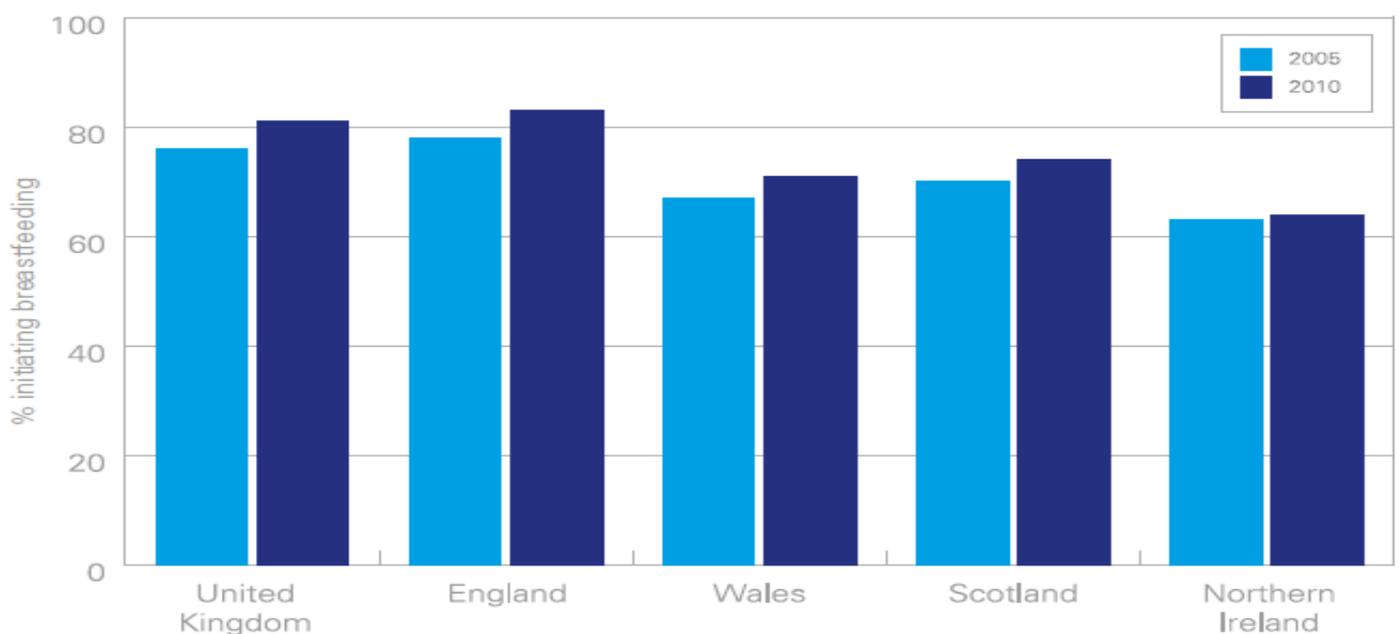
2012), however raising continuation and exclusive rates at 6-8 weeks is more difficult to achieve.

Such measures include; governmental support e.g. maternity pay/leave, training of all staff involved in the care of mothers and babies and the provision of extra practical community support to support mothers along their breastfeeding journey. Sweden now achieves near universal breastfeeding initiation rates, and high continuation and exclusive rates (Socialstyrelsen 2012). These measures are some of the characteristics that have been identified in high income countries with high breastfeeding initiation rates (Lubold 2017).

Raising breastfeeding rates is a complex process that requires a concerted societal approach to remove the barriers to successful breastfeeding. Sweden is an example of a country that has seen a huge cultural shift over several decades that began in the 1970's and has significantly raised breastfeeding rates. This has been achieved by supporting the normalisation of breastfeeding and removing some of the barriers by implementing numerous societal measures to support breastfeeding mothers and babies (Socialstyrelsen 2012).

Currently, 74% of mothers in England start breastfeeding, the highest rates of the UK countries (see table 2).

Table 2 below shows comparative breastfeeding initiation data from all four UK nations from the last two infant feeding surveys and shows an increase.



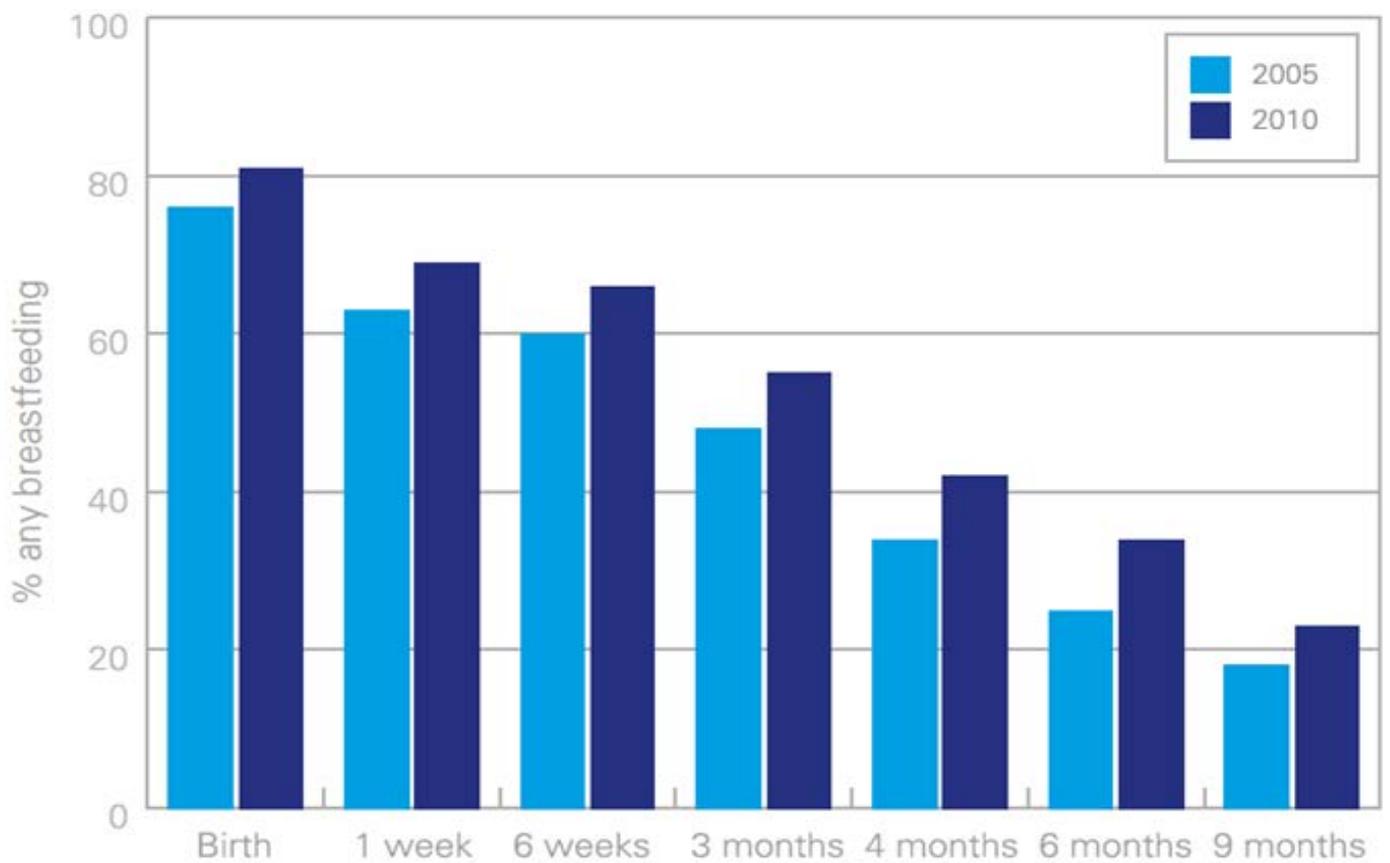
Data source: National Infant Feeding Surveys 2005 and 2010 (McAndrew 2012 et al).

There is then a rapid decline in any breastfeeding in the early weeks. In the last infant feeding survey by 6-8 weeks only 44.6% of babies were having any breast milk and fewer (24%) were exclusively breastfed (McAndrew et al 2012). Recently published Public Health England data suggests that this may have

dropped in the last couple of years although these statistics are experimental.

This decline in any breastfeeding continues throughout the first year of life (see table 3).

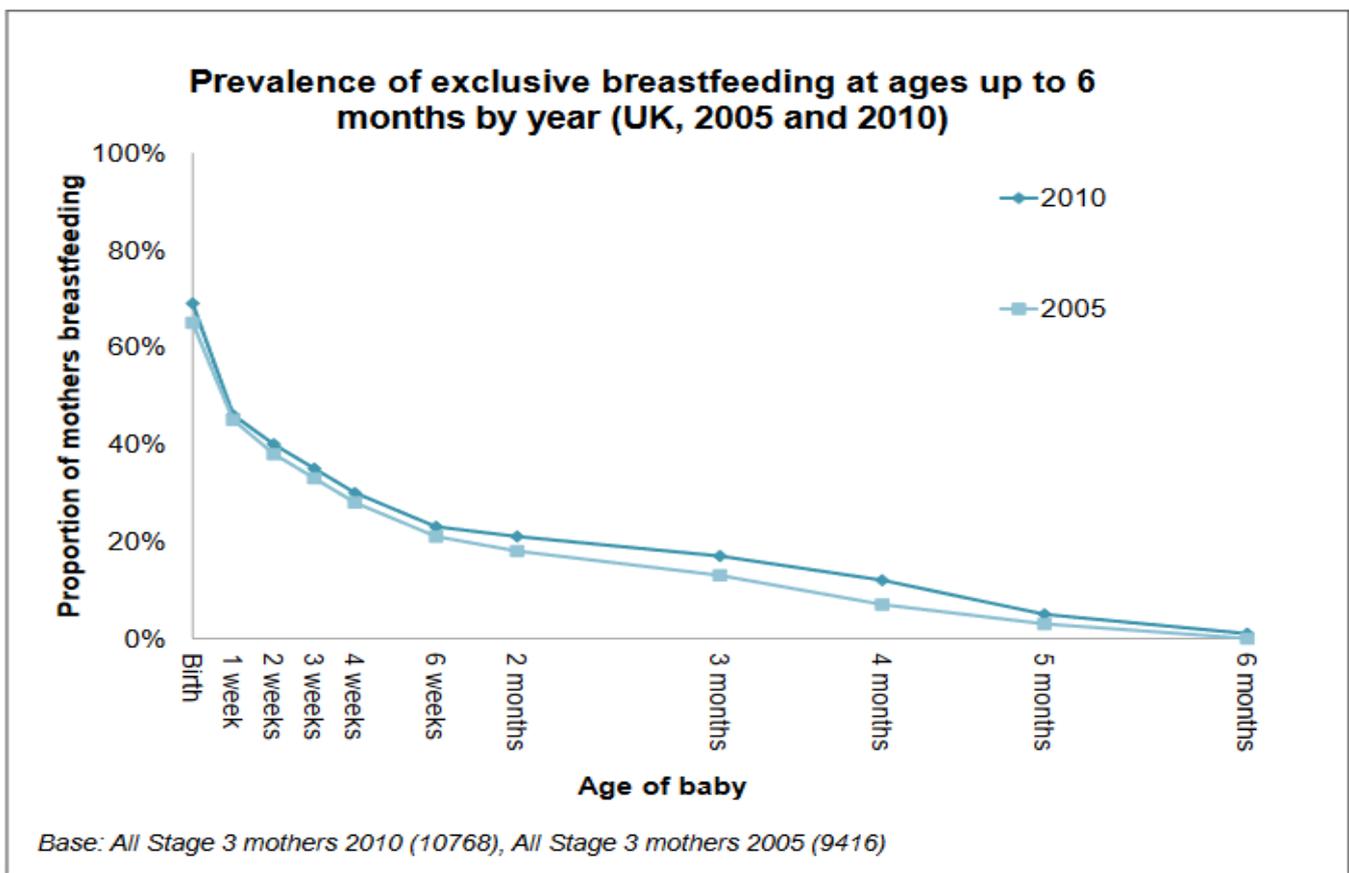
Table 3 below shows the decline in 'any' breastfeeding rates by age from birth to 9 months of age 2005-2010.



Data source: Infant Feeding Surveys 2005 and 2010 (McAndrew 2012 et al).

Exclusive breastfeeding rates decline rapidly in the first week and first 6 weeks of life and then decline further to less than 1% at 6 months of age.

Table 4 overleaf shows the decline in exclusive breastfeeding rates



Data source: National Infant Feeding Survey 2005 and 2010 (McAndrew et al 2012)

Barriers to breastfeeding

Insufficient breastfeeding support and services

Women in the UK often encounter practical challenges when establishing breastfeeding and need timely, skilled support to successfully breastfeed (Schmied et al 2010, PHE 2016, WBTi 2016, Cochrane 2017). Such practical difficulties were cited in the last National Infant Feeding Survey 2010 (McAndrew 2012) with mothers identifying numerous reasons for early cessation that include; a reluctance of the baby to take the breast, pain/ soreness, insufficient milk and a lack of skilled help. 63% of mothers who stopped before 10 months would have liked to have kept feeding for longer (McAndrew et al 2012).

Aggressive infant formula marketing

The global formula market is estimated to be worth around \$44.8 billion dollars and is expected to rise by 2019 to \$70.6 billion (WHO, IBFAN & UNICEF 2016). In the UK, confidence in the adequacy of breastfeeding and messages that undermine confidence abound. Whilst breastfeeding initiation rates are relatively high, supplementation with formula is commonplace and by 6 weeks of age, 76% of UK babies have had some formula milk (Mc Andrew et al 2012). In addition, many mothers give up before they wish

to.

Weak implementation of the WHO Code

The *Code for the Marketing of Breast Milk Substitutes (WHO Code 1981)* was introduced as a global measure to protect breast feeding and halt aggressive, inappropriate marketing of breast milk substitutes, bottles and teats to parents and professionals (WHO 2017).

Although many countries have adopted aspects of the WHO Code, only 39 countries have fully or mostly implemented all the legal measures associated with this. In the UK, the WHO Code is not strictly enforced, there are many infringements of the guidance and this in turn undermines breastfeeding. Consumers and society at large see marketing with assertions that their product is 'closest to breast milk' that cites research evidence that doesn't hold up to scrutiny.

The 2016 Report on the Marketing of Breast Milk Substitutes (UNICEF, IBFAN, WHO 2016) criticises the weak implementation of the WHO Code in the UK that enables formula milk companies to market successfully to parents and professionals. The intensive marketing of infant formula, 'special milks', follow-on milks and toddler milks causes confusion to parents wanting to do the best for their child. The use of toddler milks has been identified as a problem for rising obesity rates and high rates of dental caries. The market for infant formula in the UK is the 11th largest in the world and growing and sales here are projected to reach \$907 million dollars in 2019 (Rollins 2016).

In the UK there is weak monitoring and enforcement so that many violations of the code go unchallenged and loopholes exist (WHO, IBFAN & UNICEF 2016, Bosi et al 2016, WBTi 2016). One such loophole is the marketing of 'follow-on' and 'toddler' milks using the same branding as milks for young babies 0-12 months known as 'first stage' milks. Health professionals and Early Years Practitioners are targeted by companies who work with parents by offering free branded items such as teddies, diary covers, pen's, age in week's calculators as well as information lunches/dinners and study days (UNICEF 2012).

Normative use of infant formula

The normative use of infant formula coupled with aggressive formula marketing can seek to undermine a woman's confidence in her ability to breastfeed. By 6 weeks of age over three quarters of babies (76%), have received infant formula. Only 34% of babies are receiving any breast milk at 6 months and 1% exclusively breastfed. This can be compared to Norway where 71% of babies continue to receive breastmilk. The table below shows the cycle of societal, family and health service barriers to breastfeeding that women may face (Renfrew et al 2012).

Concerns about breastfeeding in public/in front of others

Some mothers experience barriers within their communities including feeding in public or in front others (PHE 2016, Johnson 2017). Legally, a mother can breastfeed her baby anywhere, however, it is known that for some mother's, breastfeeding in public is a barrier to successful breastfeeding (McAndrew 2012,

Condon et al 2012, Simpson 2016, Boyer 2016, Johnson 2017). It is known that women who receive support and encouragement from those people who are close to them such as their own mothers (Negin et al 2016) and partners (Sheriff et al 2014) play an important role in enabling mothers to successfully breastfeed.

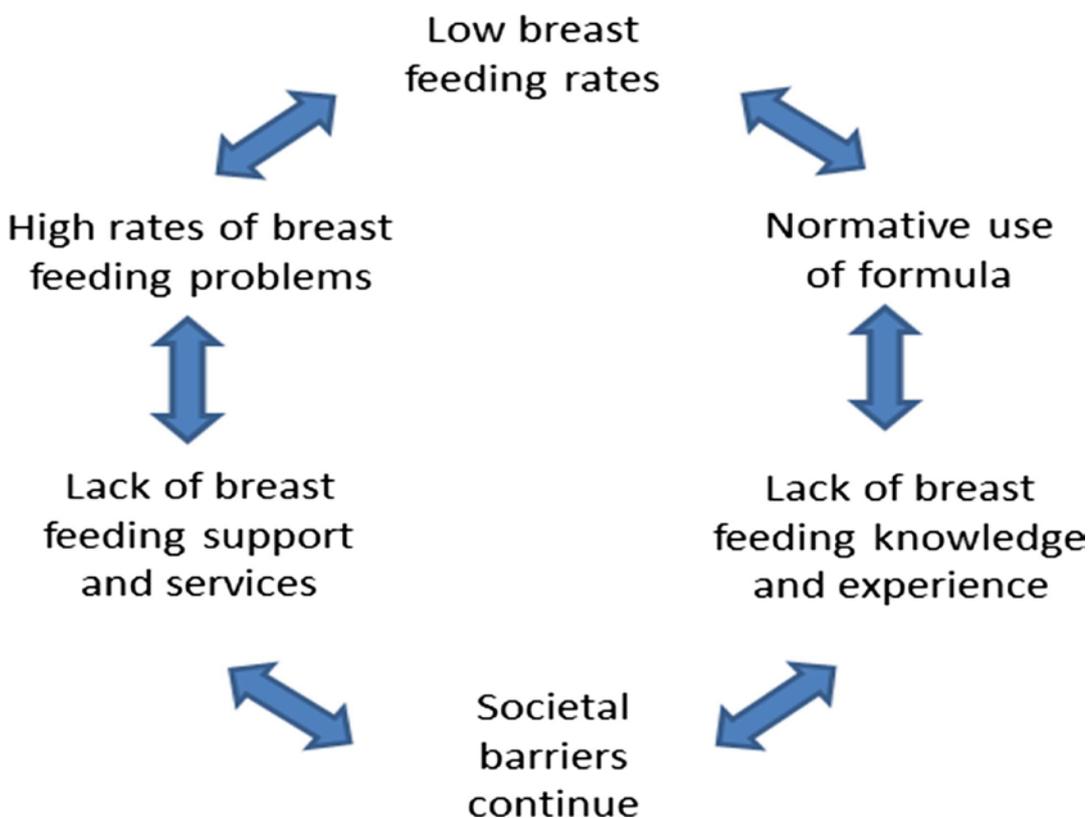
Insufficient workplace support

Returning to work can be a barrier to mothers and leads to early cessation of breastfeeding or the introduction of formula milks (McAndrew et al 2012, PHE 2016, Fraser 2016, WBTi 2016). It can be hard for women to instigate conversations and therefore employers need to take the step and carry out risk assessments and practical steps to support mothers. Legislation and guidance for employers exists, but there is still a lack of knowledge amongst employers, even those who are advocates of breastfeeding (Fraser 2016).

Cycle of barriers

McAndrew et al (2012) identify a cycle of barriers that women encounter

Table 5 below shows the barrier cycle by McAndrew et al (2012)



Source: Infant Feeding survey (Mc Andrew et al 2012)

These barriers were also cited in the under 5’s survey carried out by the Early Years’ service in Bristol (Gyde and Denner 2017) with almost 1,000 respondents, women cited a number of the same barriers for

giving up breastfeeding before they wish to. They also echo some of the reasons cited in the Infant Feeding Survey and in addition include; difficulty with breastfeeding, sleep, concerns about weight gain, breastfeeding outside the home and breastfeeding when returning to work.

2) What is the size of the issue in Bristol?

Bristol leads the core cities and has higher than the national average rates for breastfeeding initiation, continuation and exclusive breastfeeding at 6-8 weeks. Breastfeeding rates in Bristol have risen over the last 6 years, both at initiation and continuation across the age range and the deprivation quintiles.

