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Task 1: Social Epidemiological Analysis

The Architecture of Health Inequality: A Social and Epidemiological Study of Adults with Learning Disabilities in the UK.

Introduction

Health inequalities are defined as the unfair and avoidable differences in health status seen within and between populations (World Health Organization, 2023). Having a disability changes the path in life of a person mainly because of social and environmental barriers that lead to extreme health inequalities. The audience of this report is adults with learning disabilities in the UK. We use the social model of disability rather than the medical model in order to be able to understand their risk profile fully. According to Disability Nottinghamshire (2025), this model considers health inequalities as structural exclusion as opposed to biological deficits. This impacts a lot of individuals in the country, with 16.8 million individuals in the UK having a disability (Kirk-Wade, Wong and Stiebahl, 2024). Severe mortality gap is present within this group. According to Morris and Julian (2024), 39% of their deaths can be prevented compared to 9% in general. This inequality is evidence that society is the cause of their health dangers.

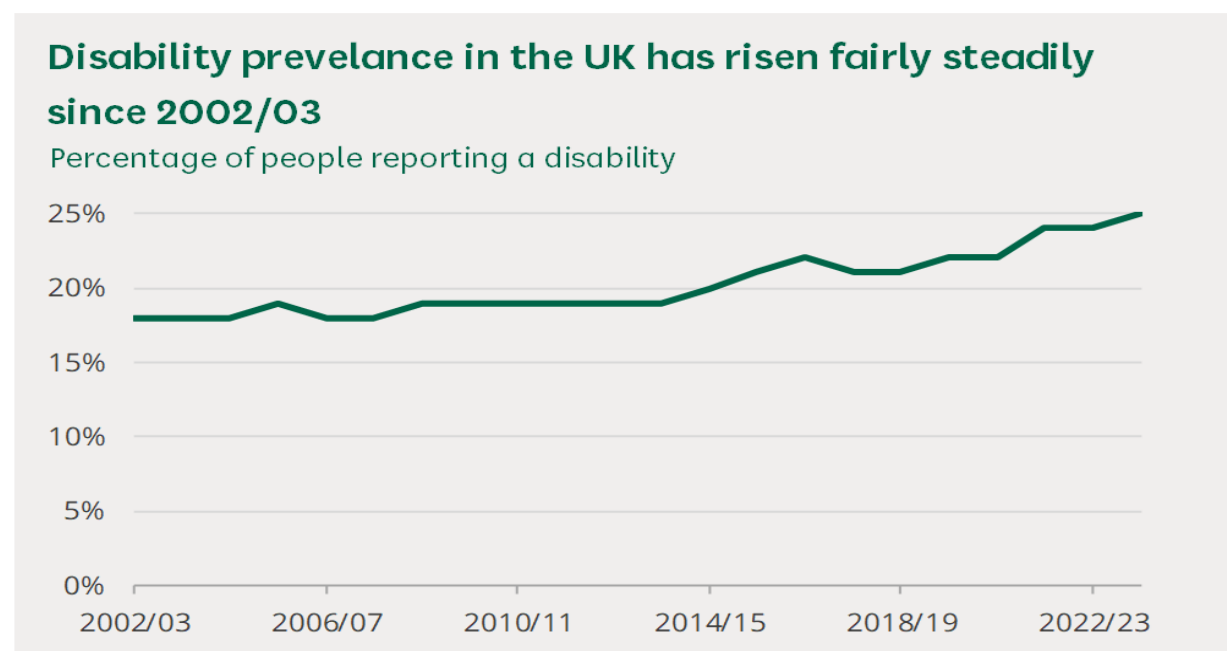


Figure 1 Disability Prevalence in the UK (Kirk-Wade, Wong and Stiebahl, 2024)

Higher Prevalence of Obesity and Metabolic Disorders

The rates of metabolic diseases such as obesity among adults with learning disabilities are very high, due to the severely limited access to safe exercise areas. According to Public Health England (2026), this is a problem:

Weight Classification Learning Disabilities in adults. General Population

<i>Underweight</i>	6.4%	4.9%
<i>Overweight</i>	27.4%	32.0%
<i>Clinically Obese</i>	37.5%	29.9%

This gap is especially greater among females (44%) as opposed to males (32%). Physical inactivity and a reliance on carers lacking nutritional training are underlying causes. The health authorities should invest in community-based weight management programmes among individuals who are impaired in thinking.

