

HALTON JOINT STRATEGIC NEEDS ASSESSMENT (JSNA) Physical Activity Profile 2024

Key Findings

Activity levels amongst Halton children are only marginally lower than the national average, they are statistically similar (Active Lives Children's Survey 2023/24)

However, data from the Adult Active Lives Survey shows the proportion of adults reaching the Chief Medical Officer recommended level of activity is lower than the England average, that the difference is statistically significantly lower. It is the third lowest in Cheshire & Merseyside.

Lower proportions of Halton residents walk as part of the work commute at least 3 times a week than the national and regional averages. It has the second lowest level in Cheshire and Merseyside.

It also has lower levels of cycling for work at least 3 times a week than comparators and is the third lowest in Cheshire and Merseyside

The Halton Adult Lifestyles Survey 2023 provides some additional insights into the demographics of physical activity levels. Whilst the same was not representative of Halton's population, with a skew of women and of older people, its findings are broadly similar to the national analysis of the active Lives Survey. This includes:

- ♦ Activity levels fall with age
- ♦ Those with self-reported poor health are less likely to undertake physical activity with a lower proportion reaching the recommended levels
- ♦ This is also true for those cited they are in chronic pain
- ♦ Deprivation has a negative influence on activity levels

Research indicates those in social housing are less likely to undertake any/some/reach recommended levels of activity. The results of the Halton Lifestyles Survey support this.

The Active Lives Adult Survey finds that men are more likely to be active than women. However this was not the case from the Halton Lifestyles Survey where the genders were quite similar. However, as stated above, the much higher proportion of respondents being women could have impacted this finding.



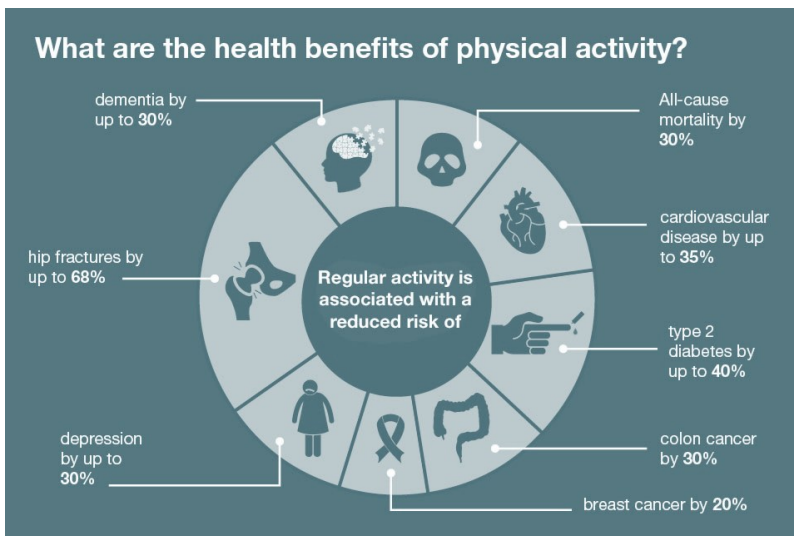
INTRODUCTION

Benefits of physical activity on health: the evidence

Inactivity and a more sedentary lifestyle can negatively impact both physical and mental health (Salman et al., 2019; WHO, 2024). Increased levels of exercise can reduce the risk of several long-term health conditions, including:

- ◆ heart disease
- ◆ hypertension
- ◆ stroke
- ◆ diabetes
- ◆ some cancers (WHO, 2024).

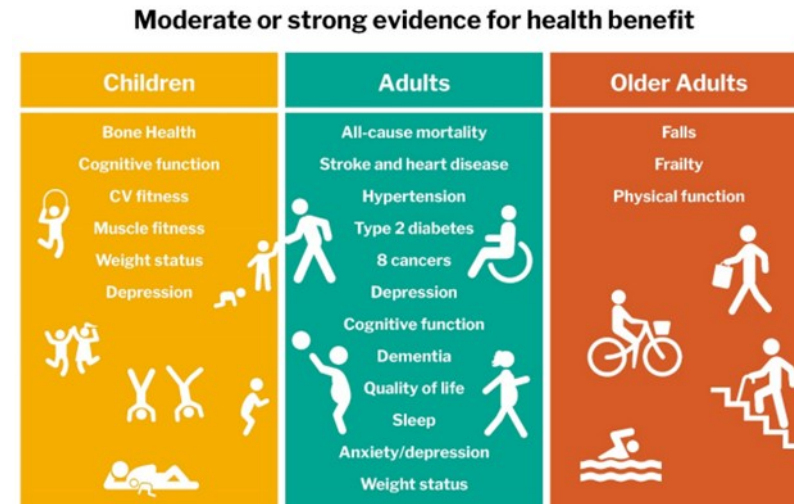
Figure 1: impacts of physical activity of some long-term conditions



Physical activity can also improve aspects known to support better health and mental health, including better and longer duration of sleep, as well as aiding in the reduction of stress, and improving mood and self-esteem (Mahindru, Patil and Agrawal, 2023). Exercise has been shown to improve the health and mental health of the general population as a whole, as well as being beneficial among people with existing mental health conditions (Noetel et al., 2024). Research has demonstrated positive impacts on the physical and mental health of people with more common, and severe mental health conditions. Improvements in negative

symptoms, quality of life and cognition have been shown among people with schizophrenia (Girdler et al., 2019), and reduced anxiety and various depressive symptoms among people with depression (Singh et al., 2023).

Figure 2: Health benefits of physical activity



There is moderate or strong evidence on the health benefits of physical activity across the life course, from children to older adults (see graphic above).

Physical inactivity not only poses risks to an individual in terms of chronic illness and premature death, it is also estimated to cost the UK £7.4 billion annually (including £0.9 billion to the NHS alone) (OHID 2022).

INTRODUCTION

Challenges and barriers to exercise

Although exercise can aid improvements in physical health and mental wellbeing, there are barriers and challenges to uptake and adherence to exercise. There are a variety of demographic and geographic factors which can negatively impact a person's likelihood of engaging in physical activity, including age, gender, employment status and family setup (Borodulin et al., 2016), as well as living in a more rural community (Pelletier et al., 2022). Ethnicity can also have an impact on physical activity (Sport England, 2023), with some ethnic groups less likely to take part in frequent exercise and more likely to be physically inactive (Patel et al., 2022). Although some of the barriers to physical activity are the same across the entire population, some ethnic minority groups report additional challenges to engaging in physical activity (Ige-Elegbede et al., 2019). These include language barriers, differential understandings and perceptions of physical activity, cultural expectations, and even further limited access to facilities (Koshoedo et al., 2015).

There are socio-economic issues that can prevent somebody exercising, including lower income (Scholes and Mindell, 2021; Shuval et al., 2017). Although deprived areas can be closer to green space, overcrowding, and poorer accessibility (perceived or actual) and safety of green spaces areas was lower, reducing its use for exercise (Jones, Hillsdon and Coombes, 2013). There are also personal and family situations that can make it more difficult for people to undertake exercise or go to a gym, due to a time-deficit due to work and caring responsibilities for example (Birtwhistle et al., 2018), or a fear of injury and falling, particularly among older adults (Kilgour et al., 2024). This is felt more sharply among women due to the societal imbalance and expectations of women in the caregiving role (Sharma et al., 2016) and childhood access to sport and exercise (The Lancet Public Health, 2019). There are also issues with safety and perceptions of the safety in public spaces for women and girls (Peng, Ng and Ha, 2023), and a greater number, and more pervasive systemic and social causes of women feeling less comfortable

taking part in physical activity, particularly in a public setting (Moreno and Johnston, 2014).