However, significant health inequalities exist and many mothers cease breastfeeding before they wish to. Mothers aged over 30, who are from professional/managerial occupations and mothers from BAME groups are all more likely to breastfeed. Mothers who are of white ethnicity and living in economically disadvantaged areas particularly in the South rim of the city are less likely to breastfeed. Cotham ward in the North West has the highest rates of breastfeeding at 6-8 weeks of 91%, whereas Hartcliffe and Withywood have only 26% of mother's breastfeeding.

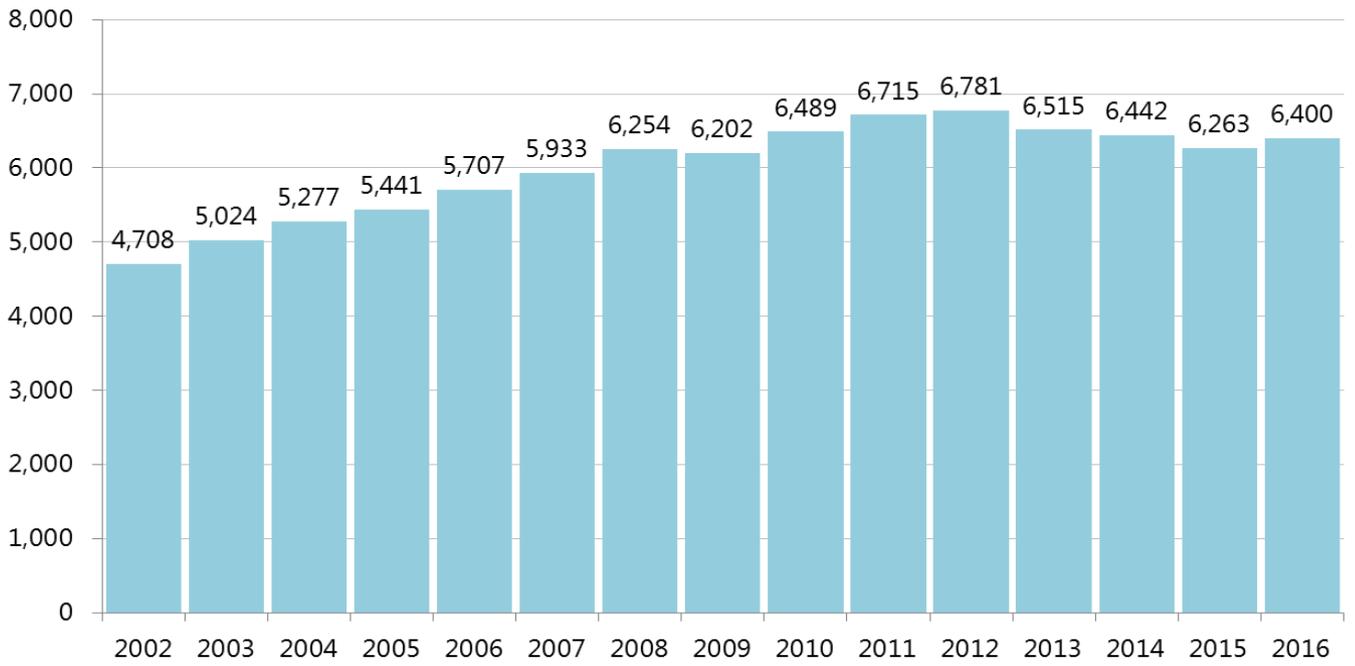
The Gypsy and Traveller community are thought to have minimal breastfeeding rates although exact figures are unknown (Condon and Salmon 2015). Young mothers under 25 years, especially teenage mothers have the lowest breastfeeding rates (Bristol City Council JSNA 2017).

Birth rate

The number of births steadily increased over a 10 year period from 2002-2012, declined for 3 years and has now stabilised.

Table 6 below shows the number of births in Bristol 2002-2016

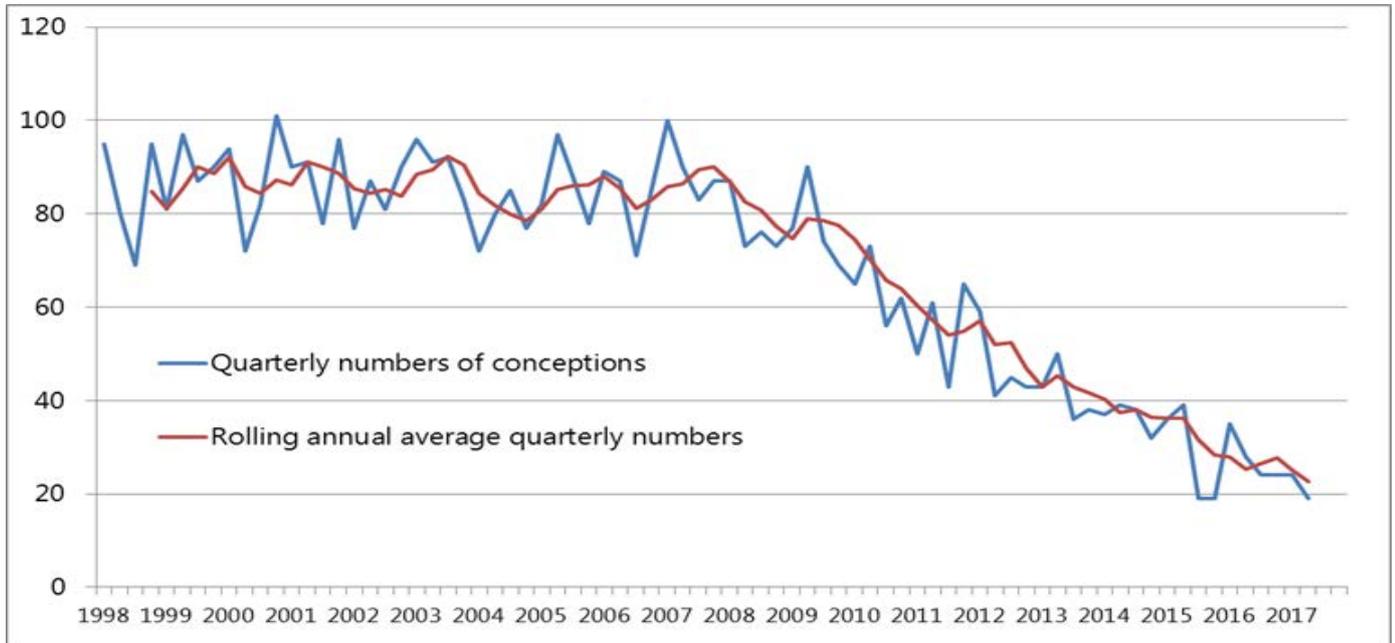
Live birth numbers, Bristol residents, 2002 to 2016
Source: Office of National Statistics



Teenage conceptions

The number of conceptions to teenage mothers aged under 18 years has declined markedly since 2007, as part of a national and local strategy, are below the national average and continue to drop.

Table 7 below shows the number of conceptions amongst young mothers in Bristol 2010-2017



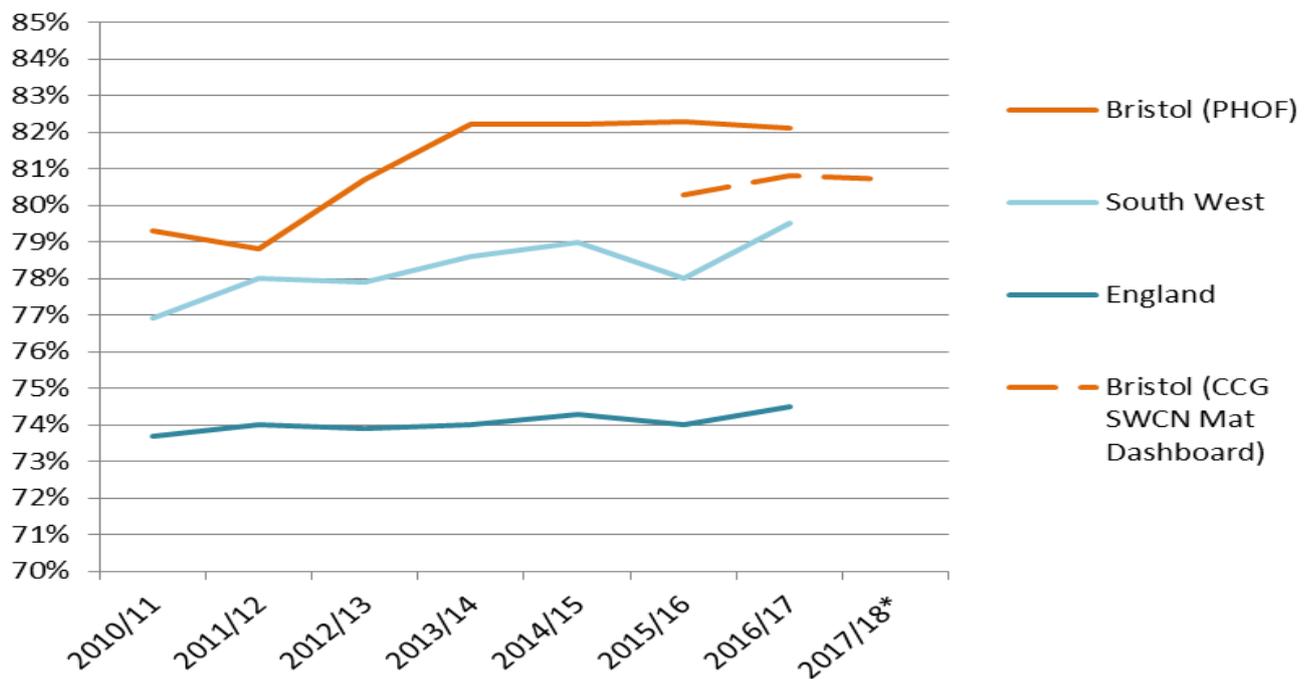
Data source: Public Health, Bristol City Council

Breastfeeding initiation rates

Breastfeeding initiation rates refer to babies who start breastfeeding or receiving breast milk within the first 48 hours of life. The prevalence for Bristol in 2016/17, derived from provider reporting, was 82.4%. Full details have not been available since the transfer of Public Health to the Local Authority from the Primary Care Trust NHS Bristol in 2013, so a full analysis by ward, age, deprivation and ethnicity has not been possible. In Bristol, the breastfeeding initiation rate 2010-2014 rose by 6% was static for 4 years and then may be slightly declining.

Table 8 below shows Bristol's breastfeeding initiation rates compared to the South West and England

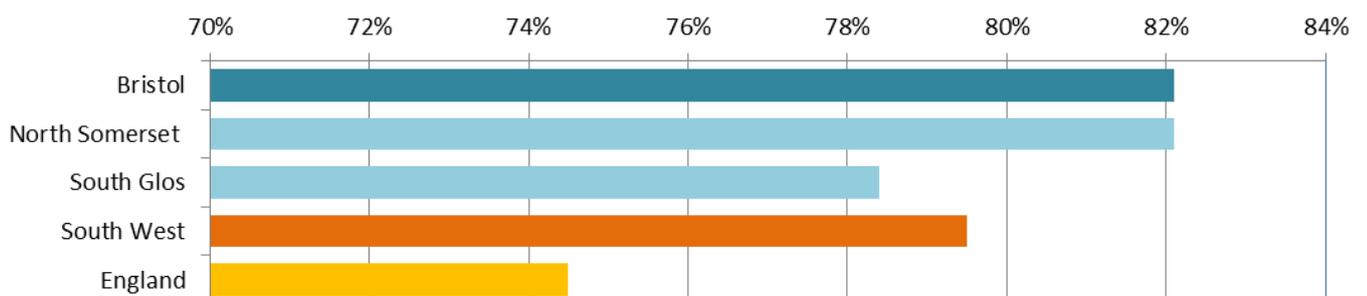
% of live births where BF was initiated, Bristol residents vs South West and England averages, 2010/11 to 2016/17 (PHOF data) and Bristol CCG for 2015/16 to 2017/18 derived from SWCN Maternity Dashboard



Data source: Public Health England and SWCN Maternity dashboard

Table 9 below shows the % of women initiating breastfeeding within 48 hours birth in the Bristol, North Somerset and South Gloucestershire (BNSSG) area compared to the England and South West average

Breastfeeding initiation rate (during first 48 hours of life) for BNSSG LAs, vs South West and England averages, 2016/17
Source: Public Health England 'fingertips' tool

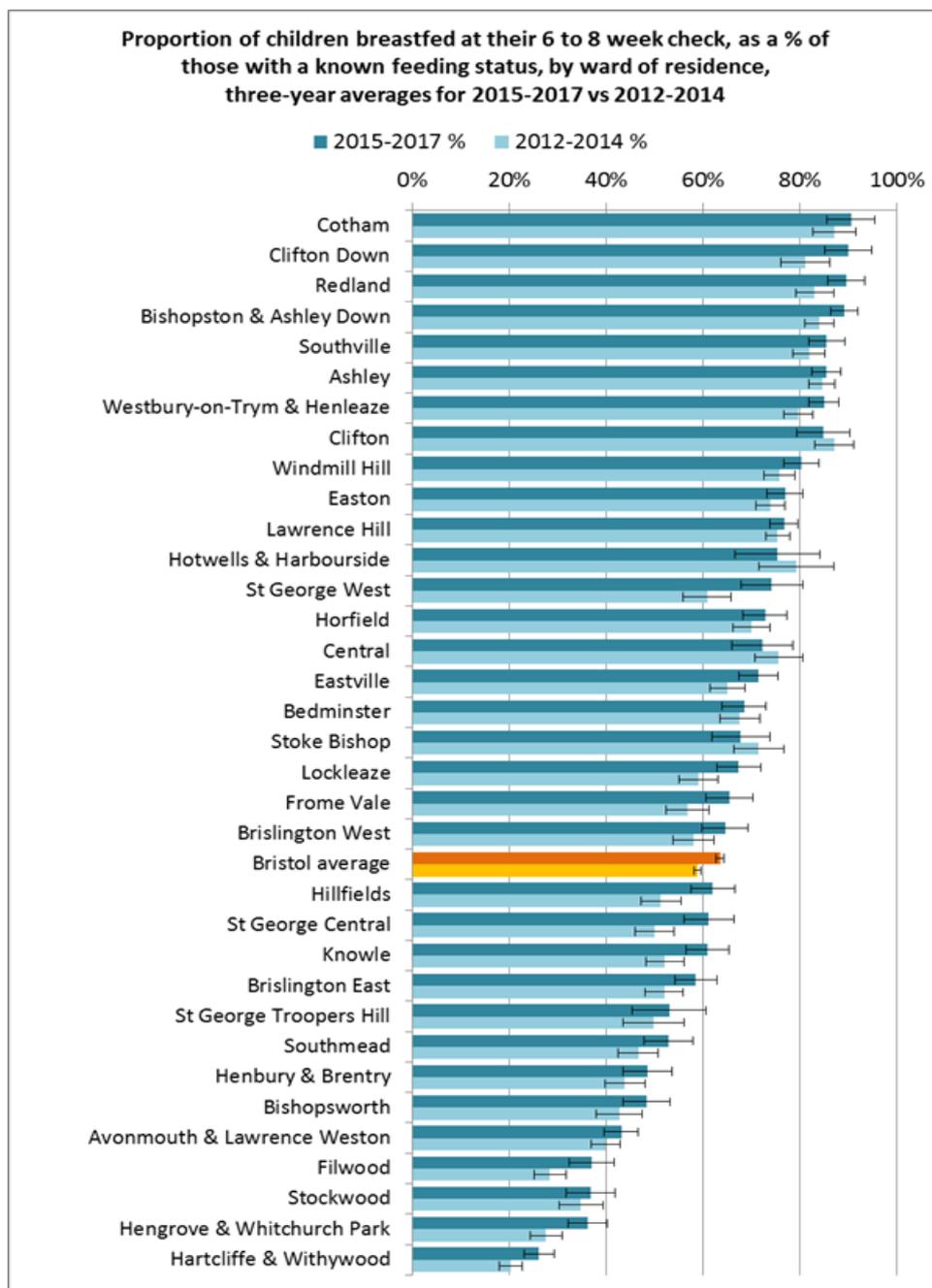


Data Source: Public Health England, 2016/17

Breastfeeding continuation 6-8 week rates

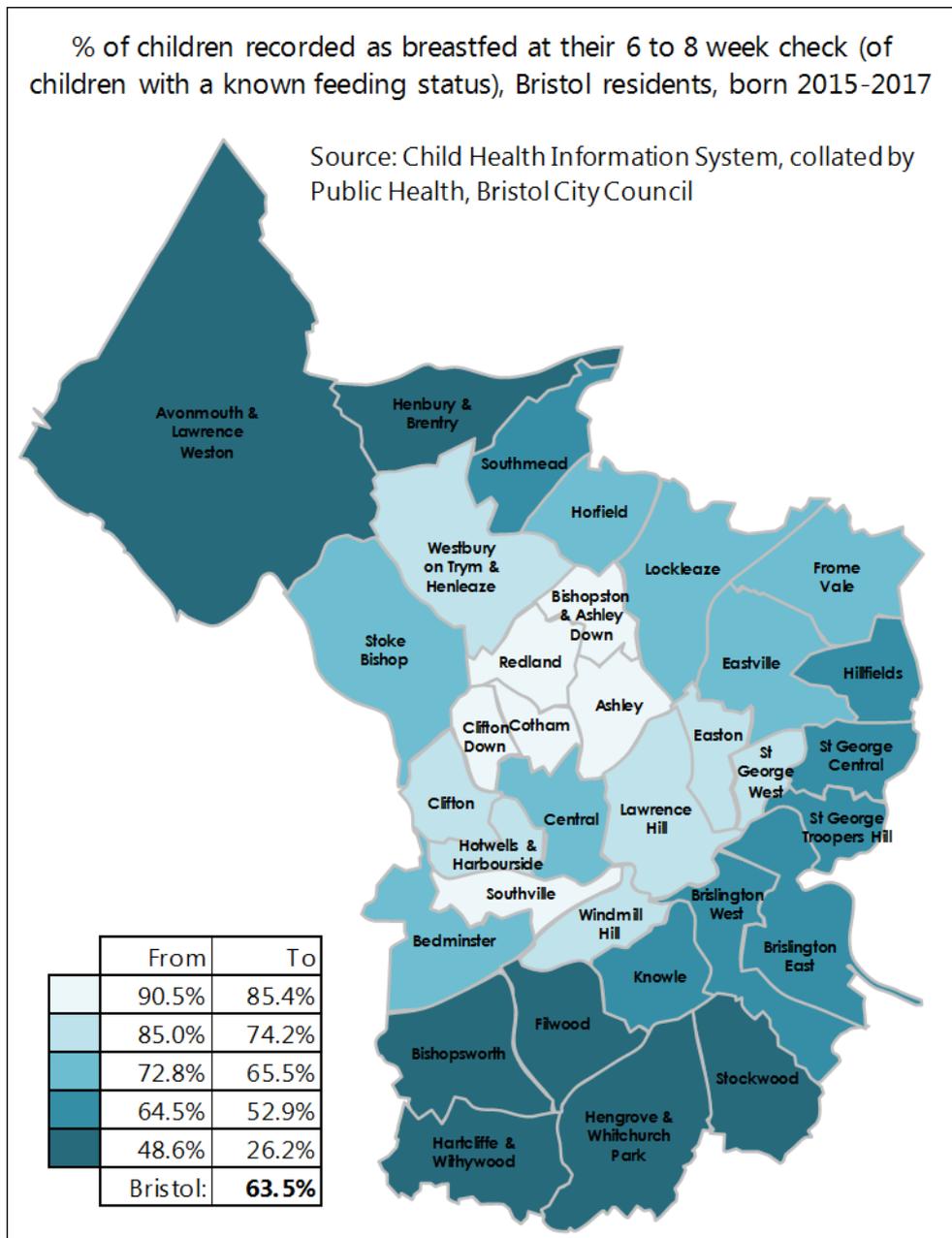
Breastfeeding continuation rates are recorded at 6-8 weeks when the baby has a developmental review with the GP and also a 6 week health visitor review. **Table 11** below shows 3 year averages of ‘any’ breastfeeding at 6-8 weeks in Bristol by ward 2012-2014 and 2015-2017 as a % of babies with a known feeding status by ward of residence.

Table 10 below shows 6-8 week continuation rates by ward 2012-2017



Data source: Child health records, collated by Public Health, Bristol City Council.