Elevated Rates of Severe Mental Illness

Learning disabled people are susceptible to serious mental illness, which is a result of social exclusion throughout their lives. Statistically, severe mental illness is eight point four times more common in this group. Diagnostic overshadowing is often a source of poor treatment. According to Lee, Herrieven and Harrower (2024), this is because when professionals relate new psychiatric symptoms to the already existing learning disability, they delay treatment. The most effective method of providing correct diagnosis is to make diagnostic bias training mandatory to primary care staff so that they can make accurate assessments.

Disproportionate Mortality from Respiratory Disease

Learning disabilities that adults have, combined with the fact that their difficulties with swallowing go undiagnosed, make respiratory diseases cause many early deaths among adults with learning disabilities. The key source of preventable death, according to NHS North East London (2025), is aspiration pneumonia. Their respiratory mortality rate is three point zero three times more than that of the public, according to epidemiological data. The care homes need to adopt modified early warning devices to enable the support workers to detect physical deterioration at an early stage, thus resulting in prompt responses.

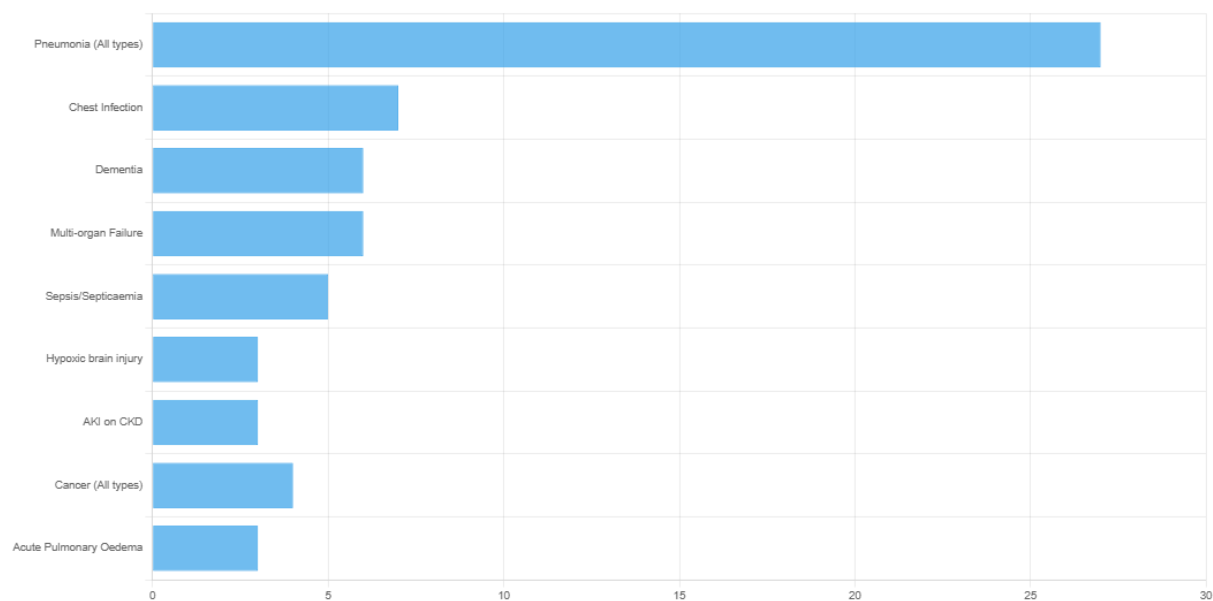


Figure 2 Frequency of Causes of Death (Adapted from NHS North East London, 2025)

Entrenched Poverty and Financial Hardship

Lacking money leads to health problems, with disabled adults covering additional living expenses that standard measures overlook. According to the Joseph Rowntree Foundation (2026), one out of every three disabled working-age adults lives in poverty, in contrast to 17% of non-disabled adults. This was aggravated by the cost-of-living crisis. The National Centre for Social Research (2023) highlights 69% of working-age people at food banks are disabled. This restricts the availability of healthy food, compromising health. For adults with a learning disability, this financial strain is particularly devastating, as they heavily rely on paid carers to help them access, purchase, and cook nutritious meals, meaning poverty directly removes their primary health safeguard. Disability benefits should be raised to reflect real living expenses by the government.