There can also be challenges in delivering an exercise programme that suits the individual, with people with physical and mental health conditions potentially requiring adapted solutions to support them in keeping active (Sorensen, Skovgaard and Puggaard, 2006). In recent years there has been greater focus on exercise on prescription via GPs and primary care (Chatterjee et al., 2017). Although these have been shown to support people in increasing their physical activity and improve health and quality of life (Sorensen et al., 2010), the delivery of social prescribing is dependent on GP capacity and training (Roldan et al., 2021), and is relative to the sporadic nature of local, regional and national service availability (Oliver et al., 2021). Undertaking physical activity is incredibly beneficial for individuals, but depending on their background and their situation. No one solution can increase global physical activity, or reduce inequalities in physical activity; a tailored solution, appropriate to the individual, with necessary on-going support can promote starting to exercise, and maintain longer-term adherence to physical activity (Public Health England, 2020).

National recommendations on physical activity

The UK Chief Medical Officers' Guidelines recommend each week adults:

- ◆ should aim to be physically active every day
- ◆ do at least 150 minutes moderate intensity activity, 75 minutes' vigorous activity, or a mixture of both
- ◆ do strengthening activities on two days
- ◆ reduce extended periods of sitting (DHSC, 2019)

LEVELS OF PHYSICAL ACTIVITY IN CHILDREN

Children should aim to do aim for an average of at least 60 minutes of moderate or vigorous intensity physical activity a day across the week. This should be a combination of activity aimed to raise the heart rate as well as to develop movement skills, muscles and bones. They should also aim to reduce sedentary behaviour for long periods or break it up with some kind of activity.

Children living with a disability should also aim to do some activity; about 20 minutes or more a day, splitting this into smaller chunks of activity throughout the day if needed. The type of activity should be challenging but manageable strength and balance activities 3 times a week.

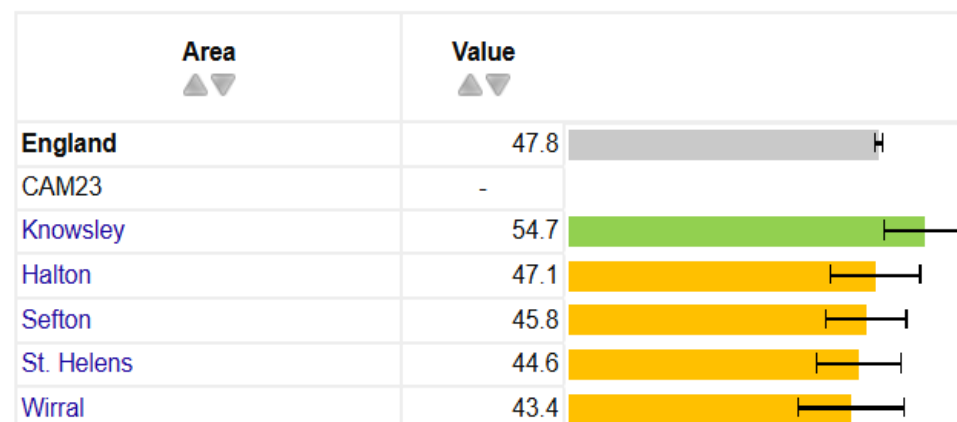
Yet data from the 2023/24 Sport England Active Lives Survey for Children aged 5-16 shows that less than half are achieving this Chief Medical Officer recommendation. Children who were in nursery to school Year 4 (ages 4-9) when the pandemic struck in 2020 have been particularly disadvantaged.

Analysis further shows significant inequalities persist by gender, ethnicity and family affluence. These factors combine to put certain groups even further behind.

However, trend analysis does show an across the board improvement, albeit small, overall and by these key demographic factors.

For the first time Halton children and young people took part in this survey, in 2023/24. Results show a proportion of local children achieving the recommended level of activity similar to regional and national at 47.1% (North West 47.6% and England 47.8%). Both regional and national data does show a small improvement over time between 2027/18 to 2023/24. For the North West this went from 42.3% to 47.6% and for England from 43.3% to 47.8% between these time periods.

Figure 3: Proportion of children achieving recommended level of activity, 2023/24



In Cheshire & Merseyside not all local authorities took part in 2023/24. Across the North West Halton placed 10th of the 20 local authority areas participating. For Cheshire & Merseyside Halton placed 2nd, with its value being statistically similar to England. Only Knowsley was statistically higher (along with Bolton and Wigan in the North West).

As no local authorities in Cheshire & Merseyside have routinely taken part no local trends can be discerned.

National analysis shows the percentage achieving the recommended level reduces from 52% with no characteristics of inequality to 40% amongst children with two or more characteristics of inequality. Children and young people from the least affluent families are the least likely to be active, with only 45% meeting the Chief Medical Officers' guidelines — compared to 57% of those from the most affluent families. Despite some improvements Asian, Black and children and young people of other ethnic backgrounds remain the least likely to be active. However, there is no reportable difference in activity levels for those with, as compared to those without, a disability or long-term health condition.

LEVELS OF PHYSICAL ACTIVITY IN ADULTS: ACTIVE LIVES SURVEY

Sport England run the national Active Lives Survey. The survey is conducted annually and collects data at a national, and local authority level, allowing comparisons between areas in the same region, or city region. Trend analysis shows there are two million more adults getting active on a regular basis through sport and physical activity than in 2016, despite the impacts of the coronavirus (Covid-19) pandemic and increased cost of living pressures.

Data from surveys run between November 2022 and November 2023, 63.4% of the adult population met the Chief Medical Officers' guidelines of doing 150 minutes, or more, of moderate intensity physical activity a week. That's equivalent to 29.5 million adults in England playing sport or taking part in physical activity every week.

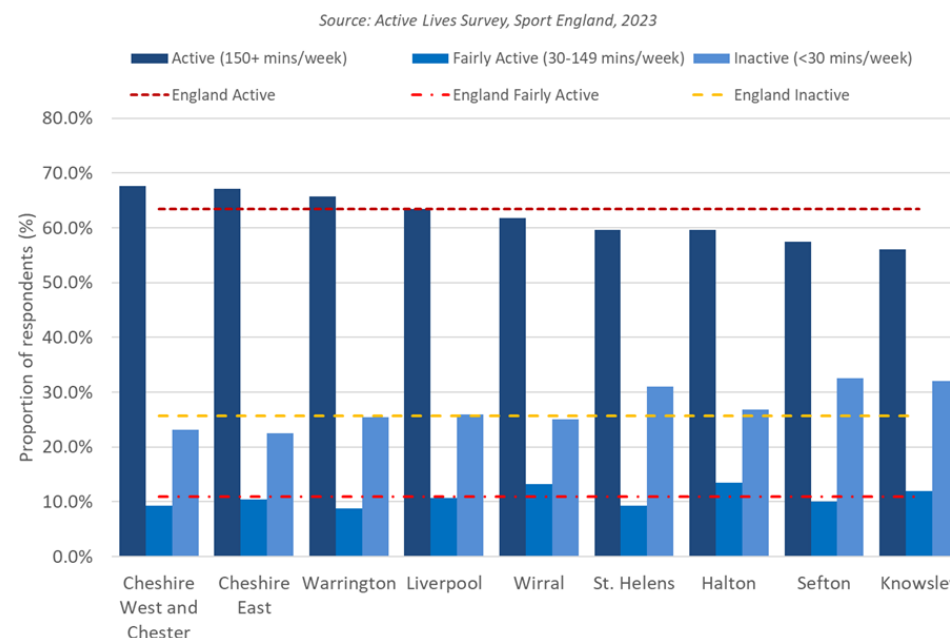
This figure is largely unchanged from 12 months ago when 63.1% were active but means that, compared to when we first ran the survey between November 2015 and November 2016, there are two million more active adults – an increase of 1.3%.

The number of people classed as inactive – averaging fewer than 30 minutes a week – has remained steady over the last year and 25.7% of the population are in this category compared to 25.8% in the period November 2021 to November 2022. 10.9% were fairly active but did not reach the 150 minutes recommendation.

