# WE ARE CROYDON EARLY EXPERIENCES LAST A LIFE TIME

The first 1000 days from conception to the age of 2



Delivering for Croydon

www.croydon.gov.uk



### FOREWORD BY TONY NEWMAN, LEADER OF THE COUNCIL

#### I am delighted to provide my introduction to Rachel Flowers' third Annual Public Health Report for Croydon. All Directors of Public Health are required to produce an independent annual report on the health of their population, highlighting key issues that impact on the population.

Rachel and I have been working together over the last few years looking at how we can best address the historic inequalities here in Croydon. This report is a strong statement and provides a range of recommendations at a time when we have competing priorities and not enough resource. It comes, however, at the right moment, when we are focusing on prevention and increased locality working.

The first 1000 days of a child's life lay the foundations for their own and Croydon's futures. In last year's report Rachel highlighted that there are stark health inequalities between communities just a 30 minute bus ride apart. In this report she will be showing what this means for early childhood and what opportunities there are to make a difference and to reduce these health inequalities. The more we understand about the first 1000 days and what influences them at borough, community, locality, family and individual level, the more chance children in Croydon will have, to thrive equally.

Croydon Council is committed to working with all our communities and partners, to put prevention at the heart of all our work. Although we will not see some of the impacts of our work for 10 years or more, we know that early experiences last a lifetime!



AND COMMUNITY Networks

DUCATION

NCOME & WOR

### INTRODUCTION BY RACHEL FLOWERS DIRECTOR OF PUBLIC HEALTH

### Within Croydon we are starting to embrace a prevention model, working with communities at a locality level to reduce the likelihood or impact of a range of issues.

Over the last few years evidence from across the world and all communities, has been demonstrating the importance of the first 1000 days - the period from conception to when the child reaches the age of 2. These first 1000 days for a child are fundamentally important because they lay the foundations for the rest of their lives. A healthy start in life gives each child an equal chance to thrive and grow into an adult who makes a positive contribution to the community.

Children born into secure and loving families, where their physical and emotional needs are met, are more likely to grow up to be better educated, more financially secure, and healthier emotionally, mentally and physically. They are more likely to give their own children the same good start in life and are less likely to be involved in acts of violence, either as the perpetrator or victim or misuse substances.

It is well accepted that inequalities result in poor health, social, educational and economic outcomes across the whole of the life course and across generations. Many people do not appreciate how much of a person's brain development is completed by the age of 2, well before most people are able to remember. By focusing this report on the first 1000 days we can identify the opportunities we have to make a difference to lives of parents and babies and narrow the inequalities gap. This report will reflect on the role that the wider environment, the socio-economic situation of families and the issues such as age, ethnic group, disability and sexual orientation, play in the first 1000 days of a child.

I will also talk about Adverse Childhood Experiences. These are experiences that impact negatively on later childhood. Indeed, work undertaken by colleagues from Croydon's Safeguarding Children's Board has identified how many of the young people impacted by knife crime and youth violence have experienced Adverse Childhood Experiences. Evidence shows that children who experience stressful and poor quality childhoods are more likely to: develop health-harming and anti-social behaviours, perform poorly in school, be involved in crime and are ultimately less likely to be a productive member of society. Although not all Adverse Childhood Experiences will occur within the first 1000 days, I feel they are important to emphasise in my report, because of evidence showing that people who experience four or more ACEs in their childhood are, for example, 14 times more likely to be involved in violence .



#### My report proposes three principles to guide our future actions:

- Know your role: We all have a role to play in helping children thrive during the first 1000 days- however we need to understand what this role is and how best we can contribute through a whole systems approach
- **Health in all policies:** All partners should shift the focus from managing the burden of ill health to promoting actions that create the right conditions for good health by a health in all policies approach
- Breaking the inequalities cycle: tackling the socioeconomic determinants of health- e.g. job, homes, social cohesion, education, income is key in reducing the inequalities in early years that become the inequalities in health and life chances. We all have a role to play in reducing these inequalities.

Nearly **6000** children are born in Croydon each year. With each one of these children we have an 'unparalleled opportunity' to shape 'the brains of the children who will build the future'. <sup>(1)</sup> This report makes recommendations for action over the next year, which I believe will start having a significant impact not only on the children under 2 now but for the rest of their lives. While there are recommendations throughout the report, there are four that I would like to highlight here:

**1.** Review, revise and join up the maternal mental health pathways from the community, and primary care, through midwifery and health visiting and other partners by 2019.

**2.** All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.

**3.** A 1000 front line staff in the council, NHS, police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact, in 2019

**4.** Develop and Implement a plan of action for increasing the levels of awareness about pre pregnancy health and the importance of preparing for pregnancy by the end of 2019

I would like to thank the Croydon Youth Congress for their help in shaping some of the messages in this report. They represent Croydon's future.



DISCRIMINATION, Stress & Trauma

#### CHAPTER 1

### PARENTS AND CARERS WORLDS: The setting for the first 1000 days

#### All children's first 1000 days are influenced by their parents' or carers' worlds and the environment these provide.<sup>(2)</sup>

These worlds are shaped by a diverse range of social, economic and environmental factors including household income, homes, educational attainment, health, relationships, community networks, pollution and neighbourhoods.<sup>(3) (4) (2)</sup> Together these factors are known as the wider determinants of health and it has been estimated that they account for between 40% and 50% of differences in health.<sup>(5)</sup>

Due to the importance of these wider determinants in shaping the first 1000 days and in perpetuating inequalities, I have included evidence of their impact throughout the report. The icons on the image opposite will appear on each page as a reminder.

Individual characteristics such as age, ethnicity and disability will also influence the first 1000 days. The age of parents when they have their children can affect pregnancy and child outcomes; both young and older women may experience poorer outcomes.<sup>(6)</sup> In 2015, **174** children in Croydon were born to mothers under 20 and **297** were born to mothers over the age of 40.<sup>(7)</sup>

Croydon is a diverse Borough. For example, 45% of births in 2016/2017 were to mothers from black, asian and minority ethnic (BAME) groups.<sup>(8)</sup> This diversity impacts the first 1000 days. Mothers from ethnic minority groups are, for example, more likely to breastfeed their babies<sup>(9)</sup> and BAME groups are at greater risk from diseases such as sickle cell and diabetes, both of which can affect pregnancy outcomes.<sup>(10) (11)</sup>

Croydon is also home to a wide range of cultures and languages, whose role and influence needs to be understood. Records show that in 2015, **3503** births in Croydon were to mothers not born in the UK.<sup>(12)</sup> Apart from possible difficulties relating to language and culture, women who have recently arrived in the country may lack social support,<sup>(13)</sup> and those who are asylum seekers or refugees may have experienced trauma.<sup>(14)</sup>



#### **CROYDON HAS A DIVERSE POPULATION**



(includes 'White British', 'Other White' and 'White Irish')

# PRE PREGNANCY DAY 1 • • DAY 1000 Image: A state of the state of th

WIDER DETERMINANTS AND INDIVIDUAL CHARACTERISTICS       HEALTH BEFORE PREGNANCY       PARENT AND FAMILY FEATURES       IMPACT ON CHILD
<ul> <li>Parents' age and ethnic group</li> <li>Parents' diet, weight, stress, smoking status</li> <li>Housing</li> <li>Neighbourhood</li> <li>Parents' diet, weight, stress, smoking status</li> <li>Father's diet, weight, smoking status</li> <li>Maternal grandmother's diet and weight</li> <li>Parents' skills and capabilities</li> <li>Child health and development</li> <li>Child health and development</li> </ul>
apted from: Feinstein et al. 2004 (15)

Parents' and carers, experiences of poverty, homelessness, social isolation, discrimination, poor housing, as well as their relationships and experiences, can affect their child's development and physical and mental health.<sup>(16)(3)</sup> For example, higher levels of stress and depression are experienced by people who live in deprived communities and parents' stress and depression can affect the first 1000 days of children's lives.<sup>(3)</sup>

#### Impacts of inequalities

- income households and/or deprived areas are more likely to have a baby born with a low birth
- There is a higher infant mortality rate among Pakistani, Black Caribbean and Black African
- more likely to set a regular bed time and read to their child. These mothers experience lower levels of postnatal depression<sup>(3) (19)</sup>
- Evidence shows that safe public spaces, with pavements to walk on and lighting, are part of the physical infrastructure that helps people to maintain social connections. These factors cut sustainable communities and places in which people are born, grow, live, work and age<sup>(19)</sup>

The wider social and economic factors are a key source of inequalities. They result in poorer health and worse social, educational and economic outcomes across the whole of the life course and for many, the cycle will continue into future generations.<sup>(3)(20)</sup> It is only by addressing inequalities from before birth and supporting children and their families, that we can break the cycle and help children achieve their potential.<sup>(3)</sup>

'The fact that in England today people from different socio-economic groups experience avoidable differences in health, well-being and length of life is, quite simply, unfair and unjust'.<sup>(3)</sup>

# AND FRANKANTS SFANT HEALTH



#### Definition

Health inequalities are

'Avoidable and unfair differences in health status between groups of people or communities' (20)









#### CHAPTER 1

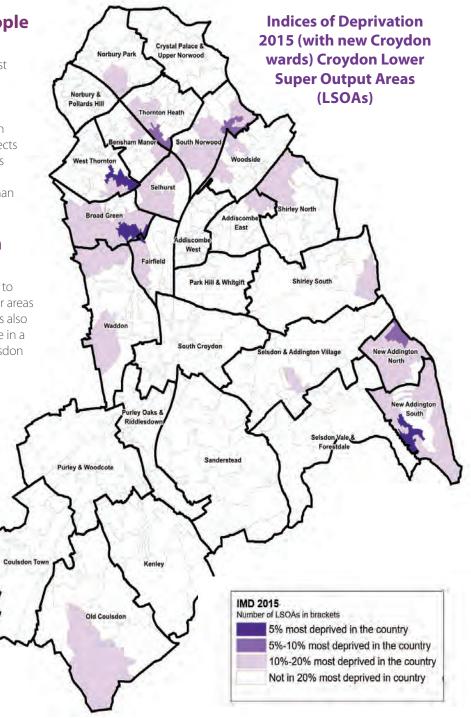
#### PARENTS AND CARERS WORLDS: THE SETTING FOR THE FIRST 1000 DAYS

#### What do we know about the economic circumstances of people and children in Croydon?

Some areas in Croydon are amongst the 10% most deprived in the country. We know that in 2015, almost a fifth (18.7%) of Croydon children were living in poverty.<sup>(8)</sup> This means that over **1100** of the nearly **6000** babies born each year in Croydon may have their first 1000 days touched by the effects of poverty. Child poverty varies significantly across the Borough. For example almost four times as many children live in poverty in Fieldway (30%) than Sanderstead (8%).

#### What do we know about health inequalities in Croydon?

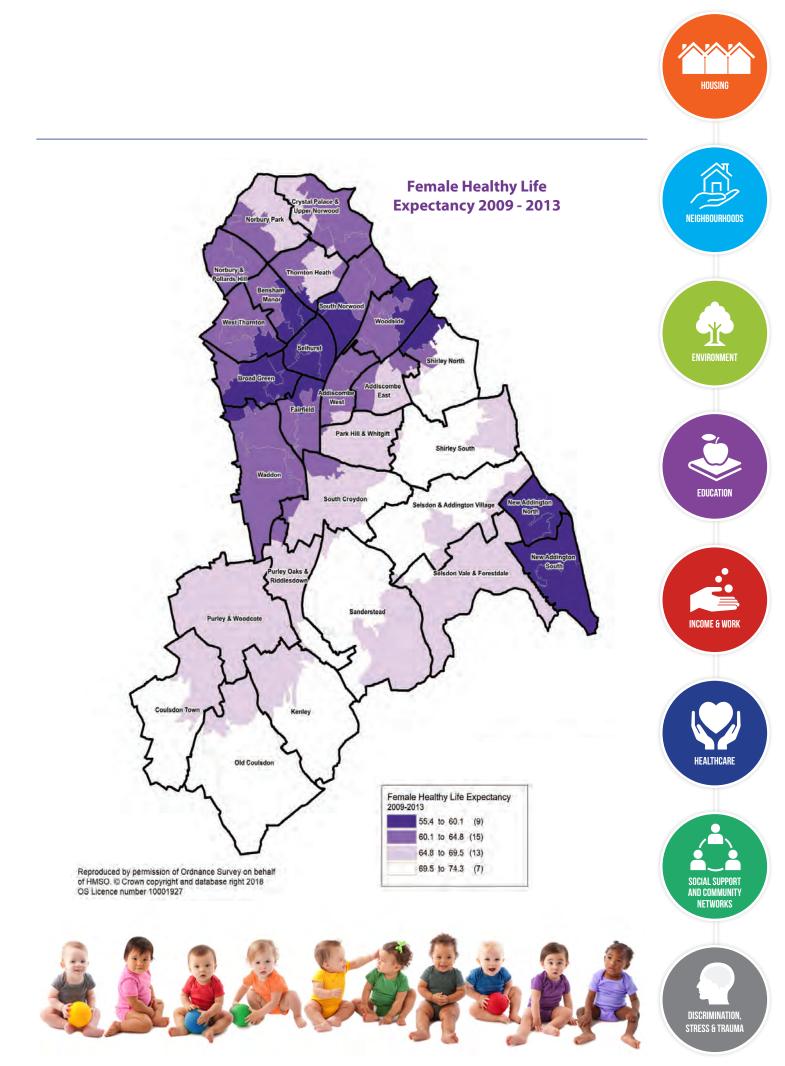
Girls born in some areas of Croydon are expected to live six years more than their counterparts in other areas and for boys, the difference is over 9 years. There is also a difference in how long people can expect to live in a healthy state. As an example, women in Old Coulsdon are expected to live at least nine years longer in a healthy state than women in Broad Green.<sup>(23)</sup>







DAY 1



### CHAPTER 1 PARENTS AND CARERS WORLDS: THE SETTING FOR THE FIRST 1000 DAYS

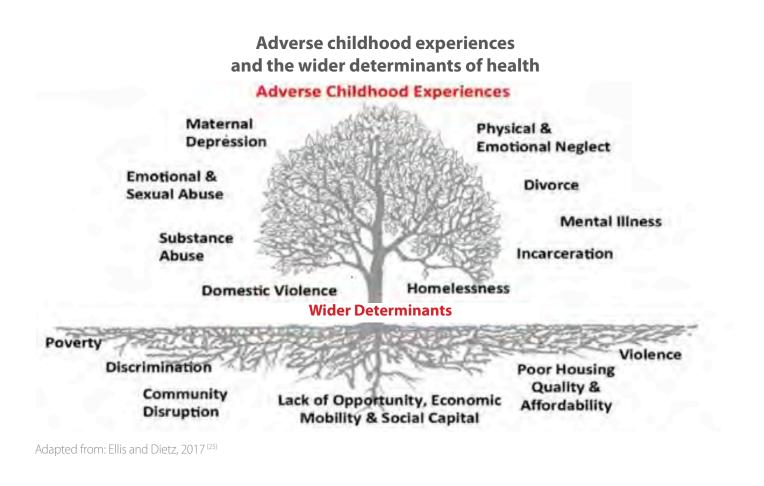
In my introduction, I mentioned Adverse Childhood Experience (ACEs). There is a danger that some experiences during the first 1000 days will turn into ACEs with long lasting impacts, into adolescence and beyond. I would like to reflect briefly here that whilst ACEs are present throughout all sections of society, children living in poverty or in disadvantaged areas are both more likely to be exposed to ACEs such as homelessness and neglect, and are more likely to experience a 'cluster' of them.<sup>(24)</sup> I will talk about ACEs, their sources and long term impact on children later in the report.

The relationship between parents' and carers' social and economic circumstances, their own physical and mental health and that of their children, shows how vitally important it is for us all to understand the wider needs and circumstances of each family

and their community.<sup>(3)</sup> With this understanding, action and support can be offered, by the right people, at the right time, in the right place

It may seem that circumstances such as income, housing and educational level cannot be easily changed, yet there is considerable evidence about the many ways in which communities, families, individuals and statutory and voluntary services can work together to ensure that all children have the opportunity to experience the best possible first 1000 days.<sup>(26)</sup>

Focusing this report on the first 1000 days provides us with an opportunity to direct our collective attention to making an even greater difference to the lives of parents and babies in Croydon and on narrowing the inequalities gap.