Table 11 The map below shows ‘any’ breastfeeding at 6-8 weeks of age of Bristol resident children born 2015-2017, where a valid feeding status is recorded.

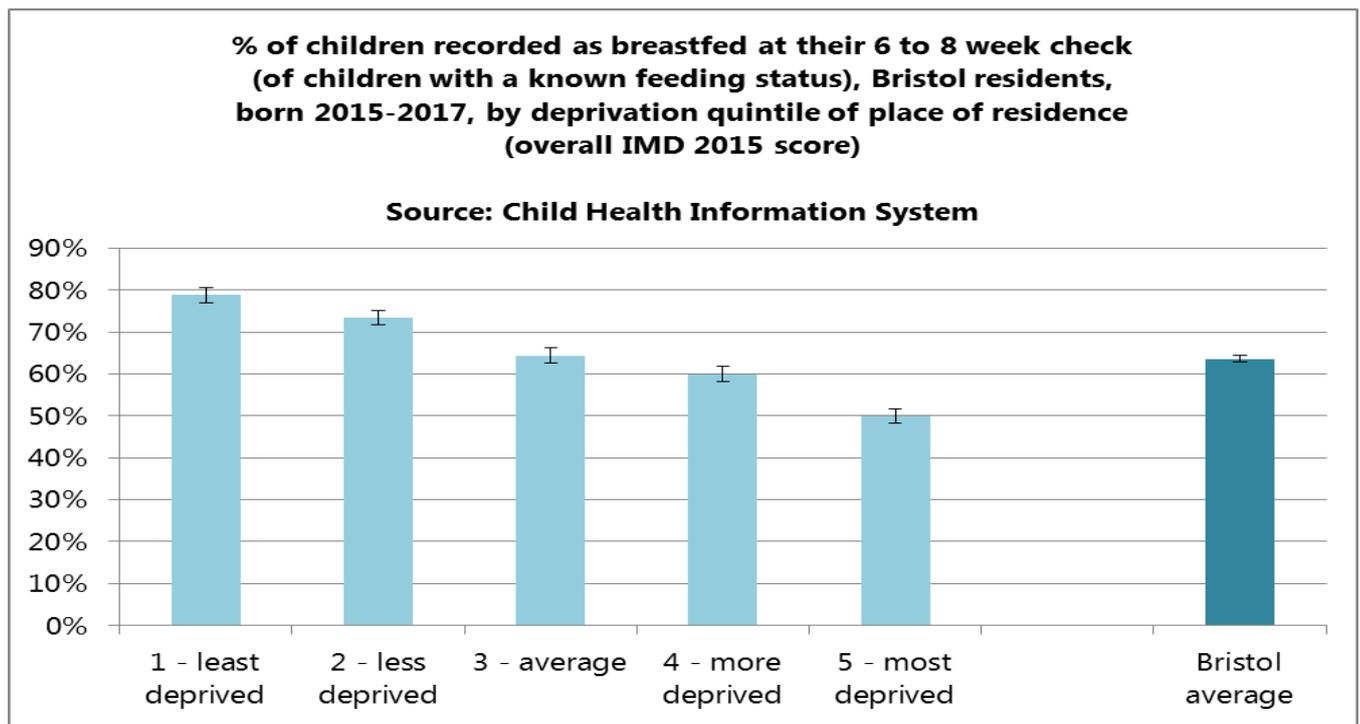


Data source: Child health records, collated by Public Health, Bristol City Council.

Deprivation

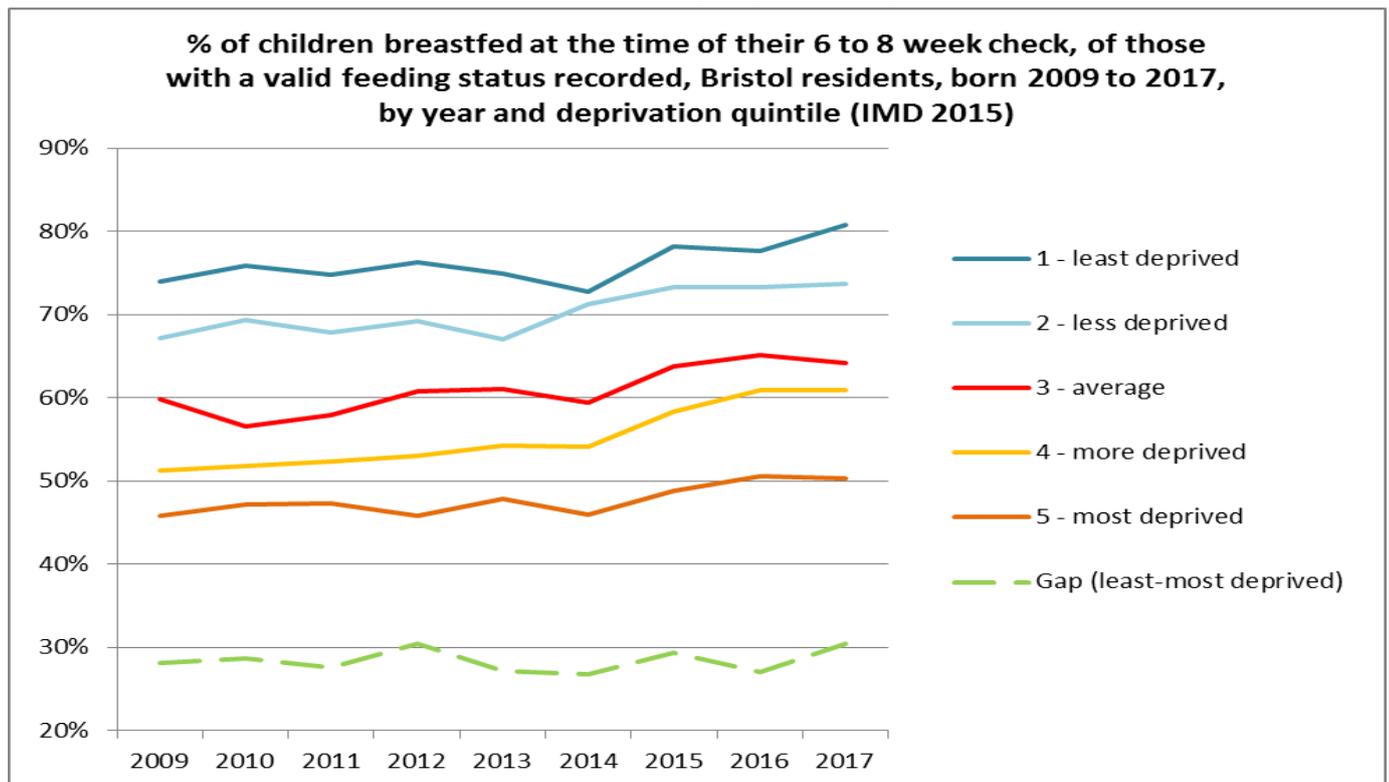
On average in Bristol, the prevalence of breastfeeding is lower, the more deprived the community is where the child lives. The deprivation gap in breastfeeding rates is relatively static, but there are some possible indications of a widening gap at the top at bottom of the range.

Table 12 below shows % of 'any' breastfeeding at 6-8 weeks by deprivation quintile 2015-2017.



Data source: Child health records, collated by Public Health, Bristol City Council.

Table 13 below shows 6-8 week continuation rates by deprivation quintile 2009-2017

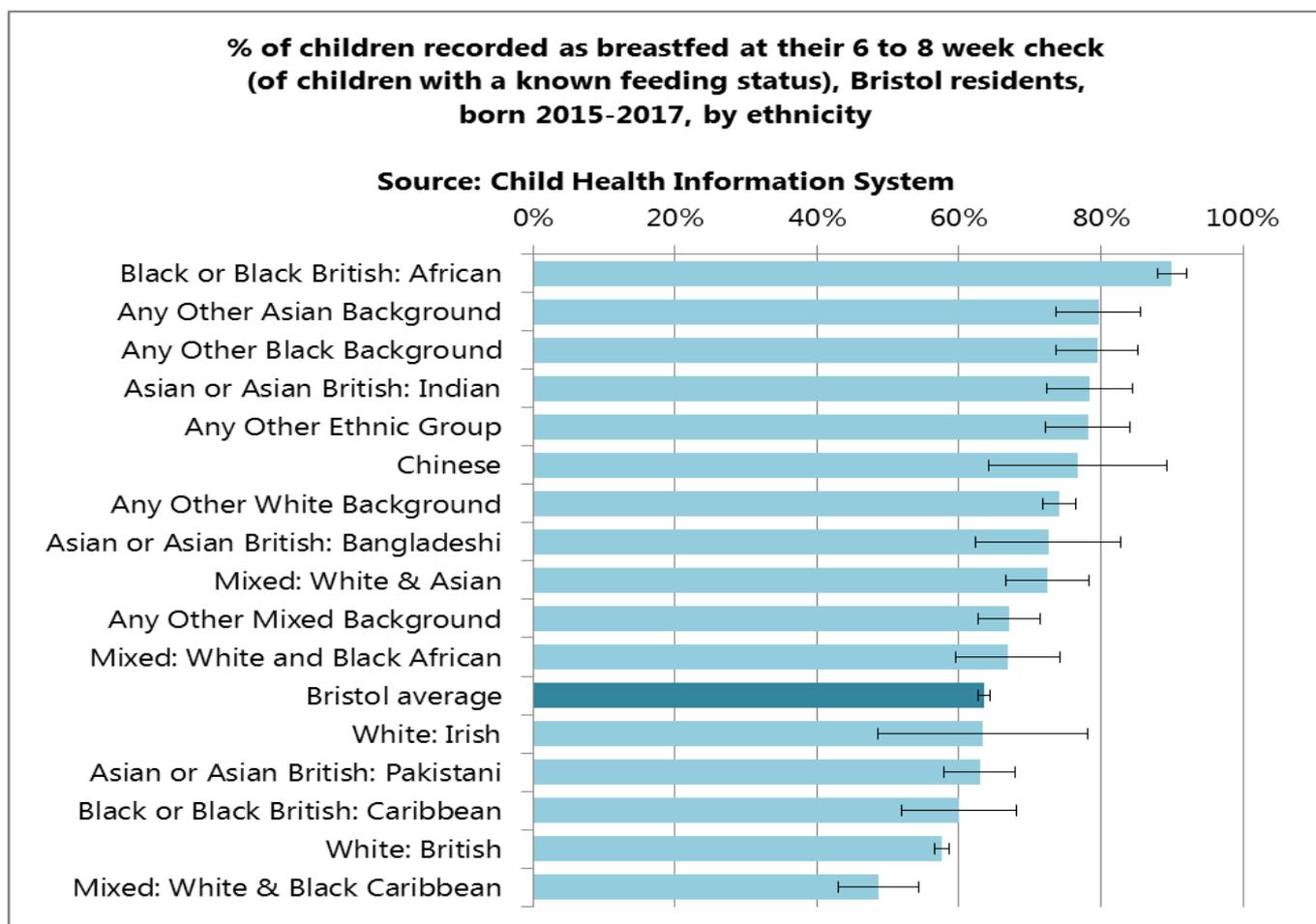


Data source: Child health records, collated by Public Health, Bristol City Council.

Ethnicity

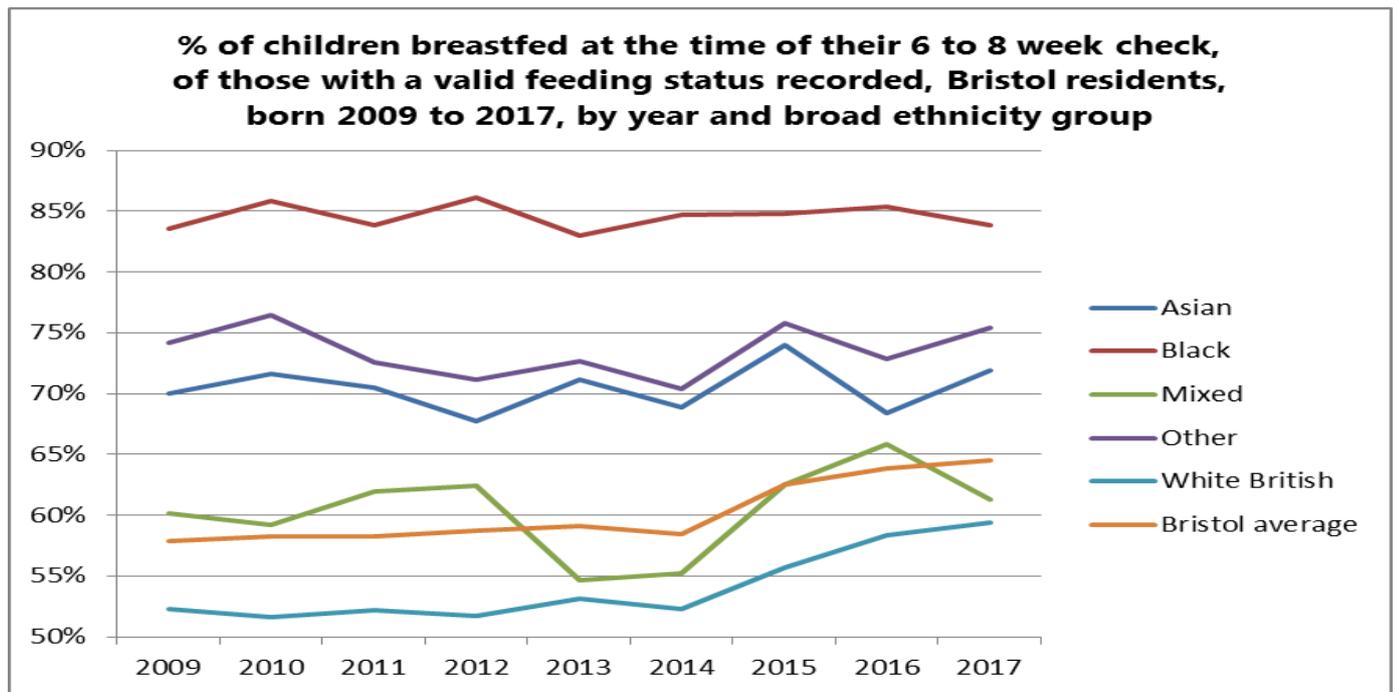
Relatively small numbers for analysis make it difficult to discern clear trends for ethnic groups within the city, but the differences between them in average breastfeeding prevalence are marked and relatively consistent. White British mothers appear to have seen the greatest change in prevalence since 2009, but remain among the least likely to be breastfeeding at 6 to 8 weeks.

Table 14 below shows the average prevalence of ‘any breastfeeding at 6-8 weeks in Bristol, for children born 2015 to 2017, by ethnic origin



Data source: Child health records, collated by Public Health, Bristol City Council.

Table 15 below shows trends in the prevalence of any breastfeeding at 6-8 weeks 2009-2017 by ethnicity.

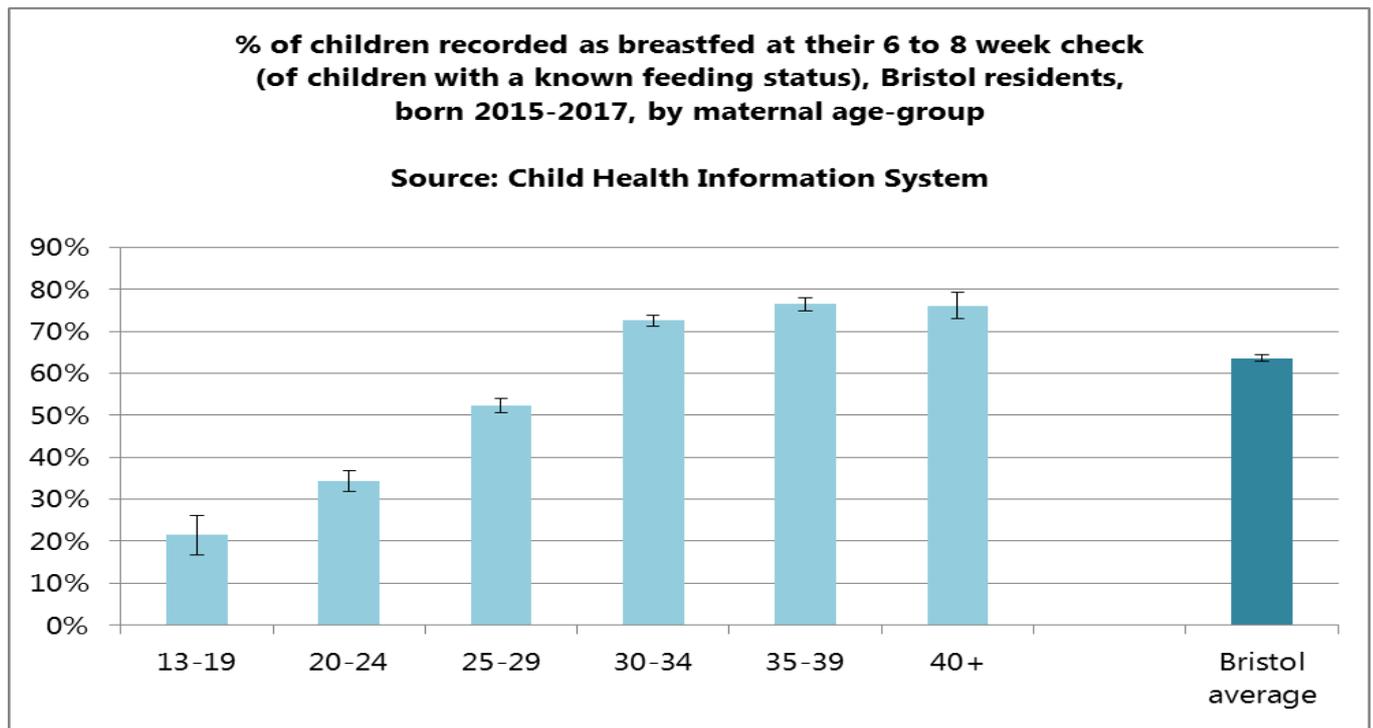


Data source: Child health records, collated by Public Health, Bristol City Council.

Maternal Age

Mothers aged over 25 and especially over 30 are more likely to breastfeed. There has been increasing prevalence in all maternal age-groups since 2014 but it is less consistent for youngest mothers. However, relatively small numbers of them make trends harder to discern.

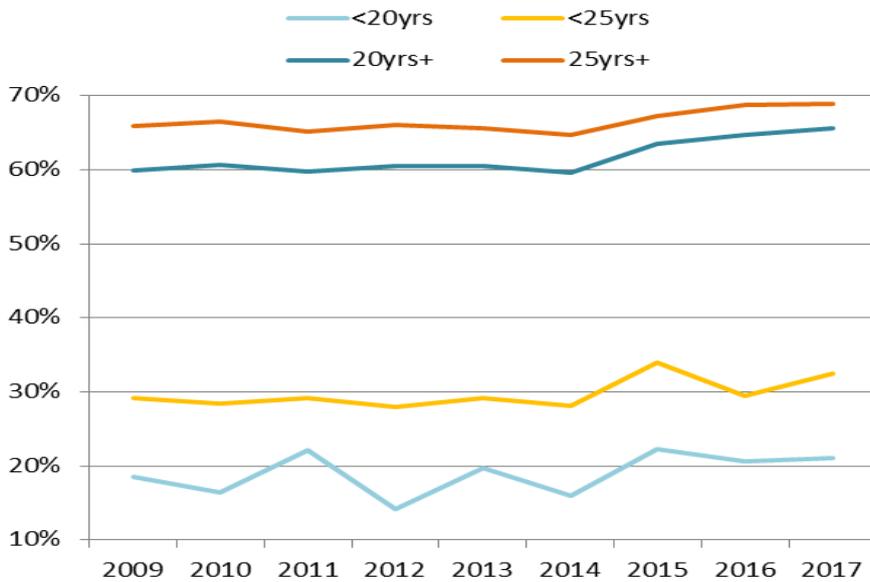
Table 16 below shows the % of ‘any’ breastfeeding at 6-8 week check by maternal age 2015-2017.



Data source: Child health records, collated by Public Health, Bristol City Council.

Table 17 below shows trends in the % of ‘any’ breastfeeding by maternal age 2009-2017

% of children breastfed at the time of their 6 to 8 week check, of those with a valid feeding status recorded, Bristol residents, born 2009 to 2017, by year and maternal age-group



Data source: Child health records, collated by Public Health, Bristol City Council.