The Disability Employment Gap

Structural ableism contributes to low income and wellbeing as a result of exclusion in the workforce. According to the Department for Work and Pensions (2024), the employment gap is 28.5%; the rate of employment among the disabled stands 53.1% in comparison to 81.6% in case of non-disabled individuals. The employment rate is only 5.1% in the case of people with a learning disability. Reasonable adjustments are not accepted in workplaces. Individuals can be enabled to join mainstream work safely with the help of state-funded supported employment schemes which involve the use of job coaches.

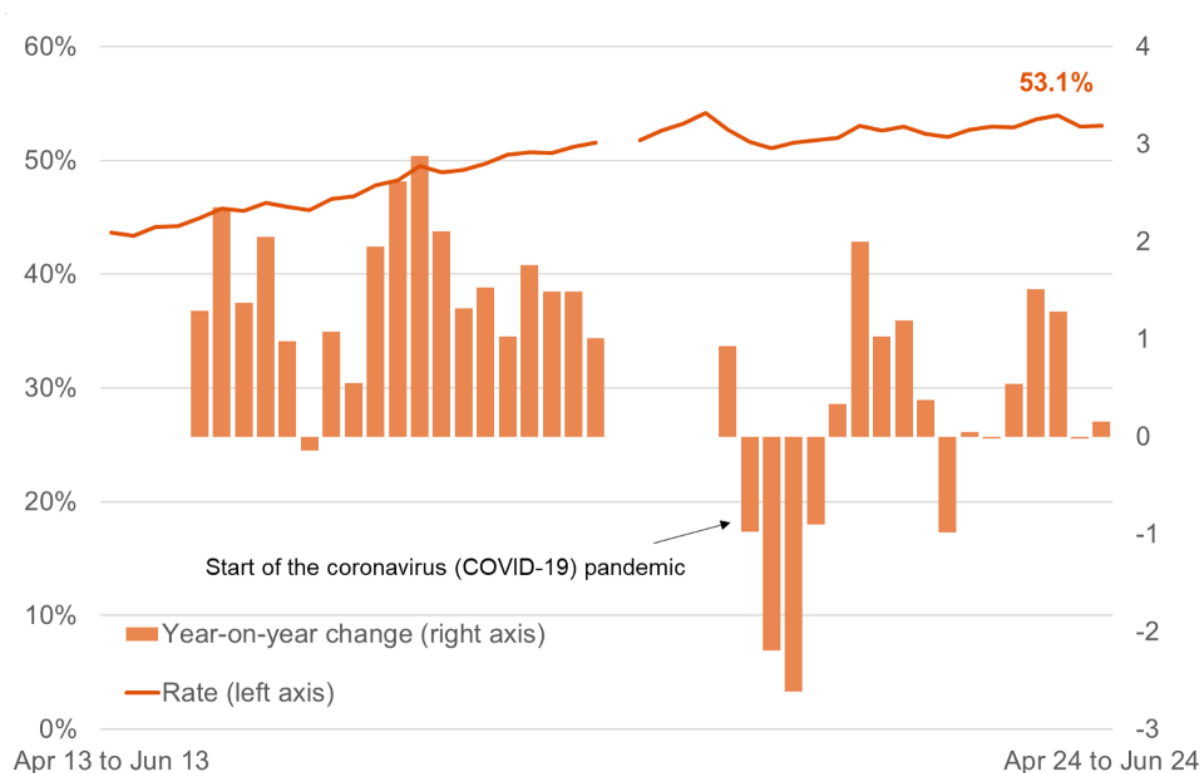


Figure 3 Disability employment rate, people aged 16 to 64, UK, April to June 2013 to April to June 2024 (Department for Work and Pensions, 2024)

Inadequate Housing and Social Isolation

The social isolation and bad housing conditions have a great influence on this group since the environment does not allow them to participate in the whole community. One in five persons with a learning disability is said to be chronically lonely, as opposed to 15-30% of the general population. This isolation is closely related to the housing inequality. Only 7% of English homes have minimal accessibility features. Moreover, the mental illnesses are directly deteriorating due to the unstable housing (Benbow, Forchuk and Ray, 2011). The local councils need to implement accessible building standards and give larger home adaptation grants.