#### The setting for the first 1000 days

#### Examples of what we are doing in Croydon

- Gateway and Welfare Services are providing a pathway to financial stability, improved housing options and employment support through initiatives such as Community Connect: The Food Stop and food poverty reduction schemes
- Croydon Council is a London Living Wage employer and through the Croydon Good Employer Charter is encouraging other employers in Croydon to sign up too
- We are making better homes available to Croydon residents (via our Brick by Brick programme)
- Through the community Safety Strategy we are focusing on violent crime and antisocial behaviour and particularly on improving the safety of children and young people

#### **Recommendations**

- 1. Ensure training raises awareness among staff of the importance of the first 1000 days and pre pregnancy health, the impact of wider determinants such as poverty and how they can make a difference in their role for children and their families
- **2.** Use population and community level intelligence at borough and locality level to target resources and services to those individuals and communities most in need





HOUSING

DISCRIMINATION, STRESS & TRAUMA

#### CHAPTER 2

### HEALTH BEFORE PREGNANCY, PLANNING Pregnancy and teenage parents

There is a large and growing body of evidence that good health before pregnancy provides the best start for children.<sup>(13) (27) (28) (29)</sup> Planning pregnancy, looking after our health and getting support when needed, are all aspects of preparing for pregnancy.<sup>(28)</sup>



PLANNING PREGNANCY



FIT FOR PREGNANCY



#### **HEALTHY BEHAVIOURS**

**Includes:** a healthy diet, folic acid supplements, regular physical activity, promoting emotional wellbeing and ensuring cervical screening, sexual health checks and immunisations are up to date.

#### **RISK FACTORS**

**Includes:** Smoking, alcohol, substance misuse, obesity, long-term physical and mental health conditions, previous pregnancy complications, genetic risks, maternal age, adverse childhood experiences, domestic abuse, migrant health factors.



#### WIDER DETERMINANTS

**Includes:** relationships and support, education, housing, employment, financial stability, environment, community safety and cohesiveness.

Source: PHE, Making the case for preconception care, 2018  $^{\scriptscriptstyle (13)}$ 

Many parents will have pre-existing health and social needs, some of which may be complex. Whilst it is never too late to start to address these needs, the optimum time to identify and manage them, is before pregnancy.<sup>(27)</sup>

One way my annual report can contribute to improving the first 1000 days and reducing inequalities is to highlight what being healthy before pregnancy means.

To begin with, **DID YOU KNOW** that few of us actually know what being healthy for pregnancy means? <sup>(30) (28)</sup>

Lack of awareness of the importance of pre-pregnancy health may result in parents not making changes to their health behaviours, or not seeking the support that would have positive benefits.

**DID YOU KNOW** that it is not just the mother's pre-pregnancy health that is important? A father's health also has an impact on the long term health of a child.<sup>(32)</sup>



And it is not just the health of the present day parents which is important. **DID YOU KNOW** that what parents themselves experienced in their own first 1000 days and earlier can be passed onto their children?<sup>(34)</sup> This leads to cycles of poor health across generations which together we need to break.



#### **EVIDENCE**

#### Pre pregnancy health awareness

- Women rarely tell health professionals that they are planning to become pregnant (31)
- Most future parents do not make changes to prepare for pregnancy and only start considering it once pregnant <sup>(31)</sup>
- Health professionals have been found to have a lack of knowledge about pre pregnancy health, but also they report a lack of demand from patients for advice on pre pregnancy care <sup>(30)</sup>
- Where people had received advice from health professionals, they were more likely to make changes to their behaviour before pregnancy <sup>(30)</sup>

The good news is that there are things we can all do to improve health before pregnancy. Planning for pregnancy is an important step but **DID YOU KNOW** that only two thirds of us clearly plan a pregnancy? <sup>(31)</sup>

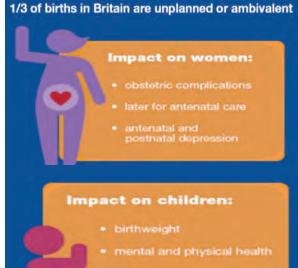
**DID YOU KNOW** that planned pregnancies are less risky? Planned pregnancies result in fewer premature births, fewer babies born with low birth weights, and greater involvement from fathers once the child is born.<sup>(35) (36)</sup>

Planning between pregnancies is also very important; a gap of 18-59 months between babies is safer for mother and baby.<sup>(37)</sup> The period between pregnancies is an ideal time to try and resolve any issues that may affect the first 1000 days of the next baby.<sup>(13)</sup>

#### EVIDENCE

#### Impact of the father's health on a child

- A father who smokes increases the risk of congenital heart defects, cancers, brain tumours and leukaemia in their children <sup>(32)</sup>
- $\bullet$  A father's BMI is associated with their child's BMI and body fat  $^{\scriptscriptstyle (33)}$



 do less well in cognitive tests

Source: PHE Health matters: reproductive health and pregnancy planning, 2018 <sup>(31)</sup>

### What do we know about unplanned pregnancy in Croydon?

Taking the national rates we have estimated that each year approximately **2000** babies will be born where the pregnancy was unplanned. Women with recent experiences of smoking, drug use, and depression are more likely to report an unplanned pregnancy.<sup>(38)</sup>

Only just over half (55%) of teenage mothers say they had planned their pregnancy.<sup>(38)</sup> Teenage parents are more likely to have a baby with low birth weight and are almost two thirds (64%) more likely to bring up their child in poverty.<sup>(39)</sup> There is much that we do in Croydon to support this group.

"You read up on all the stuff about being healthy during a pregnancy, but nothing really before that. It never occurred to me, we just started trying and a few months later, it happened".<sup>(13)</sup>



PUBLIC HEALTH REPORT 2018 | 13

DISCRIMINATION, Stress & Trauma

#### **CHAPTER 2**

#### HEALTH BEFORE PREGNANCY, PLANNING PREGNANCY AND TEENAGE PARENTS

#### **EVIDENCE**

#### **Unplanned pregnancies have**

- A 31% increased risk of the baby being delivered before 37 weeks, known as premature birth <sup>(35)</sup>
- A 36% increased risk of being born with a low birth weight.<sup>(35)</sup> This has important consequences for the development of the child which are explored later
- $\bullet$  Fathers of unplanned pregnancies are less likely to live with the mother and less likely to be involved in caregiving and play  $^{\scriptscriptstyle{(36)}}$

### What do we know about teenage parents in Croydon?

It is very positive that the number of teenagers becoming pregnant in Croydon has reduced, as it has nationally. There were **175** teenage (under 18) conceptions in 2016 compared to **262** in 2010 although this is still high compared to London and England. <sup>(8)</sup> There were 36 predicted births to teenagers under the age of 18 and 153 to teenagers aged 19 and under in 2018. <sup>(38)</sup>

#### **EVIDENCE**

#### Teenage pregnancy

- Low birth weight is increased by 30%
- Still birth is increased by 24%
- Infant mortality is increased by 75%

DAY 1

- 21% of teenagers not in education, employment or training are teenage parents
- Teenage parents have the highest rate of poor mental health up to 3 years after birth <sup>(39)</sup>
- Teenage parents are three times more likely to smoke throughout pregnancy, with 28% smoking compared to 7.5% of over 25s <sup>(41)</sup>

#### **Young parents**

#### Some examples of what we are doing in Croydon

- The Croydon Healthy Schools programme and Croydon Youth Engagement Team provide programmes focusing on mental and physical health for vulnerable young parents
- Croydon's Young People's Sexual Health outreach team is working with schools and in places where young people congregate
- The 'Be Sex Safe' section on the Just Be website hosts a range of self-help tools and resources to promote healthy relationships
- Young first time mothers (age 19 and under at conception) are supported by the Family Nurse Partnership through pregnancy and early childhood to maximise their own, and their child's, potential

#### Recommendations

- **3.** Provide senior strategic support from across the partnership to the borough's teenage pregnancy action plan and ensure that its work is widely understood and linked to other strategies and programmes
- **4.** Increase awareness among young people of all sexes of the importance of being healthy before pregnancy and planning pregnancies through implementation of the teenage pregnancy action plan and maximising the opportunities created by the statutory changes both in SRE (sex and relationship) education and in PSHE (personal, social, health and economic) education
- **5.** Ensure the findings of Croydon's Vulnerable Adolescent Mental Health deep dive are acted upon to identify when, where and how to provide support to children and teenagers

VOICE OF CROYDON'S FUTURE: 'Make sure you are ready for pregnancy' N, age 13

**DAY 1000** 





Women are increasingly entering pregnancy with more health problems.<sup>(42)</sup> Long term health conditions such as diabetes, sickle, cell severe asthma, heart disease, high blood pressure, epilepsy and psychiatric conditions can effect pregnancy and women with long term conditions should all see a doctor before planning to become pregnant.<sup>(43)</sup><sup>(10)</sup>

Almost two thirds of women who died in the UK between 2013 and 2015 in pregnancy had pre-existing physical or mental health problems.<sup>(42)</sup>

Some women are at greater risk of having a long term health condition. Type 2 diabetes is, for example, more common in South Asian, Black Caribbean and Middle Eastern women.<sup>(29)</sup> Sickle cell and thalassaemia are more common in women of black ethnicity and these conditions increase the risk of premature labour and problems with growth of the baby.<sup>(10)</sup> Diabetes in pregnancy is becoming more common as more women are overweight or obese and are older when becoming pregnant.<sup>(44)</sup>

**DID YOU KNOW** that an estimated one in four women have a health condition that would benefit from prepregnancy counselling? A study found that these women were no more likely to seek or receive specific pregnancy advice.<sup>(30)</sup>

#### What do we know about preexisting health conditions in Croydon?

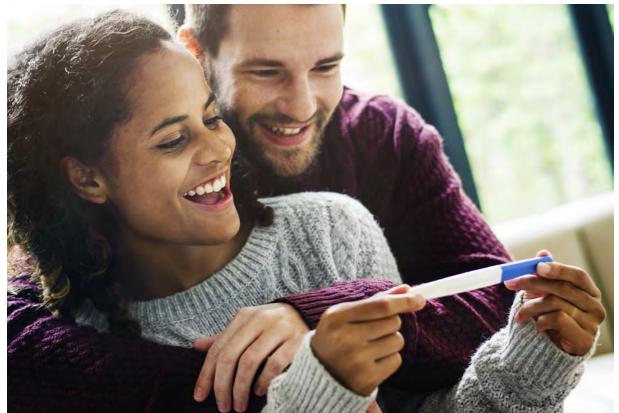
Using national data, we have estimated that **1500** or more babies born in Croydon each year have a mother with a pre-existing health condition.

### Knowledge about pre-pregnancy health and pregnancy planning

- Some examples of what we are doing in Croydon
- Live well and Just Be are signposting and supporting people around 'Be Sex Safe', 'Be Active', 'Be Alcohol Aware', 'Be Food Smart', 'Be Smoke Free' and 'Be Happy'
- We are delivering a partnership led Borough wide healthy weight action plan

#### Recommendations

- **6.** All agencies to maximise opportunities to raise awareness of the importance for both parents of planning for pregnancy and addressing health issues before becoming pregnant.
- 7. Use existing and new media to promote pre-pregnancy health messages, particularly about smoking and being overweight or obese for people living and working in Croydon





DISCRIMINATION, Stress & Trauma

# GETTING FIT FOR PREGNANCY

#### There are things we can do to prepare for pregnancy which will positively improve a child's first 1000 days.

Smoking, weight, diet, alcohol and drug use can all affect a pregnancy.<sup>(28)</sup> These are all what is known as 'modifiable behaviours' that is they are things that we can change.<sup>(45)</sup>

**DID YOU KNOW** that stopping smoking in pregnancy avoids the greatest risk to birth outcomes?<sup>(27)</sup> Babies in the womb need oxygen to grow and smoking not only reduces the oxygen in the mother's blood,<sup>(20)</sup> it can also restrict the growth of the baby and is a cause of low birthweights.<sup>(46)</sup>

Although stopping smoking is a positive action at any point, it is better to stop smoking before becoming pregnant.<sup>(47)</sup> Women who receive counselling prior to pregnancy are three times more likely to quit smoking before conceiving than those that don't.<sup>(48)</sup>

Smoking is more common in certain groups. Asian and Pakistani women have much lower smoking rates than women of White ethnicity, and people living in the most deprived areas are more likely to smoke and less likely to quit.<sup>(49)</sup>

**DID YOU KNOW** it is not just maternal smoking that affects babies? Babies with a father who smokes also have a higher risk of a low weight at birth<sup>(32)</sup> AND children who grow up in households where there are smokers are at increased risk of sudden infant death and are more likely to have respiratory problems.<sup>(27)</sup>

### What do we know about smoking in Croydon?

Although overall, 12% of adults in Croydon smoke, pregnant women report lower rates.<sup>(58)</sup> In 2016/2017 6.6% of women in Croydon reported smoking at the time they gave birth, which means that about **353** babies were born to mothers who smoked.<sup>(59)</sup> More will be born in households that smoke. We also know that across Croydon there are areas with higher rates of smoking for example, in Fieldway and New Addington (see map on page 17).



#### Smoking and pregnancy

#### Examples of what we are doing in Croydon

- We provide one to one support to women who are pregnant or postnatal to help them stop smoking with Livewell Croydon
- Everyone can access stop smoking tools, advice and support on our website.
- All Croydon foster carers are required to have smokefree homes

#### Recommendations

- **8.** Develop a pathway for pregnant smokers and their partners into smoking cessation support that is opt out rather than opt in
- **9.** Identify the groups continuing to smoke through pregnancy and review the evidence base to identify the best approaches for helping them to stop smoking
- **10.** Develop a smoke free homes programme with social and private landlords

DAY 1000

#### PRE PREGNANCY



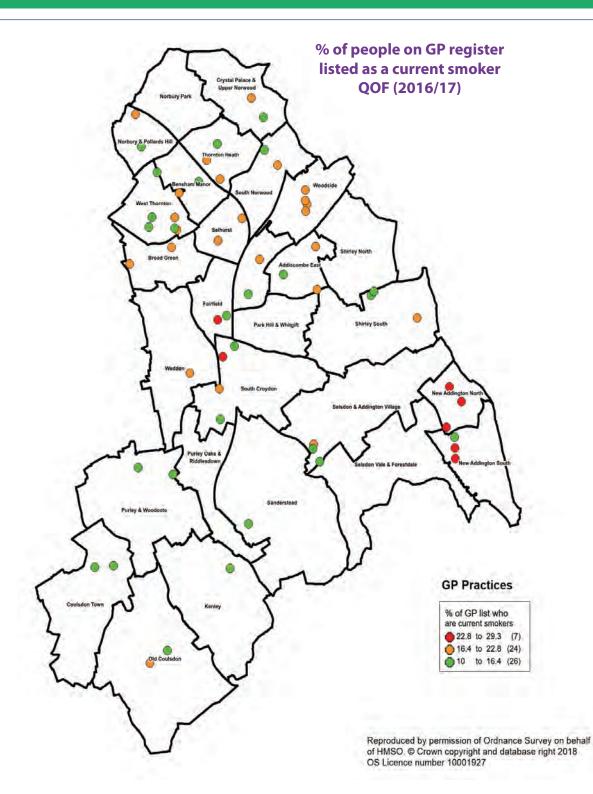
DAY 1

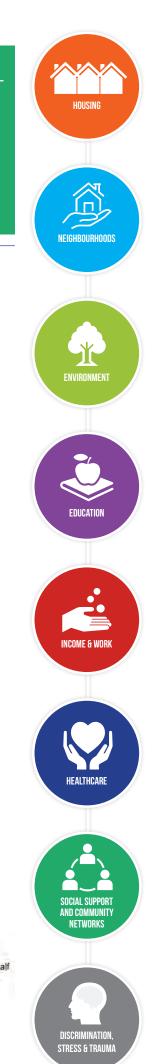
#### **EVIDENCE**

#### Smoking

Smoking is associated with an increased risk of:

- Miscarriage by over 30%  $^{\scriptscriptstyle (50)}$  and still birth by nearly 50%  $^{\scriptscriptstyle (51)}$
- Low birth weight and reduced growth (46) (48) (52)
- Childhood asthma (53) (54)
- Obesity in childhood <sup>(54) (55)</sup>. There is nearly twice the risk of being overweight as a teenager <sup>(56)</sup> and up to four times the risk of being overweight as an adult <sup>(57) (53)</sup>





Early Experiences Last a Lifetime

#### CHAPTER 2 Getting fit for pregnancy



The numbers of overweight and obese adults is a high profile national issue with 59% of adults in England being overweight and obese<sup>(8)</sup> with an estimated annual cost to the NHS of £6.1 billion.<sup>(60)</sup>

#### **"UK MOST OVERWEIGHT COUNTRY IN WESTERN EUROPE"** says OECD 2017

**DID YOU KNOW** that over 40% of women in England are overweight, and more than one in five are obese at the start of pregnancy? <sup>(61)</sup>

Although overweight and obesity is an issue for the country as a whole, some parents and groups are more at risk. For instance, 46% of black women are overweight or obese compared to 39% of White and Asian women.<sup>(49)</sup>

Environments can help us maintain a healthy weight <sup>(62)</sup> but we know that the environment in Croydon varies across the borough. For example, there are more fast food outlets in Fairfield than Kenley (see map on page 19); some areas have greater access to green spaces, and walking is easier and safer in some neighbourhoods than others.

