

Report of the Director of Public Health Trafford 2016/17

Foreword by Cllr John Lamb

Executive Member for Health and Wellbeing



The report of the Director of Public Health is an important document of interest to all those who work towards a healthy resident population in Trafford. While Trafford on the whole has a healthy population, this masks some areas where health outcomes are poor and where much work is still needed.

We are reminded that five priorities have been identified which inform the work of the Health and Wellbeing Board and other plans. These are reducing the impact of mental illness, reducing physical inactivity, reducing the number of people who smoke or use tobacco, reducing harms from alcohol and improving cancer prevention, particularly through screening. The recommendations that accompany these areas need to be acted upon but I just wish to draw attention to one area that I believe we can all immediately take action on, and that is the reduction of physical inactivity.

The benefits to people, of any age, of engaging in some sort of regular physical activity to a minimum level of exertion are well documented. This can range from engagement with organised sport to brisk walking around the local park. Some good work has already been undertaken in Trafford to encourage inactive residents to become more active but there is a lot more that can be done in this area by our communities. Regular physical exercise ensures that we are less likely to need the services of health professionals for a longer period of our lives. Quite simple exercise regimes done individually or in groups are a very effective way of maintaining physical and mental health and a challenge for community leaders and activists is how we encourage residents to engage with what has been described as the best 'health pill' available.

This report then sets out the challenges for health professionals and our communities and its recommendations are designed to improve our chances of a healthy life, which is the foundation of all that we aspire to as human beings.

Acknowledgements by Eleanor Roaf, Interim Director of Public Health

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Introduction

Overall, health in Trafford is good, and we should celebrate this. On most measures, the health of people in Trafford is similar to the national average, and excellent compared to most of the rest of Greater Manchester. With its good schools and high quality housing, and plentiful access to green spaces, Trafford is a highly desirable place to live.

In last year's Public Health Report, we described how, despite the good picture overall, there were some outcomes where we performed poorly, especially when we compare ourselves to our **statistical neighbours**, (the boroughs that are most similar to ourselves in population structure and social conditions). In particular, we discussed **improving our healthy life expectancy**, which is how long we can expect to live before a major condition or disability affects our daily lives.

To improve healthy life expectancy, and to reduce the inequalities gap, we identified five key areas for improvement:



Addressing these priorities is the main focus of our Health and Wellbeing Board, and the issues also feature within our Locality Plan and our Transformation plans.

In this report, we are focussing specifically on how these issues affect the life chances of our children and young people.¹ We need to ensure that all of our population can access the benefits of living in Trafford, making our motto '*No one held back, and no one left behind*' a reality.

We want children to be born into circumstances that support and encourage them, and enable them to develop positive habits that will stand them in good stead as they get older. Some individual lifestyle choices can enhance or damage health, so we need to make the healthy choices easier, and the unhealthy choices harder. We know that the statutory, voluntary and business sectors can make changes to the environment in which people live, work and play, in order to increase health-promoting behaviour.

At the same time, we need to increase the value that people place on their health and so maximise the chances of achieving a healthy and productive life. Our self-image and perception of worth start to be formed very early in life, and children raised in a loving, nurturing environment are more likely to develop positive feelings towards themselves. So, to get the best outcomes we need to start early.

1. A child is aged up to 19 years, but up to 25 years if they have complex and additional needs

Child Health in Trafford

It is estimated that 234,700 people are resident in Trafford¹, with 26% of our population aged between 0-19 years, 57% aged between 20-64 years and 17% aged over 65 years. By 2030, it is estimated that the population of Trafford will increase by 10%, in line with predictions for England.

Trafford generally does well on most child health and wellbeing indicators. Women smoking during their pregnancy, starting breastfeeding, children being in the healthy weight range and exam results at age 16 are all better than the England average. Areas of concern include hospital and A&E attendances for young children and levels of physical inactivity in teenagers¹. You can access Public Health Children's Outcomes at <https://fingertips.phe.org.uk/profile-group/child-health/profile/child-health-overview/>.



One of the greatest challenges in Trafford is the impact of health and social inequalities as these are often masked by Trafford's good outcomes for most of its population. Economically, compared to the England average, nearly twice as many people in Trafford fall into the most affluent fifth of the population (39%) and only half as many (9%) are in the most economically deprived group. About 6,000 (14%) of children live in low income families. We tend to use "in receipt of free school meals" as a measure of deprivation in school age children.

In Trafford, 80% of the population report their ethnicity as White British. Of the remaining 20%, the biggest proportion of people are Asian and Asian British^{IV}. The communities with the highest proportion of people from black and minority ethnic groups (BME) are often those disproportionately affected by deprivation.

In Trafford on 31st March 2017, there were 384 children in care, 257 children on a child protection plan and 625 children on a Child in Need Plan. These children are more likely to come from families affected by deprivation. Between 2011 and 2016, the number of children in care increased by a quarter (24.5%)^V. Trafford has higher rates of children in care than many other similar areas.

Making sure that all children are developing at the expected rate is important in planning and designing services to meet children's needs. One way of assessing a child's development is to see whether they are ready for school when they leave the reception year. They should have basic levels of personal, physical and social skills, and the ability to communicate so that they can learn in a classroom setting. We call this "school readiness". In Trafford, three quarters (74%) of school children are deemed to be 'school ready', which is above the national average. However, just under half (47%) of Trafford's children who are eligible for free school meals are classed as 'school ready' which is much worse than national figures (2015/16). This shows that we are not doing well for our most vulnerable children^{VI}.