A person's age, sex, gender, ethnicity, socio-economic group, whether they have a disability or long-term health condition, and the place they live in are all significant factors impacting our relationship with sport and physical activity.

The report underlines that many longstanding inequalities remain, with women, those from lower socio-economic groups and Black and Asian people still less likely to be active than others.

Figure 4: Proportion of adults (aged 16+) taking part in physical activity, by amount per week and local authority, November 2022-2023



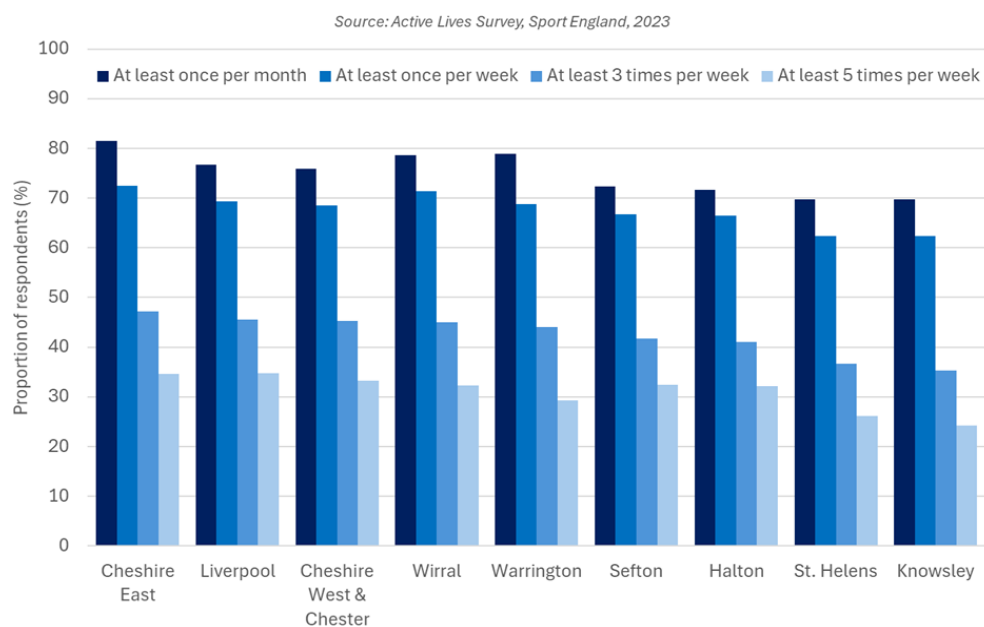
Halton has a lower proportion of residents taking part in physical activity each week than England, and a higher proportion of residents that are deemed inactive. Halton responses demonstrate that more than a quarter of residents (26.8%) are deemed inactive, that is, taking part in less than 30 minutes of exercise per week. Of the nine local authorities in Cheshire and Merseyside, Halton has the joint-third lowest residents who are active (59.7%), meaning less than two-thirds take part in the recommended level of physical activity each week. Halton, however, does have the highest proportion of residents deemed 'fairly active' (13.5%), this is also higher than the equivalent proportion seen nationally.

LEVELS OF PHYSICAL ACTIVITY IN ADULTS: ACTIVE LIVES SURVEY

Active travel

The Active Lives survey asks about walking and cycling activity and for what purpose. frequency of taking part in walking or cycling for any reason, whether that is travelling to work, or for leisure. Looking at the proportion of resident respondents, Halton has the thirds lowest proportion of the nine local authorities in Cheshire and Merseyside, for those taking part in this activity: 'at least once a month' (71.6%), 'at least once a week' (66.4%) and 'at least three times a week' (41.1%). Halton had the fourth lowest proportion of respondents taking part in cycling or walking 'at least 5 times per week', with less than one-third of the respondents saying they do so (32.2%). The proportion of Halton residents responding to the survey taking part in any frequency of cycling or walking was lower than the respective proportion for both the North West and England.

Figure 5: Proportion of adults (aged 16+) who do any walking or cycling (leisure or work) in Cheshire and Merseyside, by local authority area and frequency (as of November 2022 survey)



Department for Transport undertake further analysis of this data to provide an assessment of the proportion of residents who walk and/or cycle as part of their commute to work.

Data for regular walking for travel shows Halton levels are comparatively low, the second lowest in Cheshire & Merseyside and lower than regional and national comparators over time. This is also the case for cycling.

Figure 6: Proportion of adults who walk at least 3 times a week for travel

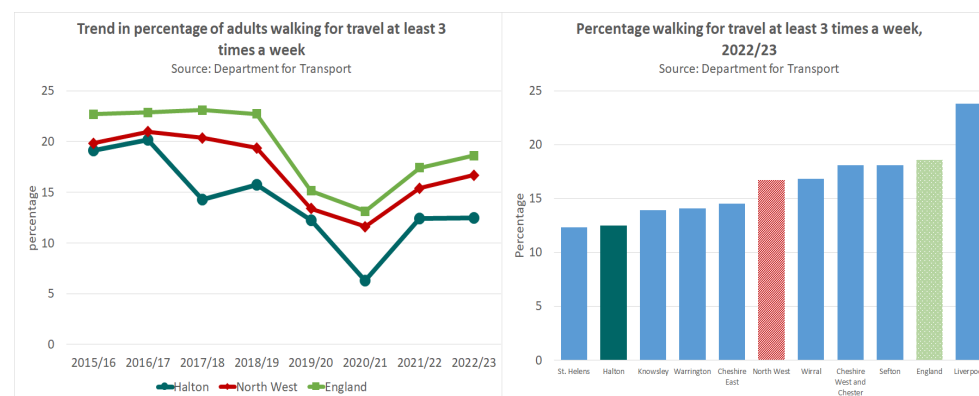
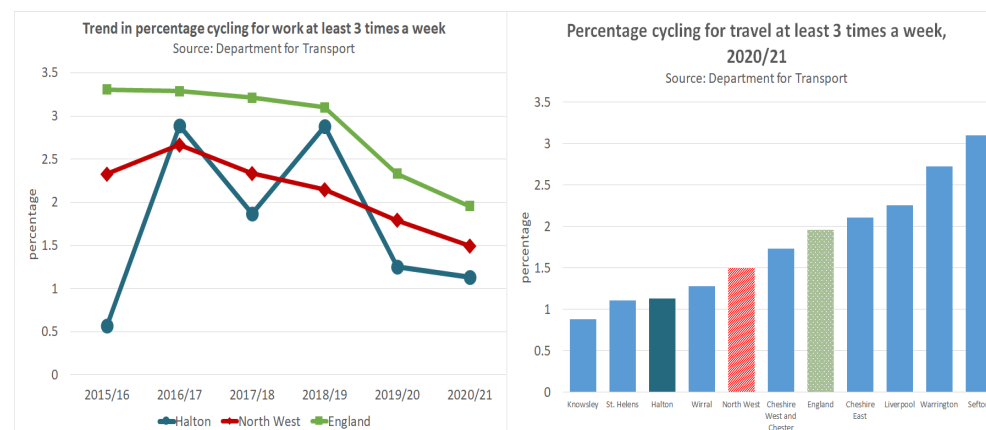