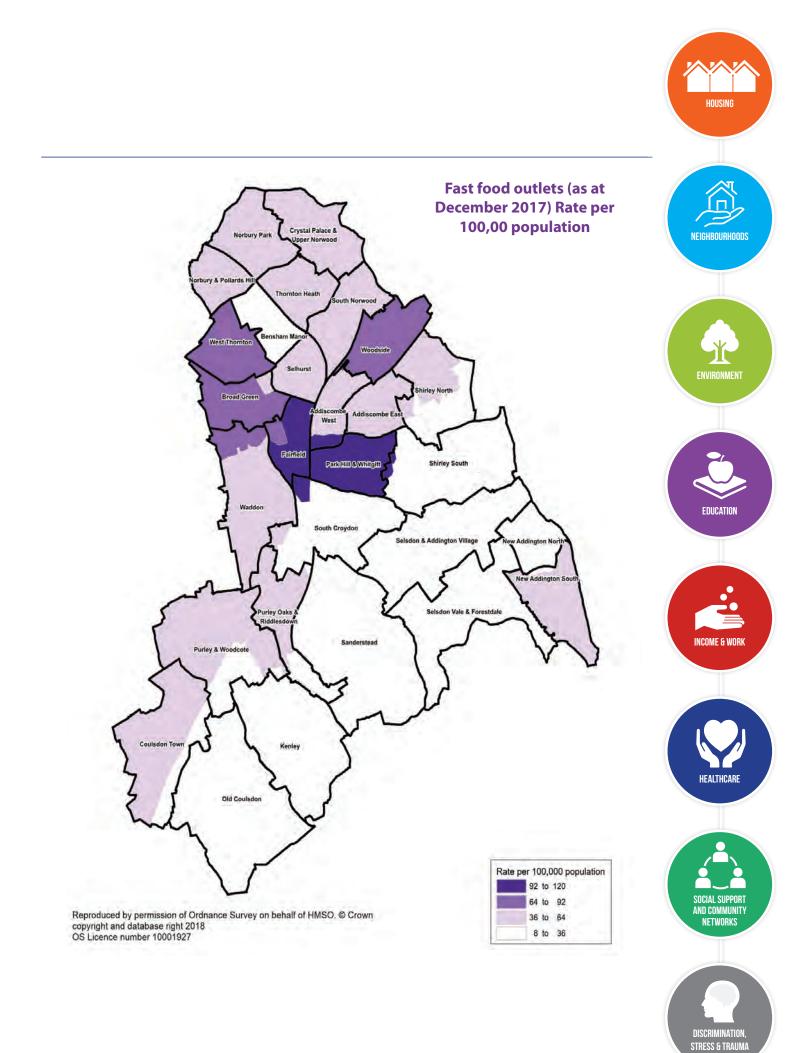
#### Due to the complex web of issues underpinning the current epidemic of overweight and obesity, our collective efforts are required to reduce its influence over the first 1000 days of children in Croydon.<sup>(62)</sup>

#### **IMPACT OF INEQUALITIES**

#### Overweight, obesity and underweight

- 38% of women living in the most deprived areas are overweight at the start of pregnancy compared to 29% in the least deprived <sup>(13)</sup>
- Women over 40 are more likely (40%) to be overweight or obese at the start of pregnancy <sup>(49)</sup>
- 11% of young mothers (under 18 years) are underweight at the start of their pregnancy (49)





#### CHAPTER 2 Getting fit for pregnancy

Overweight and obesity in either the father or mother can affect pregnancy. For example, a mother who is overweight has four times the risk of developing diabetes in pregnancy compared to mothers who are a healthy weight.<sup>(63)</sup> It also affects the long term health of their child.<sup>(65)</sup>

**DID YOU KNOW** that children whose parents are a healthy weight, are less likely to be overweight or develop type 2 diabetes?<sup>(34) (54)</sup>

#### **EVIDENCE**

#### **Obesity during pregnancy:**

- Doubles the risk of caesarean section
- Triples the risk of pre-eclampsia (a condition of high blood pressure in pregnancy which can be dangerous for mother and baby)
- Increases the risk of premature delivery by 30% and antenatal and postnatal depression by 35% <sup>(63)</sup>

#### A child whose mother is overweight or obese prior to pregnancy:

- Is more likely to be obese in childhood <sup>(54)</sup> and grow up to be obese in adulthood <sup>(65)</sup>
- Has a higher risk of type 2 diabetes and high blood pressure <sup>(34)</sup>
- Has a 30% increased risk of asthma and wheeze (65)

### What do we know about overweight and obesity in Croydon?

59% of adults in Croydon were classified as overweight and obese in 2016/2017.<sup>66)</sup> We have estimated from the national rates that nearly **half** of the **6000** babies born in Croydon this year will have mothers who are overweight or obese. This has important health implications for mothers and children and is a source of potential long term health inequalities.

*"If I'd known the impact of carrying all this extra weight when I was pregnant.... then I might have tried to lose weight before. They didn't tell me".* <sup>(13)</sup>

#### **VOICE OF CROYDON'S FUTURE:**

What is important for the first 1000 days? Not smoking, eating bad foods, drugs, overexercising, not to get too stressed Z, age13





Diet and nutrition before pregnancy can also have long term impacts. For example, taking folic acid before pregnancy prevents babies having severe problems with the formation of their spine and nerves.<sup>(67)</sup> Women living in the least deprived areas are more likely to take folic acid.<sup>(49)</sup>

### What do we know about folic acid in Croydon?

Using the national rates we have estimated that **1200** babies each year in Croydon have mothers who did not take folic acid before pregnancy.

#### POTENTIAL IMPACTS OF INEQUALITIES

#### **Folic acid**

- 20% of white women take folic acid before pregnancy compared to 12% of black women and 13% of Asian women
- 10% of women aged 20-24 don't take folic acid compared to 25% of women aged over 45
- 10% of women living in the most deprived areas take folic acid compared to 26% of least deprived<sup>(49)</sup>

**DID YOU KNOW** that a baby's development in the womb is dependent not just on the mother's diet during pregnancy, but also on the stored nutrients and fats from through her lifetime?<sup>(68)</sup> So although it is important to eat well during pregnancy, it is also important to eat well before pregnancy.<sup>(64)</sup>

The long term implications of our own health as parents on our children's health is a recurring theme in this report. A baby girl is born with all the eggs for her own children and the quality of these eggs will reflect her mother's health; a mother's nutritional state can even affect her grandchildren's health! <sup>(34)</sup> A new baby in Croydon therefore represents past, present and future health which is another key reason for this focus on health before pregnancy and the first 1000 days.

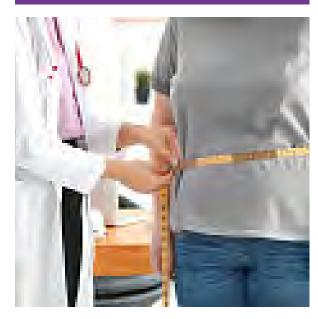
#### Parental weight, diet and nutrition

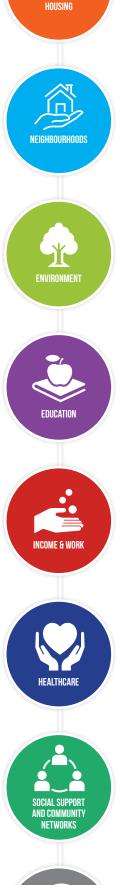
#### Some examples of what we are doing in Croydon

- We have a coordinated, collaborative approach to helping children and families achieve and maintain a healthy weight. The programme aims to influence the system at many levels including the borough's food culture, opportunities to be physically active and wider determinants
- Croydon has a very strong schools food programme that encourages food growing, cooking skills and healthy eating
- The Sugar Smart campaign, which encourages people to eat less sugar, was launched in Croydon in 2018
- We are improving environments and encouraging people to use parks and green spaces

#### Recommendations

- **11.** Continue to provide senior strategic support to the borough's Healthy Weight steering group, and ensure it promotes pre pregnancy health
- **12.** Ensure that all programmes that promote pre pregnancy health (see previous recommendation box) include key messages around the importance of being a healthy weight and having a healthy diet before pregnancy
- **13.** Incorporate the recommendations of the London Mayor's Food Strategy (due to be published in December 2018) into local plans





DISCRIMINATION

STRESS & TRAUM

### CHAPTER 3 PREGNANCY AND BIRTH

# Pregnancy is a hugely exciting and positive time for most families and their babies.

Good mental and physical health during pregnancy provide the best possible support for the babies first 1000 days and beyond.<sup>(69)</sup>

Parents' mental, emotional and physical health, their relationships, their weight, their diet and their drug, alcohol and tobacco use can all effect a baby's brain and physical development.<sup>(71) (72) (73) (74)</sup>

A key message is how important pregnancy is for babies' developing brains. Brain development starts just after conception and continues at a rapid pace through the first years of life; when our brains grow the fastest.<sup>(75)</sup>



**DID YOU KNOW** that experiences during pregnancy can change a baby's brain? Although it is genes that predict babies early brain development, their early experiences will shape it.<sup>(75)</sup> These experiences can affect how genes are switched on, or whether they are switched on at all.<sup>(76)</sup> This can lead to genetic changes by a process called epigenetics and these changes can pass down through the generations.<sup>(76)</sup> These changes have both physical and mental causes.<sup>(77)</sup>



#### **DEFINITION BOX**

#### **Epigenetics**

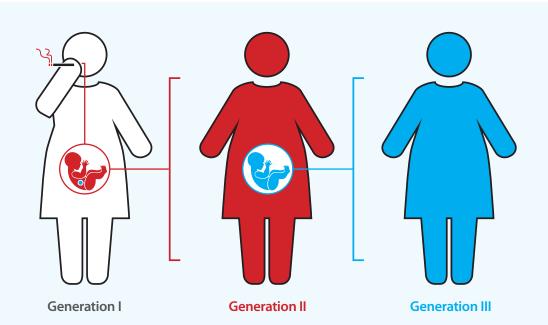
"Epigenetic influences are one of the biological mechanisms through which the environment of relationships, the physical, chemical, and built environment, and early nutrition all get "under the skin" and influence lifelong learning, behaviour, and health. These changes can be passed on to affect the health and well-being of future generations".<sup>(76)</sup>

Good mental health during pregnancy helps provide the positive conditions every baby needs.

**DID YOU KNOW** that as many as one in four women experience mental health problems during pregnancy and the first year after birth?<sup>(79)</sup>

Supporting parents' mental health is important because untreated antenatal depression and depressive symptoms can effect brain and child development, and lead to behavioural problems during adolescence.<sup>(71)</sup>

# PRE PREGNANCY DAY 1 • DAY 1000



A woman who smokes while pregnant induces epigenetic changes in three generations at once: in herself, her unborn child and her child's reproductive cells

Source: Jude Huffon, Harvard Magazine, 2017 (78)

#### **EVIDENCE**

#### **Effects of depression**

- Women with depression are likely to have a shorter duration of breastfeeding.<sup>(80)</sup> Children are more likely to have behavioural problems and poor social emotional development even into adolescence <sup>(55)</sup>
- Maternal anxiety during pregnancy has been shown to change the brain structure and function in offspring in infancy up to late adolescence<sup>(81)</sup>
- $\bullet$  Maternal suicide is the leading cause of death in the postnatal period  $^{\scriptscriptstyle{(82)}}$

Receiving the right support and treatment can help improve a mother's mental health and ensure a child's development is not affected.<sup>(83)</sup> Positive relationships and social support during pregnancy are beneficial.<sup>(72)</sup>

Although poor mental health during pregnancy can be experienced by anyone, some women are more at risk. This includes women without good social support, women who have experienced domestic violence or previous abuse, women living in deprived areas, and women with a history of mental health problems.<sup>(84)</sup>

It is not only a mother's mental health that is important. **DID YOU KNOW** that the father's mental health can also affect children in early life? 1 in 10 fathers will develop depression after the birth of their baby.<sup>(86)</sup> When this effects the relationship between parents, or results in hostile or detached parenting from the father, this can lead to problems with child and adolescent emotional and behavioural development.<sup>(87)</sup>

#### EVIDENCE

#### Numbers of women who experience anxiety and depression during pregnancy

- More than 10% of women experience issues with mood during pregnancy
- 3.3% of pregnant women will experience major depression
- 17% of teenage parents will experience major depression (71)

#### **IMPACT OF INEQUALITIES**

#### Depression

- Social determinants are an important cause of depression in pregnant women and mothers<sup>(4)</sup>
- Up to 26% of pregnant women in poor, urban communities have depression <sup>(85)</sup>
- Women from minority ethnic backgrounds are more likely to live in deprived environments and therefore may be at higher risk of depression in pregnancy <sup>(85)</sup>



DISCRIMINATION, STRESS & TRAUMA

#### CHAPTER 3 PREGNANCY AND BIRTH

#### **DEFINITION BOX**

#### Perinatal period

after birth.<sup>(8</sup>

#### What do we know about the mental health of parents in Croydon?

In 2015/2016 it was estimated that between 525 and 1600 women in Croydon during the perinatal period had a mild to moderate depressive illness anxiety or adjustment disorders.<sup>(22)</sup>

Supportive relationships and social support during pregnancy have positive effects on outcomes. Unfortunately not all women have a positive relationship and some women lack social support; migrant women, especially asylum seekers and refugees, are vulnerable to being socially isolated and a study has shown that they are at higher risk of having a premature birth or mental health problems.<sup>(14)</sup> This may also be related to past traumatic experiences, challenges with accessing health care before and during pregnancy and other social circumstances such as poverty.<sup>(14)</sup>



#### **EVIDENCE**

#### **Supportive relationships** and social support

- Mothers in supportive relationships are more likely to be physically active during pregnancy <sup>(89)</sup> and have smaller risks of pregnancy complications such as infections (89)
- Women without social support are more likely to develop symptoms of depression during pregnancy (72)
- After delivery, social support is associated with better breastfeeding, maternal self-esteem and adapting to care for the baby <sup>(90)</sup>

#### Mental health in pregnancy and beyond

#### Examples of what we are doing in Croydon

- Croydon has a strong community perinatal mental health team
- Specialist delivery of the Live Well Croydon programme by Mind
- Our new partnership Early Help offer working in local communities will ensure the needs for vulnerable families with young children are provided for

#### **Recommendations:**

- 14. Review, revise and join up the maternal mental health pathways from the community, and primary care, through midwifery and health visiting and other partners by 2019.
- 15. Ensure all staff have the skills to identify parents and prospective parents with potential mental health concerns and are able to support and signpost them appropriately
- 16. Ensure that all programmes that promote pre-pregnancy health (see previous recommendation box) address mental health concerns before pregnancy

#### **PRE PREGNANCY**

DAY 1



#### What do we know about the potential for lack of social support in Croydon?

Some parents are more likely to lack social support and this includes lone parents, those living in temporary accommodation and asylum seekers. In 2014 447 babies in Croydon (7.9% of births) were registered by just one parent.<sup>(31)</sup> This is one sign that there may be parents in Crovdon who lack social support. Another is the number of children or expected children living in temporary accommodation. In March 2018 there were 864 Croydon children or expected children living in temporary accommodation.