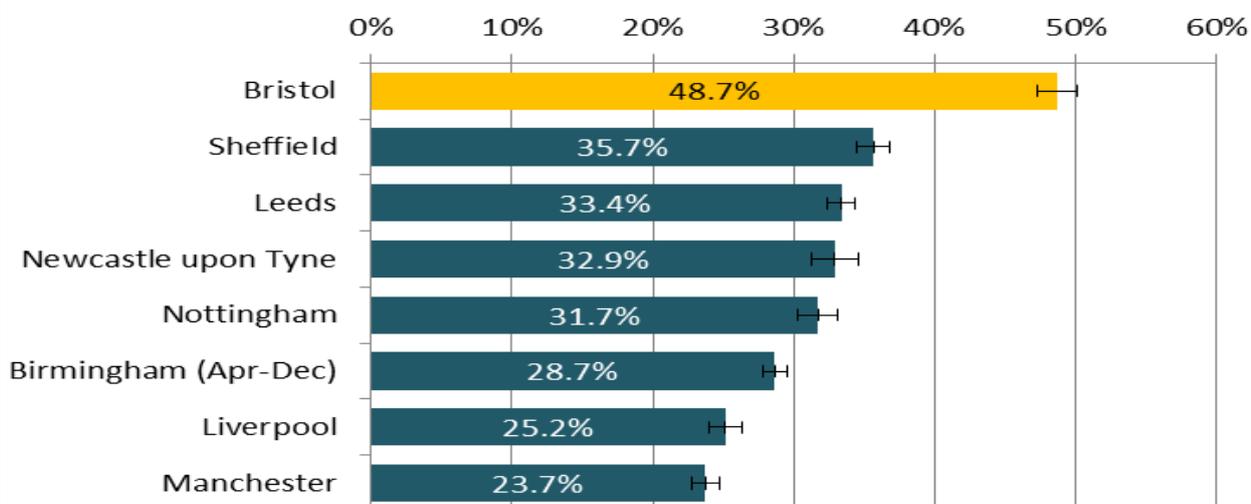
Exclusive (total) breastfeeding rates

Bristol’s exclusive (total) breastfeeding rates are almost double those of the last National Infant Feeding survey (McAndrew et al 2012) and appear to have risen in the last 2 years. They are the highest of the core cities.

Table 17 below shows core city and local authority comparison rates of babies who are exclusively breastfed with known feeding status.

**% of children with a known feeding status at their 6 to 8 wk check, 2017/18 (unless otherwise stated)
Exclusively breastfed**

Source: NHS Digital breastfeeding statistics



Data source: NHS Digital breastfeeding statistics

3) What are the relevant national outcome frameworks indicators and how do we perform?

Breastfeeding is in both the Public Health England Public Health Outcomes framework (PHOF) and the NHS Outcomes Framework.

2:02: Breastfeeding Initiation

Numerator: No: of women who initiate breastfeeding within the first 48 hours after delivery.

Denominator: No: of maternities

2:02ii Breastfeeding prevalence at 6-8 weeks after birth

Numerator: No: of infants who are totally or partially breastfed @ the 6-8 weeks check

Denominator: Total no: of infants due a 6-8 weeks check.

Bristol leads the core cities and has higher than the national average rates for breastfeeding initiation and continuation at 6-8 weeks.

Breastfeeding rates in Bristol have risen over the last 6 years, both at initiation and continuation across the age range and the deprivation quintiles. There are issues with the completeness of the data it changed from being collected from the Child Health database to the health visitor records.

4) What is the evidence of what works (including cost effectiveness)?

Breastfeeding support

Breastfeeding practices are *'highly responsive to supportive interventions, and the prevalence of exclusive and continued breastfeeding can be improved over the course of a few years'* (WHO 2017). NICE recognise the value of breastfeeding support and its quality statement recommends that *'women receive breastfeeding support from a service that uses an evaluated, structured programme'* (NICE 2013). It also recommends that women should be made aware of the benefits of breastfeeding and should be supported by a service that is evidence-based and delivers an externally audited, structured programme and that delivery of breastfeeding support should be co-ordinated across the different sectors (NICE 2013). NICE also recommend that all individuals who support breastfeeding mothers in hospital and the community including Children's Centres and peer support services, should be trained and assessed for competence (NICE 2013).

NICE (2014) in their maternal and child nutrition guideline recommend that services adopt a multifaceted approach or a coordinated programme of interventions across different settings to increase breastfeeding rates. It should include; activities to raise awareness of the benefits of breastfeeding including how to overcome barriers, training for health professionals, breastfeeding peer support programmes, joint working between health professionals and peer supporters and education and information for pregnant women on how to breastfeed, followed by proactive support during the postnatal period who could be a volunteer (NICE 2014).

Many mothers in the UK experience practical difficulty and challenges with establishing breastfeeding due to numerous barriers (McAndrew et al 2012, Simpson 2016). One of the barriers is the availability of skilled support. In addition to removing cultural and societal barriers, the provision of skilled breastfeeding support is important in achieving a successful outcome for women so that they can breastfeed for as long as they wish (Rollins et al (2016), McFarlane et al (2017), PHE UNICEF (2016).

A systematic review and meta-analysis of interventions to improve breastfeeding outcomes carried out for the *Lancet Breastfeeding Series* found that intervention delivery in a combination of settings seemed to lead to higher improvements in breastfeeding rates. It also found that the greatest improvements in early initiation of breastfeeding, exclusive breastfeeding and continued breastfeeding rates, were seen when counselling or education were provided *'concurrently in home and community, health systems and community, health systems and home settings, respectively'* (Sinha et al 2015).

A recent *Cochrane Review of Breastfeeding Support* showed that when breastfeeding support is offered to women, the duration and exclusivity of breastfeeding is increased (McFarlane et al 2017). They identified further characteristics of effective support. That it should be; ongoing and scheduled so that women can predict when support will be available, tailored to the setting and the needs of the population group, offered as standard by trained personnel during antenatal/postnatal care, offered by either by professional or lay/peer supporters, or a combination of both, face-to-face as it's more likely to succeed with women who are practicing

exclusive breastfeeding' and that it is likely to be more effective in settings with high initiation rates (McFarlane et al 2017).

UNICEF UK Baby Friendly Initiative (BFI)

The BFI has also been identified as the most effective intervention to improve rates of any breastfeeding (Sinha et al 2015, Rollins et al 2015). The implementation of the standards has been shown to increase breastfeeding rates (Sinha et al 2015); initiation, duration (Del Bono and Rabe 2012, Spaeth et al 2017) and exclusivity (Cox et al 2014) rates. BFI accreditation has been found to contribute towards the number of pre-term babies (born before 32 weeks) receiving breast milk on discharge from NICU's (Wilson et al 2018).

NICE (2014) recommend the implementation of a structured programme using BFI as a minimum standard, that is subject to external evaluation, that an audited policy guides practice and that staff receive training and ongoing assessment (NICE 2014). The BFI programme is recognised as being cost effective with most of the costs in the early phase (NICE 2013). UNICEF have recently introduced two new levels of award 'gold' and 'sustainability' and when these are achieved by consistent maintenance of all standards (evidenced through yearly audit) and assurance that the standards are securely safeguarded/supported throughout the organisation, it is probable that periodic externally validated assessment will mostly be on line and cheaper (UNICEF 2017).

There is a comprehensive evidence base for the clinical, breastfeeding support and protection practises that underpin the BFI standards, as detailed in *The Evidence and Rationale for the Baby Friendly Initiative* (UNICEF 2013).

One such BFI practice is the promotion of mother and baby skin to skin contact for all babies that is offered to all mothers/babies regardless of feeding method. This helps to physiologically calm babies (heart rate and breathing,) keeps the baby at a stable temperature (the mother's body adjusts her temperature to the baby's), promotes the hormones of mothering/ lactation to flow and this in turn helps to awaken instinctive mothering behaviours such as stroking which supports the beginnings of emotional attachments (Bigelow et al 2012).

Uninterrupted skin contact after birth supports the physiological processes and supports the baby's natural reflexes present at birth that can enable babies to self-attach to the breast (Bigelow et al 2012, UNICEF 2013). In *Infant and Young Child Feeding* (WHO 2003), an early feed within one hour of birth is recommended as best infant feeding practice as this increases the chances of successful breastfeeding initiation (Bigelow et al 2012) and reducing infant mortality (WHO 2003). This in turn reduces the risk of babies developing hypoglycaemia and the need for supplementation with formula milk, a risk factor for early cessation of breastfeeding (UNICEF 2013) and the admission of term babies to neonatal units (Hawdon et al 2016).

In addition, the UNICEF standards have been shown to help address inequalities and mothers with low income and levels of education have been shown to be more likely to be more responsive to this particular intervention (Del Bono and Rabe 2012). Recent qualitative research carried out on the governmental,

societal and other practices of 18 high income countries that may affect breastfeeding initiation, have identified a number of common practices and they identified that the absence of BFI standards across the country is a factor in low initiation rates (Lubold 2018).

Training of all staff is an essential step of the Baby Friendly standards (UNICEF 2017). Research commissioned by Bristol's Public Health on the training of health visiting staff in the Baby Friendly standards as part of work towards community accreditation, evaluated the effects of external training on breastfeeding rates, staff and mothers. This research showed that breastfeeding rates at 8 weeks had increased significantly and a baby born in 2009 was 1.57 times more likely to be breastfed. There were also statistically significant improvements in staff breastfeeding attitudes, knowledge and self-efficacy (Ingram 2013, UNICEF 2014). Improved self-efficacy is known to improve breastfeeding success in mothers (Tuthill et al 2017).

Peer Support

In the UK, peer support is recognised as an important and effective method of supporting breastfeeding women, as part of a wider breastfeeding strategy within a co-ordinated programme of interventions and is recommended by NICE (2006, 2008b, 2014), the World Health Organization (WHO 2003) and Public Health England and PHE /UNICEF (2016). Peer support can be delivered in a number of ways; via targeted one-to-one schemes (face to face, via phone or text) that is proactive or reactive by paid staff or volunteers. It can be delivered in breastfeeding support groups, on social media and via telephone helplines.

Peer support may have additional benefits, including increased self-efficacy and confidence (Ingram 2013), improving parenting skills and family diet (Wade et al 2009) as well as offering opportunities for increased social contact (Dowling and Evans 2017). Mothers value these supportive relationships from other women who have or are breastfeeding (Dykes 2005, Ingram 2013, Dowling and Evans (2014), Trickey et al 2017)

There is no single definition of a peer supporter, but as a minimum they are women who have breastfed, who wish to support others and who have undergone a training course (Dowling and Evans 2014, Ingram 2013, Dykes 2005). There is evidence from international studies that peer or mother to mother support, particularly if it is intensive and face- to-face raises breastfeeding rates (Trickey 2018). However, in the UK, this effect has not been shown (Ingram 2013, Trickey 2015, Dowling & Evans 2016), although mothers consistently report that they like it and that it increases self-efficacy and confidence (Tuthill 2017, Ingram 2013).

Supporting mothers on social media

Social media has increased the opportunities for peer support via the internet. An evaluation of an online group in North Somerset, run by peer supporters, showed that this was an effective way to augment the support available to mothers in groups and that some mothers used this who did not access the groups suggesting that the reach is widened for those who do not wish to access groups (Robery et al 2017).

Supporting mothers in groups

An evaluation of 26 peer support Department of Health (DH) funded breastfeeding peer support projects, emphasised the importance of peer support in giving positive role models and in enabling the shifting of local cultural norms around breastfeeding (Dykes, 2005). Peer support is particularly recognised as a useful intervention in socially deprived communities, in places where breastfeeding is not culturally accepted (Dykes, 2005) and for young mothers (PHE 2016).

Peer support-one to one schemes

One to one peer support has been shown to improve confidence and self-efficacy (Ingram 2013), and is well received and valued by mothers (Trickey 2016, Ingram 2013, Thomson et al 2012). In their realist review of the peer support literature, Trickey et al (2017) found that there was no single definition of one to peer support due to many and varied contexts and models (Trickey et al 2018).

Supporting young mothers to breastfeed

Telephone and home peer support has also been recommended for young mothers who are less likely to start and continue breastfeeding (PHE 2015) and has been shown to raise breastfeeding rates at 2 weeks (Dyson et al 2010). A systematic review examined a number of interventions that supported teenage mothers to breastfeed. It found that only one intervention, a combination of education and counselling provided by a lactation consultant-peer counsellor team, significantly improved both breastfeeding initiation and duration. Other results were mixed, and studies were subject to several methodological limitations. They recommend that more interventions should be developed and evaluated. In addition, interventions should be less resource intensive, be more theoretically driven, and specifically include mothers and partners of adolescents to successfully promote breastfeeding among adolescent mothers (Sipsma et al 2015).

Supporting mothers to breastfeed in public

We know from the *Infant Feeding Survey* (Mc Andrew et al 2012) that breastfeeding in public, or in front of others can be a concern for some women, especially young women and/or those living in areas of low prevalence. Public Health England and UNICEF (PHE/UNICEF 2016) in their *Local Authority Commissioning Infant Feeding Services*, recommends that one way in which mothers should be supported to breastfeed in the community is through welcome schemes.

In Bristol, life size cardboard cut-out figures of breastfeeding mothers were taken around the city during Breastfeeding Awareness Week and a survey was undertaken. It showed that 2/3 of people liked the images, 1/3 had no opinion and 4.5% did not like it (Condon L, Tiffany C, Symes N, Bolgar R 2010). This was a partnership between National Childbirth Trust and Public Health.

Bristol has a Breastfeeding Welcome scheme that has developed incrementally and organically since 2008, originally in partnership with the National Childbirth Trust and is probably the largest in the UK, with around

320 members including those from health, local authority, the voluntary and the private sector. Recent additions to the membership include a church café, a prison, a play space and a café. It also includes buses from one company in the city. On-the-spot evaluation of public opinion suggested that this intervention can contribute to raising awareness of breastfeeding and changing attitudes to breastfeeding in public. The scheme has recently been evaluated as part of a wider MSc dissertation and recommendations include the expansion and highlighting of the scheme (unpublished, Johnson 2017).

Supporting mothers in the workplace

Returning to work can be a barrier to continuing breastfeeding. Longer term and exclusive breastfeeding provides optimal health benefits. Mothers report that returning to work can be a cause of premature cessation of breastfeeding/supplementation with formula because of difficulties with maintaining lactation at work (McAndrew et al 2012, Fraser 2016).

Breastfeeding mothers returning to work are at risk of a reduced milk supply, developing mastitis and early cessation of breastfeeding which increases the likelihood of partial or total formula use with the associated health risks. Many mothers give up breastfeeding before they would like to or introduce formula milk in addition to breast milk because of a return to work

Mothers and employers are advised to discuss their health and safety needs to maintain lactation. This may include flexible working patterns, the provision of suitable breaks and a clean, lockable room and ideally a fridge to store expressed milk for later use (Fraser 2016).

Schools and breastfeeding

A recent systematic review show that students generally support and are receptive to breastfeeding education; however, research on educator attitudes, knowledge, and experiences are necessary for appropriate implementation of breastfeeding education in varying school settings around the world (Singletary et al 2017).

The new Bristol Healthy Schools award was launched in December 2017. There are a number of badges that schools can work towards https://www.bristol.gov.uk/en_US/web/bristol-healthy-schools. It may be possible to link the healthy workplace badge with continued lactation support for employees.

PSHE in Schools

There may be scope for incorporating breastfeeding into the PSHE curriculum that soon will have nationally identified standards.

Division of tongue tie (ankyloglossa)

Tongue tie is a tight band of tissue beneath the tongue (frenulum) that can restrict the movement of the tongue and thereby affect breastfeeding. The incidence of tongue tie is unknown as criteria for assessment varies, although is thought to be around 4-10%. NICE (2005) guidance recommends that the frenulum is divided if it is affecting breastfeeding causing pain, soreness and ineffective feeding resulting in poor weight

gain.

A recent systematic review found that it was an effective way of reducing breastfeeding mothers' nipple pain in the short term, however, it did not find a consistent positive effect on infant breastfeeding. Researchers reported no serious complications, but the total number of infants studied was small. The small number of trials along with methodological shortcomings limits the certainty of these findings. They recommend that further randomised controlled trials, of high methodological quality are necessary to determine the effects of frenotomy (O'Shea 2017).

Support for mothers with twins and higher multiples

There are rising rates of twin and higher multiple births and a need for support as babies are often born prematurely and having more than one baby. Mothers with twins or more are less likely to breastfeed. A Cochrane review (Whitford et al 2017) found no evidence of education or support for women with more than one baby. They recommend further research.

Rewards for breastfeeding

A recent cluster randomised controlled trial on the provision of shopping vouchers demonstrate that financial incentives may improve breastfeeding rates in areas with low prevalence (Relton et al 2017). Locally, as part of a local Social Marketing research project and subsequent development of ideas with teenagers resulted in a scheme that was part of a package of peer support, included a free feeding bra of choice, donated gift items for mothers and babies and certificates to celebrate achievement (Condon et al 2013).

Support for mothers from Gypsy and Traveller communities

A local research study, found that English Gypsies and Irish Travellers are unlikely to breastfeed although mothers from the Roma community are more likely to, although for a shorter time period than when in Romania. The authors concluded that the centrality of the family, beliefs and tradition related to culture and the travelling lifestyle should be taken into account with any health promotion around infant feeding (Condon et al 2013).

Cost benefit analysis

The Lancet Breastfeeding Series estimates that increasing breastfeeding could substantially save lives and costs. They estimate that 823,000 child deaths of under 2's and 20,000 mothers' lives worldwide could be saved. As well as this, it is thought that there would be economic savings of around \$300 billion dollars worldwide (Victoria et al 2016).

Cost savings-Bristol research

Potential cost savings were also replicated in a Bristol study with a large retrospective cohort study including 12,000 children born to Bristol residents 2009 -2011. This showed that Bristol children breastfed to at least their 6-8 week check, were more than 60% less likely to require a hospital admission due a

gastrointestinal infectious illness during their first year of life, and more than 20% less likely to require an admission due to respiratory infectious illness, compared to those children not breastfed at 6 to 8 weeks of age. If just half of those mothers that ceased to breastfeed their child between birth and the 6 to 8 week check, were to continue breastfeeding until at least 6-8 weeks, it can be estimated that between 10 and 15 hospital admissions for children aged under 1 year could be avoided each year in Bristol), and it is likely that far more GP, Accident and Emergency and walk-in centre attendances would be avoided as a result (Bartick and Reinhold, 2010). Reducing illness would not only avoid distress to children and their parents, but would also save considerable costs to the local healthcare economy (Thomas 2013).

The Bristol cohort study predicted that each additional breastfed child at 6 to 8 weeks of age would mean on average approximately £15 saved on hospital admissions for children before their first birthday due to infectious illness. Even the most conservative scenario described for increasing breastfeeding prevalence at 6 to 8 weeks was estimated to save £10,000 in the cost of hospital admissions for infectious illness in infants in one year. If the cost of GP consultations for respiratory illness were taken into account the savings would at least double, and this is before the savings in other emergency care settings are considered or the wider costs to society through lost days of work through caring for a sick child (Thomas 2013).

Pokhrel et al (2014) carried out economic costings of increasing breastfeeding rates for 5 illnesses that may be reduced with increased breastfeeding rates; gastrointestinal infections, lower respiratory tract infection, acute otitis media, necrotising enterocolitis and breast cancer in mothers and these are detailed below and includes (UNICEF 2014).

Table 22 below shows the cost benefit analysis taken from UNICEF publication *'Preventing Disease and Saving Resources; the potential contribution of increased breastfeeding rates in the UK'* (2014).

Illness	Numbers	Amount of breastfeeding required	Potential cost savings
Gastroenteritis	3,285 fewer babies hospitalised 10,637 fewer GP consultations	45% of babies breastfed at 4 months	£ 3.6 million
Respiratory illness	5,916 fewer babies hospitalised 22,248 fewer GP consultations	45% of babies breastfed at 4 months	£6.7 million
Ear infections	21,045 fewer ear infections	45% of babies breastfed at 4 months	£750,000
Necrotising enterocolitis	361 fewer cases	If 75% of babies were breastfed at discharge	£6 million
Breast cancer	865 fewer cases	If each annual cohort of first time mothers breastfed for 18	£ 21 million to NHS £10 improved quality of life. NB This figure was calculated

		months	using the standard measure of quality-adjusted life years (QALYs).
Sudden Infant Death syndrome	3 fewer cases	Very modest increase in exclusive breastfeeding rates	£4.7 million annually
Rise in IQ	3 point rise	1% rise in any breastfeeding	£278 million gains in economic productivity annually
Obesity	5% in obesity		£1.6 million annually

5) What services/assets do we have to prevent and meet this need?