Figure 7: Proportion of adults who cycle at least 3 times a week for travel



LEVELS OF PHYSICAL ACTIVITY IN ADULTS: HALTON LIFESTYLES SURVEY

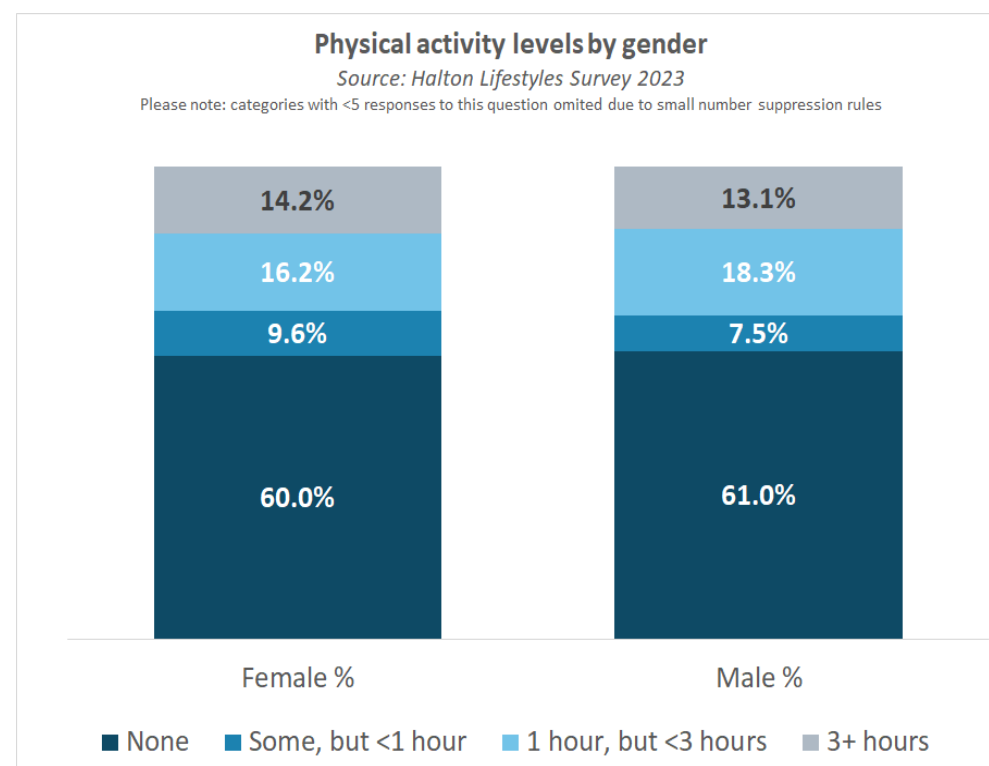
Data on levels of physical activity by demographic factors is not available at local authority levels through the Active Lives Survey. Nor is there any routinely collected data on levels of physical activity through local sources.

To address this Halton Public Health commissioned University of Cheshire to conduct a lifestyles survey including questions on physical activity. A relatively small response rate using randomly generated addresses to contact necessitated the introduction of a more open access method. Therefore we cannot state that the results are statistically representative of the adult population of Halton. Nevertheless the insights from the survey do help to plug some of the gaps in our local knowledge.

Gender

Though there were fewer overall male responses to the 2022 Halton Lifestyles Survey, the proportion of males and females who were engaging in the different levels of physical activity per week were fairly similar. However, only 14.2% and 13.1% of females and males respectively were undertaking 3 or more hours of such exercise per week, with almost two thirds of females and males - 60% and 61% respectively - undertaking no such physical activity. Therefore potentially over two thirds of surveyed males and females in Halton are not meeting the Chief Medical Officers' guidelines.

Figure 8: Time spent exercising (swimming, jogging, aerobics etc.) per week by gender



LEVELS OF PHYSICAL ACTIVITY IN ADULTS: HALTON LIFESTYLES SURVEY

Figure 9: People undertaking diverse types of exercise, including leisure, work, housework, and childcare, by gender

Type of physical exercise	Female	% Female	Male	% Male	Total	% of Total
Swimming, jogging, aerobics etc.	120	30.4%	67	31.5%	621	30.2%
Cycling (leisure and to work)	16	4.2%	16	7.9%	582	5.5%
Walking (incl. to work, shopping etc.)	313	76.3%	155	72.1%	638	73.5%
Housework/childcare	325	80.2%	118	58.7%	619	71.7%
Gardening/DIY	172	42.9%	104	49.3%	625	44.2%
Any other physical activity not listed	57	16.5%	33	18.0%	540	16.7%

Figure 9 highlights the overall response, by gender, to six different questions asked in the 2022 Halton Lifestyle Survey. Respondents were asked to state in response to each of the types of physical exercise the amount they took part in, per week: 'None', 'less than 1 hour', 'between 1 and 3 hours', or '3 or more hours'. This table highlights a gender divide in the amount of housework or childcare undertaken, with four in five female respondents (80.2%) undertaking at least 1 hour per week, compared to less than two thirds of male respondents (58.7%). In fact, 43.2% of female respondents undertake 3 or more hours of housework or childcare per week, compared to 26.9% of male respondents. There are also more male respondents taking part in cycling for leisure or travel to work (7.9%), compared to female respondents (4.2%). This could be due to multiple factors, with female respondents more likely to have childcare duties that restrict their ability to do so at these times, and their feeling safe in doing so, whether that be due to worries for their physical safety in cycling to work, or safety in undertaking exercise alone.

Ethnicity

There were less than 700 people taking part in the 2022 Halton Lifestyles Survey, and with such a small response, there were incredibly small numbers of people from ethnicity groups other than White British. As a result, it is not possible to conduct any analysis with a detailed level of granularity, resulting in the need to analyse by wider ethnicity groups. Due to this, analysis by ethnicity here should be treated with caution and not be deemed reflective of the wider Halton population groups of each ethnicity group.

Figure 10: Time spent exercising (swimming, jogging, aerobics etc.) per week, by ethnicity

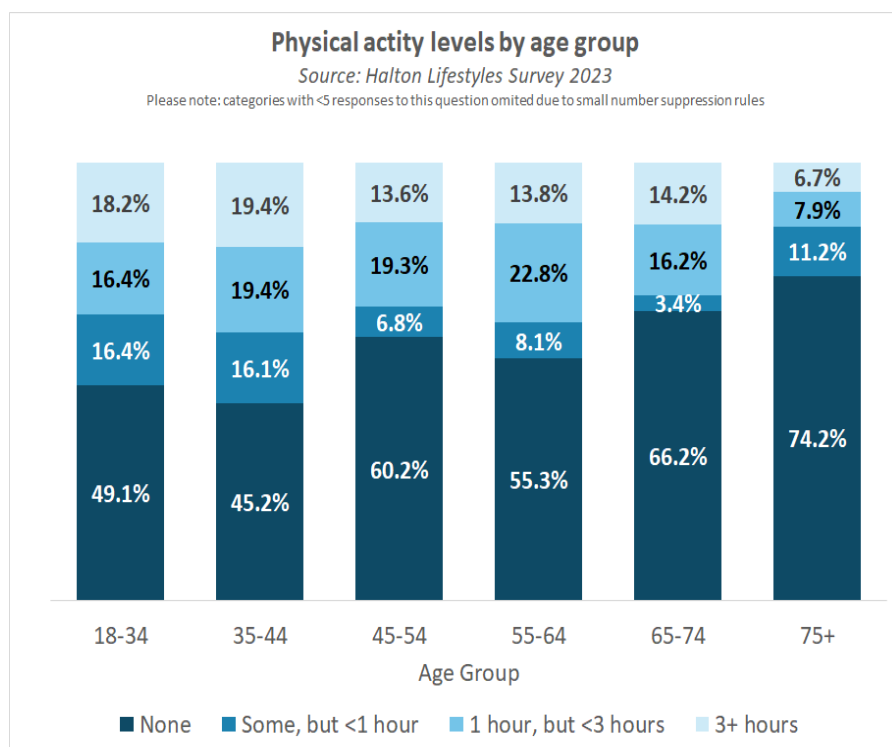
Ethnicity Group	None		Some, but <1 hour		1 hour, but <3 hours		3+ hours		Grand Total
	#	%	#	%	#	%	#	%	
Asian, Black, Mixed, or Other	12	52.2%	2	8.7%	5	21.7%	4	17.4%	23
White British	331	61.1%	47	8.7%	87	16.1%	77	14.2%	542
White Irish or Other	9	42.9%	5	23.8%	7	33.3%	0	0.0%	21
Total	352	60.1%	54	9.2%	99	16.9%	81	13.8%	586

LEVELS OF PHYSICAL ACTIVITY IN ADULTS: HALTON LIFESTYLES SURVEY

Age

Looking at age groups of respondents to the 2022 Halton Lifestyles Survey, the proportion of people undertaking 3 or more hours of physical activity per week is lower in older age groups over 55 and highest amongst 18-44 year olds. The proportion notably drops in those aged 75 and over where only 6.7% are doing 3 or more hours of physical activity per week; this is compared to 18.2% and 19.4% of people aged 18-34 and 35-44 respectively. Almost 3 in 4 people aged 75 and over and almost half aged 18 to 34 answered that they did no physical activity.