Relationships which cause stress, anxiety and trauma can negatively affect the unborn child.<sup>(70)</sup> A key source of stress is domestic abuse.

**DID YOU KNOW** that domestic abuse is likely to start or escalate during pregnancy?(70)

Women experiencing abuse may find it difficult to access antenatal care and there are risks to the child including low birth weight.<sup>(70)</sup> Disabled women are twice as likely to suffer physical abuse from their partner than non-disabled women and are likely to be particularly vulnerable to pregnancy abuse.<sup>(91)</sup>

#### What do we know about domestic abuse in Croydon?

Based on national figures, we have estimated that between **240** and **540** babies are born each year to mothers who may have experienced domestic violence during pregnancy.

#### **EVIDENCE**

#### **Domestic abuse**

Possible consequences of domestic abuse include:

- Mothers who may find it difficult to access antenatal care
- An Increased risk of premature birth
- An increased risk of low birth weight
- Poorer development of the foetus and the child (70) (92)

#### **EVIDENCE**

Stress

vulnerability,

Developmental delay,

**Behavioral** problems

erwhelm

#### Who experiences domestic abuse?

- It is estimated that 7.4% of women and 4.8% of men experience domestic abuse each year
- It is estimated that between 4% and 9% of women experience domestic abuse during pregnancy <sup>(92)</sup>
- Young women, those with long term disability or mental health problems and who are pregnant or have recently given birth are particularly at risk (93)

Excess stress during pregnancy can have long lasting effects on the baby and on through to adulthood. Babies who experience higher stress in the womb are more likely to have emotional, behavioural and learning problems later in life.<sup>(94) (95) (96)</sup>



DISCRIMINATION, STRESS & TRAUMA

Source: Cruceanu et al, 2017, Current Opinion in Behavioural Sciences (97)

Early trauma

Genetic variation

Current Opinion in Behavioral Sciences

Anxiety Depression

PTSD

Schizophrenia

### CHAPTER 3 PREGNANCY AND BIRTH

#### **EVIDENCE**

### Effects of excess stress during pregnancy

- Different hormones can cross the placenta making the child more reactive to stress and threat themselves
- Children may have longer-term problems with emotional and cognitive functioning (Thompson,2014) and an increased risk of behavioural problems<sup>(98)</sup>

### What do we know about stress affecting women and their families in Croydon?

We know that depression and anxiety, financial insecurity, unplanned pregnancy, lack of support and domestic violence are all potential sources of stress<sup>(71)</sup> <sup>(72)</sup> and that some women will experience more than one of these sources of stress. We have estimated that at least **1000** of the **6000** babies born each year in Croydon are at higher risk from stress during pregnancy.



### Relationships, social support and excess stress during pregnancy

#### Examples of what we are doing in Croydon

- A multi-agency vulnerable women's group identifies pregnant women who need additional support
- The Family Justice Centre is available to all women in insecure and unhealthy relationships who experience domestic violence
- Our partnership Early Help offer prioritises working with children and their families where there is domestic abuse
- Homestart runs a support group for asylum seeking women in hostel accommodation from 6 weeks before babies are born until 6 weeks afterwards
- We are implementing a borough wide approach to prevention and early intervention that will strengthen community based knowledge and support and through the partnership Early Help offer we will support people at the right time and in the right place

#### Recommendations

- 17. Review the effectiveness of the current arrangements for identifying women who need more social support and make recommendations to address any system wide gaps that are identified
- 18. All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019
- 19. 1000 front line staff in the council, NHS, police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact in 2019





#### **GOOD PHYSICAL HEALTH**

Good physical health during pregnancy contributes to creating the best possible environment for the first 1000 days.

Being overweight or underweight, smoking, drinking alcohol and using drugs during pregnancy have long term impacts on children.<sup>(64) (99)</sup>

The impacts of overweight and obesity and smoking were discussed earlier, here I would like to touch on the effects of drinking alcohol, drug misuse, diet and exercise.

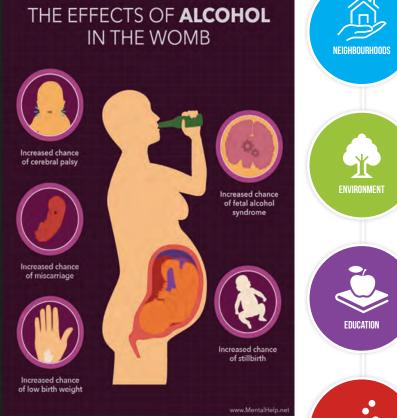
**DID YOU KNOW** that even mild to moderate alcohol consumption especially during the first three months can cause changes in brain development, and cause behavioural problems in childhood? <sup>(100)</sup> (101)

Drinking more than one unit a day in pregnancy increases the possibility of pre term birth and low birth weight.<sup>(102)</sup> Children's height, behaviour, fine motor skills, cognitive development and mental health can be changed by drinking alcohol during pregnancy.<sup>(99)</sup> (102)

Nationally 1% of women declare that they consume alcohol during pregnancy although actual levels of drinking during pregnancy are thought to be higher. <sup>(49)</sup> There is evidence that 3% of children under the age of one live with a harmful drinker and 9% live with a hazardous drinker. <sup>(104)</sup>

### What do we know about drinking in pregnancy in Croydon?

Using the national rate of 1% we have estimated that **60** of the **6000** babies born each year will have mothers who drink. We have also estimated that about **700** children under one live in households where there is harmful or hazardous drinking.<sup>(104)</sup>



Source: Mentalhelp.net (103)

Taking drugs during pregnancy can also harm both the woman and her baby. Physical damage to the baby is most likely during the first 4-12 weeks of pregnancy. <sup>(101)</sup>

It is estimated that 4.5% of pregnant women use drugs  $^{\rm (10)}$  and that 7% of children under one live with a drug using parent.  $^{\rm (106)}$ 

#### EVIDENCE

#### Effect of taking drugs

- Taking cannabis, cocaine and opioids during pregnancy can increase the possibility of low birth weight,<sup>(107) (108)</sup> premature birth and perinatal and cot death <sup>(108)</sup>
- Drugs taken later in pregnancy can effect growth, cause intoxication or withdrawal symptoms (73)

### What do we know about drug use during pregnancy in Croydon?

Using the national rates we estimate that **300** of the **6000** babies born each year will be born to mothers who took drugs during pregnancy and over **400** infants will be living with a drug taking parent.



HOUSING

### CHAPTER 3 PREGNANCY AND BIRTH

#### NUTRITION AND PHYSICAL ACTIVITY During Pregnancy

It is vital that women eat well during pregnancy.<sup>(109)</sup> When babies in the womb have to adapt to insufficient nutrients it can lead to permanent changes which may be the origins of diseases in later life such as coronary heart disease, diabetes, stroke and hypertension.<sup>(110)</sup>

However, "eating for two" should also be avoided.<sup>(111)</sup> No increased food intake is needed in the first six months of pregnancy and only an extra 200 calories per day for the third trimester.<sup>(112)</sup>

Aside from folic acid, there are other vitamins and minerals important for pregnancy. Some people, for example, may need to take more vitamin D. A deficiency in iron in pregnancy can harm the development of the child and a supplement may be advised if women are not getting enough from their diet.<sup>(113)</sup> Other important nutrients in pregnancy include vitamin C and calcium, which can be obtained through a balanced diet.<sup>(114)</sup>

Along with good nutrition, being physically active can help women maintain a healthy weight throughout pregnancy. Women should aim for 150 minutes of moderate intensity exercise per week.<sup>(115)</sup>

#### **EVIDENCE**

#### Physical activity in pregnancy:

- Helps control weight gain
- Helps to reduce high blood pressure problems
- $\bullet$  Makes it 30% less likely women will develop gestational diabetes  $^{\scriptscriptstyle (116)}$
- Improves fitness
- Improves sleep
- Improves mood (115)



Adapted from: UK Chief Medical Officer 2017 (117)





Accessing timely and good quality **antenatal care**, including scans, immunisations and examinations, physical and mental health advice and support, is a key component of supporting parents through pregnancy.

#### **IMPACT OF INEQUALITIES**

#### **Antenatal care**

- Women in low income households are 60% less likely to have had any antenatal care in pregnancy <sup>(118)</sup>
- 28% of black women and women of 'other' ethnicity attended their first pregnancy appointment after 13 weeks compared to 15% of women of white ethnicity <sup>(49)</sup>
- 77.3% of women with the highest level of deprivation had their first antenatal appointment within 13 weeks compared to 86.7% of the least deprived women <sup>(49)</sup>



**DID YOU KNOW** that some women are less likely to have antenatal care or access care later than recommended? <sup>(49) (118)</sup>

Women should have their first antenatal appointment within the first 13 weeks of pregnancy and ideally by 10 weeks.<sup>(119)</sup> Some women are more likely to attend later in their pregnancy putting themselves and their child at extra risk, for example women aged between 18 and 24 and women living in more deprived households.<sup>(49)</sup>

Immunisations in pregnancy are important for both the mother and child are an easy and effective way of preventing certain illnesses.

**DID YOU KNOW** only 45% of (pregnant) women in England had the flu vaccine in 2016/17?<sup>(120)</sup>

Pregnant women are recommended to have the seasonal flu vaccine because they are more likely to develop serious illness.<sup>(121)</sup> One in 11 maternal deaths between 2009-2012 was a result of flu.<sup>(82)</sup> Pregnant women are also advised to have the whooping cough (pertussis) vaccination between 20 and 32 weeks, or until labour, to help protect the baby from whooping cough in their first few weeks of life.<sup>(122)</sup>



### CHAPTER 3 PREGNANCY AND BIRTH

#### LOW BIRTH WEIGHT

Reducing the number of babies born with a low birth weight will improve child health and development and long term health.<sup>(53) (55)</sup>

Some women are at higher risk of having a baby with a low birth rate, for example women who smoke or have unplanned pregnancies.<sup>(35) (46)</sup>

#### What do we know about the numbers of babies with a low birth weight in Croydon?

In 2016 **158** babies born after 37 weeks had a low birth weight. **445** of all babies in 2016 (7.7%) were born with a low birth weight and of these **73** were born with a very low birth weight. <sup>(7)</sup> The map shows that the percentage of babies born with a low birth of weight varies across the Borough and is more common in deprived areas.

#### Definition

#### Pre term birth and low birth weight

- Pre term is defined as being born before 37 weeks (123)
- A low birthweight baby weighs less than 2500g (5lb 8oz) and a very low birth weight is below 1,500g (3lb 8oz) <sup>(7)</sup>

#### **EVIDENCE**

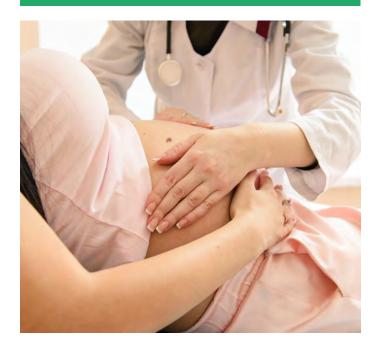
#### Impacts of low birth weights

- Low birth weight is associated with worse child health, even up to 11 years of age <sup>(55)</sup>
- Low birth weight babies are twice as likely to have problems with cognitive development or need specialist support in school and are also more likely to have physical problems such as asthma and high blood pressure and high cholesterol in adulthood <sup>(53)</sup>

#### EVIDENCE

#### Factors effecting birth weights

- Low birth weights are more common in women of black ethnicity and women with higher levels of deprivation (49)
- Babies whose mothers are aged under 20 years have around a 20% higher risk of low birthweight; this can be partly explained by the higher than average smoking rates in pregnancy <sup>(49)</sup>
- Maternal smoking is associated with a birth weight reduction of around 250g.<sup>(46)</sup> Paternal smoking is also linked to low birth weights <sup>(46)</sup> as is maternal passive smoking <sup>(49)</sup>
- Unplanned pregnancy increases the possibility of low birth weight by 36% and pre term birth by 31%  $^{\rm (35)}$
- Drinking more than one unit of alcohol per day <sup>(102)</sup>, taking cannabis, cocaine and opioids <sup>(108)</sup> and experiencing domestic abuse also increase the risk of having a baby with a low birth weight <sup>(70)</sup>

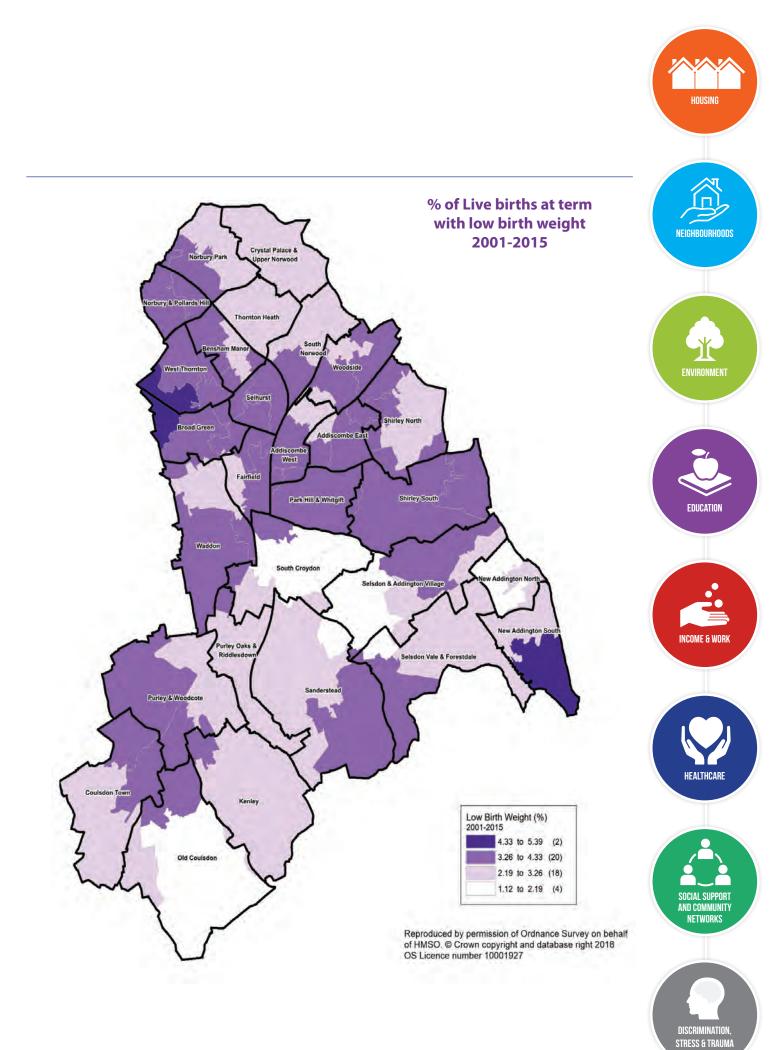


DAY 1000

#### PRE PREGNANCY



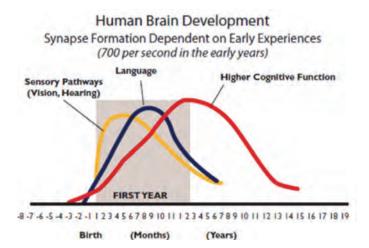
DAY 1



# CHAPTER 4

#### The first two years of life are a time of great opportunity for children, their families and the wider community.<sup>(2)</sup>

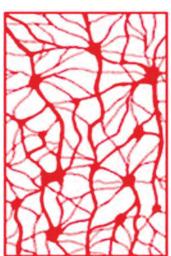
The rate of brain development during the first two years of life is extraordinary <sup>(124)</sup> with more than a 1 million new neural connections formed every second <sup>(125)</sup> but it does not all happen on its own. While we are all born with many billions of brain cells, they need help connecting with each other. <sup>(2)</sup>

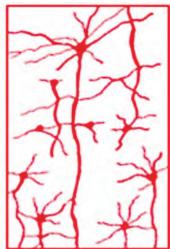


Source: 'Human Brain Development: Neural Connections for Different Functions Develop Sequentially'. Graphic courtesy of the Center on the Developing Child at Harvard University. Data Source: C.A. Nelson (2000).

