Healthy Weight and Good Nutrition JSNA Profile Pack

Role of Physical Activity in Healthy Weight

Supplementary Document

Physical activity, as a standalone health factor, falls outside the scope of the Healthy Weight and Good Nutrition JSNA. The topic of increasing physical activity for health will be explored separately in a JSNA planned for 2026. However, within this JSNA, movement and physical activity are still relevant in relation to healthy weight, particularly in terms of energy balance and the relationship between energy intake and expenditure.

Diet is the primary driver of weight loss, while physical activity supports energy balance and helps keep weight stable. Weight loss, and prevention of regain, usually requires over 150 minutes weekly, or 45-60 minutes daily, of activity plus dietary restriction; creating an energy deficit through diet is easier, more reliable and greater than with exercise alone (1-4). Staying active benefits health and lowers disease risk regardless of weight, improving strength, endurance, balance, mobility, digestion, circulation, insulin sensitivity and endorphin release (1). Diet influences movement, and exercise enhances nutrient use in the body.

Physical inactivity and too much sitting increase unhealthy weight by lowering energy use and raising body fat (5). Sitting time is linked to higher risks of weight gain, heart disease, cancer outcomes, and overall death (4,6,7). Exercise helps prevent weight regain and reduces cardiometabolic risk, regardless of weight change (5). Being less sedentary benefits health at any age and weight, supporting obesity prevention and improving long term health outcomes. (1,4,6)

Social inequality is a complicating factor in the link between the built environment and obesity, and obesity risk itself (8). Features like urbanisation, land use mix, and urban sprawl affect weight: higher sprawl and car dependence raise obesity rates, while dense, mixed-use areas that support walking tend to lower obesity risk. (8)

Who is most impacted?

A number of characteristics influence levels of physical activity, which directly impact the ability to achieve and maintain a healthy weight. Key characteristics for people which have the most impact on minutes of activity are (1,9):

Adults (1,9)	Children and Young People (1,9)
• Disabled people and those with a long-term health condition • Age 65 and over • Lower socio-economic groups • Asian, Black and Chinese adults • Pregnant women and parents of children under one • Adults of Muslim faith	• Girls • Other gender (secondary age children) • Low affluence • Asian and Black children • Lack of access to a park, field or outdoor sports space (secondary aged children)

The more key characteristics a person has, the less active they are likely to be. If everyone with one or more characteristics of inequality could be as active as those with none, there

would be 94.9 million more active adults and 328,000 more active children and young people. (1,9)

Nottingham and Nottinghamshire Context

Physical inactivity in Nottingham City remains significantly higher than in Nottinghamshire and the England average, while adult unhealthy weight is also among the highest in the East Midlands (10). In both Nottingham and Nottinghamshire, inactivity and unhealthy weight disproportionately affect people living in more deprived neighbourhoods, those with long-term conditions, and some ethnic groups. These overlapping inequalities drive wider differences in life expectancy, cardiovascular disease, and diabetes prevalence (11).

Nottingham City experiences a triple burden of high deprivation, high physical inactivity and high unhealthy weight and related disease. Physical inactivity rates in adults in Nottingham City are higher than England average and among the highest inactivity rates in the East Midlands (10). For children and young people, over half (52.8%) are not meeting guidelines of an average of 60 minutes or more a day-recommended levels for health (1,10).

Nottinghamshire experiences more hidden inequality, where average rates mask high physical inactivity and unhealthy weight in specific districts and population groups. For adults in Nottinghamshire, 20% are inactive, however in the highest district, Bassetlaw, this is 25.5% (10). For children and young people in some districts and boroughs, up to 62.4% (Gedling) are not meeting the physical activity guidelines (1,10).

Measure	**Notts**	**Ashfield**	**Bassetlaw**	**Broxtowe**	**Gedling**	**Mansfield**	**Newark & Sherwood**	**Rushcliffe**	**Nottingham City**
Physical inactivity prevalence adults (2023/24)	20%	24.2 %	25.5 %	18.3 %	15.4 %	22.3 %	19.3 %	14.9 %	24%
Physically active children and young people (% meeting CMO guidelines)(2024/25)	47.9 %	44.7 %	38.3 %	53.9 %	37.6 %	42.6 %	No data	49.9 %	47.2 %

Red: Significantly worse than the England average

Amber: Statistically similar to the England average

Green: Significantly better than the England average

Table: Prevalence of physical inactivity for adults and physically active children (% meeting CMO guidelines) in Nottingham City and Nottinghamshire by District

Source: Sport England. Active Lives Adult Survey (2023-2024) district level data and Active Lives Children and Young People Survey (Academic Year 2024-2025)

Barriers and Enablers

Barriers

The ability to be active is shaped far more by living conditions and life circumstances (building blocks of health) than by motivation and knowledge alone. When there are missing or unstable building blocks in people's lives, one or more of these blocks can significantly impact their chance to be physically active. Poor transport links, inaccessible public spaces, declining community facilities and unequal access to green space disproportionately impact people already experiencing disadvantage in being physically active. (12)