This inequality, which is evident by age 5, is perpetuated throughout Trafford's education system. According to the latest published data, overall 72% of children achieved 5 good GCSEs (A* to C), but the figure was only 39% of children with free school meal status.



Figure 1: shows an overview of Trafford's child health outcomes^{III}.



Key

Statistical significance compared to England



Better



Similar



Worse



Low birth weight



Breastfeeding initiation



Admissions of babies <14 days



Admissions for respiratory infections



Primary School



Vaccinations (age 2-5)



Accident/deliberate injury admissions (age 0-4)



Physically active (age 15)



Low life satisfaction (age 15)



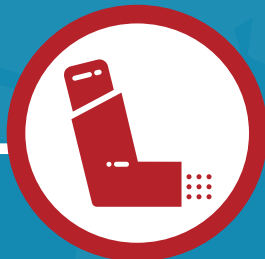
Alcohol-specific admissions (under 18)



Admissions for self-harm (age 10-24)



Young adults



Admissions for asthma (under 19)



Road traffic accidents (under 15)

Understanding the impact of adverse childhood experiences (ACEs)

Recent research has shown that the impact of events in childhood is much greater than had been previously understood. Children experiencing neglect or abuse have poorer health, educational, and economic outcomes in adulthood. Adverse childhood experiences (ACEs) impact on a child's social and physical development. Living in an adverse environment or prolonged exposure to adverse experiences subject the developing body to an extended period in the "fight or flight response" which can alter the way the brain, nervous and immune systems develop^{viii}.

Preventing or minimising the impact of ACEs will have a considerable impact on the health, wellbeing, economic productivity and sustainability of our borough. ACEs can be direct (e.g. physical or emotional abuse) or indirect (e.g. witnessing domestic abuse or having a family member with poor mental ill health) and the impact appears to be cumulative, with the risk of poor outcomes increasing with the number of ACEs suffered.

Children and young people exposed to ACEs have, over their life course, an increased risk of poor health outcomes and health harming behaviour such as poor mental health, binge drinking, illicit drug use and premature death^{ix}. We know that most of our safeguarding activity results from the impact of the toxic trio - mental health problems, substance misuse and domestic abuse. We also know that children who have been looked after are at higher risk of poorer outcomes for both mental and physical health.

Figure 2: Adverse Childhood Experience^x (aged 18 to 60 years)



As a borough, in order to protect and improve our children's health and wellbeing and support them to become healthy and productive adults, we need to prevent ACEs and address the impact they have on our population. There are examples of good practice from across the UK where services including schools, police divisions and early help hubs have become ACE aware, incorporating questions about service users' experiences and those of their children into routine enquiry.

Agencies should have appropriate screening processes in place to identify the risk factors and signs. These signs include inconsistent attendance at school, being particularly withdrawn and reluctant to participate in activities, reluctance to talk about the home situation, deterioration in personal hygiene and appearance, and loss of weight. Staff should be confident to talk to the child about this and be aware of specialist services to refer them to for support.

Public Health Recommends

- Trafford Partnership should become ACE aware, supporting a programme of structured awareness raising and training to all staff with the aim of improving health and social care outcomes.
- Operational staff working with children or families should have up to date knowledge of ACEs, including how to identify these and how to mitigate the impact.
- ACE enquiry should feature in all assessments for interventions such as Early Help or Safeguarding, or those that involve behaviour change.



Our Public Health Priority Areas

Our five Health and Wellbeing Board priorities are intrinsically linked to ACEs. Each priority is discussed below with reference to the health of children and young people.

Reducing the impact of mental illness and improving emotional wellbeing

“The emotional wellbeing of children is just as important as their physical health. Good mental health allows children and young people to develop the resilience to cope with whatever life throws at them and grow into well-rounded, healthy adults”.

Mental Health Foundation, 2016

Much evidence supports the impact of social factors on poor mental health need and the link between physical health, disability and mental health^{x1}.

About 1 in 8 children and young people in Trafford aged 5-16 suffer from a diagnosable mental health disorder: that is, on average, 2 to 3 children in every school class. This means about 3,500 children in Trafford at any one time will be experiencing mental health problems. The most common type of these is conduct disorder which represents over half of the total.

1 in 8 children and young people will experience mental health problems



About six percent of children and young people deliberately self-harm, which equates to about 3,000 people in Trafford. In addition, about 3,000 young people between 16-24 will have an eating disorder. This does not include younger children so is likely to be an underestimate of the total number of people requiring support in Trafford².

Up to 15% of women experience mental health problems during pregnancy or in the months following the birth of their baby. Of the 2,800 births in Trafford in 2015 an estimated 340-420 mothers were affected. This is important because mental health problems in parents are associated with a higher rate of mental health problems in their children.

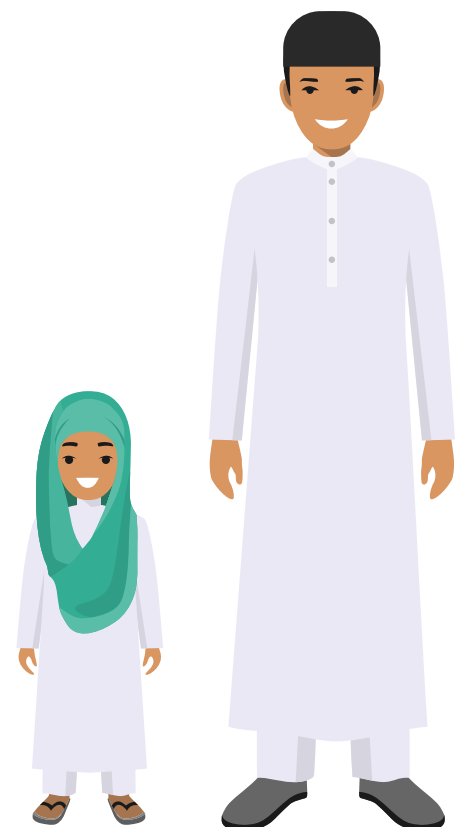
2. All of these figures are estimates based on national surveys which have been applied to the Trafford population so the numbers are not exact but it gives an indication of the high level of need in Trafford