**DID YOU KNOW** that stimulating environments and positive relationships encourage the development of these connections?<sup>(2)</sup> Talking, love, a hug, engaging, playing, reading, singing all help form the connections.<sup>(1)</sup>

Positive, warm and predictable social relationships with parents, carers, the extended family, the community, child care providers, are all of vital importance to young children's brain development. (2) (3) (74) (94) (126)





Section of a stimulated brain

Section of a unstimulated brain

• DAY 1000

How children's brains develop during the first 1000 days lays the foundations for future educational success, income and health. <sup>(3)</sup> <sup>(76)</sup> Without positive brain stimulation there is less development, and getting a child back on track later requires significant effort and cost. <sup>(75)</sup>

The strength of the early influences on the brain means that the first 1000 days are a time of great opportunity but also great vulnerability for children.  $^{(126)}$ 

A study of 19 000 babies born between September 2000 and September 2002 reported that behaviours and characteristics from early childhood affected children's performance six to ten years later. <sup>(55)</sup>

The one and two year development checks undertaken by the health visitors provide an early opportunity to a child's progress and whether they and their family may need some extra support. Children who attend day care will also have progress checks with, for example their nursery or childminder.

An important and nationally available measure of a child's social, emotional and cognitive development is school readiness. Not all children are equally ready for school; nationally, girls have a higher level of school readiness than boys and pupils that are eligible for free school meals are 20% less likely to be school ready.<sup>(127)</sup>





DAY 1



Source: Picture courtesy of the Center on the Developing Child at Harvard University (76)

#### **EVIDENCE**

#### Impact of positive relationships and stimulation on child development

- Children with good parent child relationships in the first year are more likely to develop stronger cognitive skills and progress better at school <sup>(3)</sup>
- Children whose parents do not think stimulation is important have significantly more difficulties <sup>(55)</sup>
- Higher parent / child closeness is associated with higher verbal ability and more pro social behaviours such as helping and sharing <sup>(128)</sup>

#### **IMPACT OF INEQUALITIES**

#### **Child development**

- By the age of three, disadvantaged disadvantaged children are almost a year and a half behind, on average, in their early language development <sup>(129)</sup>
- On average 40% of the overall gap between disadvantaged 16 year olds and their peers has emerged by the age of five <sup>(130)</sup>
- At the ages of five, seven and eleven, single parenthood is associated with lower test scores <sup>(55)</sup>
- Low maternal education has a negative impact on all cognitive outcomes at 5, 7 and 11 <sup>(55)</sup>

VOICE OF CROYDON'S FUTURE:

Help children to stimulate their brain through music, puzzles, trying to talk with them.





SOCIAL SUPPORT And Community Networks

### CHAPTER 4

### What do we know about school readiness in Croydon?

In Croydon in 2016/2017, 73.4% of all children achieved a good level of development at the end of reception, however only 62.8% of children receiving free school meals achieved a good level of development.<sup>(7)</sup> While both these percentages have improved significantly since 2012, and compare well to London and England averages,<sup>(7)</sup> if the current trends continue, **1500** of the **6000** babies born in Croydon this year may not be ready for school.

#### Definition

#### **School readiness**

School readiness is a measure of how prepared a child is to succeed in school, cognitively, socially and emotionally. If a child is not school ready at age 5 this has a strong impact on future life chances.<sup>(131)</sup>

The majority of children will have safe nurturing environments which foster good child development. When, however, the child's immediate environment is a source of stress it can have long lasting negative effects.<sup>(76)</sup> Learning to cope with adverse situations is a normal part of child development but continuous high levels of stress may cause a child to experience what is called "toxic" or "chronic stress". Chronic stress can lead to physical and chemical disruptions in the brain that can last a lifetime and affect learning capacity, physical and mental health.<sup>(76)</sup>

A relationship with a supportive adult can block the effects of stress and therefore some children will be impacted less than others by adverse circumstances.<sup>(132)</sup>

Chronic stress can be caused by extreme poverty, abuse, neglect, maternal withdrawal, caregiver substance misuse or parental mental health issues. <sup>(76)</sup> (132) (134)





**POSITIVE** Brief increases in heart rate, mild elevations in stress hormone levels

Source: Kansas University<sup>(133)</sup>



Serious temporary stress responses, buffered by suportive relationships

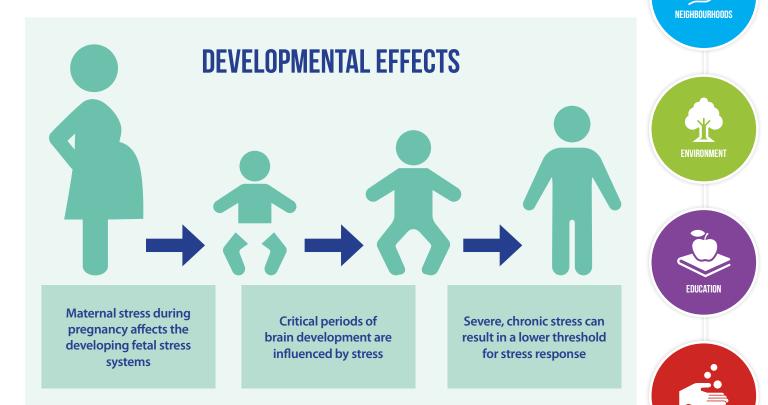


Prolonged activation of stress response systems in absence of protective relationships



VOICE OF CROYDON'S FUTURE: 'Don't neglect; Love and care'

Early excess stress can also affect future generations. **DID YOU KNOW** that problems experienced in childhood can pass on to future generations due to lasting genetic changes?<sup>(94)</sup> This means that we need to take every opportunity we can to support families and children and increase the chance of breaking the cycle.



Source: Short, Derek 2016 (135)

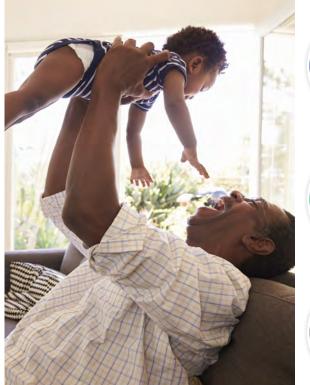
### Positive environments, child development and stress in infancy

#### Examples of what we are doing in Croydon

- Croydon's partnership Early Help offer delivers a range of evidence based programmes including parent support
- Parents are informed about activities and support through Best Start antenatal welcome evenings and through social media
- Improvements are being made to parks and recreational spaces to increase opportunities for play

#### **Recommendations**

- **20.** Ensure maximum delivery of the health visiting development checks, from the antenatal visit to the 2 year check
- **21.** Ensure all parents who may need additional support know what options are on offer and where to access them.
- **22.** All practitioners working with children and families understand what toxic stress is, its sources and what impact it may have



HOUSING

INCOME & WOR

HEALTHCAR

SOCIAL SUPPORT

AND COMMUNITY

NETWORKS

DISCRIMINATION,

STRESS & TRAUMA

### CHAPTER 4

#### PHYSICAL HEALTH NEEDS IN INFANCY

Immunisations, screening, breastfeeding, healthy diet, being active, being safe, good oral hygiene all contribute to a healthy start in life. <sup>(70)</sup>

The national childhood immunisation programme is offered to every child. Immunisation is a proven and cost effective way of eliminating damaging and life threatening infectious diseases. <sup>(20)</sup> Children who have not received all their immunisations are more likely to be admitted to hospital by nine months. <sup>(136)</sup>



### What do we know about immunisation rates in Croydon?

Croydon is doing much worse than nationally. Taking MMR (Measles, mumps and rubella) as an example, the Croydon MMR vaccination rate in 2017/2018 for two doses by age five (required for full coverage) was **67%**, which is considerably lower than the national average of 87.2% (still far lower than the recommended 95%) and is no higher than the rate was five years ago.<sup>(8)</sup> There is a similar picture for the other childhood immunisations.<sup>(8)</sup> If we apply the current MMR percentage to the **6000** babies born in Croydon this year, we estimate that over **1500** babies will not receive two MMR doses by age 5 and other vaccines leaving them vulnerable to infections that can have very serious complications. Croydon had a number of measles cases during the outbreak in 2018.

#### POTENTIAL IMPACTS OF INEQUALITIES

#### Uptake of immunisations

Children are less likely to be fully immunised if they:

- Are from an minority ethnic background
- Are from a disadvantaged ward
- Are from a larger family
- Have a single parent or teenage parents
- Have a mother who smoked in pregnancy<sup>(136)</sup>

#### Immunisation rates

#### Examples of what we are doing in Croydon

- An active Health Protection Forum (HPF) meets regularly to scrutinise immunisations and other health protection issues. Croydon is one of few areas to have such a forum
- Croydon Council obtained funding for a research project with the national behavioural insights team to understand the barriers to MMR uptake with Croydon

#### Recommendations

**23.** All GP practices to reach 95% of MMR immunisations

24. Implement comprehensive vaccination for vulnerable groups

We hear a lot about **breastfeeding BUT DID YOU KNOW** that breastfed babies are less likely to be overweight and obese or have type 2 diabetes?<sup>(137)</sup> Breastfeeding also helps bonding between mothers and their babies.<sup>(138)</sup> The cost to the NHS every year of treating just five types of illnesses linked to babies who were not breastfed is at least £48 million.<sup>(139)</sup>

The UK government recommends exclusive breastfeeding for around six months.<sup>(140)</sup> In England 74% of mothers start to breastfeed, with 44% breastfeeding at 6 weeks and only 1% exclusively breastfeeding until 6 months.<sup>(141)</sup>

Older mothers and some ethnics groups are much more likely to breastfeed whereas young, white mothers working in routine and manual jobs and who left education early are least likely to breastfeed.<sup>(139)</sup> Health inequalities experienced by mothers and children in low-income families would be reduced if babies were breastfed exclusively for the first six months.<sup>(141)</sup>

• DAY 1000

PRE PREGNANCY





### Breastfeeding supports families and communities19



Breastfeeding can help to reduce health inequalities for babies and improve their life chances



Breastfeeding can support family budgets – less illness and time off work, feeds babies for significantly less



Families benefit from the inherent relationship building that breastfeeding brings

Source: Source: PHE Commissioning Infant feeding service 2016<sup>(139)</sup>

### What do we know about breastfeeding rates in Croydon?

The number of babies who were breastfed at birth in 2016/2017 was 84%. Local data from the health visiting service shows that between January and March 2018 72% of babies (where breastfeeding status was known) were being breastfed at 6 to 8 weeks. Breastfeeding rates vary across the Borough with less than 40% of babies being breastfed in some areas at 6 to 8 weeks.

We have estimated that of the **6000** births expected this year, **1000** babies will not be breastfed from birth and at least **1300** of them will not be breastfed at 6 to 8 weeks.

#### **EVIDENCE**

### Health and development benefits of breastfeeding

- Breastfed babies are 13% less likely to be overweight or obese and 35% less likely to have type 2 diabetes <sup>(145)</sup>
- Babies who are breastfed up to six months have higher test results at ages 7 and 11 <sup>(55)</sup>

Breastfed babies have lower rates of: gastroenteritis, respiratory infections, allergies, ear infections and tooth decay. <sup>(139)</sup>

### Being physically active and having a healthy diet are important from the earliest stages of life. <sup>(70)</sup>

The UK Chief Medical Officer recommends at least three hours of movement every day from birth to five years. <sup>(142)</sup> Timely introduction to solid foods, a healthy family diet, along with physical activity are key to helping children maintain a healthy weight and healthy teeth. <sup>(143)</sup> <sup>(144)</sup> Surveys of children's weight and teeth at age five give us some idea about our success in helping Croydon children to be active and eat healthily.

Breastfeeding supports close and loving relationships which helps the baby's brain development

Source: PHE Commissioning Infant feeding service 2016<sup>(139)</sup>

#### **Breastfeeding in Croydon**

#### Examples of what we are doing in Croydon

- There are baby cafes with peer supporters and breastfeeding clinics in different localities in the Borough
- There is a peer support programme in Fieldway / New Addington where low breastfeeding rates were identified

#### **Recommendations:**

- **25.** Reset targets for increasing breastfeeding rates at 6 to 8 weeks and 6 months across the Borough and within particular localities
- 26. Achieve level 3 of the UNICEF Baby Friendly award
- 27. Turn Croydon into a breastfeeding friendly Borough, so women feel comfortable breastfeeding when they are out and about <sup>(139)</sup>



HOUSING

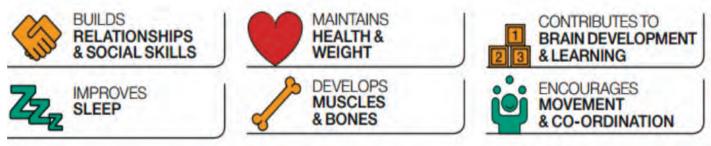




### **CHAPTER 4**

#### **INFANCY**

#### ACTIVE CHILDREN ARE HEALTHY, HAPPY, SCHOOL READY AND SLEEP BETTER



Source: Adapted from UK Chief Medical Officer, 2011 (142)

### What do we know about children's teeth in Croydon?

Five year olds in Croydon have higher than the average levels of tooth decay. <sup>(149)</sup> Over 28 % of five years olds in 2016/2017 had experienced tooth decay. <sup>(146)</sup> If this trend continues over **1700** of the **6000** babies born in Croydon this year will have tooth decay by the age of five which not only has an impact on them and their families, but puts them at increased risk of disease in their permanent adult teeth. <sup>(147)</sup>



### What do we know about the children's weight in Croydon?

In 2017/2018 **995** children (21.9%) in Croydon were overweight or obese in reception, which is similar to the London average. <sup>(148)</sup> This is down from a peak of **1140** children (23.7%) in 2016 /2017 which was the highest number since 2011/2012. Children from more deprived areas and from black ethnic groups have the highest levels of overweight or obesity. <sup>(8)</sup>

If current trends continue **1300** of the **6000** babies born this year will be overweight or obese by the time they start school.

### Child healthy weight, physical activity and diet

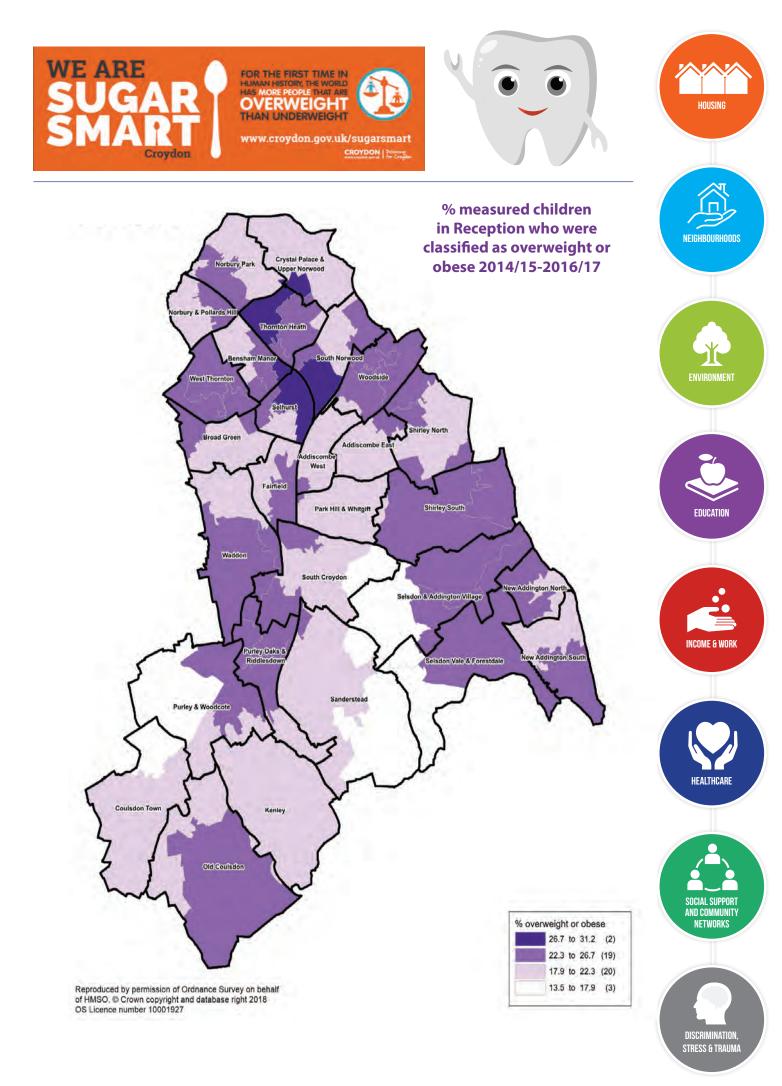
#### Examples of what we are doing in Croydon

- The early years providers (nurseries, childminders) are implementing a new programme to improve children's health (Healthy Early Years London)
- There are healthy weight and food sessions for parents and young children at Children's Centres
- Families, schools and early years providers are being encouraged to sign up to the Sugar Smart campaign

#### Recommendations

- **28.** Review the Child Healthy Weight action plan in light of this report and amend to increase its focus on the first 1000 days
- 29. All families with young children, nurseries and other early years' providers to be encouraged to become Sugar Smart and their pledges monitored. For example nurseries and early years providers to only be giving children in their care water and milk to drink by 2020
- **30.** Increase the numbers of young children who go to the dentist
- **31.** Increase the numbers of eligible families claiming their healthy start vouchers for fruit and vegetables and vitamins from pregnancy (uptake is currently 63%).