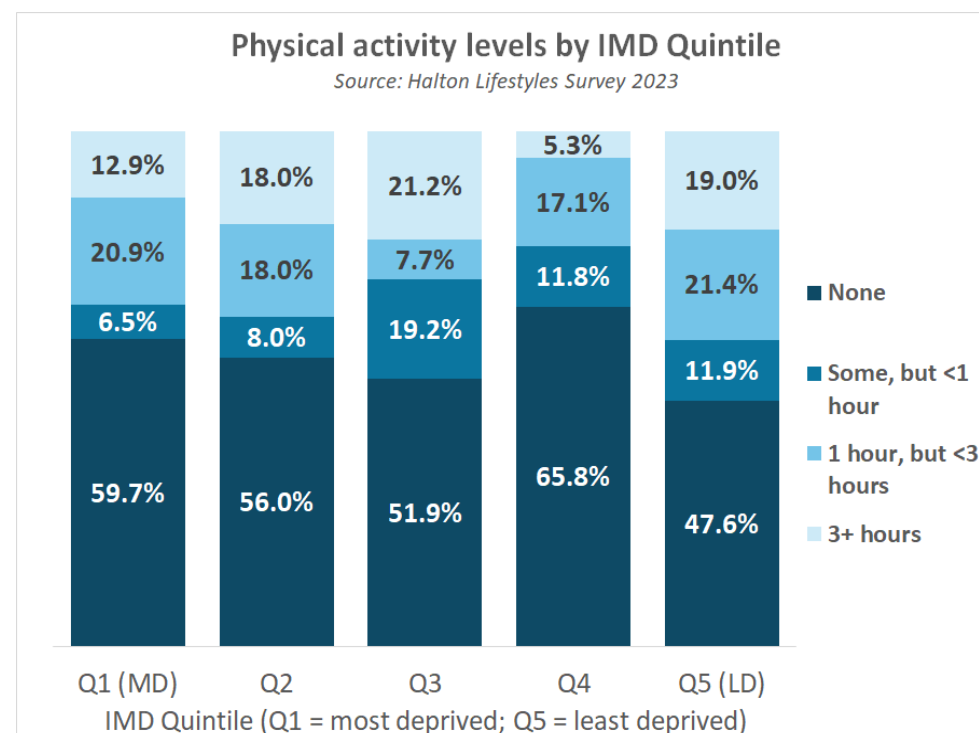
Figure 10: Time spent exercising (swimming, jogging, aerobics etc.) per week, by age group



Deprivation

Figure 4 uses the same data as the above figures, but displays the proportion by deprivation quintile (fifths). The chart demonstrates that people living in the least deprived areas are the most likely to do any level of physical activity, with the fewest taking part in no activity (47.6%). As deprivation increases, from Q5 (least deprived) to Q1 (the most deprived), there is an increase in the proportion of respondents who say they take part in no physical activity, and a reduction in the proportion of people taking part in 3 or more hours of exercise each week. However, the second least deprived area (Q4) is an outlier to this gradient pattern in physical exercise and levels of increasing deprivation. Q4 has the greatest proportion of respondents who do no physical activity (65.8%) and the fewest who do 3 or more hours of exercise per week (5.3%)

Figure 11: Time spent exercising (swimming, jogging, aerobics etc.) per week, by IMD (Indices of Multiple Deprivation) Quintile



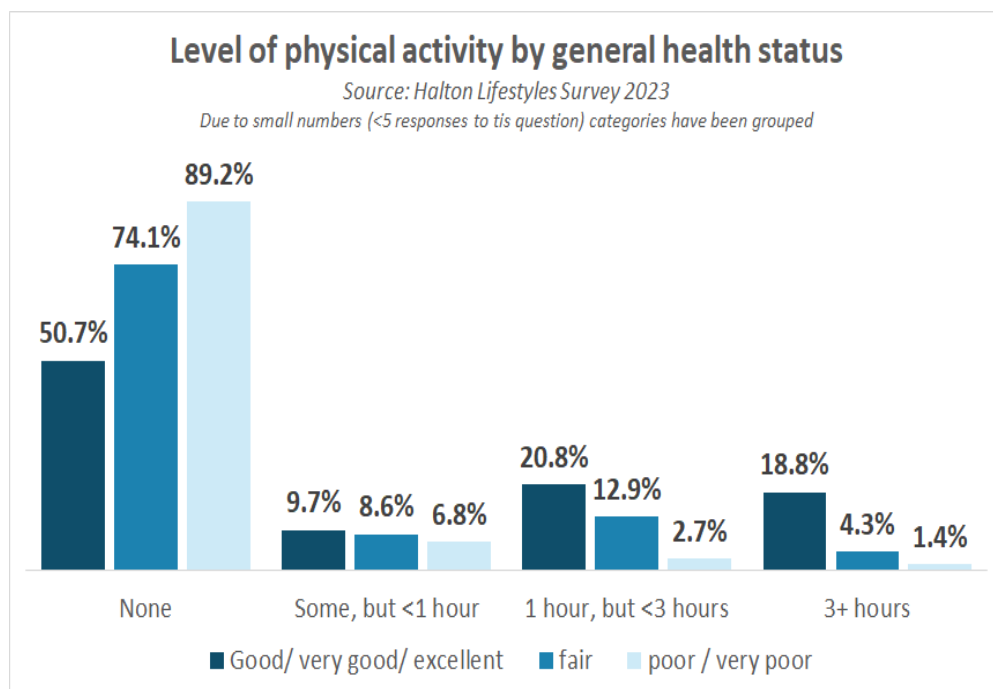
LEVELS OF PHYSICAL ACTIVITY IN ADULTS: HALTON LIFESTYLES SURVEY

General Health

Respondents to the Halton Lifestyle Survey were asked about their general health, using the same categories as used in the 2021 Census and other surveys. Namely using a Likhart scale they were asked to rate their general health from excellent to very poor. This could then be analysed by level of physical activity.

Small numbers in some of the categories of activity by general health status meant that general health categories have been combined in to three broader areas to allow analysis. The data shows a clear pattern, with those in excellent/very good and good health being most likely to undertake the recommended levels of activity.