The Mental Health Foundation recommends the following things to help keep children and young people mentally well:

- being in good physical health, eating a balanced diet and getting regular exercise
- having time and the freedom to play, indoors and outdoors
- being part of a family that gets along well most of the time
- going to a school that looks after the wellbeing of all its pupils
- taking part in local activities for young people^{xii}.

Public Health Recommends:

- Mental health acknowledged to be just as important as physical health (parity of esteem), with mental health and wellbeing becoming everybody's business.
- That Trafford Partnership promotes mental health and wellbeing, by ensuring all organisations:
 - promote resilience, prevention and early intervention
 - understand the importance of parenting and the impact of poor mental health, drug or alcohol use on people's ability to parent well
 - improve access to effective mental health support, including for those with long term physical conditions
 - train staff to work with people with mental health issues
 - evaluate services and interventions so we can monitor our progress.

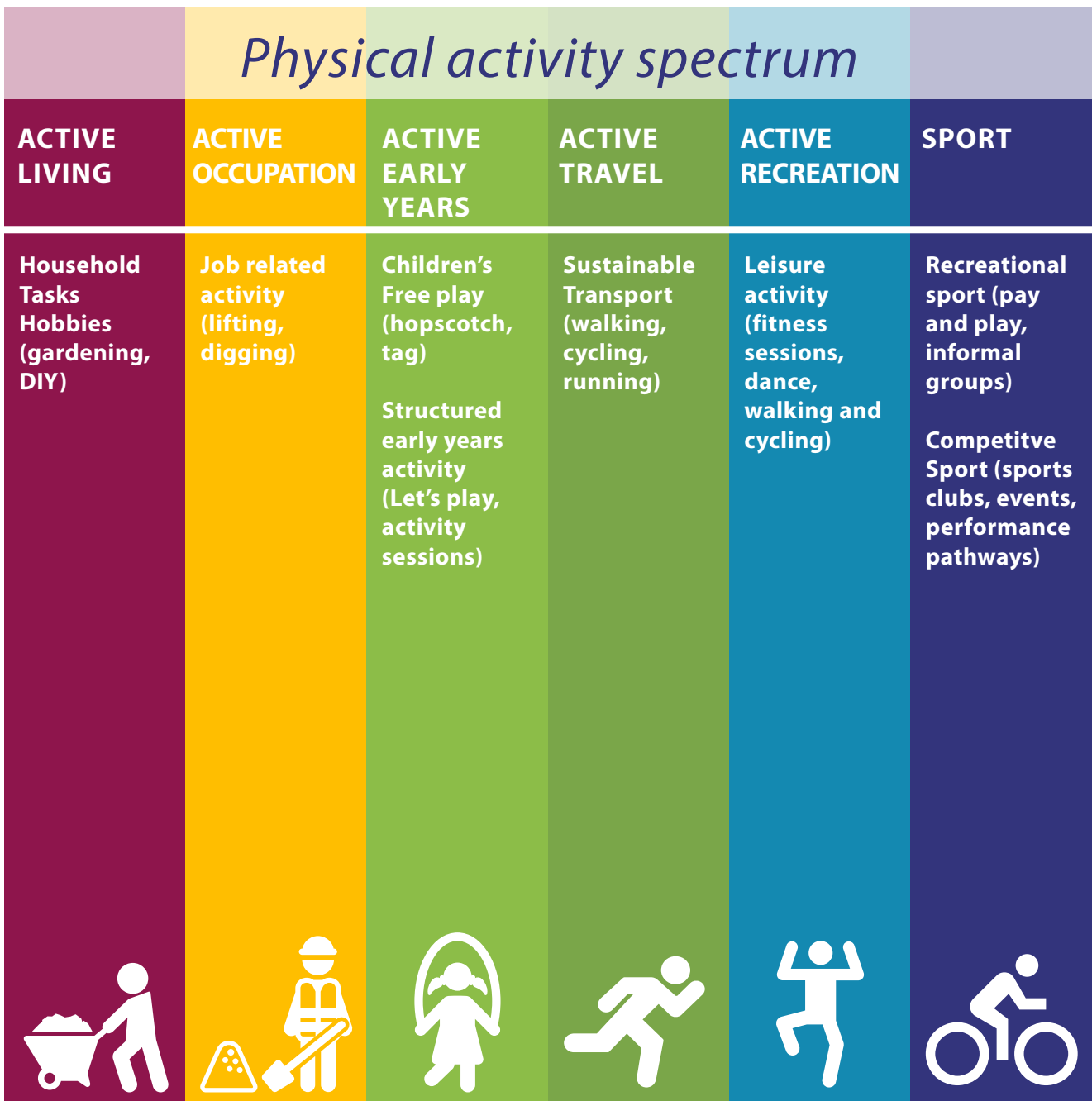


Increasing physical activity

Physical activity is associated with many health benefits for children, such as muscle and bone strength, health and fitness, improved quality of sleep and healthy weight. There is also evidence that physical activity and participating in organised sports and after school clubs is linked to improved academic performance^{xiii}.