# ADVERSE CHILDHOOD EXPERIENCES

# DID YOU KNOW that chronic or excessive stress in the early years can change brain and physiological development and cause long term damage over the life course? <sup>(149)</sup>

Adverse Childhood Experiences (ACEs) are a source of this chronic stress. ACEs include experiences such as abuse, domestic violence, neglect, homelessness, parental relationship breakdown, parental incarceration and substance misuse. <sup>(149)</sup> ACEs are common, with about half of the population reporting that they had experienced at least one ACE between the ages of 0 to 18 years and 8% experiencing four or more ACEs. <sup>(149)</sup> Many ACEs may be experienced in the first 1000 days of life.

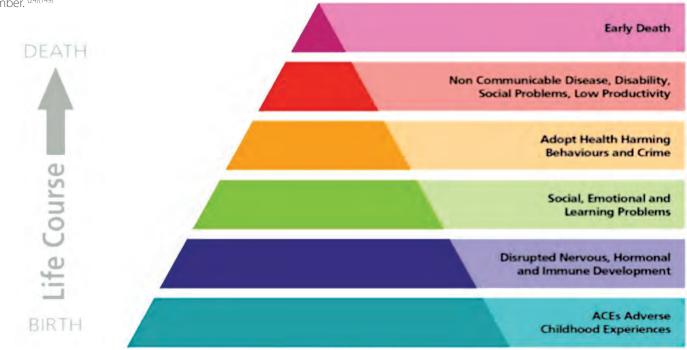
Children who experience chronic stress from ACEs are more likely to develop antisocial and health harming habits and suffer from the earlier onset of chronic diseases as an adult. <sup>(132)</sup> The more ACEs a child experiences the higher the risk of developing these health harming behaviours and suffering poor adult health. <sup>(134)</sup>

ACEs affect children at all levels of income, however children growing up in poverty, are more likely to experience a greater number. <sup>(24)(149)</sup>

A UK study found that nearly 13% of children in the most deprived group experienced four or more ACEs compared to just over 4% in the least deprived group. <sup>(150)</sup> Furthermore, as poverty itself increases stress it is likely to heighten the risk of ACEs. <sup>(24)</sup>

A joint study with the WHO found that children who had experienced four or more ACEs compared with children who had experienced no ACES were:

- 30 times more likely to have attempted suicide
- 10 times more likely to have problem drug use
- 8 times more likely to have committed a crime
- 6 times more likely to have problem alcohol use
- 4 times more likely to have depression
- 4 times more likely to have been a teenage parent



Source: Felitti 1998. CDC, Image credit to Warren Larkin Associates Limited





People with four plus ACEs are more likely to have contact with health services than those with no ACEs. <sup>(150)</sup> (153) For example, 64% of those in contact with substance misuse services had more than 4 ACEs

- 2.1 x more likely to have visited their GP in the last 12 months
- 2.2 x more likely to have visited A&E in the last 12 months
- 2.3 x more likely to have more than ten teeth removed

ACEs can also increase the risk to the child of asthma, gastrointestinal conditions and headaches; the higher number of ACES a child has, the greater number of health problems.<sup>(132)</sup>

It is incredibly important to emphasise that not everybody who experiences ACEs goes on to suffer from emotional and physical health problems.



Even children who have experienced multiple ACEs

stress into a more tolerable form. (154) A trusted adult,

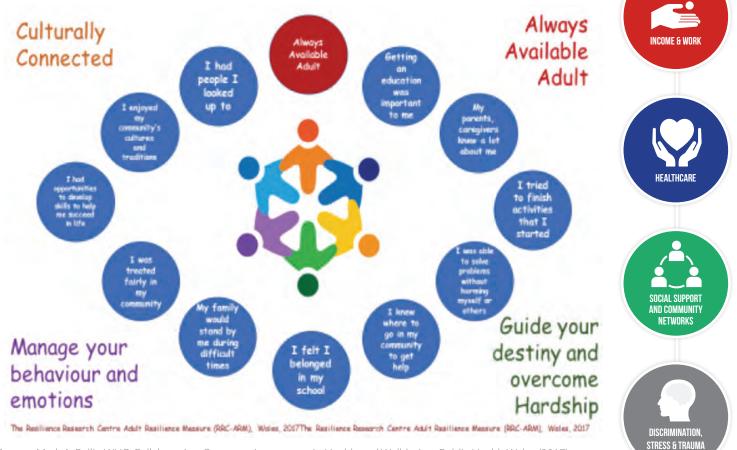
can, through resilience, transform potentially damaging

community support and cultural engagement can help the child develop the resilience and the capacity to



NEIGHROURHOOD

## **ACES AND RESILIENCE**



Source: Mark A. Bellis, WHO Collaborating Centre on Investment in Health and Well-being, Public Health Wales (2017)



**DID YOU KNOW** that one of the reasons ACEs are not detected early is that professionals and the public were not aware of the links between adverse experiences in early childhood and later problems? <sup>(155)</sup>

#### **Barriers To Early Detection**





The client is unlikely to spontaneously disclose.

Professionals rarely ask about adversity directly.



The Professional is unsure of connection between psychological difficulties and ACEs and wants to avoid causing distress to the client or themselves.

Source: Lancashire NHS Foundation Trust (155)

### What do we know about ACES experienced in Croydon?

Using national survey data, we estimate that of the **6000** babies born each year almost **500** (8.4%) will have experienced four or more ACEs by the time they reach 18 years, placing them at very much higher risk of experiencing worse outcomes as an adult.

Children born into deprived communities are more likely to experience multiple ACEs. Of the estimated 1,200 babies in the least deprived group, approximately **50** will experience 4 or more ACEs, whereas three times that number, **150** of the 1200 babies in the most deprived group will experience four or more ACEs. Using this same survey, we have estimated (below) the number of babies born in Croydon each year that will be affected by each type of ACE by the time they reach 18 years of age. Almost a quarter (**1,422** babies) will experience two or more of them. <sup>(152)</sup>

### National survey responses applied to the 6000 children born each year- in Croydon

Alcoholism	9%	540
Drug abuse	4%	240
Mental illness	12%	720
Incarceration	4%	240
Domestic violence	12%	720
Physical abuse	14.3%	858
Parental separation	22%	1320

The studies of ACEs have largely focused on how they have impacted on adult health and behaviour. I would, however, like to reflect briefly on how ACEs may already be affecting adolescents in Croydon.



### What do we know about vulnerable adolescents in Croydon?

There are adolescents in Croydon whose risky and health harming behaviours may have their origins in the chronic stress caused by ACES in earlier childhood. Children excluded from school and those admitted to hospital for self-harm and alcohol are two possible examples.

We do not have a complete picture but we know that in Croydon there were: (PHE, 2018)

÷.

223	first time entrants to the youth justice system (2017) <sup>(8)</sup>
1452	secondary school exclusions (2015/2016) <sup>(8)</sup>
91	admissions for substance misuse $^{(7)}$ in15 to 24 years olds (2014/15- 2016/2017) $^{(7)}$
166	hospital admissions as a result of self-harm among 10 to 24 year olds (2016/2017) <sup>(7)</sup>
56	admissions for alcohol specific conditions for under 18s (2014/2015 to 2016/2017) <sup>(7)</sup>
970	16 and 17 year olds not in education and training (2016) <sup>(7)</sup>

We have a range of opportunities to identify and support children at higher risk of multiple ACEs. To begin with, everyone working with children and their families' needs to understand that ACEs can have a profound impact on children and their life chances (155). Other key opportunities are reducing the underlying risk factors such as poverty, deprived neighbourhoods and poor housing and strengthening family relationships and community support so that where ACEs do occur each child has the capacity to thrive despite circumstances.

#### Adverse childhood experiences

#### Examples of what we are doing in Croydon

- The council and its partners are focusing on prevention, engagement with residents and using intelligence to target evidence based and cost effective approaches
- We are improving public realm through neighbourhood regeneration and increased use of parks and open spaces

#### Recommendations

- **32.** Working as a partnership, develop evidence based actions to champion the importance of ACEs and the first 1000 days, and to identify and support children and families most vulnerable to ACEs
- **33.** All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.
- **34.** 1000 front line staff in the council, NHS police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact in 2019



STRESS & TRAUMA

### CHAPTER 6 MY RECOMMENDATIONS

### I would like us all to ask ourselves: 'Do I know what impacts on the health of children in their first 1000 days of life? And what can I, or my organisation, do to reduce inequalities?'

My three high level principles are:

**Know your role:** We all have a role to play in helping children thrive during the first 1000 days - however we need to understand what this role is and how best we can contribute through a whole systems approach

**Health in all policies:** We all should shift the focus from managing ill health to creating the right conditions for good health through a health in all policies approach

**Breaking the inequalities cycle:** Tackling the socio- economic determinants of health - (such as jobs, homes, social cohesion, education, income) is key in reducing the inequalities in early years that, in turn, become inequalities across the life course. We all have a role to play in breaking this cycle

Throughout the report I have identified recommendations that will help us deliver these principles; some are specific and some more general that require further development and co-creation. (The full list is in appendix A) I recommend that the Health and Wellbeing take the responsibility for the oversight of these recommendations and the monitoring of their implementation and impact. My four key recommendations are:

- 1. Review, revise and join up the maternal mental health pathways from the community, and primary care, through midwifery and health visiting and other partners by 2019.
- 2. All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.
- 3. 1000 front line staff in the council, NHS, police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact, in 2019
- 4. Develop and Implement a plan of action for increasing the levels of awareness about pre pregnancy health and the importance of preparing for pregnancy by the end of 2019

### **EPILOGUE**

Writing this report has reminded me how early in life inequalities start, and that no single person or organisation can change this on their own. We have to work together to ensure that no child is left behind. My aim in this report was to share the evidence and highlight what we can do to give Croydon's children the best possible chance.

I must stress again that the first 1000 days of a child's life is inextricably linked with the lives and health of their parents and carers, neighbourhoods and communities. It is hugely important to reduce the impact that social and economic factors such as poor housing, low income and deprived neighbourhoods have on perpetuating inequalities.

What a child experiences in the first 2 years can be passed on to their own children which can trap some families and communities in a cycle of poorer outcomes. This is wrong.

Everything I have read has underlined the importance of prevention in breaking this cycle and has shown that there are many things we can do together to make a difference for our children. I know that Croydon is up for the challenge

"Childhood, after all, is the first precious coin that poverty steals from a child" Anthony Horowitz

#### VOICE OF CROYDON'S FUTURE:

'Women should breastfeed; Parents should make sure that they are in good health as well as their baby; They should keep in good shape and eat healthily; They should not neglect their child and make them feel loved and cared for' C. 13

• DAY 1000

**PRE PREGNANCY** 





DAY 1

## ACKNOWLEDGEMENTS

I would like to thank the project team (see below), in particular its leader and co-ordinator, Rachel Tilford and Damian Brewer for all their contributions to this report:

- Bernadette Alves
- Craig Ferguson
- Susan Mubiru
- Anna Ramsbottom
- Nicola Vousden

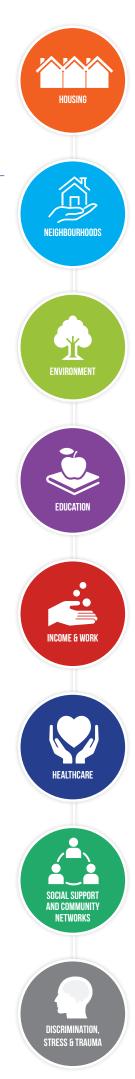
Many other people have contributed to this report along the way and I would just like to thank each and every one for their inputs and insight.

A very special thanks to Andy Martin, deputy manager of the council's design team, for his patience and superb interpretation of my design ideas.

### **GIVE US YOUR FEEDBACK**

Do let me know your comments on the report, either by emailing me at **rachel.flowers@croydon.gov.uk** 

or by post to: Croydon Council, Public Health, Health, Wellbeing and Adults Department 2nd floor Zone E, Bernard Weatherill House 8 Mint Walk, Croydon, CR0 1EA



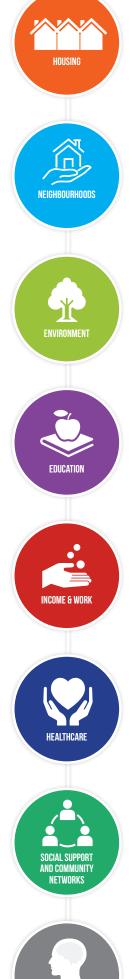
### REFERENCES

- 1. UNICEF 2017. For every child, early moments matter. www.unicef.org.uk/ babyfriendly/early-moments-matter/.
- WHO 2007. Early Child Development: A powerful equalizer. www.who.int/ maternal\_child\_adolescent/documents/ecd\_final\_m30/en/
- Marmot, M 2010. Fair Society, Healthy Lives: The Marmot Review. [Online] www.instituteofhealthequity.org/.
- 4. WHO 2008. Closing the gap in a generation: Health equity through action on the social determinants of health. www.who.int/social determinants/thecommission/finalreport/en/.
- 5. PHE 2018. Wider determinants of health. https://fingertips.phe.org.uk/ profile/wider-determinants/.
- Laopaiboon, M., et al. 2014. Advanced maternal age and pregnancy outcomes: a multicountry assessment, BJOG, Vol. 121, pp. 49-56.
- 7. PHE 2018. PHE Fingertips Child and Maternal Health. https://fingertips.phe.org.uk/profile/child-health-profiles/data#page/1/ gid/1938133228/pat/6/par/E12000007/ati/102/are/E09000008
- 8. PHE 2018. PHE Fingertips Public Health Profiles. https://fingertips.phe.org.uk/search/school%20readiness#page/1/gid/1/ pat/6/par/E12000007/ati/102/are/E09000008
- 9. Oakley, L., et al. 2013. Factors associated with breastfeeding in England: an analysis by primary care trust. BMJ Open, Vol. 3,
- Seshadri, S., Oaekeshottm, P. and Nelson-Piercy, C. 2012. Prepregnancy care. . BMJ, Vol. 344:e3467.
- 11. Diabetes UK. 2018. Diabetes risk factors. 2018. https://www.diabetes.org. uk/preventing-type-2-diabetes/diabetes-risk-factors/
- 12. ONS 2015. Pregnancy and ethnic factors influencing births and infant mortality. https://www.ons.gov.uk/peoplepopulationandcommunity/ healthandsocialcare/causesofdeath/bulletins/pregnancyand ethnicfactorsinfluencingbirthsandinfantmortality/2015-10-14/
- 13. PHE.2018. Making the Case for Preconception Care. Planning and preparation for pregnancy to improve maternal and child health outcomes. https://assets.publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/729018/Making\_the\_case\_for\_ preconception\_care.pdf/
- 14. Heslehurst, N, et al. 1, 2018. Perinatal health outcomes and care among asylum seekers and refugees: a systematic review of systematic reviews BMC Medicine; 2018, Vol. 16, p. 89.
- Feinstein, L, Duckworth, K and Sabates, R. 2004. A model of the intergenerational transmission of education and success. https://pdfs. semanticscholar.org/ede5/55bddf1367f72ed802d2c998fcc30be1bdc2.pdf
- 16. Hertzman, C., et al. 2010. Bucking the inequality gradient through early child developments. BMJ, Vol. 340, p. c468.