Bristol became a UNICEF UK 'Baby Friendly' city in 2010. This means that maternity services, Neonatal Intensive Care Units (NICU), the health visiting service and Children's Centres met the best practice standards and held an award. Services that have achieved full accreditation continue to maintain the standards by submitting a yearly (or more frequent) audit of standards to UNICEF, on-going training of new and existing staff and periodic external assessments carried out by the UNICEF team.

Since December 2012-2017, all accredited services made the transition towards deeper BFI standards in which there is a focus is upon; responsive feeding, embedding formula feeding within the assessment/audit criteria and deeper stand-alone standards for NICU's and for Children's Centres. In 2016, UNICEF developed additional criteria for embedding the standards in services—the gold and sustainability awards.

Maternity services BFI standards

Both maternity hospitals have a BFI lead –an Infant Feeding Specialist Midwife. The BFI lead co-ordinates the work to ensure that BFI standards are maintained support and trains staff (with the NICU lead) and provide some clinical support to mothers via midwife referral. This includes a CCG commissioned tongue tie assessment/division service for babies under 3 months of age and in 2017 -2018 around 6-9% of babies had this procedure.

Community midwives provide antenatal clinic appointments and discuss a number of issues around the establishment of breastfeeding and their needs this includes;

- babies needs for closeness, comfort and responsiveness
- the importance of care that supports optimal brain development
- skin- to-skin contact and the benefits to mothers, babies and breastfeeding
- the importance of keeping babies close
- infant feeding cues
- responsive feeding
- how babies attach to the breast and feed
- signs that a baby is feeding well and that milk is being transferred

They also provide 2/3 antenatal classes one of which includes a feeding session. Both maternity services have harmonised the content.

Postnatal maternity care includes supporting skin contact straight after birth and feeding support. This includes carrying out feeding assessments and developing action plans as required. Mothers are encouraged to hold their baby for a period of undisturbed skin contact after birth as this helps babies to self-attach and establish feeding. Continued feeding support and feeding assessments in the community are carried out at home, in postnatal clinics and via telephone.

Health visiting BFI standards

The health visiting service's accreditation is currently pending re-assessment was due in November 2015 and is now pending however, the service is now on track and has been working towards re-assessment for the past year led by 2 Clinical Leads with responsibility for the maintenance of BFI and re-assessment planned for 23rd and 24th January 2019. The team have re-written policy, guidelines, curricula and provided an update for all staff.

A Feeding Specialist Post has been appointed to and the post holder will be in place in February 2019. She will support and train staff, ensure the on-going maintenance of BFI standards within the service and establish the specialist referral service so that health visitors can refer mothers with additional feeding challenges. It is hoped that this will be in place by April 2019.

Infant feeding support is provided during the 5 mandated contacts; antenatal, new birth review (10-14 days), 6-8 weeks, one and two years. At the new birth review a feeding assessment (breast, bottle or mixed) is carried out and an action plan is drawn up with the mother and continued support, signposting or referral provided. The service supports mothers via child health community clinics and telephone. Many health visiting teams also offer a weaning session with a Community Nursery Nurse.

NICU BFI standards

Both NICU's have a BFI lead who co-ordinate standards within the setting, provides clinical support to mothers and train (with the maternity BFI leads) and support staff. Currently, both NICU's are working towards the deeper, stand-alone BFI NICU standards and have received funding from the South West Neonatal Network for this. The standards include;

- Support with expressing milk
- 'Kangaroo care'
- Parents as partners in care

Children's Centre BFI standards

The Children's Centres became accredited with the health visiting service via a joint community award in March 2010. A programme of work took place in 2014-16 led by Public Health/Early Years in partnership

with Children's Centres in preparation for assessment of stand-alone standards

- Developed a community wide (health visiting and Children's Centre) infant feeding policy
- Formation of a training team between Children's Centres and public health
- Delivery of a training programme to all staff according to role
- Development of a network of champions to lead on BFI standards in their Children's Centre BFI standards.

Progress then halted due to the re-structuring of PH and the Children's Centres. Enthusiasm and support for breastfeeding remains, family support workers have continued to do the joint health visitor/CC 2 day training for new staff members, a network of champions continues and is still meeting. The centres remain breastfeeding welcome and support the WHO Code. The breastfeeding support team lead has started to run updates for champions along with peer supporters. Many of the city's breastfeeding support groups are held in and some are supported by the CC's. The South Children's Centres/PH worked together to produce a film and materials to raise the profile of breastfeeding support in the area and in Bristol [Bristol Breastfeeding Community' short video](#)

University BFI standards for students

University of The West of England (UWE) midwifery department is working towards BFI accreditation and will be re-assessed in 2019/20. The Specialist Community Practice Public Health Nurses (SCPHN -health visitors) course is currently not engaged in the BFI accreditation process as they are changing the training to an apprenticeship model. Currently, students complete a workbook on infant feeding, have access to an on-line UNICEF approved training programme (updated by a UWE lecturer/Public Health 2015/16) and students can also access the two day training programme for new staff members when they are in placement.

Infant Feeding networks and groups

- The Infant Nutrition and Nurture Networks (INNN) was organised and facilitated by public health from May 2013-Feb 2018. It was a multidisciplinary group that met bi-monthly to share research, evaluations and initiatives around infant feeding and nurture in the first year of life and included perinatal and infant mental health.
- The Local Maternity System (LMS) implementing the National Maternity Review's recommendations: Better Births plan to implement a BNSSG wide infant feeding network and learning group
- A steering group and infant feeding interest group meets periodically to support the UWE midwifery BFI process and to align the health visiting infant feeding curriculum public health support this
- A Bristol BFI group meets regularly and works on cross city issues but is currently suspended whilst the LMS work is being implemented (until March 2019)

- A steering group is supporting the re-accreditation of the health visiting service supported by public health (assessment January 2019)
- A South Bristol Children's Centre hub breastfeeding strategy group meets to plan and co-ordinate support and is attended by members of the breastfeeding support team, Children's Centre breastfeeding champions and peer supporters
- A South West National Infant Feeding Network (NIFN) meets termly to work on national issues

GP's and BFI training

- Face to face training was offered by Public Health to GP's as part of the original BFI standards in 2009 and again before re-accreditation in 2012 with a third, then a quarter of practices engaging in this.
- Public Health purchased the on-line UNICEF GP training programme in 2011 and this is still available to GP's and uptake is recorded by Public Health although this training tool is currently being updated by UNICEF. Public Health usually market this every year or so. This is currently being updated and there may be a purchase cost to this.
- GP trainees and medical students receive very little breastfeeding training.

Early Years degree students training

Early Years degree students at City of Bristol College 2014-17 have taken part in an interactive yearly 'BFI and Baby Friendly' 2 hour workshop delivered by Public Health.

WHO Code

- All BFI accredited services support the *World Health Organization Code for the Marketing of Breast Milk Substitutes* that ensures that all BFI accredited services are free from formula marketing.
- There are no links with Trading Standards regarding the WHO Code
- There is no formal Local Authority policy around adherence to WHO Code or the marketing of formula milks

Antenatal classes and infant feeding

- NHS antenatal classes are available free for all women and their partners in Bristol and are mostly attended by first time parents
- Women are entitled to time off from their employers to attend
- Historically, women from disadvantaged communities are less likely to attend, whereas in areas of affluence attendance rates are high. Anecdotally this is still thought to be true in Bristol
- A recent Public Health North Somerset audit showed that both St Michael's and Southmead Hospital cover essential aspects relating to breastfeeding
- It is not known how many parents attend NHS antenatal classes across the city
- Both trusts have an outline of topics to cover but they can vary from area to area.

- The IFSM's have worked to harmonise the feeding content across the two trusts.
- North Bristol Trust offers two classes that includes guidance on infant feeding, birth and the transition to parenthood
- United Hospital University Trust provide three sessions with an additional session on 'life after birth'.

Private antenatal classes

A variety of other providers offer private antenatal classes that also include preparation for breastfeeding sessions these include the childbirth charity National Childbirth Trust (NCT). There are also private midwife, GP and Lactation Consultants who provide education as well as a variety of yoga, active birth and hypnotherapy classes that sometimes include a breastfeeding feeding element as well.

Private Lactation Consultants (LC)

There are 4 local private Lactation Consultants in Bristol who provide antenatal/postnatal support via home visits for breastfeeding mothers at a cost. There is also a private LC, a midwife (not local) who carries out tongue assessments and divisions once a week in a local GP practice.

Additional support in hospital pilot - volunteer peer supporters and paid Breastfeeding Counsellor

In 2015/16, a pilot volunteer peer support/ Breastfeeding Counsellor ran to offer additional support to mothers at a time when the need for breastfeeding support was high and the decline in breastfeeding is at its height. Working with the hospital and the peer support service volunteers received the relevant training maternity services training day and also attended relevant hospital volunteer training. It was agreed that six days a week two volunteers and a paid Breastfeeding Counsellor were present to offer additional support, encouragement and signposting to mothers. This was evaluated by public health and it was recommended that a further pilot be undertaken. Mothers and peer supporters evaluated this positively.

Breastfeeding support groups

- There is a network of 15 breastfeeding support groups.
- Breastfeeding support groups in Bristol support women to breastfeed for as long as they wish and provide on-going support, encouragement, information and signposting.
- Breastfeeding support groups in Bristol support women to breastfeed for as long as they wish and provide on-going support, encouragement, information and signposting and mothers can gain support, information and encouragement for any amount of breastfeeding/expressing that they are doing
- The Bristol Breastfeeding Support Service works to strengthen and support the governance of the groups that lie within or in close proximity to the target wards and support the development of new groups –around 3,000 group visits are made and around 500 new mothers attend.
- The BBSS also support the majority of groups alongside trained peer volunteers and Children's

Centre staff.

- The composition of staff at each group differs, but volunteer peer supporters are present in all groups and may be supported by a Children's Centre worker, or a Breastfeeding Counsellor
- Mothers usually attend once their babies are 2-4 weeks old or more but there is no age restriction
- Mothers are welcome to attend groups antenatally, although rarely do so
- Mothers often attend their closest group, but can travel for access to additional expertise such as Breastfeeding Counsellor support
- The BBSS provides support in most of the groups including a Breastfeeding Counsellors in four localities to enable mothers with more complex problems to access help closer to home. Breastfeeding support groups are run in a variety of premises including Children's Centres (7), NHS premises (3) and other community venues (4).
- The breastfeeding charity La Leche League run two groups a month facilitated by Breastfeeding Counsellors known as Leaders, in their own homes and any mother can attend. This can be especially helpful for mothers who are breastfeeding beyond a year.

On-line information and support-local

- The BCC breastfeeding/infant feeding page signposts to local support and information https://www.bristol.gov.uk/en_US/social-care-health/breastfeeding-in-bristol and is updated by the Public Health team
- 'Bristol Breastfeeding Mummies' is a closed Facebook page originally set up by a volunteer breastfeeding supporter and is now managed by several volunteer peer supporters and a Breastfeeding Counsellor. Amongst the membership includes peer supporters, Breastfeeding Counsellors, Lactation Consultants and others who informally support mothers with information and signposting to other help. There are currently 5,500+ members. Mothers are signposted to additional help from the group.
- There is a list of local Breastfeeding Counsellors who are happy to take calls from all mothers or their supporters and they may receive support around the cessation of breastfeeding and if they wish to talk through difficult issues
- St Michael's has an app with signposting and leaflets
- Southmead Hospital is developing an app with signposting and information

National resources

The *Baby Buddy* app is evidence-based, interactive and focuses upon pregnancy and the baby (up to 6 months). It is free to all mothers.

- The Baby Buddy app includes the *Bump to Breastfeeding* films which are also on UNICEF and Best Beginnings websites
- *Best Beginnings* charity also have a series of films for parents with a sick or premature infant and also some about perinatal mental health called *Out of the Blue*

- The National Breastfeeding Helpline is run by the Association of Breastfeeding Mothers and the Breastfeeding Network, funded by Public Health England and staffed by volunteer trained Breastfeeding Counsellors. It is available 9.30-21.30 every day of the year.
- The National Childbirth Trust (NCT) and La Leche League charities also run helplines
- The Breastfeeding Network offers on-line real-time support subject to a volunteer being available
- The Breastfeeding Network also run a 'Drugs in Breast Milk' e-mail support and Facebook page
- The 'Start 4 Life Breastfeeding Friend Chatbox'-this is a new tool from Public Health England, not evaluated as yet, that can provide algorithmic response to questions around breastfeeding. It can be accessed via Facebook Messenger and may soon have voice software added

Resources and support for non-English speaking mothers

- The Bump to Breastfeeding DVD is translated into British Sign language, Urdu, Bengali, Somali and Arabic-all Children's Centres and health visiting teams have these in Bristol
- The National Breastfeeding helpline also supports mothers who speak Welsh or Polish in addition to English
- UNICEF have recently re-written downloadable information leaflets that are available in Arabic, Bengali, Polish, Romanian and Urdu
- There are helplines run for mothers who speak Bengali and Sylheti run by the Breastfeeding Network

Bristol Breastfeeding Welcome Scheme

- The Bristol Breastfeeding Welcome Scheme is a Public Health run scheme that supports mothers when they are out and about with their baby.
- Around 300 venues participate in the scheme and include; Children's Centres, GP surgeries/Health Centres, Libraries, Leisure Centres and pools, cafes/restaurants, visitor attractions, First Buses and the Ferry Company.
- The list was last fully refreshed in December 2016. 15 additional venues have joined in 2018
- BFI standards include supporting mothers with feeding out and about and signposting to the scheme.
- The Bristol 'Eating Better' award signposts venues to the Breastfeeding Welcome Scheme.
- The Environmental Health department signpost mothers to the scheme

Recent local research recommends that the profile of the scheme is raised and that it is expanded further into areas of the city with low prevalence (Johnson 2017).

Awareness raising/publicity

Awareness raising events have been held over the last 10 years such as *The Big Latch* on (international event), *Cut Out For Breastfeeding and Breastfed Babies Eat Out* (which developed into the Breastfeeding Welcome Scheme). Most of them have focused upon supporting the normalisation of breastfeeding and highlighting the support available to mothers.

The Big Bristol Breastfeed 2010-2016

This is an annual celebration picnic event attended by 100+ people and held in a park or green space usually on the second weekend of September. It is attended by breastfeeding families past and present and breastfeeding supporters from the health and voluntary sector. It was originally set up in 2010 by two peer supporters one from public health and one from Barnardos. It is now organised in a voluntary capacity by the Breastfeeding Counsellor who is breastfeeding activist and supporter. Media opportunities are used to raise the profile of the breastfeeding support available in the city.

The Breastfeeding Advert

This was initiated by a mother in North Somerset, filmed with local families and supported locally by activists. It has been shared extensively on social media. The aim was to show some of the science around breastmilk <https://www.youtube.com/watch?v=iqDX7Hojok> The team have also developed a website and plan more films.

Community support for breastfeeding

Workplace support for breastfeeding

New national standards for workplace support are being developed and will be available this year. It is hoped that lactation support for breastfeeding mothers will be incorporated into any new standards.

Breastfeeding and schools –Healthy Schools

The new Bristol Healthy Schools award was launched in December 2017. There are a number of badges that schools can work towards https://www.bristol.gov.uk/en_US/web/bristol-healthy-schools. It may be possible to link the healthy workplace badge with continued lactation support for employees.

Personal, social, health and economic (PSHE) curriculum in schools

There may be scope for incorporating breastfeeding into the PSHE curriculum that soon will have nationally identified standards.

Plans for protecting infant feeding in local disasters/civil emergencies

Currently there is no specific infant feeding plan for emergencies. This has been highlighted to the emergency planning team and will be incorporated into local plans.

Specialist Support

Maternity services- Infant Feeding Specialist Midwives (IFSM)

- mothers with additional challenges can be referred by the community midwife to the IFSM for referred for one to one support
- mothers who are anticipating feeding issues then they can be referred to the midwives antenatally and a care plan drawn up
- the IFSM's offer a CCG funded tongue tie assessment and division service
- The health visiting team can refer mothers at present, but this will be changed when the health visitor feeding specialist is in post

Health Visitor Specialist Breastfeeding Support

Public Health piloted and then commissioned a specialist support clinic from a Breastfeeding Counsellor/ Lactation Consultant referral clinic March 2012-March 2016. Health visitor could refer mothers experiencing more complex challenges such as poor weight gain and on-going pain. Now, mothers can drop-in to 4 breastfeeding support groups from September 2016-date. Current service information suggests that approximately 550 mothers in this way.

Targeted support -addressing inequality through peer support

Mothers living in Bristol with lower breastfeeding prevalence face numerous additional barriers to starting and continuing breastfeeding. To address this inequality, the breastfeeding peer support service was developed in 2011 to provide an extra 'circle of support' and to strengthen the mother's support system by including partners/grandmothers/others in expanding support and encouragement at home. The first 18 months of the service was evaluated by Bristol University and it was cited on the NICE shared learning database <https://www.nice.org.uk/sharedlearning/targeted-paid-breastfeeding-peer-support-service-bristol>

This service offers an antenatal contact to women and her partner/mother/significant other to explore any questions and concerns around infant feeding. It focuses upon these first few days/weeks of breastfeeding, a time of high support needs and attrition with many mothers giving up before they wish/plan to (Infant Feeding Survey 2012). The service includes a minimum of four postnatal contacts at 48 hours post discharge from hospital (NICE 2008), one, two and three weeks via text, phone, e-mail & can offer face-to-face support if needed. Around 680 mothers access the service and 3,106 routine postnatal contacts were made. Mothers are then invited to attend a network of breastfeeding support groups. The service also provides the support in most of the breastfeeding support groups in the city and trains, supports, updates and supervises volunteer peer supporters who support mothers in groups and informally on social media and in their own communities.

Support for teenage mothers

Family Nurse Partnership (FNP)

Teenage mothers and their babies experience marked health inequalities (PHE 2016). The Family Nurse Partnership (FNP) is an evidence based programme that originated in the United States. It has been a Local Authority commissioned service since 2014 and supports vulnerable teenage mothers (aged under 19 years at the start of pregnancy) and young fathers. Parents are engaged voluntarily in the service from pregnancy until the child is aged 2 years old. In Bristol & South Gloucestershire, there is a link FNP nurse with a special interest in breastfeeding who ensures that information and resources provided by the service are in alignment with the UNICEF UK Baby Friendly city wide approach.

BBSS support for teenage mothers

The majority of young mothers who aren't in receipt of the FNP service live in the 10 target wards and so

are offered the service. It is recognised that teenage mothers require a higher level of input, so the service offers additional focus and flexibility around contacting and supporting young mothers, often supporting them for a couple of months or more. The service used to offer support to mothers across the city but since the FNP service has been active and the teenage midwife posts have ceased referrals were minimal and so efforts are focused upon mothers who live within the target wards.

Certificates and gifts for teens

The service also facilitates a reward/award scheme for young mothers –certificates and small donated gifts to mark achievement.

Gypsy and Travellers

Parents can access additional support with infant feeding by the community midwifery service, 3 Children's Centre drop-ins and from the designated Gypsy and Traveller health visitor.

6) What's on the Horizon?

- NICE is currently reviewing their antenatal and postnatal guidelines started October 2017
- Re-structuring of the Bristol Public Health team 2018 to be completed December 2018
- Transfer of the targeted and universal breastfeeding support service from public health to the Children's Centres and Families team by end December 2018.
- UNICEF UK BFI re-accreditation of the health visiting service January 23rd & 24th 2019
- Appointment of a feeding specialist role for the health visiting team- February 2019.
- Development of the health visitor referral specialist referral service and pathway by April 2019
- The continued Local Maternity System implementation of the infant feeding subgroup recommendations of the postnatal work stream. Led by Bristol North Somerset South Gloucestershire (BNSSG) Clinical Commissioning Group (CCG) implementing Better Births recommendations. This includes;
 - St Michael's NICU stage 2 assessment 2019
 - Southmead NICU stage 2 assessment 2019

7) Local views

In this section, feedback from mothers experiencing various aspects of breastfeeding support across the city demonstrates the relational nature of breastfeeding support.

BFI

In BFI accredited services, yearly audit of staff skills/knowledge and the views/experience of care received to support mothers with their infant feeding and breastfeeding and bottle feeding mothers are interviewed. Action plans and training are then focused upon the findings. In addition, periodic external re-assessment is also carried out by assessors from UNICEF. In addition to this audit, they ask mothers to comment on the care they received with feeding and nurturing their babies.