Impact of Unstable/Missing Building Blocks

Suggested influences to Unstable/Missing building block	**How this could create barriers to being active**
Money and resources (poverty)	Cost of activity, facility cost, clothing, transport, digital financial exclusion
Good work (time insecurity)	Shift work, multiple jobs, caring responsibilities, inactive workplaces/job types
Our Surroundings (unsafe environments)	Poor lighting, poor planning and layout of buildings, lack of green space, lack of toilets, lack of places to rest, litter/fly tipping/dog mess
Transport (poor connectivity)	Traffic, poor road safety and maintenance, car dominated spaces, poor cycling and walking infrastructure and connectedness, topography,
Our homes (poor housing)	Overcrowding, no/limited outdoor space, lack of space to move, limitations on communal spaces, evictions and housing insecurity
Education (poor education or access)	Negative early movement experiences, lack of embedding of physical activity within education and learning settings
Friends, Families and Communities (disjointed communities)	Lack of social connections, no activities happening in the area, public unrest, crime rates, perception of community cohesion, poor intergenerational support, limited digital connection
Food access and experiences (including food insecurity)	Poor access to food provision, not eating well, food insecurity and having an energy imbalance with food, weight stigma, body image

Building Block	**Barrier Summary**
Money & Resources	High costs and financial exclusion limit access to facilities, equipment, and transport.
Work & Time	Irregular or demanding work schedules and caring roles reduce time for activity.
Surroundings	Unsafe or poorly designed environments discourage participation.
Transport	Poor connectivity and infrastructure hinder active travel and access.

Homes	Overcrowding and lack of space prevent movement at home.
Education	Limited physical activity in educational settings and negative early experiences act as barriers.
Community	Weak social connections and low activity provision reduce opportunities.
Food	Food insecurity and poor nutrition affect energy and body image, discouraging activity.

Structural barriers to physical activity

The greatest barriers to physical activity are concentrated among the same groups of people (deprivation, ethnicity, disability, age, gender) who experience the poorest health outcomes that often experience unstable/missing building blocks or structural barriers. Disadvantage accumulates, so a lack of interjection to shift unstable/missing building blocks or structural barriers allows inequalities in physical activity to widen into adulthood and older age. (9)

Age and Life course

Life course stage	What barriers people may experience
Early Years	affordability, safe play, parental time and confidence
Children and Young People	school provision, active travel, peer norms, safe play, affordability, parental time and confidence
Working age	job insecurity, caring roles, mental health
Older adults	mobility, loneliness, accessible environments

Women are consistently less active than men and more likely to be inactive, with lower recovery of activity levels post-pandemic (10). Trans and gender-diverse adults often report lower physical activity levels than cisgender adults (13). Physical inactivity among people with a disability or long-term health condition is driven by structural factors within the building blocks of health that restrict opportunity, access, and inclusion, rather than by lack of interest or capability. For many people with disabilities, the environment disables them, not their condition (14). Inclusive physical activity opportunities are limited, and barriers in information and communication make it difficult to address and overcome these challenges. (14)

Structural exclusions impact racially minoritised, disabled, lower-income, and religiously marginalised groups. Individuals with multiple inequality traits are less active (44%) than those without (75%)(15). Inactivity is frequently associated with trauma, chronic stress, or negative experiences with sport or body image- leading to mental health issues or pain. (16,17)

Enablers

The enablers to physical activity are structurally sound building blocks of health. For this to happen, good spatial planning is needed to create healthy, accessible environments by design, where people feel they belong (18). Effective planning, transport, and accessible community and blue/green spaces enable moving more, where daily physical activity is easy and routine (18). When these elements are poor or unequal, they reinforce existing health

inequalities and make physical activity harder for those already facing disadvantage. A whole systems approach that embeds health equity into planning and healthy place making is essential to ensure everyone can live active, healthy lives. (18)

Summary Table of Themes with Evidence References of Enablers of the Role of Physical Activity

Theme	Summary of Key Points	Evidence Ref(s)
Spatial Planning & Health	Spatial Planning and development influence health by promoting walking, cycling, access to open space and high-quality public realm. These environmental factors support healthier, happier lives, quality public realm.	(18)
Places – Active Design	The physical, economic and social characteristics of places shape physical and mental health. Safe, inclusive, accessible environments with good amenities and community spaces support wellbeing.	(18)
Transport	Good quality, sustainable and affordable transport supports social cohesion, access to education, employment and services, reduces isolation and improves health equity. Lack of accessible transport increases socioeconomic disadvantage, particularly for disabled people. Active travel (walking, wheeling, cycling) is a key health equity intervention.	(19), (20), (21), (22)
Green & Blue Spaces	Green space provision has declined; equitable access to high quality spaces can significantly reduce health costs. Low-income communities, ethnic minorities, older adults and disabled people face the greatest access barriers. Blue spaces offer benefits but similarly lack equitable access quality spaces can significantly reduce health costs.	(23), (24), (25), (26)
Community Spaces & Assets	Community spaces foster connection, reduce isolation and support mental health. However, many face funding shortages and degradation, which limits their availability and health benefits.	(27), (28), (29)
Accessibility in the Built Environment	The design of the built environment affects disabled people's ability to access services, goods and community spaces. Poor accessibility contributes to social isolation and reduced participation.	(30)

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