‘Physical literacy’ is a term used to describe the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life. Ensuring that all our children reach a good level of physical literacy in the early years is vital, as, without this, they will fall behind their peers in the development of the skills needed to maintain and enjoy an active lifestyle. In Trafford, our health visitors and school nurses have been working with others to increase physical literacy levels in our young children, and this is proving to be hugely popular with children and families.

Figure 3: Physical Activity Spectrum



Only 11% of 15 year olds in Trafford report being active for at least an hour a day, every day, which is worse than the national average^{XIV}. Over a quarter of children are overweight or obese at age 5, rising to nearly half of children by the end of primary school.

Figure 4: Summary of children's weight in Trafford 2015/2016^{XV}



Charley and Ronan³ are two Trafford children who, with the support of Public Health services, have improved their health and wellbeing by becoming more physically active.

Case Study 1: Healthy Weight and Physical Activity

Ronan is six and severely obese. He was referred by the asthma nurse to the Children's Weight Management Service (CWMS) as he struggled to exercise due to his weight.

Ronan, alongside various members of his family, completed the CWMS behavioural, multicomponent family-based programme. His parents worked on making changes for the whole family.

Each session included education on a relevant aspect of a healthy lifestyle followed by individual goal setting and problem solving. Ronan received sessions on the importance of eating regular meals and eating plans, the Eatwell guide, portion sizes, drinks and label reading.

Ronan's family, as a whole, made lifestyle changes;

- Increasing the amount of fruit and vegetables eaten
- Having fewer sugary drinks – drinking more water
- Reducing fatty and sugary snacks
- Increasing activity, bought active play equipment and completed Balance, a 12 week physical activity programme delivered by Trafford Leisure Trust
- Using low fat cheese

At the end of the programme, Ronan's parents reported that he was able to reduce his asthma medication, they had needed to make fewer trips to A&E and the Asthma Nurse was attending less often.

Ronan successfully reduced his BMI and became a healthier weight, his father and mother also became a healthier weight, and the family have ongoing contact with his school nurse, in line with Trafford's Children and Young People's Healthy Weight Pathway.

Judith Williams, Clinical Specialist (Dietetics) and Senior Practitioner (Weight Management), Pennine Care NHS Foundation Trust says, *"Ronan shows how childhood weight management can give such significant health improvements now as well as for the future. We encourage a family approach and it was great to see how all the family benefitted from completing the programme."*

3. Ronan is not the child's real name





Case Study 2: Improving confidence and self-esteem by being physically active

Charley Evans was 12 when she was referred to the Balance Physical Activity Programme in January 2016 by the Children and Young People's Weight Management Service.

It was felt that Charley would benefit from increased levels of physical activity. This bespoke programme for the family gave some very positive results. The Balance Programme provided Charley, her mum and sister with the opportunity to undertake physical activity together in a fun and safe environment with the support of Trafford Leisure's Active Living Leader.

The focus of Charley's programme was to assist with her confidence levels, increase her self-esteem and increase her exercise levels to aid weight loss. In addition to the group session that Charley and her family attended, they accessed additional supported sessions in the gym and swimming.

Confidence was also an issue for Charley and the programme significantly helped this, with Charley becoming an ambassador for subsequent participants. Her attendance at the sessions was excellent and her commitment to change was noticeable. She used the knowledge she had gained regarding physical activity levels and food choices to aid and support others in the groups.

She won the Trafford Physical Activity Recognition Award at the 2016 Trafford Sports Awards, and went on to represent Trafford at the Greater Manchester Awards.

Charley started at secondary school in September and the Balance programme provided her with a strong foundation during this period. She successfully made new friends whilst on the programme which gave her a much needed boost in her self-esteem.

The whole family changed their habits and attitudes and regularly undertook more activity and exercise outside the structured sessions, such as bike rides, playing in the park and Charley played more sport at school which she had never done before.

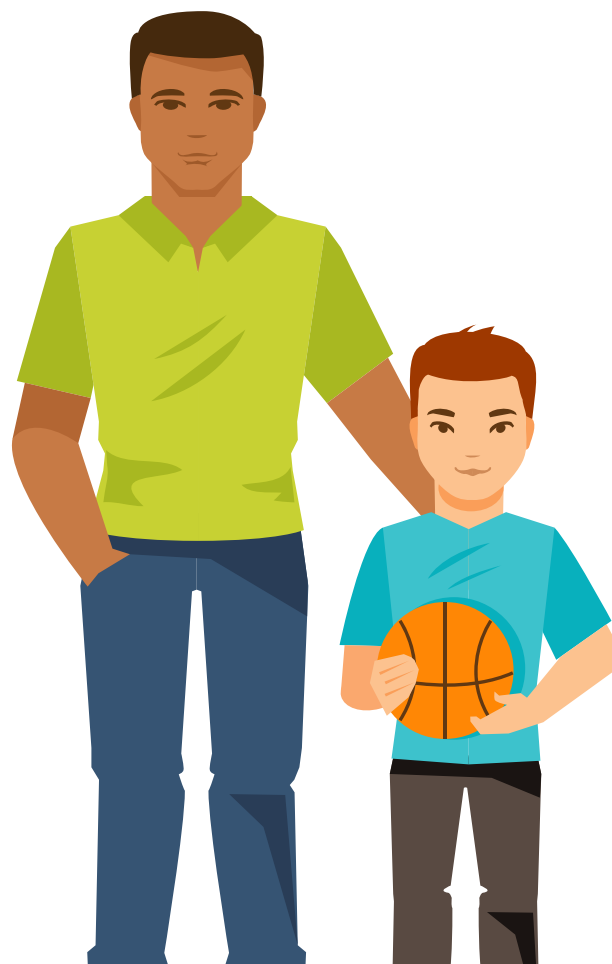
Helen, Charley's mum commented *"I feel this is an absolutely brilliant opportunity for kids that are either overweight, lack self-esteem or just don't get enough exercise. It takes them out of their comfort zone in a friendly and encouraging manner"*