- Johnson, C.D., Jones, S. and Paranjothy, S. 2017. Reducing low birth weight: prioritizing action to address modifiable risk factors. Journal of Public Health, Vol. 39, pp. 122-131.
- 18. MBRRACE-UK.2018. Saving Lives, Improving Mothers' Care https://www.npeu.ox.ac.uk/
- PHE. 2015. Local action on health inequalities: Reducing social isolation across the life course. https://assets.publishing.service.gov.uk/government/ uploads/system/uploads/attachment\_data/file/461120/3a\_Social\_ isolation-Full-revised.pdf/
- 20. NHS Wales. The First 1000 Days: Foundations for Life. 2011. http://www.cwmtafuhb.wales.nhs.uk/sitesplus/documents/865/Item%20 No%2013%20Annual%20Report%202011.pdf
- 21. PHE 2017. Reducing health inequalities: system, scale and sustainability. https://assets.publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/731682/Reducing\_health\_inequalities\_ system\_scale\_and\_sustainability.pdf/
- 22. PHE 2018. PHE fingertips Perinatal mental health. https://fingertips.phe. org.uk/profile-group/mental-health/profile/perinatal-mental-health/ data#page/6/gid/1938132960/pat/6/par/E12000007/ati/102/are/ E09000002/iid/92865/age/2/sex/4/
- 23. PHE 2018. Local health. http://www.localhealth.org.uk/
- 24. UCL 2015. The impact of adverse experiences in the home on the health of children and young people, and inequalities in prevalence and effects. http://www.instituteofhealthequity.org/resources-reports/the-impact-of-adverse-experiences-in-the-home-on-children-and-young-people/impact-of-adverse-experiences-in-the-home.pdf
- Ellis, W and Dietz, W. 2017. A New Framework for Addressing Childhood and Community Experience: The Building Community Resilience (BCR) Model., Academic Pediatrics, Vol. 17, pp. 586–593.
- 26. EIF 2018. Realising the potential of early intervention. https://www.eif.org. uk/report/realising-the-potential-of-early-intervention
- 27. NIHR. 2017 Better Beginnings Improving Health for Pregnancy. https://www.dc.nihr.ac.uk/themed-reviews/health-in-pregnancy-research. htm
- Stephenson, J., et al.2018. Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health., Lancet, Vol. 391, pp. 1830-1841.
- 29. National Institute for Health and Care Excellence 2017. Pre-conception advice and management. Scenario: advice for all women
- Stephenson, J., et al. 2014. How do women prepare for pregnancy? Preconception experiences of women attending antenatal services and views of health professionals. PLos One. https://doi.org/10.1371/journal.pone.0103085

- 31. PHE 2018. Health matters: reproductive health and pregnancy planning . https://www.gov.uk/government/publications/ health-matters-reproductive-health-and-pregnancy-planning/ health-matters-reproductive-health-and-pregnancy-planning/
- 32. 33 Oldereid, Nan B, et al. 2018. The effect of paternal factors on perinatal and paediatric outcomes: a systematic review and meta-analysis. Human Reproduction Update , Vol. 24, pp. 320-389.
- 34. Barker, DJP. 2012. Developmental origins of chronic disease, Public Health, Vol. 126, pp. 185-189.
- 35. Shah, P., et al. 2011. Intention to become pregnant and low birth weight and preterm birth: a systematic review., Maternal and Child Health Journal, Vol. 15.
- Duberstein Lindberg, et al. 2017. The role of men's childbearing intentions in father involvement. Journal of Marriage and Family, Vol. 79(1), pp. 44–59.
- Conde-Agudelo, A., Bermudez-Rosas, A. and Kafury-Goata, A.C. 2006. Birth spacing and risk of adverse perinatal outcomes: a meta-analysis., JAMA, Vol. 295, pp. 1809-1823.
- Wellings, K., et al 2013. The prevalence of unplanned pregnancy and associated factors in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles Lancet, Vol. 382, pp. 1807-1816.
- 39. PHE 2018 Teenage Pregnancy Prevention Framework. https:// www.gov.uk/government/publications/teenage-pregnancyprevention-framework
- 40. ONS 2018. Population projections births by age of the mother; SNPP https://www.ons.gov.uk/ peoplepopulationandcommunity/populationandmigration/ populationprojections/datasets/birthsbyageofmotherz3
- 41. HSCIC 2010 Infant Feeding Survey https://digital.nhs.uk/dataand-information/publications/statistical/infant-feeding-survey/ infant-feeding-survey-uk-2010
- 42. MBRRACE- UK National Perinatal Epidemiology Unit, 2017, Saving Lives, Improving Mothers' Care. Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Death https://www.npeu.ox.ac.uk/ mbrrace-uk/reports/
- 43. Royal College of Obstetrics and Gynaecology, 2011. Sickle Cell Disease in Pregnancy; Green-top Guideline No. 61.
- 44. NICE, 2015. Diabetes in pregnancy: management from preconception to the postnatal period https://www.nice.org.uk/ guidance/ng3/resources/diabetes-in-pregnancy-managementfrom-preconception-to-the-postnatal-period-51038446021/

- 45. British Heart Foundation. Modifiable and non-modifiable risk factors. https://www.bhf.org.uk/~/media/files/publications/ healthy-hearts-and-chest-pain-kits/4-6-risk-factors-for-chd.pdf
- Abraham, Miriam, et al. 2017. A systematic review of maternal smoking during pregnancy and fetal measurements with metaanalysis. Plos One, Vol.12.
- 47. Lange, S., et al 2018.National, regional, and global prevalence of smoking during pregnancy in the general population: a systematic review and meta-analysis.. The Lancet Global Health, Vol. 6, pp. PE769-E776.
- 48. Dean, S. V., et al, 2014. Preconception care: closing the gap in the continuum of care to accelerate improvements in maternal, newborn and child health. Reproductive Health, Vol. 11.
- 49. PHE, 2018. Health of women before and during pregnancy: health behaviours, risk factors and inequalities; an initial analysis of the maternity services dataset antenatal booking https://assets.publishing.service.gov.uk/government/uploads/ system/uploads/attachment\_data/file/727735/Health\_of\_ women\_before\_and\_during\_pregnancy\_national\_analysis\_ of\_the\_MSDS\_booking\_data.pdf.
- Pineles, B. L., Park, E. and Samuet, J. M. 9, 2014. Systematic review and meta-analysis of miscarriage and maternal exposure to tobacco smoke during pregnancy Am J Epidemiol, Vol. 179, pp. 8.7-823.
- Marufu, T. C., et al, 2015. Maternal smoking and the risk of still birth: systematic review and meta-analysis. BMC Public Health, Vol. 15.
- 52. Veisani, Y., et al. 2017. Effect of prenatal smoking cessation interventions on birth weight: meta-analysis. J Matern Fetal Neonatal Med. 2019 Jan;32(2):332-338
- 53. Bell, Kerry, et al, 2018. The impact of pre and perinatal lifestyle factors on child long term health and social outcomes: a systematic review': Health Economics Review, Vol. 8.
- 54. Woo Baidal, JA., et al. 2016. Risk factors for childhood obesity in the first 1000 days: a systematic review.Am J Prev Med, Vol. 50, pp. 761-779.
- 55. London School of Economics, 2017. Children's wellbeing and development outcomes for ages 5, 7 and 11, and their predictors http://www.lse.ac.uk/social-policy/Assets/Documents/PDF/ Research-reports/Final-Report-LSEE.pdf
- 56. Qureshi, R, et al, 2018. The association between prenatal exposure to environmental tobacco smoke and childhood obesity: a systematic review.: JBI Database of Systematic Reviews and Implementation Reports, Vol. 16, pp. 1643-1662.



DISCRIMINATION, Stress & Traum

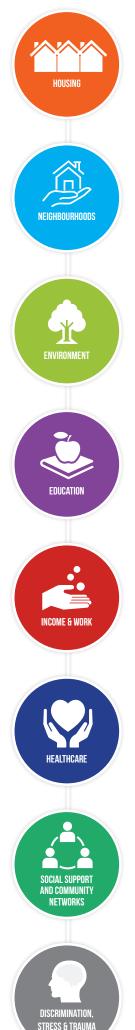
### REFERENCES

- Hunter, Abby, et al, 2018. The effects of tobacco smoking, and prenatal tobacco smoke exposure, on risk of schizophrenia: a systematic review and meta-analysis. Nicotine and Tobacco Research, p. 10.1093/ntr/nty160.
- PHE, 2018. Local Tobacco Control Profiles https://fingertips.phe.org. uk/profile/tobacco-control/data#page/4/gid/1938132885/pat/6/par/ E12000007/ati/102/are/E0900008.
- 59. PHE 2018 Local Authority Health Profile https://fingertips.phe.org.uk/ profile/health-profiles/area-search-results/E12000007?search\_type=listchild-areas&place\_name=London
- 60. PHE 2017, Health Matters: Obesity and the food environment https:// publichealthmatters.blog.gov.uk/2017/03/31/health-matters-obesity-andthe-food-environment/.
- 61. NMPA 2017. National Maternity and Perinatal Audit: Clinical Report. http://www.maternityaudit.org.uk/pages/home
- 62. Foresight: Government Office for Science, 2007. Tackling Obesities: Future Choices - Project Report https://assets.publishing.service.gov.uk/ government/uploads/system/uploads/attachment\_data/file/287937/07-1184x-tackling-obesities-future-choices-report.pdf/
- Marchi, J. B., et al. 2015. Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews., Obesity Reviews, Vol. 16, pp. 621-638.
- Fleming, T.P., et al. 2018. Origins of lifetime health around the time of conception:causes and consequences. The Lancet, Vol. 391, pp. 1842-1852.
- 65. Godrey, K.M., et al. 2017 Influence of maternal obesity on the long-term health of offspring: Lancet Diabetes Endocrino, Maternal Obesity, Vol. 5, pp. 53–64.
- 66. PHE 2018 PHE fingertips Physical activity. https://fingertips.phe.org. uk/profile/physical-activity/data#page/1/gid/1938132899/pat/6/par/ E12000007/ati/102/are/E09000008.
- 67. De-Regil, L. M, et al. 2015. Effects and safety of periconceptional oral folate supplementation for preventing birth defects.Cochrane Review.
- 68. Barker, M., et al. 2018. Intervention strategies to improve nutrition and health. The Lancet, Vol. 391, pp. 1853-1864.
- 69. NHS Digital. 2015. Low birth weight term babies. https://digital.nhs.uk/ data-and-information/national-indicator-library/low-birth-weight-termbabies/
- 70. PHE.2016. Health matters: giving every child the best start in life . https:// www.gov.uk/government/publications/health-matters-giving-every-childthe-best-start-in-life/health-matters-giving-every-child-the-best-startin-life.
- Gentile, S. 2017. Untreated depression during pregnancy: short and long term effects in offspring, a systematic review., Neuroscience, Vol. 342, pp. 154-166.

- Lancaster, CA, et al. 2010 Risk factors for depressive symptoms during pregnancy: a systematic review. American journal of obstetrics and gynaecology; 2010; , Vol. 202, pp. 5-14.
- 73. Harrison, AL, et al. 1, 2018. Attitudes, barriers an enablers to physical activity in pregnancy women: A systematic review., Journal of Physiotherapy, Vol. 64, pp. 24-32.
- 74. The Wave Trust 2013. Conception to age 2: the age of opportunity. http:// www.wavetrust.org/our-work/publications/reports/conception-age-2age-opportunity
- 75. UNICEF 2014. How children's brains develop new insights. https://blogs. unicef.org/blog/how-childrens-brains-develop-new-insights/
- 76. Center on the Developing Child. 2016. From Best Practices to Breakthrough Impacts: A science-based approach to building a more promising future for young children and families. Retrieved from www.developingchild.harvard. edu. https://developingchild.harvard.edu/resources/from-best-practicesto-breakthrough-impacts/
- 77. Jorge Alejandro Alegría-Torres, Andrea Baccarelli, Valentina Bollati,\*Epigenetics and lifestyle.. 2013, Epigenomics.
- 78. Shaw, Jonathan. 2017. Is epi-genetics inherited? Harvard Magazine https:// harvardmagazine.com/2017/05/is-epigenetics-inherited/
- 79. Department of Health 2015. Annual Report of the Chief Medical Officer: The health of 51% women https://www.gov.uk/government/publications/ chief-medical-officer-annual-report-2014-womens-health/
- Dias, C. and Figueiredo, B. 2015. Breastfeeding and depression: a systematic review of the literature J Affect Disord, Vol. 171, pp. 142-54.
- Adamson, B., Letourneau, N. and Lebel, C 2018. Prenatal maternal anxiety and children's brain structure and function: A systematic review of neuroimaging studies. J Affect Disord, Vol. 241, pp. 117-126.
- 82. MBRRACE-UK, 2016 Perinatal Mortality Surveillance Report: UK Perinatal Deaths for Births from January to Maternal, Newborn and Infant Clinical Outcome Review Programme. https://www.npeu.ox.ac.uk/mbrrace-uk/ reports/
- Letourneau, NL, et al., 2017. The effect of perinatal depression treatment for mothers on parenting and child development: A systematic review 2017. Depress Anxiety, Vol. 34, pp. 928-966.
- Howard, L., et al. 2014. Non-psychotic mental disorders in the perinatal period. Lancet, Vol. 384, pp. 1775-88.
- 85. Moses-Kolko, E. and Kraus Roth, E. 2004. Antepartum and postpartum depression: healthy mom, health baby. Journal of the American Medical Women's Association, Vol. 59, pp. 181-191.
- Paulson, J.F. and Bazemore, S.D. 2010. Prenatal and postpartum depression in fathers and its association with maternal depression: a meta-analysis. JAMA, Vol. 2303, pp. 1961-1969.

- Sweeney, S. and McBeth, A. 2016. The effects of paternal depression on child and adolescent outcomes: A systematic review., J Affective Disorders, Vol. 205, pp. 44–59.
- WHO. 2018 Maternal and perinatal health. https://www.who. int/maternal\_child\_adolescent/topics/maternal/maternal\_ perinatal/en/.
- 89. Henriksen, RE, Torsheim, T and Thuen, F. 1, 2015. Relationship satisfaction reduces the risk of maternal infectious diseases in pregnancy: the Norwegian Mother and Child Cohort Study. PLoS One, Vol. 10, p. e0116797.
- 90. Ni, PK, L, Siew and Serena, K. 10, 2011. The role of family and friends in providing social support towards enhancing the wellbeing of postpartum women: a comprehensive systematic review. JBI library of systematic reviews; , Vol. 9, pp. 313-370.
- Slayter, E. 2009. Intimate partner violence against women with disabilities: implications for disability service case management practice. Journal of Aggression, maltreatment and trauma, Vol. 18, pp. 182-199.
- 92. An-Sofie Van Parys, Annelien Verhamme, Marleen Temmerman, Hans Verstraelen. Intimate Partner Violence and Pregnancy: A Systematic Review of Interventions.. https://journals.plos.org/ plosone/article?id=10.1371/journal.pone.0085084, 2014, PLOS one.
- 93. NICE. Domestic violence and abuse: multi-agency working PH50. 2014. https://www.nice.org.uk/Guidance/PH50
- 94. Moore, T., et al. The first thousand days: an evidence paper. https://www.rch.org.au/uploadedFiles/Main/Content/ ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-September-2017.pdf.
- 95. Fitelson, Thomas G. O'Connor Catherine Monk Elizabeth M. 2013. Practitioner Review: Maternal mood in pregnancy and child development – implications for child psychology and psychiatry The Journal of Child Psychology and Psychiatry.
- 96. O'Connor TG, Heron J, Golding J, Beveridge M, Glover. 2002. Maternal antenatal anxiety and behavioural problems in early childhood. Brit. J Psychiat, pp. 502–508.
- Cruceanu, C, Matosin, N and Binder, E.B. 2017. Interactions of early-life stress with the genome and epigenome: from prenatal stress to psychiatric disorders. Current Opinion in Behavioral Sciences, Vol. 14, pp. 167-171.
- Thompson, R. 2014. Stress and child development. Future Child, pp. 41-59.