Figure 12: Activity levels by broad general health status

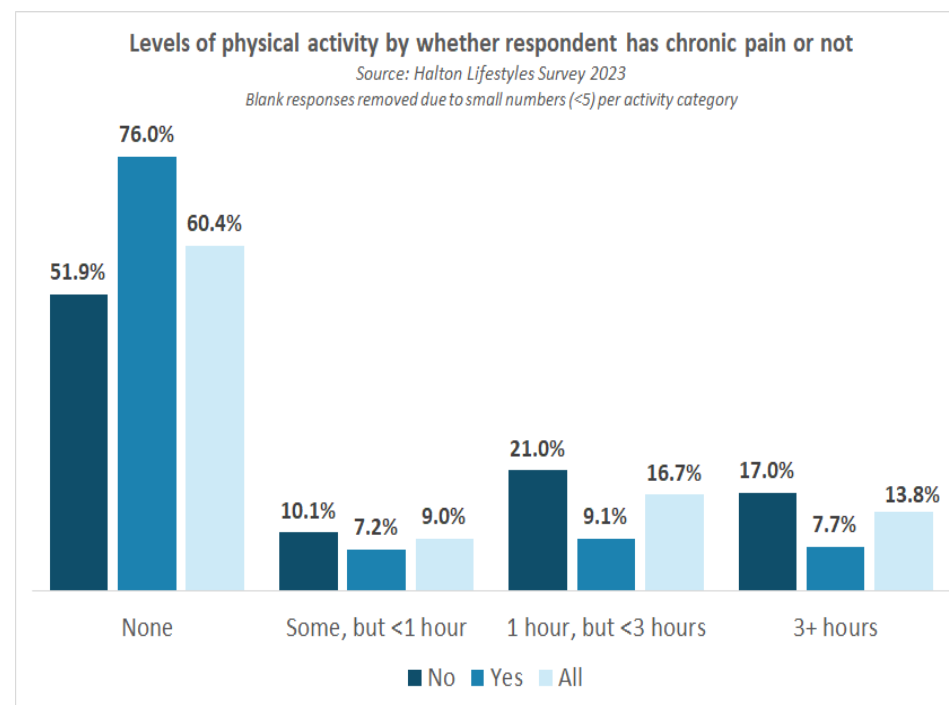


Chronic Pain

Both the Health Survey for England and local data shows a significant proportion of the adult population suffer from chronic pain ie pain that lasts more than 3 months and is often linked to other health conditions—musculoskeletal, arthritis, diabetic neuropathy amongst others. It can have devastating impacts of mental health as well as being physically disabling.

It is not surprising therefore that analysis of the Halton Lifestyles Survey shows those stating that they were in chronic pain were less likely to exercise. It may be that their condition is so severe they can't exercise, or the pain puts them off trying to.

Figure 13: Activity levels by whether the respondent stated they were in chronic pain or not



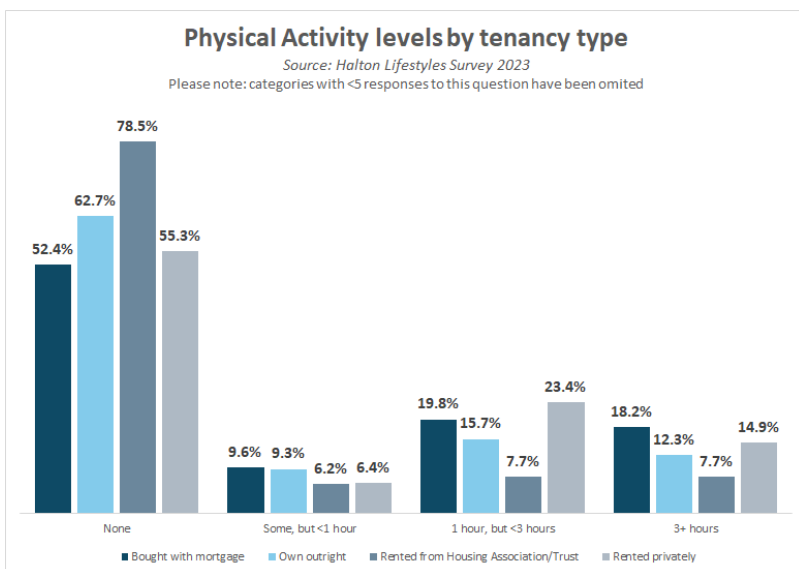
LEVELS OF PHYSICAL ACTIVITY IN ADULTS: HALTON LIFESTYLES SURVEY

Tenancy type

Nightingale et al (2018) study of residents of the East Village (formerly Olympic Village) in London found that those in social housing undertook less physical activity than other housing sectors, with weekend PA offering the greatest scope for increasing activity in this group. Perceptions of neighbourhood quality were associated with physical activity and adiposity (excess of fat in the body) and reduced differences in steps and BMI between housing sectors.

This was borne out in the Halton Lifestyle Survey with respondents in social housing being most likely to undertake no physical activity and least likely to reach the recommended levels. Activity levels were lower in those who owned their home outright compared to those with a mortgage which probably reflects that those who have finished paying off a mortgage are in the older age groups, for whom we have already seen are less likely to exercise.

Figure 14: Activity levels by tenancy type

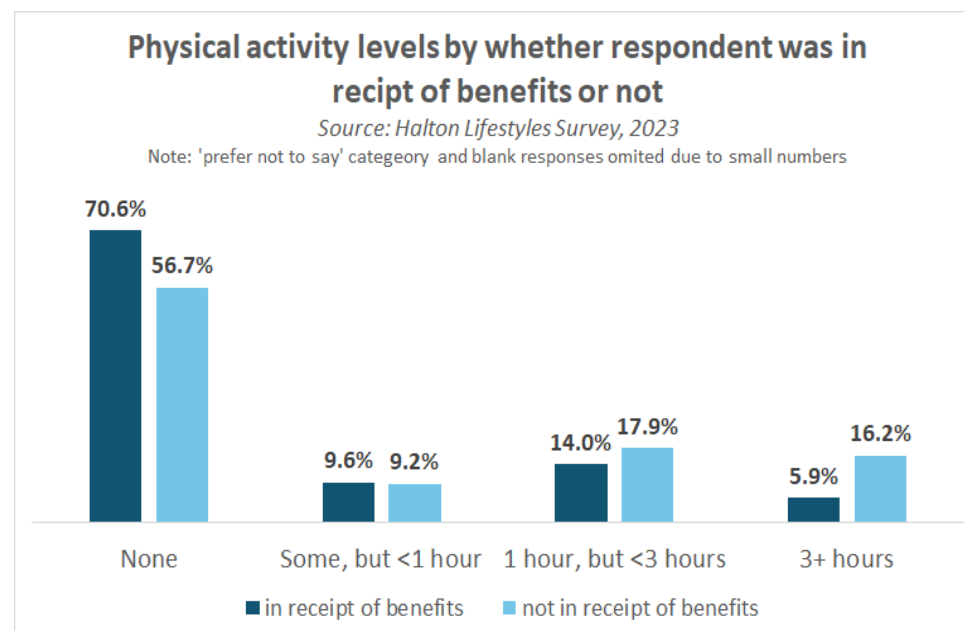


Benefits

Respondents to the Halton Lifestyles Survey 2023 were asked if they were in receipt of any benefits or universal credit (inclusive of disability/sickness, informal carers, working and non-working benefits but excluding child benefits). It has been possible to analyse the levels of physical activity responses by whether people answered yes or no to this question.

The analysis shows there is a considerable difference between the two groups, with those in receipt of benefits being more likely to say they did not do any exercise and a lower proportion saying the amount they did met the CMO recommended levels.