Public Health Recommends

For Trafford people to be more physically active, we should:

- Promote community wide understanding of the importance of physical activity.
- Support communities to be more active by ensuring that the environment we live in is safe, green and clean, making outdoor activity pleasant and giving parents the confidence to let children play outside.
- Encourage physical literacy from birth to promote lifelong physical activity.
- Invest in and promote the use of active travel (walking, cycling, or using public transport), as this has been shown to be a highly cost effective method of increasing physical activity^{xvi}.
- Make every contact count: encourage primary care and front line staff to promote physical activity.
- Support staff to exercise using local opportunities and partners. An innovative example of a CCG and LA collaboration can be found here: www.reading.gov.uk/PRBeatTheStreet2015.
- Make sure the activities we offer or promote encourage everyone to be active. Activities offered should be evidence based, accessible and appropriate to different age groups and needs. There should be a variety of both sport and leisure activities, for example running clubs, led walks and dancing. Gardening or allotments can also be a great way of keeping active and spending time outside.



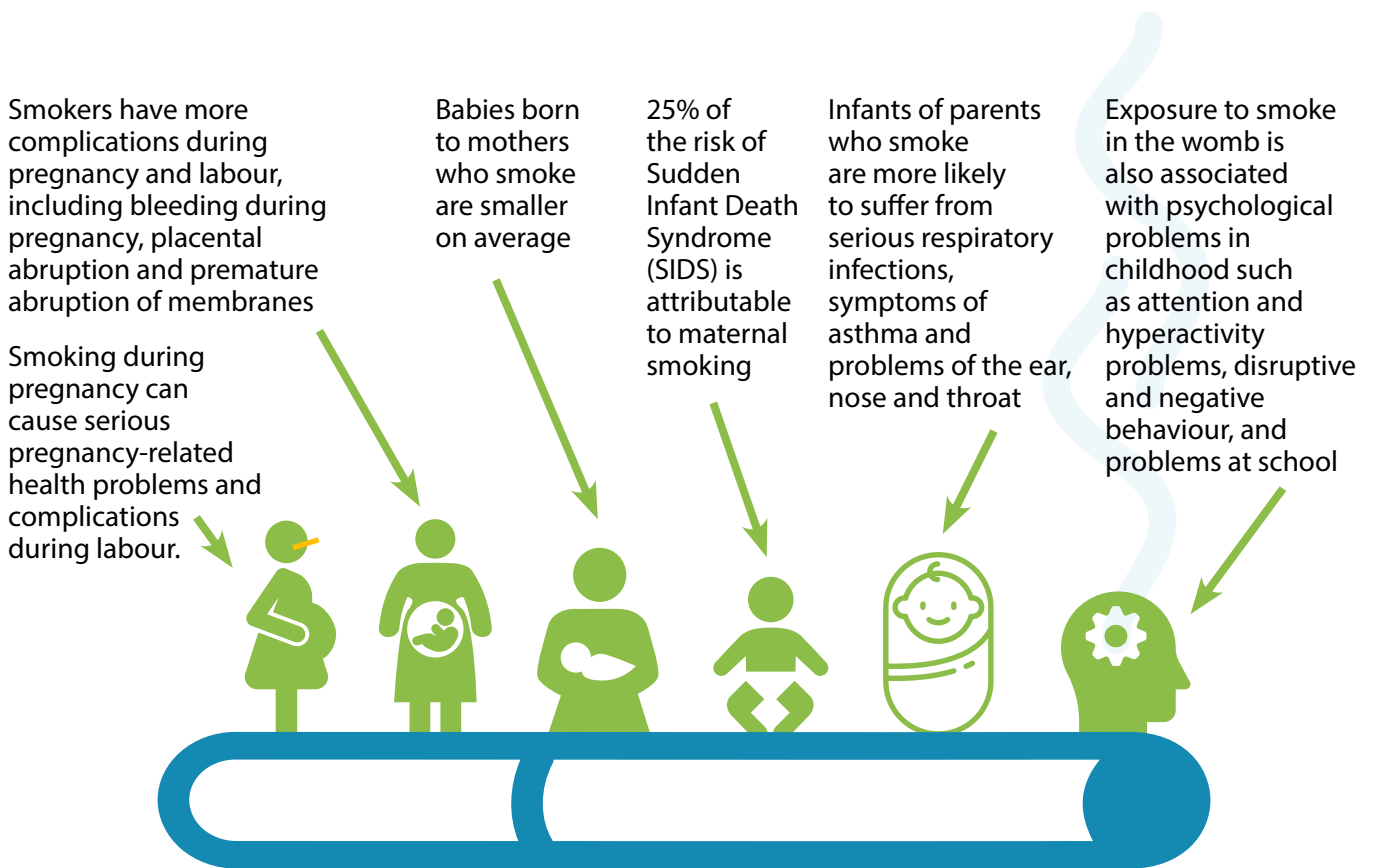
Reducing the number of people who smoke or use tobacco

Exposing a child to tobacco smoke is very harmful, and we should be encouraging all parents to keep their child's surroundings smoke free. We know that many women manage to avoid smoking during pregnancy, but are unable to maintain this longer term. In Trafford 7.5% of women report being smokers at the time when their baby is born, and this may be an underestimate. Take 7 Steps Out is an initiative aiming to change habits to make adult carers move away from the child (for instance going outside) before lighting up a cigarette.