St Michael's Hospital BFI re-assessment October 2017

The BFI assessors noted that “many mothers were very complimentary about the care received even in very busy times and rated staff kindness highly” and that 0% of mothers were unhappy with their care which BFI said is a rarity and 88% were very happy. Other comments received from mothers; “they were all lovely” “they were amazing” “I got a lot of help even though they were busy” “they took me to the neonatal unit after my caesarean on my bed to see my baby in ICU”

Southmead Hospital BFI re-assessment May 2016

“I wouldn’t be breastfeeding my twins now if the staff hadn’t put in the support that they did. They were wonderful. Nothing was too much trouble. The maternity assistants and the midwives were brilliant”

“..can’t fault the care, the midwives were brilliant, very caring”

Health visiting service and BFI

The last external BFI assessment of the health visiting service took place in 2012 and was carried out in two phases. It was noted in the final report that

‘the staff are commended for their work to maintain the standards established at initial accreditation. It was clear to the assessment team that mothers receive a very high standard of care. All the mothers commented on the quality of the support they received’ (BFI assessment report 2012).

Two internal audits have been carried out this year (2018) and external UNICEF re-assessment will take place in January 2019.

Bristol Breastfeeding Support Service

This service has been running for 8 years in two contracts and re-commissioned twice. Research carried out in the first 18 months of the service by Bristol University showed that mothers and staff liked the service and developed increased confidence (Ingram 2013). Routine service data both qualitative and quantitative is collected from the service. The service was very positively evaluated by mothers, health professionals and peer supporters. Mothers felt that peer support increased their confidence to breastfeed; peer supporters found the contacts rewarding, enjoyable and important for mothers; midwives and maternity support workers were positive about the continuity of an antenatal visit and postnatal support from the same local supporter.

‘I feel very strongly that this useful and practical advice given in the comfort of your own home environment in those very early days was an invaluable support. I can only believe that if more women were given this support there would be much more tendency to breastfeed. I just wanted to say how much it has made a difference to me and how much I valued the breastfeeding support provided by the peer supporter’. (Mother #14, first baby)

“I’m still breastfeeding this baby and if the service she offered would have been available when I had my first baby, I would have quite happily breastfed him and it would have been quite different”. (Mother #12, second baby)

“It was lovely to be able to ask questions and gain assurance over the phone. Meeting someone one to one before the birth was very helpful as it gave me the confidence I needed” (survey mother #234).

Feedback at the end of the first contract prior to re-commissioning (2013) gathered via a 'survey monkey'
'It was amazing to talk to another Mum. With recent experience. Not an old midwife who probably had her kids 40 odd years ago! (mother from Southmead)

"Being able to receive support by text message as well as 'face to face'". (Mother from Knowle West")
They are there when you need them. I feel I would have given up without their support''(mother from Hartcliffe)

Service feedback from the service 2016-2017

The table 23 below shows mother's evaluation of the 1:1 service January–December 2017

% of mothers who rated the service as helpful/ very helpful	January- March 2017	April- June 2017	July- September 2017	October- December 2017
Antenatally	87%	97%	93%	96%
Postnatally	94.4%	97.9%	99%	100%

Qualitative data is also collected and below are some quotes from the quarterly reports 18 month period September 2016-December 2017.

September-December 2016

"Thank you so much for all your help and support, it's hugely appreciated. I think the service is great and have recommended it to pregnant friends already. It's great to have someone to talk to who is expert and also neutral (i.e. not friend or relative). You gave me some helpful practical tips and also reassurance to keep going! Thanks you again."

"Thank you so much for all your love and support, it is greatly appreciated..... I will see you at the group on Wednesdays. "

"Thank you [for links], I feel better having spoken about things"

"I don't think I would have done it without your advice".

"It's been really helpful to know that how I feel is so normal from another twin mum, couldn't have asked for better support. Thanks again and Merry Christmas"

"We really appreciated your help, it has been a great support; thank you"

"Thank you for all your help, just kind words have been really encouraging"

January-December 2017

"...the advice and service was invaluable to me and I've spoken to a number of friends about how helpful it is in the early days. Thank you so much"

"Without you I probably wouldn't be breastfeeding as you happened to ring on the day that I had decided to stop"

"I feel reassured about cluster feeding and how to manage it, thank you. It's good to know that I can go to a group too."

From a bottle feeding mum, "I'm happy with my decision to stop breastfeeding and bottle feed, but didn't know about 'natural bottle feeding'. That's been really useful information, thank you."

"Feeding is going well, but it's really hard at night! Thank you for keeping in touch."

'Thank you very much for your text, fortunately for us feeding is still going fantastically, little one is gaining weight well and we're enjoying the special time together. I've appreciated knowing if I needed support, or help, you're there to help without feeling pressured in any way! Thanks again'.

'I honestly couldn't have got this far without your help and support. I know it's not very far, but it was an extra week of breastmilk for.... Thank you for always being positive!

'Thank you for your support. It really means a lot to us.' Young mum struggling to make enough milk for her baby.

Recent 2018 feedback from a breastfeeding supporter (Hartcliffe) demonstrating the long-term effects of this support

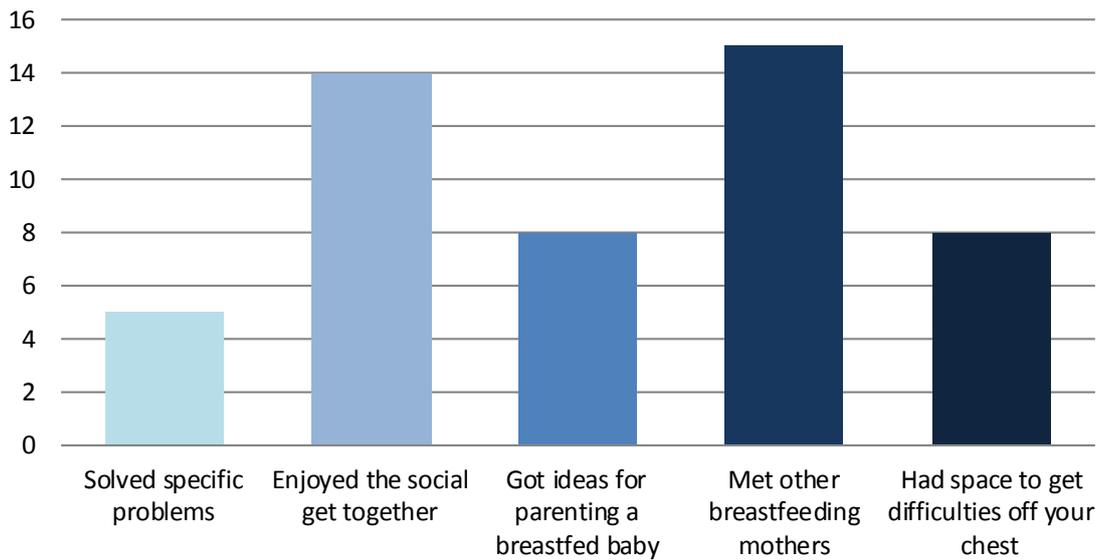
'I had a lovely text and tel conversation with a mum who I supported when we were at(2nd time service user now)... When I texted her she replied: "we've actually met before! You came round before I had my first baby (who's now a toddler). I found your advice and support so helpful and am actually still breastfeeding my toddler! I 'm planning to b/f this time round again all being well..." I rang her and we had the loveliest chat...before we finished I said she made my day and she said "thanks so much for all you did... it really made a difference to me when he [baby] came along..."

Breastfeeding support groups supported by the service survey results -2015

16 mothers completed feedback forms from 5 groups. 92% of mothers felt that they had their questions answered.

Table 24 below shows answers to the survey of mothers who had used the support groups

What have you got from this group today?



Breastfeeding support group feedback 2015-2017

Recent group data from the above service show that mothers found this helpful/very helpful.

Peer support

'Just really enjoyed speaking with others who are in a similar situation/stage to me'

'Feel so much better for getting out, socialising and talking to other breast feeding mums.'

'Feeling supported'

'It gets me out and about and meeting new people everybody is very friendly and welcoming'.

'Felt supported, relaxed with a cup of tea'.

'Continued support, very welcoming'

'I really miss coming to BAPS, even though everything is going well and I don't need help anymore, it's just a nice place to be!'

'Going to a group was the best thing I did! Really helped with my bf experience. Bf counsellors and peer supporters are really helpful and there are always lots of other lovely mummies to share your experiences with'

Continue with breastfeeding

'Have breastfed for 4 months and this group helps me want to continue'

'Helped me feel good about continuing, reassured me'

'Improved my breastfeeding experience'

'Lots! Given me confidence in my own ability'

"If it wasn't for breastfeeding support groups and all the lovely people that go to and run them, giving correct and up to date advice I would not be exclusively breastfeeding my nearly 6 month old. Amazing places, Bristol is lucky to have so many."

"The group is friendly and encouraging. If you have problems or questions they'll always do their best to help you. Great reassurance in the early weeks too."

'I'm so glad I came" "Thank you for all your help" "I feel reassured"

Help with challenges

'Can get advice regarding any problems/reassurance'

'Made me feel more determined and more confident about overcoming my b/f challenges

Feedback from counsellor at a group '...she said the support she had from me athad 'changed her whole feeding experience' and she is continuing to exclusively bf'.

"Thank you You have been so supportive, it's nice to know that you work so hard supporting those who choose to breastfeed. I gave up with my daughter all those years ago because I just didn't find the support so thank you."

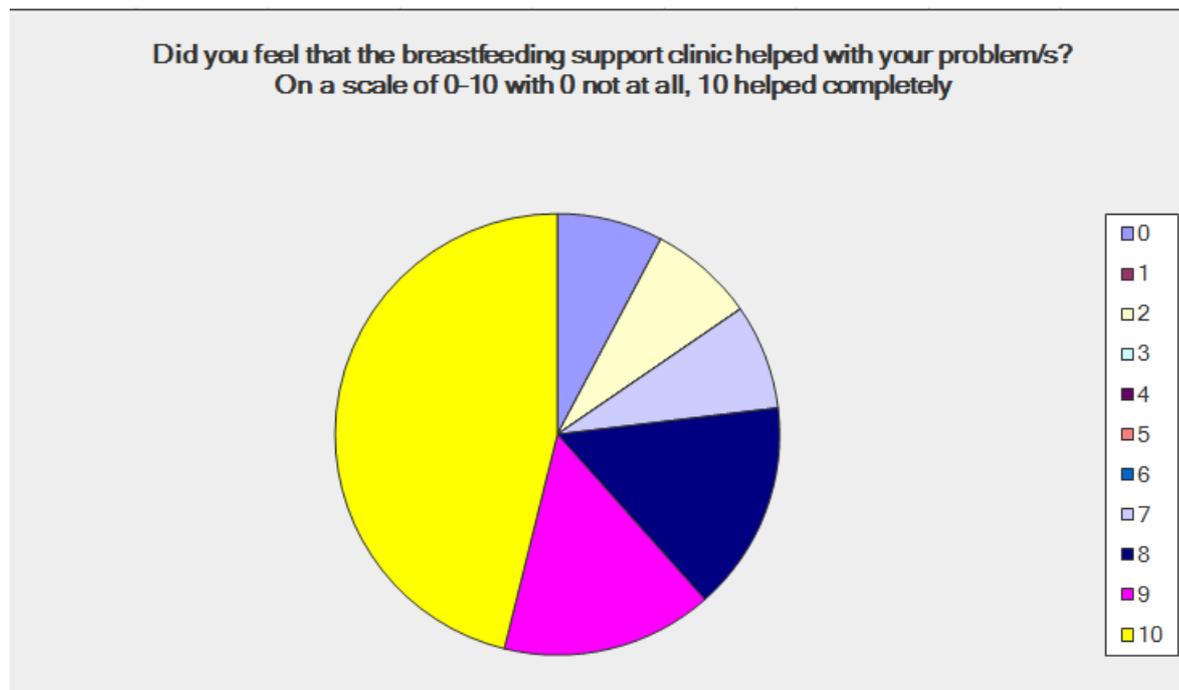
"Thank you very much for all your help you've been fab."

Peer support and Breastfeeding Counsellor support in hospital-pilot

Qualitative data showed that this was well received by staff and mothers. Peer supporters found it helpful to be able to signpost mothers in the community. Findings suggest that the in-hospital pilot peer support service is a positive step toward supporting and encouraging breastfeeding women (Bhattacharjee 2014) and a further pilot is recommended.

Breastfeeding clinic support

Table 26 below shows the results of mothers views of effectiveness of a breastfeeding problem clinic in a small 'survey monkey' carried out in 2014.



Data source: Survey monkey, Public Health, Bristol City Council

Attendees who filled out an evaluations in 2011 and 2014 were asked to rate the helpfulness of the service with their breastfeeding issue on a Likert scale with 0-not all and 10 very unhelpful. In 2011 91% rated the service as 7-10, in 2014 85%.

Breastfeeding 'drop-in' support clinic pilot January-March 2016

This replaced the clinic and was evaluated in March 2016 after a short pilot. Although the survey sample was small, mothers found it a helpful and acceptable service, although for mothers who had to travel they would like it to be closer to their home.

Maternity Voices BNSSG Infant Feeding Survey December 2015

Maternity Voices Partnership (formerly Maternity Services Liaison Committee and Maternity Voices) is a CCG supported, user-led group who work closely with maternity commissioners, local maternity services and others. The group conducted an infant feeding survey at the end of 2015 of mothers living in Bristol, South Gloucestershire and North East Somerset and 64 mothers responded. Unfortunately, mother's responses were not recorded by postcode and so it was not possible to discern the responses that were relevant to Bristol mother's views/experience and which area of the city or CCG area the respondent resided in.

However, it was evident that mothers who responded found certain things helpful and identified some gaps in provision and made some recommendations. The survey participants were asked what could help to continue breastfeeding:

Antenatal preparation & practical information

- Better idea of what to expect and that it gets easier
- Practical information on how to overcome difficulties
- Tips on what makes things easier
- A better idea of what to expect at every stage and that it will get easier

Attitudes of health professionals

- Consistent advice
- Pragmatic attitude of health care professionals
- For healthcare professionals to be more relaxed and realistic about occasional mixed feeding; pragmatic approach –compromise or give up breastfeeding altogether?

Tongue Tie service and care

- Tongue tie check at birth was suggested by several who felt they would have experienced less difficulty with earlier diagnosis (NB not recommended best practice)
- The team also received a report of a survey focussed on access to tongue tie division conducted by a local mother

Support Groups

- Support groups were found to be helpful and Honeysuckle café in Lockleaze was cited as an example
- Lots of mothers stressed the benefits of support groups, especially when also attended by women who have had babies before (although harder for these women to get to groups with a newborn and a toddler).
- Some suggested that mothers may need support to attend a group and may need home visits

Information

- Information on support groups and other support needs to be up to date
- Telephone (evening and weekend) support needed
- More support at home
- Community Support available across the area

Maternity Services workshop Whose Shoes? May 2017

Below is feedback related to infant feeding gathered from participants as part of the 'Whose Shoes' workshop for 75 people that was organised by the BNSSG Clinical Commissioning Group to explore women's and workers experiences of maternity services. Below are comments by BNSSG staff and mothers who attended, where infant feeding was mentioned.

Preparation

'All the focus was on the birth, I wish there was more about breast feeding (classes)'

Information

- *'New babies need to be breast fed much more often than 3 hourly – mums hear 3 hourly and try to space feeds out'*
- *'You can't overfeed a breast fed a baby'*

Support and continuity

- *'Women need more support to meet breast feeding goals. They need more input/support to look at how breast feeding is going rather than automatically using formula for top ups as a quick fix '*
- *'We need to improve continuity of breast feeding support. Making sure both the hospital staff and community are well trained and giving consistent information to women'*
- *More balanced advice needed about breast feeding and less judgement about formula'*

Teenage mothers

'Many teenage mums feel too anxious to say what they want. Often too scared to ask for help to breast feed'

Perinatal mental health

- *'Embrace working alongside other agencies who offer support with breast feeding /postnatal depression'*
- *'Feeling a sense of shame if you can't breast feed'*
- *'Too much pressure to breastfeed can lead women to feel failures and give them depression/anxiety'*

- *'The way you feed your baby should not be associated with judgement or failure'*

Feedback from antenatal breastfeeding workshops 2013-15

This was a commissioned service run by a Breastfeeding Counsellor over a two year period and was evaluated highly with mothers who felt more knowledgeable and confident at the end and knew where to go to get help if they needed it after their baby was born.

Breastfeeding Welcome Scheme

Feeding in public can be anticipated by some mothers as a worrying hurdle to be overcome. This young mother was pleasantly surprised

I was thinking that people would be like 'Eugh' but when I done it no one pays any attention. Before I was like 'I don't want to do it in case I feel that they are all looking at me, but like, nobody does' (young mother interviewed for a Social Marketing Report 2009).

Another young mother had noticed posters/signs and found this reassuring

There are more places to go, if you wanted privacy and you wanted to go in if you were shopping in town, if you look you will actually see that there are signs saying @ You're welcome to breastfeed here'... If you'd like to breastfeed your baby in private, please ask at reception and we will find you a comfortable place' a lot is on offer now. I much preferred breastfeeding (my daughter) because that was there'' (breastfed for 5 months young local mother interviewed for a Social Marketing Report 2009).

Local research recommends that the profile of the Bristol Breastfeeding Welcome scheme is raised and that it is expanded further into areas of the city with low prevalence (*Johnson 2017, unpublished*).

B: What does this tell us?

8) Key issues and gaps

Key issues

- Investment in the early years, especially the first 2 years of life, offers the greatest impact and financial return
- Optimal breastfeeding saves lives, reduces illness, improves health, reduces costs, improves life chances and narrows the inequalities gap
- Breastfeeding reduces the risk of chest, gastrointestinal, ear, urinary, cough/colds infections, type 1 diabetes, obesity, dental decay, Sudden Infant Death Syndrome and necrotising enterocolitis (serious bowel disease) in babies and breast and ovarian cancer, type 2 diabetes and in mothers
- Support for breastfeeding and raising breastfeeding rates confers considerable health, social and educational cost savings
- The UK has some of the lowest breastfeeding rates in the world. 8:10 give up before they wish to and this can lead to great distress.
- It is recommended that babies are fed breastfed exclusively for 6 months and then continue alongside the introduction of solid foods for as long as the mother wishes (PHE 2016). The World Health

Organization (WHO) recommends that babies are fed in the first hour of life, are breastfed exclusively for 6 months and then continue for two years or more (WHO 2016). Fewer than 1% of mothers breastfeed exclusively and at 6 months and 34% are giving any breastmilk.

- UK mothers face societal, structural and practical barriers to breastfeeding.
- In the UK there is weak implementation of the World Health Organisation (WHO) Code for the Marketing of Breast Milk Substitutes, aggressive formula milk marketing including cross marketing of products and the normalisation of formula feeding
- Women may face a lack of skilled support services, concerns about feeding in public/in front of others, inadequate workplace support and a lack of support within their own wider community and with their own partners, family and friends
- The evidence shows that care and support for mothers and babies should be 'joined up' and seamless for women within and between services in hospital, at home and in communities with expert support available for additional challenges
- Local mothers value support in all its forms and want support and care that is accessible, kind, individualised and recognises individual circumstances. They want care that upholds their decisions, protects mental health and provides continuity of information, care and support within and between services.