Figure 15: Activity levels by whether respondents were in receipt of benefits or not



ACCESS TO OUTDOOR/ GREEN SPACE

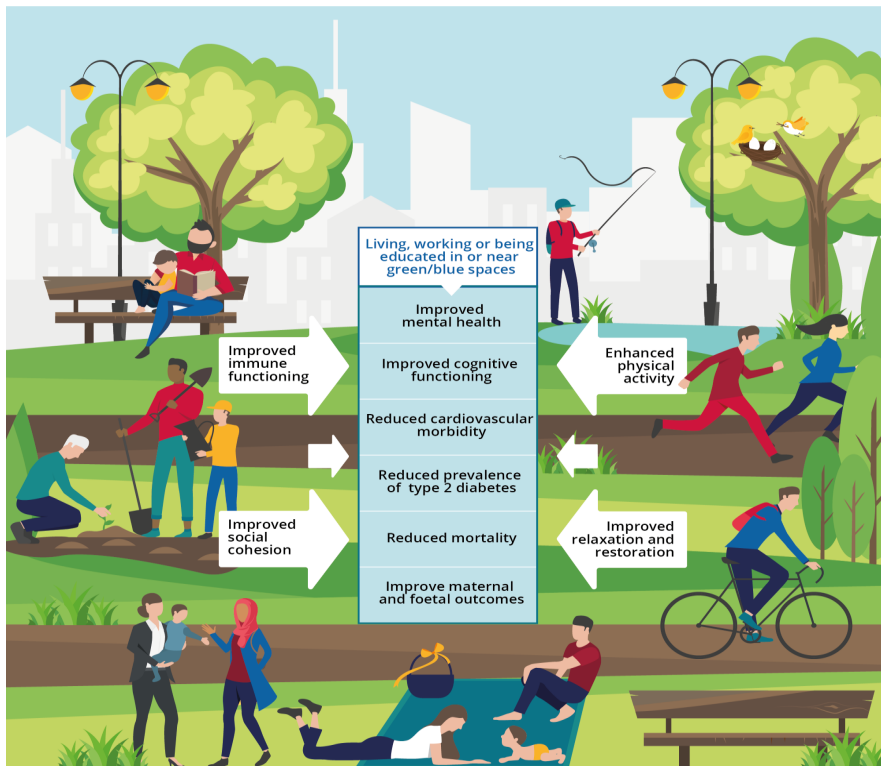
The coronavirus pandemic exposed how important good quality outdoor space is for our physical and mental health and wellbeing.

Despite the benefits of spending time outdoors, access to this public green and blue space is not distributed equitably, with many losing out because of a lack of suitable, good-quality local provision or more complex societal barriers.

Urban nature takes many forms, including:

- ♦ green spaces, such as parks, nature reserves, community gardens, city farms, and woodland
- ♦ blue spaces, such as rivers, lakes, ponds, canals, and the sea.

Figure 15: health benefits of access to outdoor space

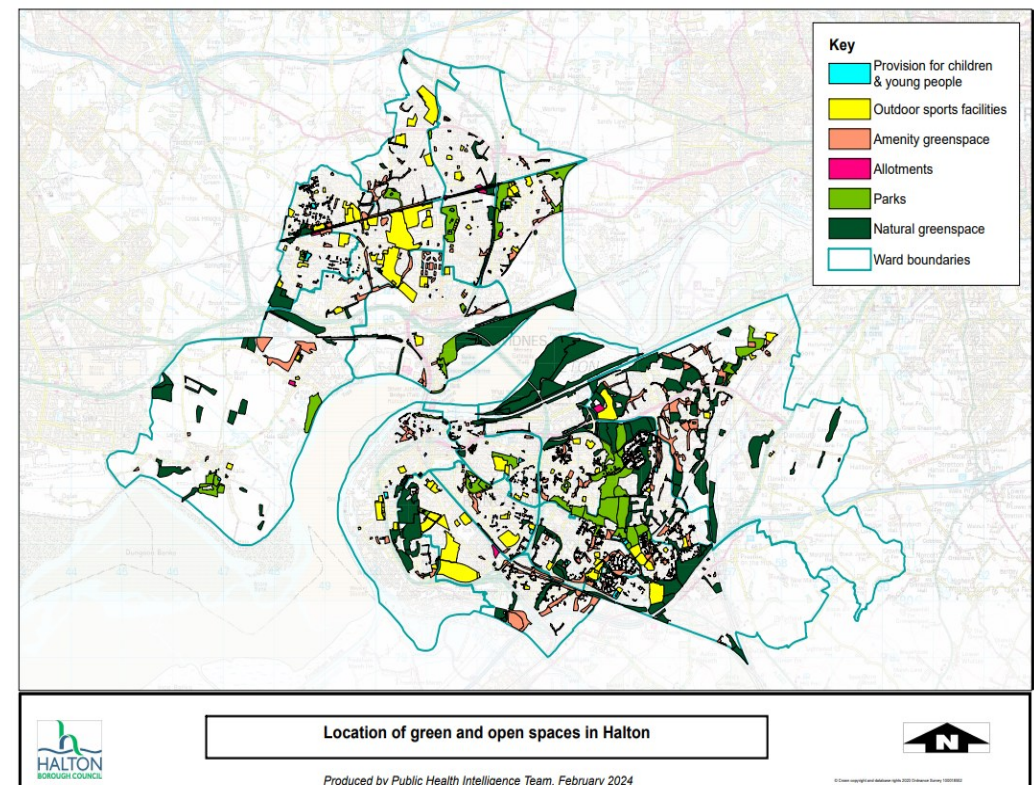


Whilst many of us have access to private gardens as part of our home and some the use of private outdoor sports facilities access to public open space is lacking in some parts of Halton.

Open and green spaces

Ordnance Survey (OS) data is available to map open and green space locations, including natural green space, public parks, sports facilities, play areas and allotments. Data shows many areas having relatively good provision but there are as many parts of the borough without it. Note: this does not include private gardens and greenery along our roads.

Figure 16: map of different types of open space in Halton



The barriers to physical activity for those with long-term conditions

Insight work has found that 61% of people with long-term conditions and 68% of people with multi-morbidities are not content with their physical activity levels and wish to be more active.

The Richmond Group of Charities' Sport and Physical Activity project identified a need for insight into physical activity and long-term conditions. It commissioned research with individuals with long-term conditions and people close to these individuals, to understand the barriers that prevent those with long-term conditions from engaging in physical activity, as well as other factors.

The research found that people with long-term conditions experience both internal and external barriers to exercise. Internal barriers come from within those with long-term conditions themselves, and external barriers are factors external to those with long-term conditions, which make it harder for them to exercise. The latter are often practical or logistical.

Internal barriers are perceived to be greater than external barriers and include:

pain before, during or after physical activity

feeling tired before, during or after physical activity

breathlessness before, during or after physical activity

lack of motivation

not knowing what types of activity are right for them or their condition

fear of hurting themselves

feeling embarrassed

feeling unsafe in public spaces

Within this, there is agreement that barriers arising from the symptoms of long-term conditions are greatest, such as pain, feeling tired and breathlessness.

Both exercise and physical activity are seen as “not for people like me” amongst inactive participants with multiple long-term conditions. However, the research found that the

majority of people with a long-term health condition want to be active.

Almost all qualitative participants from this research found it much easier to cite barriers to physical activity than benefits. The benefits cited most commonly were psychological, including increased self-esteem and confidence, and improved mood and motivation. Social benefits are also important for many, such as getting out of the house and seeing people, which was seen to support the psychological benefits.

[Health matters: physical activity - prevention and management of long-term conditions - GOV.UK](#)

The Richmond Group of Charities has published Millions more moving, a report informed by lived experience insights on how national policymakers can tackle inactivity by supporting people with long-term conditions to move more. It sets out three 'shifts' in the policy landscape that will help maximise the role of movement in health:

- ◆ Ensure leadership and accountability
- ◆ Embed movement in healthcare
- ◆ Encourage movement as part of everyday life

[Millions more moving - Richmond Group](#)