Some of the harms from smoking to children and mothers are summarised in figure 5. About 15% of the adult population are smokers, and 5% of 15 year olds reported smoking regularly^{xvii}. However, smoking rates are much higher in economically deprived areas, and this adds to the risks faced by children in these areas. The number of people smoking has been decreasing since the ban on smoking in public places came into effect. We must continue to “de-normalise” smoking as this is the most effective way of preventing young women who will become mothers in the future from ever starting smoking.

Figure 5: Overview of harms to mother and baby from smoking



Electronic cigarettes (e-cigarettes) provide an option for those women who cannot quit smoking while pregnant. E-cigarettes contain nicotine, but not the carcinogens and other dangerous chemicals which tobacco contains, therefore although not risk-free, they are much safer than tobacco cigarettes.

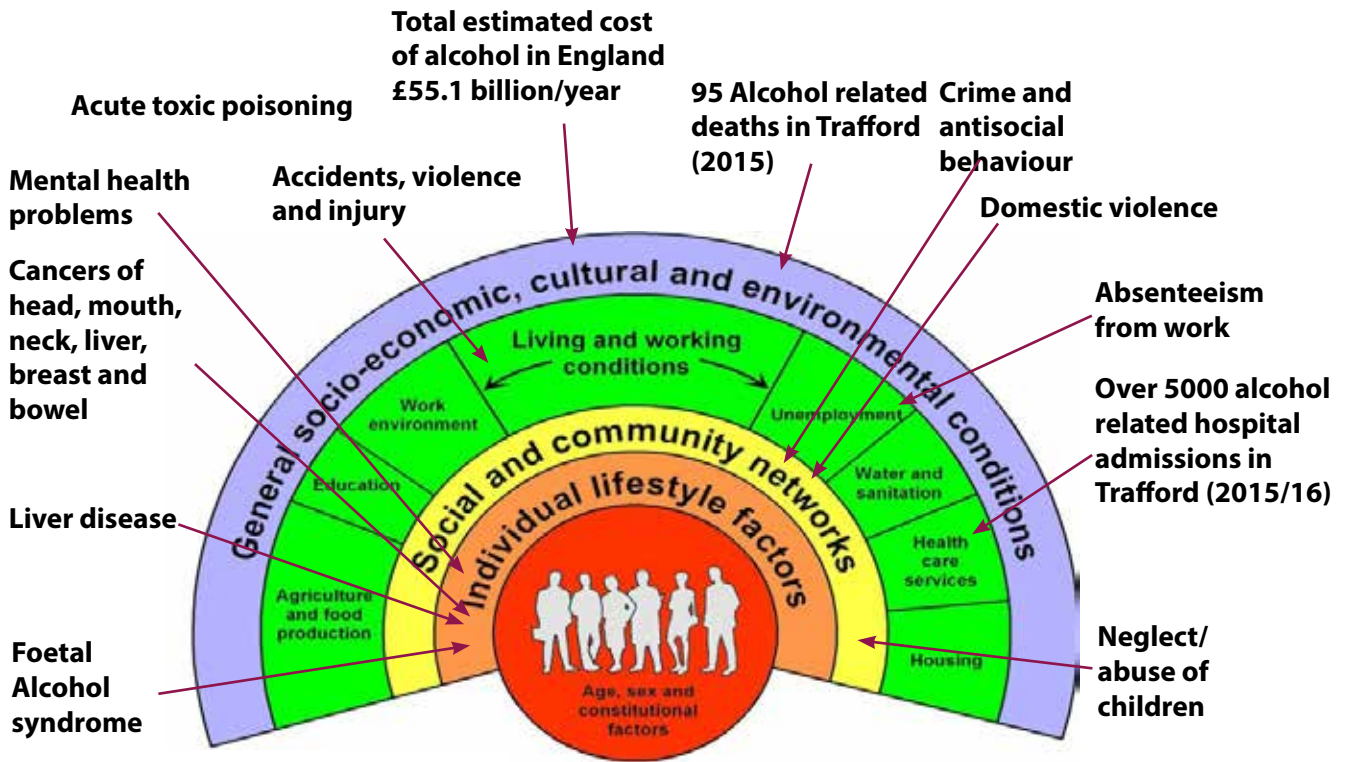
Public Health Recommends

- Midwives, health visitors and other staff who come into contact with children, young people and their families should be trained in smoking cessation brief interventions as a minimum, ensuring that every contact is an opportunity for health improvement.
- All Trafford organisations and workplaces should have smoke free workplace policies.
- Trafford playgrounds and school perimeters should become smoke free. Prevailing social norms have a huge impact on the desirability of smoking.
- Every attempt to “de-normalise” smoking must be undertaken to stop children adopting this habit.
- Trafford residents who smoke tobacco should be supported to stop smoking, particularly those adults who may smoke around children.
- Parents and adults who smoke should consider switching to e-cigarettes, as this does not produce toxic fumes. However, ideally, parents should be strongly encouraged not to smoke or vape near children, as even vaping may help re-normalise smoking.