Bristol

- Bristol's Public Health alongside and within the Local Authority has been committed to raising breastfeeding rates and addressing health inequalities since 2007 as part of their work towards improving maternal and child health and other outcomes, before this Sure Start .
- Bristol breastfeeding rates are higher than the national average and the core cities. Initiation rates have been stable for 4 years but may be declining slightly
- 6-8 week continuation rates, in particular exclusive breastfeeding, have risen over the past 8 years amongst all groups, although inequalities remain.
- It is probable that support for breastfeeding has an impact on mothers and babies and has contributed to the rise in rates, although improved continuation data coverage is needed.
- Bristol was the first 'Baby Friendly' city in England and Wales, this status has currently lapsed because of restructures to teams and services and changes to commissioning arrangements. However, work is now on track to regain accreditation within and across all services.
- The UNICEF UK Baby Friendly Initiative (BFI) standards are recommended as best practice care, information and support for mothers within and across health and early years services
- Infant Feeding leads provide additional support for mothers with challenges and tongue tie assessment services
- Training forms a key part in the maintenance of best practice standards around infant feeding and enhancing wider community awareness and support.
- The value of breast milk to all babies is undoubted and to vulnerable babies even more so. There is a milk bank at Southmead Hospital funded by NHS England and pasteurised, donor breast milk is currently available for babies who are born under 32 weeks gestation who can't have their mother's milk
- The Bristol Breastfeeding Support Service (BBSS) provides a 1:1 antenatal and postnatal targeted service for mothers in areas of the city with lowest breastfeeding prevalence, support in groups and trains/supports peer supporters
- The Family Nurse Partnership and the BBSS provides breastfeeding support for teenage mothers

- Gypsy, Roma and Traveller (G,R &T) community can access support for feeding via the community midwifery and the G, R &T health visitor and drop-ins in three Children's Centres
- Social media provides an important aspect of informal support that mothers can access in Bristol
- The maternity services offer specialist infant feeding support and a frenotomy (tongue tie) assessment/division service.
- The provision of specialist support across the city will grow soon due to increase by the appointment of an infant feeding specialist in the health visiting service and some additional midwifery resource
- There is a network of breastfeeding support groups that provide peer and some specialist support to mothers with their on-going feeding journey-mothers usually access 2-3 weeks after their baby is born, these are well evaluated by mothers
- The Bristol Breastfeeding Welcome Scheme supports mothers to feed when out and about with their baby, is active and (probably) the largest in the UK , recent research suggest that mothers who are concerned about public breastfeeding find this helpful
- Health promotion campaigns and events in Bristol over the last few years have focused upon the support available to mothers e.g. *The Big Bristol Breastfeed* (2011-16) and the South Bristol breastfeeding campaign (2016)

The gaps

- The city is no longer fully BFI accredited although there is considerable work to address this
- There is no formal WHO Code adoption by the council although there is within accredited service
- Protection for infant feeding isn't in the emergency plan to protect infant feeding in local policies
- Breastfeeding support services information is present and up to date but may need to be made more prominent
- The Bristol Breastfeeding Welcome Scheme is active, attracts new members with minimal advertising but will need facilitation of this and there are fewer venues in the Breastfeeding Welcome Scheme in areas of low breastfeeding prevalence
- There is currently no formal workplace support scheme/strategy for continued lactation although resources have been circulated to key organisations and national guidance on workplace health is awaited
- There is currently a gap in a BFI lead and specialist service for health visitor referral (this is about to change)
- NHS classes have an infant feeding session based on the BFI standards but some mothers would like more antenatal information to prepare for feeding.
- There is a postnatal community midwifery service that provides support service at home, at clinics and via the phone.
- Not all mothers are receiving an antenatal home visit as part of the health visiting contract due to capacity issues.
- Some mothers would like more home visiting from health visiting and community midwives-the flexibility to offer additional supportive home visits is sometimes not possible due to service pressures and capacity issues.
- Some mothers experience a lack of continuity and consistency of advice and information within and between services
- Some mothers would like more support with mixed feeding
- Some mothers would like increased, timely access to the tongue tie division service
- Some mothers experience feelings of grief and sadness when they are not able to breastfeed for as long

as they wish. Some mothers may experience stigma around early cessation of breastfeeding. This can include very difficult feelings of shame and grief and increases the risk of depression.

- The targeted breastfeeding support service is well received by mothers but around half of all available mothers access the service
- There is currently no provision for on-going training available to organisations who support parents such as the Children’s Hospital, the dietetics service, churches/community groups to build a knowledgeable wider support community for mothers
- Donor breast milk is not currently available to babies who may need supplementary feeding in the early part of their life for example, those who are small for gestational age, babies of diabetic mothers and premature babies over 32 weeks gestation

9) Knowledge gaps

There are knowledge gaps around what supports certain communities and groups;

- Teenage mothers
- Gypsy and Traveller communities
- Parents with twins/multiples
- Mothers and infants with additional needs

We don’t currently know the effect of breastfeeding on dental health over one year especially in relation to night feeding) so more research is needed and awareness raising about the care of teeth for babies and young children.

There are currently gaps in data ;

- Initiation data that is suitable for breakdown by ward, ethnicity, deprivation and age.
- 6-8 week breastfeeding continuation data as coverage levels are below recommended levels
- Length of time babies are breastfeed beyond the 6-8 week check
- When babies are weaned on to solid food
- Breastfeeding rates at 6 months, 12 months and 24 months

C: What should we do next?

10) Recommendations for consideration

It is recommended that

UNICEF UK Baby Friendly Initiative and support for the WHO Code

- Maternity, health visiting services and Children’s Centres continue to be commissioned to achieve, sustain and extend UNICEF UK Baby Friendly accreditation to ensure that best practice standards around the support for all mothers with infant feeding (breast, formula and mixed feeding) is provided
- all accredited services to work towards the gold and sustainability awards to further embed the best practice standards
- the Local Authority formally supports the WHO Code and appoints a ‘Baby Friendly’ guardian as part of regaining full ‘Baby Friendly Bristol’ status

- Develop the new BNSSG infant feeding network (to replace the BFI meetings & INNN), via the LMS postnatal work stream

Local Authority support

- the administration of the Bristol Breastfeeding Welcome Scheme continues, that more venues are recruited throughout the city, especially in areas of low prevalence
- support for continued lactation is included in any new, 'health in the workplace' scheme/strategy
- support for lactating members of staff in the healthy schools awards
- inclusion of breastfeeding in PSHE/other relevant school curricula
- breastfeeding is included within all relevant Bristol City Council policies/strategies
- safe infant feeding is protected within emergency plans

Community breastfeeding support

- the BBSS service continues to provide expert support within the breastfeeding support groups, to work with the Children's Centres to provide governance for support groups and to ensure best practice standards are maintained
- the BBSS continues to train volunteer peer supporters twice yearly and provide on-going support and training alongside the CC's

Data

- initiation data is accessible for breakdown by electoral ward, postcode, age and ethnicity to track progress and support the commissioning of services
- coverage of data at 6-8 weeks data is improved to enable Bristol's data to be submitted nationally and tracked locally
- consideration is given to the mapping of breastfeeding data across a baby's first year of life (2,3,4 month immunisation contacts and one and two year health visiting reviews) to enable interventions to be monitored and services commissioned accordingly

Antenatal care and support

- the content and efficacy of the antenatal NHS parenthood classes infant feeding session evaluated to ensure that it meets parent's needs for information (via the LMS)
- that all parents have an antenatal home visit to discuss their infant feeding concerns with their health visitor/breastfeeding supporter
- that a woman's partner/mother/significant friend are included in antenatal clinic discussions or antenatal classes to increase self-efficacy and confidence in the mother and preparedness of the wider family thereby increasing her 'circle of support' when establishing breastfeeding
- health, early years and breastfeeding support services to support the antenatal identification of women who may require extra support with feeding e.g. women with perinatal mental health issues, those who may have previously suffered a pregnancy bereavement, those who are expecting a multiple birth, a pre-term baby or a baby who may have additional needs

Postnatal care and support

- a pilot volunteer peer support one year project 2019 to provide additional emotional, practical infant feeding support and service signposting to mothers-via the LMS postnatal work stream
- midwifery and health visiting services commissioned to enable more support in the home
- a pilot of the new *individual feeding plans* to aid continuity of care, information and support for mothers with breastfeeding challenges- via the LMS postnatal/continuity of care work streams
- staff in health and early years are trained to identify mothers who may need psychological help/additional supportive listening by signposting to breastfeeding/mental health community or other psychological help

Specialist support

- the health visitor breastfeeding specialist service is piloted and evaluated
- a specialist referral pathway is further updated

Donor milk

Increase provision to ensure that donor breast milk is available to all babies who may need this

Information and signposting

Ensure up to date information on community services is maintained and possibly enhanced, by increasing the prominence of the BCC breastfeeding webpage or developing a new social media page or website

Inequalities

- the Bristol Breastfeeding Support Service (BBSS) 1: 1 Support continues to provide targeted proactive, antenatal and early postnatal support to address inequalities in wards with the lowest prevalence
- a voucher scheme for mothers living in the areas with the very lowest breastfeeding prevalence e.g. Hartcliffe and Withywood, South Bristol
- the Family Nurse Partnership & the BBSS to continue to provide support for teenage parents with infant feeding and that commissioned health services consider the development of a pathway for those who do not access these two services
- resumption of an award/recognition scheme (certificates/donated gifts or vouchers) for young mothers and extended to mothers who are aged under 25 years
- development of innovative approaches/research with health and early years to work with the community to further support Gypsy and Traveller communities with infant feeding-consider applying for research funds for this

Training/education

- training to be available for staff/voluntary groups that come into contact with families e.g. nursery staff, childminders, foster carers, perinatal and infant mental health service workers, Children's Nurses and dieticians, churches and community groups
- the UNICEF on-line GP BFI training is monitored, advertised and promoted when new curriculum is available N.B. there may be an additional cost to this
- develop the BNSSG shared education/learning group via the LMS postnatal work stream

- develop the BNSSG infant feeding network group (to replace the Bristol Infant Nutrition and Nurture Network)

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References

Acta Paediatrica (2015) Special Issue '*Impact of Breastfeeding on Maternal and Child Health*'
December 2015 <http://onlinelibrary.wiley.com/doi/10.1111/apa.2015.104.issue-467/issuetoc>

All Party Parliamentary Group on Infant Feeding and Inequalities (2016)
https://publications.parliament.uk/pa/cm/cm/28thApril2016_allparty/160428/infant-feeding-and-inequalities.htm

Alves J, Figueiroa J, Meneses J, and Alves G (2012) *Breastfeeding Protects Against Type 1 Diabetes Mellitus: A Case-Sibling Study*. *Breastfeed Med* 5 Aug 2012.

<https://www.ncbi.nlm.nih.gov/pubmed/21819204>

Attain (2017) Avoiding term admissions to neonatal units; on-line training programme

<https://www.e-lfh.org.uk/programmes/avoiding-term-admissions-into-neonatal-units/>

Azad MB, Vehling L, Chan D, Klopp A, Nickel NC, McGavock J M, Becker A B, Mandhane PJ, Turvey SE, Moraes TJ, Taylor MS, Lefebvre DL, Sears MR, Subbarao P, on behalf of the CHILd Study Investigators *Infant Feeding and Weight Gain: Separating Breast Milk From Breastfeeding and Formula From Food*

<http://pediatrics.aappublications.org/content/early/2018/09/20/peds.2018-1092>

Baerug A, Langsrud O, Loland BF, Tuft E, Tylleskar E, Fretheim A (2016) *Effectiveness of Baby Friendly Community Health Services on Exclusive Breastfeeding and Maternal Satisfaction : a pragmatic trial*. *Maternal and Child Nutrition*

<https://www.ncbi.nlm.nih.gov/pubmed/27062084>

Ballard J & Morrow A (2013) *Human Milk Composition: Nutrients and Biofactors in Human Milk* *Pediatr Clin North Am*. 2013 Feb; 60 (1):49-74. doi: 10.1016/j.pcl.2012.10.002.

<https://www.ncbi.nlm.nih.gov/pubmed/23178060>

Bartick, M. and Reinhold A (2010) *'The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis'*. *Pediatrics* (125) pp 1048-

1056. <https://www.ncbi.nlm.nih.gov/pubmed/20368314>

Bigelow A, Power M, MacLellan-Peters J, Alex M, McDonald C (2012) *Effect of mother/infant skin-to-skin contact on postpartum depressive symptoms and maternal physiological stress*. *Journal of Obstetric, Gynecologic and Neonatal Nursing* 41(3): 369–382

<https://www.ncbi.nlm.nih.gov/pubmed/22537390>

Biggs K, Hurrell K, Matthews E, Khavela E, Munblit D, Boyle RJ (2018) *'Formula supplementation on the postnatal ward. A cross sectional study'* *Nutrients*

<https://www.ncbi.nlm.nih.gov/pubmed/29757936>

Borra C, Iacovou M & Seville A (2015) *'New evidence on breastfeeding and postpartum depression: the importance of understanding women's intentions'* in *Maternal and Child Health Journal* April 2015 Vol: 19, issue 4, pp 897-907

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4353856/>

Bosi A, Eriksen K, Sobko T, Wijnhoven T (2016) *Breastfeeding Practices and Policies in WHO European Member States 2015 Vol:19 Issue 4, March 2016 pp 753-764*

<https://www.cambridge.org/core/journals/public-health-nutrition/article/breastfeeding-practices-and-policies-in-who-european-region-member-states/FC3DAF2FEB69811AF1ED0CBE49803466>

Boyer K (2016) *'The emotional resonances of breastfeeding in public: the role of strangers in breastfeeding practice'*. *Emotion, Space and Society* <http://orca.cf.ac.uk/94745/>

Bowatte G, Tham R, Allen K, Tan D, Lau M, Dai X, Lodge C (2015) *Breastfeeding and childhood acute otitis media: a systematic review and meta-analysis*. *Acta Paediatrica*, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 85-95. <https://www.ncbi.nlm.nih.gov/pubmed/26265016>

Bowen A and Braden C (2006) *Invasive Enterobacter Sakazakii in infants Emerging Infectious Diseases* www.cdc.gov/eid Vol. 12, No.8, August 2006
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3291213/>

Bristol, North Somerset and South Gloucestershire (BNSSG) 2017 *Sustainable Transformation Plan (STP) Case for Change: Addressing the Health and Wellbeing Gap*
Bristol, North Somerset and South Gloucestershire (BNSSG) 2017

Brown A, Rance J, Bennet P (2015) *'Understanding the relationship between breastfeeding and postnatal depression: the role of pain and physical difficulty.'*
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4738467/>

Bristol JSNA (2016/17) Joint Strategic Needs Assessment
<https://www.bristol.gov.uk/documents/20182/34740/JSNA+2016+to+2017+final+version>

Brixval C, Axelsen S, Lauemoller S, Anderson S, Due P, Koushede V (2015) *'The effect of antenatal education in small classes on obstetric and psycho-social outcomes - a systematic review'*. <https://systematicreviewsjournal.biomedcentral.com/articles/10.1186/s13643-015-0010-x>

Chowdhury R, Sinha B, Sankar M, Tanejas S, Bhandari N, Rollins N, Bahl R &Martines J (2015). *Breastfeeding and maternal health outcomes: a systematic review and meta-analysis*. *Acta Paediatrica*, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 96-113. <https://www.ncbi.nlm.nih.gov/pubmed/26172878>

Condon L, Tiffany C, Symes N, Bolgar R (2010) *'Cut out for Breastfeeding': changing attitudes to breastfeeding* *Community Practitioner* 2010 April 83 (4):29-31
<https://www.ncbi.nlm.nih.gov/pubmed/20441098>

Condon L, Rhodes C, Warren S, Withall J, Tapp A (2012) *'But is it a normal thing? Teenage mothers' experiences of breastfeeding promotion and support'*. *Health Education Journal*, 72 (2) pp. 156-162. ISSN 0017-8969 <http://eprints.uwe.ac.uk/16500/>

Condon L & Ingram J (2011) *'Increasing support for breastfeeding: what can Children's Centres do?'* <https://www.ncbi.nlm.nih.gov/pubmed/21545360>

Condon L & Salmon D (2014) *'You likes your way, we got our own way': Gypsies and Travellers views on infant feeding and health professionals support*. *Health Expect.* 2015 Oct;8 (5):784-95.doi: 10.1111/hex.12214. Epub 2014 Jun 3.

<https://www.ncbi.nlm.nih.gov/pubmed/24890123>

Del Bonoe and Rabe B (2012) *Breastfeeding and child cognitive outcomes: evidence from a hospital based breastfeeding support policy*. ISER Working paper Series: 2012-29

<https://www.econstor.eu/handle/10419/91672>

Deoni S, Dean D, Piryatinsky I, O'Muircheartaigh J, Waskiewicz N, Lehman K, Han m, Dirks H (2013) *'Breastfeeding and Early White Matter Development: A Cross-Sectional Study'* *NeuroImage*82: 77–86

<http://www.sciencedirect.com/science/article/pii/S1053811913005922>

Dowling S & Evans D (2014) *Breastfeeding Peer Support in Wiltshire: An evaluation*.

University of the West of England

<http://eprints.uwe.ac.uk/21983/5/Breastfeeding%20peer%20support%20in%20Wiltshire%20an%20evaluation%20-%20Dowling%20and%20Evans%20October%202014.pdf>

Dowling S, Oxford L, Ellis N, Jones M, Fraser M (2017) *'Breastfeeding in South Gloucestershire: Mothers' Early Experiences of Infant Feeding'*. Project Report, University of the West of England, Bristol and South Gloucestershire Council. (January 2017)

<http://eprints.uwe.ac.uk/30718/3/REPORT%20Breastfeeding%20Research%20Project%20FINAL%2012%2001%202017.pdf>

Dowling S (2016) *'Using liminality to understand mothers experience of long term breastfeeding 'betwixt and between', matter out of place'* PHD thesis, University of the West of England

<http://eprints.uwe.ac.uk/23364/2/Sally%2520Dowling%2520presentation%2520for%2520BSA%2520Human%2520Reproduction%2520day.pdf>

Dowling S, Pontin D, Boyer K editors (2018) *'Social Experiences of Breastfeeding: Building Bridges Between Research, Policy and Practice'* Policy Press.

Dumas L, Lepage M, Bystrova K, Matthiesen AS, Welles-Nystrom B, Widstrom AM (2013) *Influence of skin-to-skin contact and rooming-in on early mother-infant interaction: A randomized controlled trial*. *Clinical Nursing Research* 22(3): 310–336

<https://www.ncbi.nlm.nih.gov/pubmed/23291315>

Dykes F (2006) *The Education of Health Practitioners Supporting Breastfeeding Women: Time for Critical Reflection* *Maternal and Child Nutrition* (2006) Oct:2(4):204-16

<https://www.ncbi.nlm.nih.gov/pubmed/16999766>

Dyson L, McCormick F & Renfrew M (2006) Interventions for promoting the initiation of breastfeeding (Review). *Evidence Based Child Health*, 1:592-616.

Fallon V, Groves R, Halford J (2016) Post-partum Anxiety and Infant Feeding Outcomes
journal of Human Lactation
<http://journals.sagepub.com/doi/abs/10.1177/0890334416662241>

Fitzsimmons E & Pongiglione B (2017) Institute of Education. *Prevalence and trends in overweight and obesity in childhood and adolescence: findings of the Millenium Cohort Study with a focus on age 14*. Centre for Longitudinal studies Working paper 2017/16

Fraser M (2016) '*Managers Perspectives of Lactation Breaks*' unpublished PHD thesis from the University West of England <http://eprints.uwe.ac.uk/27471/12/Final%20PhD.pdf>

Gibson L, Hernandez Alava, Kelly M, Campbell M (2016) *The effects of breastfeeding on childhood BMI: a propensity score matching approach* Journal of Public Health, doi:10.1093/pubmed/fdw093
<https://academic.oup.com/jpubhealth/article/39/4/e152/3003014>

Giugliani E, Horta B & Loret de Mola C (2015) *Effect of breastfeeding promotion interventions on child growth: a systematic review and meta-analysis*. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 20-29 <https://www.ncbi.nlm.nih.gov/pubmed/26361071>

Glazer-Peres K, Morales Cascaes A, Nasimento GG, Victora C (2015) *Effect of breastfeeding on malocclusions: a systematic review and meta-analysis*. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 54-61 <https://www.ncbi.nlm.nih.gov/pubmed/26140303>

Gyde and Denner (2017) Bristol City Council Under Fives Questionnaire.