REFERENCES

- Birtwistle SB, Ashcroft G, Murphy R, Gee I, Poole H, Watson PM. Factors influencing patient uptake of an exercise referral scheme: a qualitative study. *Health Educ Res.* 2019 Feb 1;34(1):113-127. doi: 10.1093/her/cyy038
- Borodulin K, Sipilä N, Rahkonen O, Leino-Arjas P, Kestilä L, Jousilahti P, Prättälä R. Socio-demographic and behavioral variation in barriers to leisure-time physical activity. *Scand J Public Health.* 2016 Feb;44(1):62-9. doi: 10.1177/1403494815604080
- Chatterjee HJ, Camic PM, Lockyer B, Thomson LJM. Non-clinical community interventions: a systematised review of social prescribing schemes. *Arts & Health* 2017, 10(2), 97–123. <https://doi.org/10.1080/17533015.2017.1334002>
- Department of Health & Social Care (DHSC) UK Chief Medical Officers' Physical Activity Guidelines 2019 [Online] Available from: <https://assets.publishing.service.gov.uk/media/5d839543ed915d52428dc134/uk-chief-medical-officers-physical-activity-guidelines.pdf>
- Escobar-Roldan ID, Babyak MA, Blumenthal JA. Exercise Prescription Practices to Improve Mental Health. *J Psychiatr Pract.* 2021 Jul 28;27(4):273-282. doi: 10.1097/PRA.0000000000000554
- Girdler SJ, Confino JE, Woesner ME. Exercise as a Treatment for Schizophrenia: A Review. *Psychopharmacol Bull.* 2019 Feb 15;49(1):56-69
- Ige-Elegbede J, Pilkington P, Gray S, Powell J. Barriers and facilitators of physical activity among adults and older adults from Black and Minority Ethnic groups in the UK: A systematic review of qualitative studies. *Prev Med Rep.* 2019 Jul 13;15:100952. doi: 10.1016/j.pmedr.2019.100952
- Jones A, Hillsdon M, Coombes E. Greenspace access, use, and physical activity: understanding the effects of area deprivation. *Prev Med.* 2009 Dec;49(6):500-5. doi: 10.1016/j.ypmed.2009.10.012
- Kilgour AHM, Rutherford M, Higson J, Meredith SJ, McNiff J, Mitchell S, Wijayendran A, Lim SER, Shenkin SD. Barriers and motivators to undertaking physical activity in adults over 70—a systematic review of the quantitative literature, Age and Ageing, Volume 53, Issue 4, April 2024, afae080, <https://doi.org/10.1093/ageing/afae080>
- Koshoedo SA, Paul-Ebhohimhen VA, Jepson RG, Watson MC. Understanding the complex interplay of barriers to physical activity amongst black and minority ethnic groups in the United Kingdom: a qualitative synthesis using meta-ethnography. *BMC Public Health.* 2015 Jul 12;15:643. doi: 10.1186/s12889-015-1893-0
- Nightingale CM, Rudnicka AR, Ram B, Shankar A, Limb ES, Procter D, Cooper AR, Page AS, Ellaway A, Giles-Corti B, Clary C, Lewis D, Cummins S, Whincup PH, Cook DG, Owen CG. Housing, neighbourhood and sociodemographic associations with adult levels of physical activity and adiposity: baseline findings from the ENABLE London study. *BMJ Open.* 2018 Aug 17;8(8):e021257. doi: 10.1136/bmjopen-2017-021257. PMID: 30121597; PMCID: PMC6104748.
- Mahindru A, Patil P, Agrawal V. Role of Physical Activity on Mental Health and Well-Being: A Review. *Cureus.* 2023 Jan 7;15(1):e33475. doi: 10.7759/cureus.33475
- Moreno JP, Johnston CA. Barriers to Physical Activity in Women. *American Journal of Lifestyle Medicine.* 2014;8(3):164-166. doi:10.1177/1559827614521954
- Noetel M, Sanders T, Gallardo-Gómez D, Taylor P, Del Pozo Cruz B, van den Hoek D, Smith JJ, Mahoney J, Spathis J, Moresi M, Pagano R, Pagano L, Vasconcellos R, Arnott H, Varley B, Parker P, Biddle S, Lonsdale C. Effect of exercise for depression: systematic review and network meta-analysis of randomised controlled trials. *BMJ.* 2024 Feb 14;384:e075847. doi: 10.1136/bmj-2023-075847
- Office for Health Improvement & Disparities (OHID) Physical activity: applying All Our Health. 2022 [Online] Available from: <https://www.gov.uk/government/publications/physical-activity-applying-all-our-health/physical-activity-applying-all-our-health#:~:text=The%20UK%20Chief%20Medical%20Officers,reducing%20extended%20periods%20of%20sitting>
- Oliver EJ, Dodd-Reynolds C, Kasim A, Vallis D. Inequalities and Inclusion in Exercise Referral Schemes: A Mixed-Method Multi-Scheme Analysis. *Int J Environ Res Public Health.* 2021 Mar 16;18(6):3033. doi: 10.3390/ijerph18063033
- Patel NA, Kianoush S, Jia X, Nambi V, Koh S, Patel J, Saeed A, Ahmed AI, Al-Mallah M, Agarwala A, Virani SS, Al Rifai M. Racial/Ethnic Disparities and Determinants of Sufficient Physical Activity Levels. *Kans J Med.* 2022 Aug 22;15:267-272. doi: 10.17161/kjm.vol15.17592
- Pelletier C, Cornish K, Amyot T, Pousette A, Fox G, Snadden D, Manyanga T. Physical activity promotion in rural health care settings: A rapid realist review. *Prev Med Rep.* 2022 Jul 9;29:101905. doi: 10.1016/j.pmedr.2022.101905
- Peng B, Ng JYY, Ha AS. Barriers and facilitators to physical activity for young adult women: a systematic review and thematic synthesis of qualitative literature. *Int J Behav Nutr Phys Act.* 2023 Feb 27;20(1):23. doi: 10.1186/s12966-023-01411-7
- Public Health England, 2020. Guidance: Health Matters: physical activity – prevention and management of long-term conditions [Online] Available from: <https://www.gov.uk/government/publications/health-matters-physical-activity/health-matters-physical-activity-prevention-and-management-of-long-term-conditions>

REFERENCES

- Salman D, Farooqi M, McGregor A, Majeed A. Time spent being sedentary: an emerging risk factor for poor health. *Br J Gen Pract.* 2019 Jun;69(683):278-279. doi: 10.3399/bjgp19X703781
- Scholes S, Mindell JS. Income-based inequalities in self-reported moderate-to-vigorous physical activity among adolescents in England and the USA: a cross-sectional study. *BMJ Open.* 2021 Feb 15;11(2):e040540. doi: 10.1136/bmjopen-2020-040540
- Sharma N, Chakrabarti S, Grover S. Gender differences in caregiving among family - caregivers of people with mental illnesses. *World J Psychiatry.* 2016 Mar 22;6(1):7-17. doi: 10.5498/wjp.v6.i1.7
- Shuval K, Li Q, Gabriel KP, Tchernis R. Income, physical activity, sedentary behavior, and the 'weekend warrior' among U.S. adults. *Prev Med.* 2017 Oct;103:91-97. doi: 10.1016/j.ypmed.2017.07.033
- Singh B, Olds T, Curtis R, Dumuid D, Virgara R, Watson A, Szeto K, O'Connor E, Ferguson T, Eglitis E, Miatke A, Simpson CE, Maher C. Effectiveness of physical activity interventions for improving depression, anxiety and distress: an overview of systematic reviews. *Br J Sports Med.* 2023 Sep;57(18):1203-1209. doi: 10.1136/bjsports-2022-106195
- Sørensen JB, Skovgaard T, Puggaard L. Exercise on prescription in general practice: a systematic review. *Scand J Prim Health Care.* 2006 Jun;24(2):69-74. doi: 10.1080/02813430600700027
- Sørensen J, Sørensen JB, Skovgaard T, Bredahl T, Puggaard L. Exercise on prescription: changes in physical activity and health-related quality of life in five Danish programmes, *European Journal of Public Health*, Volume 21, Issue 1, February 2011, Pages 56–62, <https://doi.org/10.1093/eurpub/ckq003>
- Sport England, 2023. Active Lives: Overview [Online] Available from: <https://www.sportengland.org/research-and-data/data/active-lives>
- Sport England, no date . [Online] Available from: [Faith groups | Sport England](#)
- The Lancet Public Health. Time to tackle the physical activity gender gap. *Lancet Public Health.* 2019 Aug;4(8):e360. doi: 10.1016/S2468-2667(19)30135-5. Epub 2019 Jul 22. PMID: 31345750
- WHO, 2024. Physical Activity: Key Facts [Online] Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>