Reducing harms from alcohol

There are many potential harms from alcohol consumption. Parental alcohol misuse is strongly correlated with family conflict and with domestic violence and abuse. This poses a risk of immediate significant harm to children and of longer-term negative consequences. Some of the harms from excessive alcohol consumption are shown in figure 6.

Figure 6: Summary of harms from alcohol consumption



Based on the Dahlgren and Whitehead (1991) model

There is evidence that how parents behave influences their children’s later drinking behaviour; what parents do, not what they say is important. Acting as a role model in regard to their alcohol use, frequency and amounts is more important than what parents say or the rules they set^{xviii}.

A campaign called “See what Sam sees” was run in Greater Manchester and the roadshow was brought to Sale in 2016. This raised awareness about the impact of alcohol advertising on children, and raised the profile of the issue within Greater Manchester. You can watch the video at <https://www.youtube.com/watch?v=KZQ9OrJW1JM&gl=CO&hl=&app=desktop>



Public Health Recommends

The following actions could reduce alcohol-related harm in Trafford:

- Earlier identification of people experiencing harm from alcohol and taking action to address this, including increased delivery of brief interventions such as the use of AUDIT-C by GPs and other healthcare professionals.
- Continued lobbying through Greater Manchester Health and Social Care Partnership for the introduction of minimum unit pricing.
- All Trafford organisations and workplaces should have workplace policies relating to alcohol.
- Pursue initiatives to reduce the density of licenced premises and reduce the availability of high strength, low cost alcohol.
- Identify people who attend hospital very frequently with conditions related to alcohol dependence so that they can be offered intensive social support.
- Support the 'Dry January' initiative and Alcohol Awareness Week.
- Work with parents to help them recognise what powerful role models they are, and to realise that children will copy their behaviours.



To improve cancer prevention and screening

Childhood cancer is relatively rare and diverse.^{xix} Between 2012-2014, 257 children and young people died from cancer in the UK. Survival rates have greatly increased in recent years, and 82% of those affected survive for 5 or more years.

Much cancer prevention work focusses on adults; however, for local public health teams, it is important that we protect our children and young people by supporting them to develop positive health habits. This includes being physically active, maintaining a healthy weight and reducing the harm caused by alcohol and tobacco, thereby reducing the risk of developing cancer in adulthood.

Figure 7: Causes of Cancer

Lifestyle

Other



A key public health intervention in childhood is to promote the uptake of Human Papilloma Virus (HPV) vaccine which can prevent some cervical cancers^{xx}. HPV is passed through sexual contact.

Research indicates that the HPV vaccine could prevent two thirds of cervical cancers in women under the age of 30 years by 2025, but only if uptake of the HPV vaccination is at 80%^{xxi}.

School age girls are offered the vaccine in years 8 and 9 when they are 12 or 13 years old. The vaccination is given to girls at this age because their immune systems are at their strongest before puberty begins; also it is important that the vaccination is given before they become sexually active.

In Trafford, during the 2015-2016 school year, 78.3% of year 8 girls and 84.1% of year 9 girls received the required two doses of the vaccination^{xxii}. Local uptake is slightly below national uptake rates and our local school nursing team continues to work hard to improve this rate.

Public Health Recommends

- Trafford's children and families receive the information and opportunities required to encourage them to adopt and maintain healthy lifestyles.
- Children and young people understand the benefits of screening, and understand how to access this when eligible.
- Smoke free Trafford is promoted.
- HPV vaccination uptake across all schools and relevant population groups is increased.