- 99. Mamluk, L., et al. 2017. Low alcohol consumption and pregnancy and childhood outcomes: time to change guidelines indicating apparently 'safe' levels of alcohol during pregnancy? A systematic review and meta-analyses. BMJ Open, Vol. 7, p. e015410.
- 100. Flak, A., et al.2014. The association of mild, moderate and binge prenatal alcohol exposure and child psychological outcomes: a meta-analysis. Alcoholism Clinical and Experimental Research, Vol. 38, pp. 214-226.
- 101. Ruisch, I. H., et al. 2018. Maternal substance use during pregnancy and offspring conduct problems: A meta-analysis. Neuroscience and Biobehavioural Reviews, Vol. 84, pp. 325-336.
- 102. Patra, J, et al. 12, 2011. Dose-response relationship between alcohol consumption before and during pregnancy and the risks of low birth-weight, preterm birth and small for gestational age – a systematic review and meta-analyses., BJOG, Vol. 118, pp. 1411-1421.
- 103. Mental Health.net. The effects of alcohol in the womb. https://www.mentalhelp.net/content/uploads/2015/09/zz-Pregnancy-and-Alcohol.gif.
- 104. McGovern, R., et al. 2018 Addressing the impact of nondependent parental substance misuse upon children. 2018. http://www.fuse.ac.uk/research/earlylifeandadolescence/ outputsfromprogramme/McGovern\_Addressing%20 the%20impact%20of%20parental%20non-dependent%20 substance%20misuse%20upon%20the%20child\_PS\_ FINAL%20DRAFT.pdf
- 105. Dawe, Sharon & Raynes, Gwynne & Cuthbert, Chris. (2014). All Babies Count: Spotlight on drugs and alcohol
- 106. Manning, V. 2011. Estimates of the number of infants (under the age of one year) living with substance misusing parents. https://www.nspcc.org.uk/globalassets/documents/researchreports/estimates-number-infants-living-with-substancemisusing-parents-report.pdf.
- 107. Gunn, J. K., et al. 4, 2016. Prenatal exposure to cannabis and maternal and child health outcomes: a systematic review and meta-analysis., BMJ, Vol. 6, p. 6:e009986.
- 108. Dos Santos, J. F., et al. 3, 2018. Maternal, fetal and neonatal consequences associated with the use of crack cocaine during the gestational period., Archives of Gynecology and Obstetrics, Vol. 298, pp. 487-503.
- 109. NHS 2017. Your pregnancy and baby guide: having a healthy diet in pregnancy. https://www.nhs.uk/conditions/pregnancy-and-baby/healthy-pregnancy-diet/



### REFERENCES

- Barker, D.J.P. 2, 1998. In utero programming of chronic disease., Clinical Science, Vol. 95, pp. 115-128.
- 111/114. NHS 2017. Your pregnancy and baby guide: vitamins, supplements and nutrition in pregnancy https://www.nhs.uk/conditions/ pregnancy-and-baby/vitamins-minerals-supplements-pregnant/
- 112. NICE. 2010.Weight management before, during and after pregnancy: Recommendations. https://www.nice.org.uk/Guidance/PH27
- 113. Iglesias, L., Canals, J. and Arija, V. 2018. Effects of prenatal iron status on child neurodevelopment and behavior: A systematic reviewCritical Reviews in Food Science and Nutrition, Vol. 58, pp. 1604-1614.
- 114. See 111
- 115. DOH, 2017. Promotional material: start active, stay active: infographics on physical activity. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/622335/CMO\_physical\_activity\_pregnant\_women\_infographic.pdf/
- 116. Sanabria-Martínez, G, et al. 2015. Effectiveness of physical activity interventions on preventing gestational diabetes mellitus and excessive maternal weight gain: a meta-analysis., BJOG, pp. 1167-1174.
- 117. UK Chief Medical Officer.2017. Physical Activity in Pregnancy. https:// assets.publishing.service.gov.uk/government/uploads/system/uploads/ attachment\_data/file/622335/CMO\_physical\_activity\_pregnant\_ women\_infographic.pdf/
- 118. Lindquist, A., et al. 2014. Experiences, utilisation and outcomes of maternity care in England among women from different socio-economic groups: findings from the 2010 National Maternity Survey. An International Journal of Obstetrics and Gynaecology, Vol. 122, pp. 1610-1617.
- 119. NICE. 2017. Antenatal care for uncomplicated pregnancies. https://www. nice.org.uk/guidance/cg62/chapter/1-guidance#lifestyle-considerations/
- 120. PHE. 2017. Seasonal influenza vaccine uptake in GP patients: winter season 2016 to 2017. https://assets.publishing.service.gov.uk/ government/uploads/system/uploads/attachment\_data/file/613452/ Seasonal\_influenza\_vaccine\_uptake\_in\_GP\_patients\_winter\_ season\_2016\_to\_2017.pdf/
- 121. PHE, 2014. Influenza vaccination in pregnancy: information for healthcare professionals. https://www.gov.uk/government/publications/influenza-vaccination-in-pregnancy-advice-for-healthcare-professionals
- 122. PHE 2018. Pregnant? There are many ways to help protect you and your baby https://assets.publishing.service.gov.uk/government/uploads/ system/uploads/attachment\_data/file/674438/PHE\_Pregnancy\_2018\_ DL\_16pp\_leaflet\_.pdf
- 123. WHO 2018. Preterm birth http://www.who.int/news-room/fact-sheets/ detail/preterm-birth/

- 124. UNICEF. 2014. Building Better Brains. https://www.unicef.org/ earlychildhood/files/Building\_better\_brains\_\_\_\_web.pdf
- 125. Center on the Developing Child. 2009/. Five numbers to remember about early childhood development (brief). https://developingchild.harvard. edu/resources/five-numbers-to-remember-about-early-childhooddevelopment/
- 126. Center on the Developing Child 2016. In Brief: The Science of Early Childhood Development https://developingchild.harvard.edu/resources/ inbrief-science-of-ecd/
- 127. Department for education.2013. Early Years Foundation Stage Profile Attainment by Pupil Characteristics, England. https://assets.publishing. service.gov.uk/government/uploads/system/uploads/attachment\_data/ file/259067/SFR47\_2013\_Text.pdf/
- 128. Melhuish, Edwards, Gardiner, Julian, Morris, Stephen.2017. Study of Early Education and Development (SEED): Impact Study on Early Education Use and Child Outcomes up to Age Three. https://assets.publishing.service.gov. uk/government/uploads/system/uploads/attachment\_data/file/627098/ SEED\_ECEC\_impact\_at\_age\_3.pdf
- 129. Department of Education. 2017. Unlocking Talent, Fulfilling Potential. https://assets.publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/667690/Social\_Mobility\_Action\_Plan\_-\_ for\_printing.pdf/
- 130. Education Policy Institute. 2016, Divergent Pathways: The disadvantage gap, accountability and the pupils premium. https://eip.or.uk/report/ divergent-pathways-disadvantage-gap-accountability-pupil-premium/
- 131. PHE. 2015. Improving school readiness: Creating a start for London. https://assets.publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/459828/School\_readiness\_10\_Sep\_15. pdf/
- 132. Bellis, M.A., et al. 2018. Adverse childhood experiences and sources of childhood resilience: a retrospective study of their combined relationships with child health and educational attendance. BMC Public Health, Vol. 18, p. 792.
- 133. Kansas University. 2018. KU researchers seek to combat 'stress hormone' in children in adverse family situations. https://today.ku.edu/2018/02/08/ ku-researchers-part-project-combat-stress-hormone-children-adversefamily-situations/
- 134. Hughes, Karen, Lowey, Helen, Quigg, Zara, Bellis, Mark. 2016. Relationships between adverse childhood experiences and adult mental well-being: results from an English national household survey. BMC Public Health.
- 135. Short, Derek 2016.Adverse Childhood Experiences. Behavioural Medicine Toolkit. https://slideplayer.com/slide/9351033/

- 136. Samad, Lamiya, et al. 2006. Differences in risk factors for partial and no immunisation in the first year of life: prospective cohort study. BMJ 2006;332:1312
- 137. Horta, B., Loret de Mola, C. and Victoria, C. 2015. Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis.. Acta Paediatrica, Vol. 104, pp. 30-37.
- 138. PHE. 2016. Early Years High Impact Area 3: Breastfeeding.
- 139. PHE 2016. Commissioning infant feeding services: infographics (part 1).
- 140. NHS. 2017. Your pregnancy and baby guide. https://www.nhs. uk/conditions/pregnancy-and-baby/benefits-breastfeeding/
- 141. WHO. 2002. Global strategy for infant and young child feeding. http://www.who.int/nutrition/topics/global\_strategy/en/
- 142. UK Government.2011. Physical activity benefits for babies and children (birth-5 years old): infographic. https://assets. publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/541228/Children\_0-5\_ infographic.pdf/
- 143. PHE. 2016. Early Years High Impact Area 4: Healthy Weight, Healthy Nutrition.
- 144. PHE 2017. Health matters: child dental health. https://www. gov.uk/government/publications/health-matters-child-dentalhealth/health-matters-child-dental-health
- 145. PHE 2017. Croydon: Dental health of five-year-old children. http://www.nwph.net/dentalhealth/5yearoldprofiles/ London/2015/Croydon%20LA%20Dental%20Profile%20 5yr%202015.pdf
- 146. PHE 2018. National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2018. http://www.nwph.net/dentalhealth/survey-results%20 5(16\_17).aspx
- 147. PHE 2018.Child oral health: applying All Our Health. https:// www.gov.uk/government/publications/child-oral-healthapplying-all-our-health/child-oral-health-applying-all-ourhealth
- 148. NHS digital. NCMP: prevalence of overweight and obese children Croydon. s.l. : https://app.powerbi.com/view?r= eyJrljoiOWMyNDMwMTUtNTNjOC000TlyLTg5Y2QtNm RmMTA0NDVhZWMxliwidCl6ljUwZjYwNzFmLWJiZm UtNDAxYS040DAzLTY3Mzc00GU2MjlIMilsImMiOjh9

- 149. Bellis, Mark A, et al. 2016. Adverse Childhood Experiences and their impact on health-harming behaviours in the Welsh adult population. Public Health Wales NHS Trust, 2016.
- 150. Bellis, MA, Hughes, K, Leckenby, N, Hardcastle, KA, Perkins, C, Lowey, H. 2015, Measuring mortality and the burden of adult disease associated with adverse childhood experiences. Journal of Public Health, Volume 37, Issue 3, Pages 445–454,
- 151. Early Intervention Foundation.2018. Children, parental conflict and public services. https://www.eif.org.uk/download. php?file=files/events/rpc-conference-london2018-slideset.pdf
- 152. Hughes, K., et al. 8, 2017. The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. Lancet Public Health, Vol. 2, pp. e356-e366.
- 153. Ford, K et al. 2016. Relationship of Childhood Abuse and Household Dysfunction to Many the Leading Causes Death in Adults: American Journal of Preventive Medicine 14(4) 245-258.
- 154. Bellis, Mark A, et al. 2017. Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences - a retrospective study on adult health-harming behaviours and mental well-being., BMC Psychiatry. https://doi.org/10.1186/s12888-017-1260-z
- 155. Lancashire Care NHS Foundation Trust.2018 Routine Enquiry about adversity in childhood. https://www.lancashirecare.nhs. uk



### APPENDIX A: THE RECOMMENDATIONS FROM DIRECTOR OF PUBLIC HEALTH REPORT 2018

### Four key recommendations drawn from different chapters in the report

- 1.Review, revise and join up the maternal mental health pathways from the community, and primary care, through midwifery and health visiting and other partners by 2019.
- 2.All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.
- 3.1000 front line staff in the council, NHS, police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact, in 2019
- 4.Develop and Implement a plan of action for increasing the levels of awareness about pre pregnancy health and the importance of preparing for pregnancy by the end of 2019

### Recommendations from individual sections of the report

#### The setting for the first 1000 days

- 1.Ensure training raises awareness among staff of: the importance of the first 1000 days and pre pregnancy health; the impact of wider determinants such as poverty and how they can make a difference in their role for children and their families
- 2.Use population and community level intelligence at borough and locality level to target resources and services to those Young parents
- 3. Provide senior strategic support from across the partnership to the borough's teenage pregnancy action plan and ensure that its work is widely understood and linked to other strategies and programmes
- 4. Increase awareness among young people of all sexes of the importance of being healthy before pregnancy and planning pregnancies through implementation of the teenage pregnancy action plan and maximising the opportunities created by the statutory changes both in SRE (sex and relationship) education and in PSHE (personal, social, health and economic) education
- 5. Ensure the findings of Croydon's Vulnerable Adolescent Mental Health deep dive are acted upon to identify when, where and how to provide support to children and teenagers

### Knowledge about pre-pregnancy health and planning for pregnancy

- 6. All agencies to maximise their use of existing opportunities to raise awareness of the importance for both parents of planning for pregnancy and addressing health issues before becoming pregnant.
- 7. Use existing and new media to promote pre-pregnancy health messages, particularly about smoking and being overweight or obese for people living and working in Croydon

#### **Smoking and pregnancy**

- 8. Develop a pathway for pregnant smokers and their partners into smoking cessation support that is opt out rather than opt in
- 9. Identify the groups continuing to smoke through pregnancy and review the evidence base to identify the best approaches for helping them to stop smoking
- 10. Develop a smoke free homes programme with social and private landlords

#### Parental weight, diet and nutrition

- 11. Continue to provide senior strategic support to the partnership's Healthy Weight steering group, and ensure its work plan includes pre pregnancy health.
- 12. Ensure that all programmes that promote pre-pregnancy health (see previous recommendation box) include key messages around the importance of being a healthy weight and having a healthy diet before pregnancy.
- 13. Incorporate the recommendations of the London Mayor's Food Strategy (due to be published in December 2018) into local plans

#### Mental health in pregnancy and beyond

- 14. Review, revise and join up the maternal mental health pathways from the community, and primary care, through midwifery and health visiting and other partners by 2019.
- 15. Ensure all staff have the skills to identify parents and prospective parents with potential mental health concerns and are able support and signpost them appropriately
- 16. Ensure that all programmes that promote pre-pregnancy health (see previous recommendation box) address mental health concerns before pregnancy.

### Relationships, social support and excess stress during pregnancy

- 17. Review the effectiveness of the current arrangements for identifying women who need more social support and make recommendations to address any system wide gaps that are identified.
- 18. All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.
- 19. 1000 front line staff in the council, NHS police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact in 2019

### Positive environments, child development and stress in infancy

- 20. Ensure maximum delivery of the health visiting development checks, from the antenatal visit to the 2 year check
- 21. Ensure all parents who may need additional support know what options are on offer and where to access them.
- 22.All practitioners working with children and families understand what toxic stress is, its sources and what impact it may have

#### **Immunisation rates in Croydon**

- 23. All GP practices to reach 95% of MMR immunisations
- 24. Implement comprehensive vaccination for vulnerable groups

Breastfeeding in Croydon

- 25. Reset targets for increasing breastfeeding rates at 6 to 8 weeks and 6 months across the Borough and within particular localities
- 26. Achieve level 3 of the UNICEF Baby Friendly award
- 27. Turn Croydon into a breastfeeding friendly Borough, so women feel at ease to breastfeed when they are out and about (PHE, 2016)

#### **Child healthy weight**

- 28. Review the Child Healthy Weight action plan in light of this report and amend to increase its focus on the first 1000 days.
- 29. All families with young children, nurseries and other early years' providers to be encouraged to become Sugar Smart and their pledges monitored. For example nurseries and early years providers to only be giving children in their care water and milk to drink by 2020
- 30. Increase the numbers of young children who go to the dentist
- 31. Increase the numbers of eligible families claiming their healthy start vouchers for fruit and vegetables and vitamins from pregnancy (uptake is currently 63%).

#### Adverse childhood experiences in Croydon

- 32. Working as a partnership, develop evidence based actions to champion the importance of ACEs and the first 1000 days, and to identify and support children and families most vulnerable to ACEs
- 33. All (100%) of midwives and health visitors in Croydon to receive training around recognising and supporting families with risk of multiple Adverse Childhood Experiences by the end of 2019.
- 34. 1000 front line staff in the council, NHS police and voluntary sector to have training around Adverse Childhood Experiences, their causes and impact in 2019



### WE ARE CROYDON EARLY EXPERIENCES LAST A LIFE TIME

The first 1000 days from conception to the age of 2

### DIRECTOR OF PUBLIC HEALTH ANNUAL REPORT 2018