Hawdon J, Beer J, Sharp D, Upton M (2016) *Neonatal hypoglycaemia: learning claims on behalf of NHS Improvement Patient Safety Programme 'Reducing term Admissions to neonatal units'* august 2016 <http://fn.bmj.com/content/early/2016/08/26/archdischild-2016-310936>

Horta B, Loret de Mola C, Victora C (2015) *Breastfeeding and intelligence: a systematic review and meta-analysis*. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 14-19.
<http://onlinelibrary.wiley.com/doi/10.1111/apa.13139/full>

Horta B, Loret de Mola C Victora C (2015) *Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis*. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 30-37.
<https://www.ncbi.nlm.nih.gov/pubmed/26192560>

Ingram J (2013) 'A mixed methods evaluation of peer support in Bristol UK: mothers', midwives and peer supporters views'.
<https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-13-192>

Johnson D (2017) '*The Baby Imperative; Mothers' experiences of negotiating public breastfeeding in a local context*' Unpublished Master's Thesis, University of Bristol

Jordan S, Na R, Johnatty S, Wise L, Adami H, Brinton L, Chen C, Cook L, Dal Maso L, De Vivo I, Freudenheim J, Friedenreich C, La Vecchia C, McCann S, Moysich K, Lu L, Olson S, Palmer J, Petruzella S, Pike MC, Rebbeck T, Ricceri F, Risch H, Sacerdote C, Setiawan V, Sponholtz T, Shu X, Spurdle A, Weiderpass E, Wentzensen N, Yang H, Yu H and Webb P (2017) '*Breastfeeding and endometrial cancer risk: an analysis from the epidemiology of endometrial cancer consortium*'. <https://www.ncbi.nlm.nih.gov/pubmed/28486362>

Kendall-Tackett K, Cong K & Hale T (2011) '*The effect of feeding method on sleep duration, maternal well-being, and postpartum depression*'. *Clinical Lactation*, 2(2), 22-26.
http://www.uppitysciencechick.com/kendall-tackett_CL_2-2.pdf

LCGB (2017) Lactation Consultants of Great Britain *The crucial role of breastfeeding: supporting mothers with anxiety and depression* <http://www.lcgb.org/wp-content/uploads/2017/11/A4-Handout-Breastfeeding-Mental-Health-9.11.17-LCGB.pdf>

Linnecar A, Gupta A, Dadhich J & Bidla N (2014) '*Formula for Disaster; weighing the impact of formula feeding vs breastfeeding on environment*' BPNI/IBFAN Asia 2014
<http://ibfan.org/docs/FormulaForDisaster.pdf>

Lodge C, Tan D, Lau M, Dai X, Tham R, Low A, Bowatte G, Allen K, Dharmage S (2015) *Breastfeeding, asthma and allergies: a systematic review and meta-analysis*. *Acta Paediatrica*, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 38-53.
<https://www.ncbi.nlm.nih.gov/pubmed/26192405>

Lubold A (2017) '*The effect of family policies and public health initiatives on breastfeeding initiation among 18 high income countries: a qualitative comparative analysis research design*' *International Breastfeeding Journal*
<https://internationalbreastfeedingjournal.biomedcentral.com/articles/10.1186/s13006-017-0122-0>

Lucas P, Jessiman T, Cameron A, Wiggins M, Hollingworth K, Austerberry (2013) *Healthy Start Vouchers Study: The Views and Experiences of Parents, Professionals and Small Retailers in England* School for Policy Studies, University of Bristol Social Science Research Unit. <https://www.cambridge.org/core/journals/social-policy-and-society/article/healthy-start-the-use-of-welfare-food-vouchers-by-low-income-parents-in-england/54D3766846E5F6085D7438CFC2957870>

Mahesh PKB, Gunathunga MW, Arnold SM, Jayasinghe C, Pathirana S, Makarim MF, Manawadu PM, Senayake SJ (2018) *Effectiveness of targeting fathers for breastfeeding promotion: systematic review and meta-analysis*. BMC Public Health 2018:1140
<https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-018-6037-x>

Maternal Mental Health Alliance (2018) *Mums and Babies in Mind; Perinatal Mental Health Competency Framework for Professionals and Volunteers who Support Breastfeeding*
<http://maternalmentalhealthalliance.org/resource-hub/>

McAndrew, F., Thompson, J., Fellows, L., Large, A., Speed, M. & Renfrew, M.J. *Infant Feeding Survey: 2010* (2012) NHS Information Centre (online). Available from:
<http://data.gov.uk/dataset/infant-feeding-survey-2010>

Mc Fadden A, Gavine A, Renfrew M, Wade A, Buchanan P, Taylor J, Veitch E, Rennie A, Crowther S, Neiman S, MacGillivray S (2017) 'Support for healthy breastfeeding mothers with healthy term babies' Cochrane Breastfeeding Support Review (2017)
http://www.cochrane.org/CD001141/PREG_support-breastfeeding-mothers

McMillan A, Barlow J & Redshaw M (2009) *A review of the evidence about antenatal education*
http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_c_onsum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_110371.pdf

Munn AC, Newman SD, Mueller M, Phillips SM, Taylor SN (2016) 'The Impact of the Baby Friendly Hospital Initiative on Early Infant Health and Breastfeeding Outcomes in Breastfeeding Medicine'
<https://www.ncbi.nlm.nih.gov/pubmed/29757936>

Negin J, Coffman J, Vizintin P, Raynes-Greenow C (2016) *The influence of grandmothers on breastfeeding rates: a systematic review*. BMC Pregnancy and Childbirth (2016)16:91
DOI10.1186/8_12844-016_0880-5
<https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-016-0880-5>

NHS Improvement (Feb 2017) *Reducing Harm leading to Avoidable Admission of Full Term Infants into Neonatal Units*
https://improvement.nhs.uk/uploads/documents/Reducing_term_admissions_final.pdf

NHS England (2014/15) www.england.nhs.uk/statistical-work-areas/maternity-and-breastfeeding/

NHS (2016) *National Maternity Review: Better Births: Improving outcomes of maternity care*.
<https://www.england.nhs.uk/wp-content/uploads/2016/02/national-maternity-review-report.pdf>

NICE (2005) National Institute for Health and Clinical Excellence 'Division of ankyloglossa (tongue tie) for breastfeeding'. Interventional Procedures Guidance IPG 149 December 2005
<https://www.nice.org.uk/guidance/ipg149>

NICE (2006) National Institute for Health and Clinical Excellence *Clinical Guideline CG 37 Postnatal care up to 8 weeks after birth* <https://www.nice.org.uk/guidance/CG37>

NICE (2008a) National Institute for Health and Clinical Excellence Public Health guideline *PH 11 Maternal and Child Nutrition* <https://www.nice.org.uk/guidance/ph11/chapter/4-recommendations#breastfeeding-3>

NICE (2008b) National Institute for Health and Clinical Excellence *Clinical guideline CG62 Antenatal and postnatal care guidance for uncomplicated pregnancies* <https://www.nice.org.uk/guidance/cg62/resources/antenatal-care-for-uncomplicated-pregnancies-975564597445>

NICE (2013) National Institute for Health and Clinical Excellence *Targeted paid breastfeeding peer support services, Bristol* <https://www.nice.org.uk/sharedlearning/targeted-paid-breastfeeding-peer-support-service-bristol>

NICE (2013) National Institute for Health and Clinical Excellence *'Implementing and evaluating training for health visiting teams as part of the UNICEF UK Baby Friendly Initiative'* <https://www.nice.org.uk/sharedlearning/implementing-and-evaluating-training-for-health-visiting-teams-as-part-of-the-unicef-uk-baby-friendly-initiative-community-award>

NICE (2017) National Institute for Health and Clinical Excellence Clinical Knowledge Summaries: *Breastfeeding problems* <https://cks.nice.org.uk/breastfeeding-problems>

Norman (2017) *Breastfeeding and outcome* Commentary on: Impact of breastfeeding on maternal and child health. Grummer-Strawn LM and Rollins N, Guest Editors. *Acta Paediatrica* Dec 2015, volume 104: supplement 467, pp 1–135. <https://ebneo.org/2016/02/breastfeeding-and-outcome/>

O'Shea J, Foster J, O'Donnell C, Breathnach D, Jacobs S, Todd d, Davis P (2017) *Surgical release of tongue tie in young babies* http://www.cochrane.org/CD011065/NEONATAL_surgical-release-tongue-tie-treatment-tongue-tie-young-babies

Patterson J, Kueller AC & Olson B (2018) *'The Effect of Baby Friendly Status on Exclusive Breastfeeding in US Hospitals'* <https://onlinelibrary.wiley.com/doi/abs/10.1111/mcn.12589>

Perez-Escamilla, Martinez JL & Segura-Perez (2016) *'Impact of BFHI on Breastfeeding and Child Health outcomes: a Systematic Review'* <https://www.ncbi.nlm.nih.gov/pubmed/26924775>

Pokhrel S, Quigley MA, Fox-Rushby J, McCormick F, Williams AF, Trueman P (2014) *'Potential economic impacts from improving breastfeeding rates in the UK'*. *Archives of Disease in Childhood* 2014;100:334-40 doi.org/10.1136/archdischild-2014-306701

PHE (2015) Public Health England 'Rapid Review to Update the Evidence for the Healthy Child Programme'
<https://www.gov.uk/government/publications/healthy-child-programme-rapid-review-to-update-evidence>

PHE (2016a) Public Health England *Health Matters: Giving Every Child the Best Start in Life*
https://www.gov.uk/government/publications/health-matters-giving-every-child-the-best-start-in-life/health-matters-giving-every-child-the-best-start-in-life?utm_source=Blog&utm_medium=LaunchblogBS&utm_campaign=HealthMatters

PHE (2016b) Public Health England 'A Framework for supporting teenage mothers and young fathers'
<https://www.gov.uk/government/publications/teenage-mothers-and-young-fathers-support-framework>

PHE/UNICEF (2016) Public Health England/United Nations International Children's Emergency Fund *Commissioning Infant Feeding Services: a Toolkit for Local Authorities*
<https://www.gov.uk/government/publications/infant-feeding-commissioning-services>

Procaccini D, Curley A and Goldman M (2018) *Baby-Friendly Practices Minimize Newborn Infants Weight Loss in Breastfeeding Medicine*
<https://www.liebertpub.com/doi/abs/10.1089/bfm.2017.0182>

RCOG (2017) Royal College of Obstetricians and Gynaecologists 'Maternal Mental Health- Women's Voices'
<https://www.rcog.org.uk/globalassets/documents/patients/information/maternalmental-healthwomens-voices.pdf>

Relton C, Strong M, Thomas K, Whelan B, Walters S, Burrows J, Scott E, Viksveen P, Johnson M, Baston H, Fox-Rushby J, Anakoye N, Umney D, Renfrew M (2017) *Effect of Financial Incentives on breastfeeding: A cluster randomized Clinical Trial*. JAMA Pediatrics published on-line December 11th 2017.
<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2665743>

Rollins N, Bhandari N, Hajeebhoy N, Horton S, Lutter C, Martines J, Piwoz e, Richter L, Cesar V (2016) 'Why invest, and what it will take to improve breastfeeding practices?' *Lancet* 2016; 387:491-504.
[doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2)

Schmied V, Beake S, Sheehan A, McCourt C & Dykes F (2010) A meta-synthesis of *Women's perceptions and experiences of breastfeeding support* *Birth*, 1:49-60.
<https://www.ncbi.nlm.nih.gov/pubmed/27820008>

Sankar M, Sinha B, Chowdhury R, Bhandan N, Tanejas S, Martines J, Bahl R (2015). 'Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-

analysis'. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 3–13
<https://www.ncbi.nlm.nih.gov/pubmed/26249674>

SACN (2017) 'Scientific Advisory Committee on Nutrition Draft Report *Feeding in the First Year of Life Scientific Consultation*'.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/629221/Feeding_in_the_first_year_of_life_draft_report.pdf

Schmied V, Beake S, Sheehan A, McCourt C, Dykes F (2011) '*Women's perceptions and experiences of breastfeeding support: a metasynthesis*'. Birth 2011 Mar; 38(1):49-60.doi: 10.1111/j.1523-536X.2010.00446.x. Epub 2010 Dec 23.
<https://www.ncbi.nlm.nih.gov/pubmed/21332775>

Sheriff N, Panton C and Hall V (2014) '*A new model of father support to promote breastfeeding*' Community Practitioner: The Journal of Community Practitioner and Health Visitors 87(5):20-4 May 2014 <https://www.ncbi.nlm.nih.gov/pubmed/24881193>

Simpson R (2016) '*How am I going to tackle that? The early breastfeeding experiences of four women attending an inner city Children's Centre*' Unpublished BSc dissertation at the University of the West of England <http://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2010/09/Abstract-Booklet-2016-final.pdf>

Singletary N, Chetwynd E, Goodell LS, Fogleman (2017) '*Stakeholder views of breastfeeding education in schools: a systematic mixed studies review of the literature*'
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5368914/>

Sinha B, Chowdhury R, Sankar M, Martinez J, Taneja S, Mazumder S, Rollins N, Bahl R, Bhandari N (2015). '*Interventions to improve breastfeeding outcomes: a systematic review and meta-analysis*'. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 114-134.
<http://onlinelibrary.wiley.com/doi/10.1111/apa.13127/full>

Sipsma H, Jones K, Cole-Lewis H (2014) '*Breastfeeding among adolescent mothers: a systematic review of interventions from high income countries*' journal of Human Lactation 2015 May; 31(2) 221-9; quiz 321-2.doi 10.1177/0890334414561264. Epub 2014 Dec 5.
<https://www.ncbi.nlm.nih.gov/pubmed/25480018>

Spaeth A, Zemp E, Meren S, Dratva J (2017) '*BFH designation has a sustained impact on continued breastfeeding*' <http://onlinelibrary.wiley.com/doi/10.1111/mcn.12497/full>

Tham R, Bowatte G, Dharmage S, Tan D, Lau M, Dai X, Allen K & Lodge C (2015) '*Breastfeeding and the risk of dental caries: a systematic review and meta-analysis*'. ActaPaediatrica, Special Issue: Impact of Breastfeeding on Maternal and Child Health. Volume 104, Issue Supplement S467, pages 62-84
<https://www.ncbi.nlm.nih.gov/pubmed/26206663>

Thomson D, Crossland N, Dykes F, Sutton C (2012) UK Breastfeeding helpline Support: *An Investigation of influence Upon Satisfaction*
<https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-12-150>

Trickey H, Thomson G, Grant A, Sanders J, Mann M, Murphy S, Paranjothy S (2017) *A realist review of one to one experiments conducted in developed country settings in developed country settings* Journal of Maternal and Child Nutrition
<http://onlinelibrary.wiley.com/doi/10.1111/mcn.12559/full>

Trickey H, Totelin L, Sanders J (2017) '*Nain, Mam and Me: Historical artefacts as prompts for reminiscence, reflection and conversation about feeding babies; a qualitative development study*'. Research for All. Vol 1 No: 1 Jan 2017 pp 64-83
http://orca.cf.ac.uk/97766/1/Trickey_Nain%20Mam%20and%20Me.pdf

Trickey, H (2016) '*Infant feeding. Changing the Conversation: Ecological Thinking*' in *Perspective*, 33 www.midirs.org/wp-content/uploads/2016/11/Change-the-conversation_NCTPerspective-A4-print.pdf

Trickey, H and Newburn M. (2014) '*Goals, dilemmas and assumptions in infant feeding education and support: Applying theory of constraints thinking tools to develop new priorities for action*'. *Maternal & Child Nutrition*, 10 (1), 72–91.
<https://www.ncbi.nlm.nih.gov/pubmed/22712475>

The Lancet Breastfeeding Series papers (2016) www.thelancet.com/series/breastfeeding

The One Thousand and One Critical days; the importance of the conception to two year period http://www.1001criticaldays.co.uk/sites/default/files/1001%20days_oct16_1st.pdf

Thomson G, Crossland N & Dykes F (2012) '*Giving me hope: Women's reflections on a breastfeeding peer support service*' in *Maternal and Child Nutrition*, 8:340-353.

Tuthill E, McGrath J, Graber M, Cusson R, Young S (2017) *Breastfeeding self-efficacy: A critical review of available instruments*
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4882127/>

UNICEF (2012a) United Nations International Children's Emergency Fund '*Working within the International Code of marketing of Breast-Milk Substitutes: A Guide for Health Workers*'
<https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/guidance-for-health-professionals/the-code/a-guide-for-health-workers-to-working-within-the-international-code-of-marketing-of-breastmilk-substitutes/>

UNICEF (2012b) United Nations International Children's Emergency Fund '*Preventing disease and saving resources; the potential contribution of increasing breastfeeding rates in the UK*'
https://www.unicef.org.uk/wp-content/uploads/sites/2/2012/11/Preventing_disease_saving_resources.pdf

UNICEF (2013) United Nations International Children's Emergency Fund 'The evidence and rationale for the UNICEF UK Baby Friendly Initiative standards'

https://www.unicef.org.uk/wp-content/uploads/sites/2/2013/09/baby_friendly_evidence_rationale.pdf

UNICEF (2016a) United Nations International Children's Emergency Fund 'From the First Hour of Life; Making the case for improved Infant Feeding Everywhere'.

<https://data.unicef.org/resources/first-hour-life-new-report-breastfeeding-practices/>

UNICEF (2016b) United Nations International Children's Emergency Fund 'Call to Action for Breastfeeding' <https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/advocacy/call-to-action/>

UNICEF (2017a) United Nations International Children's Emergency Fund 'Achieving Sustainability: Standards and Guidance' <https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2017/03/Achieving-Sustainability-Standards-and-Guidance-Unicef-UK-Baby-Friendly-Initiative.pdf>

UNICEF (2017b) United Nations International Children's Emergency Fund 'Going Baby Friendly: Maternity, neonatal, health visiting and Children's Centres'

<https://www.unicef.org.uk/babyfriendly/accreditation/maternity-neonatal-health-visiting-childrens-centres/>

UNICEF (2018) United Nations International Children's Emergency Fund/World Health Organisation *Levels and trends in Child Mortality Report 2018* <https://data.unicef.org/wp-content/uploads/2018/09/UN-IGME-Child-Mortality-Report-2018.pdf>

UNICEF/WHO (1990) United Nations International Children's Emergency Fund/World Health Organisation 'Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding' <http://www.unicef.org/programme/breastfeeding/innocenti.htm>

Victora C, Horta B, Loret de Mola C, Quevedo L, Pinheiro R, Gigante D, Gonçalves H, Barros F (2015). 'Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: a prospective birth cohort study from Brazil'. *The Lancet Global Health*, 2015; 3 (4): e199 DOI: [10.1016/S2214-109X\(15\)70002-1](https://doi.org/10.1016/S2214-109X(15)70002-1)

Victora C, Bahl R, Barros A, França G, Horton S, Krasavec A, Murch S, Sankar M, Walker N, Rollins N (2016) *Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect*. *Lancet* 2016; 387:475-90. [doi.org/10.1016/S0140-6736\(15\)01024-7](https://doi.org/10.1016/S0140-6736(15)01024-7)

Walby T, Lagerberg D and Magnusson M (2017) *Relationship between breastfeeding and early childhood obesity: Results of a prospective longitudinal study from birth to 4 years*.

Breastfeeding Medicine, Vol 12, No:1, 48-53, doi/full,10.1089/bfm.2016.0124

<http://online.liebertpub.com/doi/full/10.1089/bfm.2016.0124>

WBTi (2016) World Breastfeeding Trends Initiative report for the UK

<https://ukbreastfeeding.org/press-release-wbti-uk-2016/>

WBTi (2016) World Breastfeeding Trends Initiative <https://ukbreastfeeding.org/about/>

Whitford H, Wallis SK, Dowswell T, West HM and Renfrew M (2017) 'Breastfeeding education and support for women with multiple pregnancies' a Cochrane Review

http://www.cochrane.org/CD012003/PREG_breastfeeding-education-and-support-women-multiple-pregnancies

Wilson E, Edstedt Bonamy A-K, Bonet M, Toom L, Rodrigues C, Howell E, Cultini M, Zeitlin J (2018) *room for improvement in breast milk feeding after very preterm birth in Europe: results from the EPICE study* in Journal of Maternal and Child Nutrition vol:14, Issue 1, January 2018 e 12485

<http://onlinelibrary.wiley.com/doi/10.1111/mcn.12485/abstract?campaign=woletoc>

WHO (1981) World Health Organisation *International Code of Marketing of Breast-Milk Substitutes* <http://www.who.int/nutrition/publications/infantfeeding/9241541601/en/>

WHO (2003) World Health Organization *Infant and Young Child Feeding: A tool for assessing national practices, policy and programmes.*

<http://whqlibdoc.who.int/publications/2003/9241562544.pdf>

WHO (2004) World Health Organisation 'Cause of death in neonates and children under 5 in the world'. Geneva, Switzerland: WHO. www.who.int/child_adolescent_health/data/en

WHO (2016) World Health Organisation 'Infant and Young Child Feeding'

<http://www.who.int/mediacentre/factsheets/fs342/en/>

WHO (2017) World Health Organisation. *The International Code for the Marketing of Breast Milk Substitutes FAQ's*

<http://www.who.int/nutrition/publications/infantfeeding/breastmilk-substitutes-FAQ2017/en/>

WHO, IBFAN and UNICEF (2016) World Health Organization, The International Baby Food action Network and United Nations International Children's Emergency Fund *Marketing of Breast Milk Substitutes: National Implementation of the International Code Status Report 2016.* http://www.who.int/nutrition/publications/infantfeeding/code_report2016/en/

Zani A & Agostino P (2015) *Necrotising enterocolitis: controversies and challenges*_Version 1. 2015; 4: F1000 Faculty Rev-1373. Published online 2015 Nov 30.

doi: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4753995/>