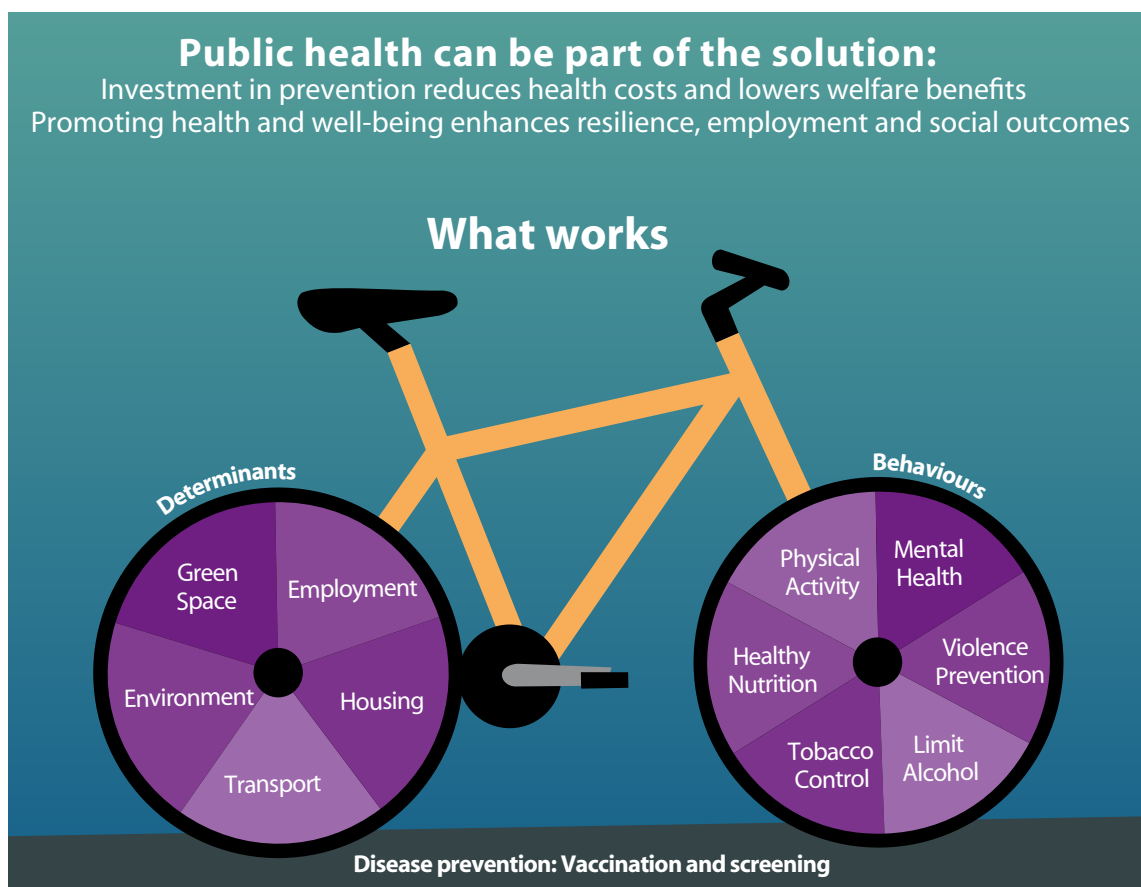


Director's Summary and Closing Comments

We have briefly reviewed data for Trafford, evidence for interventions, and examples of best practice for 5 key priority areas with a view to improving outcomes for children and young people. Improving these outcomes, and reducing our internal inequalities, will lead to a happier, fitter and healthier population, with better employment prospects and greater resilience.

While we have focussed on indicators that might be seen as being about personal choice and lifestyle, such as smoking, physical activity or alcohol use, all of these indicators are enormously influenced by the environment in which children live. As parents, we can take some steps to improve our children's lives and prospects, but many factors are outside our immediate control. As a Council, we need to work with our partners to ensure that the environment in which we live maximises the chance that all children can get the best possible start in life. This means providing access to the highest quality of public transport, food, housing, employment and the built environment (including access to green spaces). This is because these are the factors that help deliver the best possible outcomes for our population, and support people to make the healthy choice, for themselves and for their children. Figure 7 below summarises this well, showing how the wider determinants of health drive behaviours.

Figure 7: Public Health as part of the solution



World Health Organisation, (2014) *The case for investing in Public Health*.

The challenge for the Trafford Partnership is how to deliver a high quality environment that promotes and protects the health and wellbeing of our children. This will need us to question and change some of our own bad habits and behaviours (whether these are about poor diets, inactivity, smoking or alcohol use, or over reliance on the car) and will also require us to use all the levers at our disposal, such as policies, planning and licensing, to make a demonstrable positive impact on our health and that of our children.

References

- ⁱ ONS, mid-2016 estimates. Population estimates - Office for National Statistics [Internet]. 2017 [cited 2017 May 2]. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>
- ⁱⁱ Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ⁱⁱⁱ Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ^{iv} ONS, (2016) Ethnicity by Local Authority, www.ons.gov.uk/
- ^v Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ^{vi} Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 20].]. Available from: <http://fingertips.phe.org.uk/profile/wider-determinants/data#page/1/gid/1938133119/pat/6/par/E12000002/ati/102/are/E08000009>
- ^{vii} Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, et al. Fair society, healthy lives: strategic review of health inequalities in England post 2010. Marmot Review Team; 2010.
- ^{viii} Bellis MA, Lowey H, Leckenby N, Hughes K, Harrison D. Adverse childhood experiences: retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *J Public Health*. 2014;36(1):81–91.
- ^{ix} Matilda Allen, Angela Donkin. *The impact of adverse experiences in the home on the health of children and young people, and inequalities in prevalence and effects*. London: Institute of Health Equity; 2015.
- ^x Bellis, M. Hughes, K. Leckenby, N. Perkins, C. Lowey, H. (2014) National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviors in England, *BMC Medicine* 2014:12:72
- ^{xi} World Health Organisation, (2012) *Risk to Mental Health: An Overview of Vulnerabilities and Risk Factors*.
- ^{xii} Mental Health Foundation, (2017) *Children and Young People*, www.mentalhealth.org.uk/a-to-z/c/children-and-young-people.
- ^{xiii} Public Health England. Change4Life: evidence review on physical activity in children [Internet]. London: PHE; 2015 [cited 2017 Jun 13]. Available from: <https://www.gov.uk/government/publications/change4life-evidence-review-on-physical-activity-in-children>
- ^{xiv} Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ^{xv} Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ^{xvi} NICE, (2016) Public Health Guidance 41, www.nice.org.uk/guidance/ph41.
- ^{xvii} Public Health England. Public Health Profiles [Internet]. 2017 [cited 2017 Jun 13]. Available from: <https://fingertips.phe.org.uk/profile-group/child-health>
- ^{xviii} Ryan SM, Jorm AF, Lubman DI. Parenting factors associated with reduced adolescent alcohol use: a systematic review of longitudinal studies. *Aust N Z J Psychiatry*. 2010;44(9):774–783.
- ^{xix} Cancer Research UK, (2016) Children's Cancer Statistics, www.cancerresearchuk.org/health-professional/cancer-statistics/childrens-cancers
- ^{xx} Jo's Trust, (2017) HPV, <https://jostrust.org.uk/about-cervical-cancer/hpv>
- ^{xxi} Jo's Trust, (2017) HPV, <https://jostrust.org.uk/about-cervical-cancer/hpv>
- ^{xxii} Public Health England, (2016), HPV vaccine coverage data by LA, www.gov.uk/government/statistics/annual-hpv-vaccine-coverage-2015-to-2016-by-local-authority-and-area-team.