National Response to Reduce Health Inequalities

The UK has national policies to deal with such health inequalities. The NHS Core20PLUS5 policy is one of the key policies that aim to address healthcare inequalities. The PLUS component requires clinical empowerment of individuals with a learning disability, giving them priority with the deprived populations (NHS England, 2021). This compels local providers to minimise waiting periods and make sensible changes. The other reaction is the National Disability Strategy, which is an interdepartmental initiative that emphasises on the

feasible measures to enhance physical infrastructure. It seeks to ensure that public transport is affordable and employment assistance is enhanced to narrow employment gap.

Organisations Supporting the Target Group

This target group is assisted by voluntary organisations as service providers and policy advocates. Charities such as Mencap are concerned with the eradication of health disparities and early mortality among individuals with learning disabilities by putting health systems on their toes. One of the key aspects of their work is campaigning against diagnostic overshadowing. They advocate changes in hospitals, including longer appointment duration and understandable medical data. In addition, epidemiological research is used by these organisations to initiate change. They also demand accountability of health trusts by inflating mortality statistics of national reviews to assure that learning disabled people get the same quality of healthcare.

Conclusion

Overall, the preventable outcomes of systemic socioeconomic and clinical failures are health inequalities among adults with learning disabilities. Indeed, real health equity means breaking down the physical barriers, imposing clinical corrections, and eliminating the abject poverty that fuels these drastic disparities in the United Kingdom.

Task 2: Epidemiological Analysis

Introduction

This report is based on a public health issue of obesity in adults with learning disabilities and it is in the London Borough of Tower Hamlets as an official of the Regional Epidemiology. Clinical obesity is a body mass index of thirty or more, which serves as a significant trigger of non-communicable diseases (World Health Organization, 2023). To put this in context, global obesity rates now approach one billion people, UK national statistics shows 25.9% adult obesity, and Tower Hamlets measures show much higher obesity rates. Overweight increases the risk of heart disease, stroke, and diabetes. The repercussions are worse for adults with learning disabilities. Obesity reduces social mobility, isolates them, makes them dependent on carers, and stigmatises them. It causes a large epidemiological life expectancy disparity. Local action is needed to combat obesity, a serious metabolic disorder caused by uncontrolled fat.



Figure 4 London Borough of Tower Hamlets (London Borough of Tower Hamlets, 2016)

Public Health Measures

The interventions to manage and decrease the effects of obesity should be designed based on three areas of public health. According to Griffiths, Jewell and Donnelly (2005) they are prevention, protection and promotion. Primary prevention is the one that modifies the environment. Indicatively, health teams need to make sure that supported living facilities in Tower Hamlets serve nutritionally balanced meals to prevent weight gain, as opposed to allowing individuals to make dietary decisions on their own (Harris et al., 2017). Health protection will protect this vulnerable group against acute risks. Given that obesity affects the

mechanics of breathing, respiratory vaccinations should focus on this group of people to avoid deadly lung infections (NHS North East London, 2025). Lastly, health promotion entails empowering people and carers, which is achieved by educating them. This involves the translation of complicated dietary instructions into formats that are easy to understand and are not too demanding on the cognitive capacities of the target population.



Figure 5 Prevention, Protection and Promotion (Griffiths, Jewell and Donnelly, 2005)

Key Determinants and Risk Factors

Biological, pharmacological and environmental determinants that interact to form an obesogenic environment, are the driving forces behind high levels of obesity in this population. At the genetic level, some learning disabilities are biologically linked and are known to change the resting metabolic rates and influence appetite regulation, which means that weight gain is probable regardless of lifestyle changes. Medical management of the related conditions has a giant role to play pharmacologically. Lee, Herrieven and Harrower (2024) observe that metabolic syndrome and weight gain that is rapid often result due to the massive prescription of psychotropic drugs, including antipsychotics. Physically, physical inactivity is a significant risk factor with more than 80% of adults with intellectual disability practicing physical activity at below-recommended levels, because of inaccessible facilities (World Health Organization, 2023). Moreover, the poverty rates are high so that many people have to live by the cheap high-processed foods, which makes it impossible to think that one can be blamed with obesity because of making simple lifestyle choices (Joseph Rowntree Foundation, 2026).

Identifying the At-Risk Population

In order to focus the resources, we have to determine the at-risk population in the local data and the London Borough of Tower Hamlets offers a very fitting environment to implement this

intervention. The neighbourhood is typified by abject socioeconomic poverty and a high-density urban environment that highly restricts positive outdoor experiences (London Borough of Tower Hamlets, 2016). The exact number of individuals with learning disabilities here is a significant epidemiological challenge because of systematic recording errors. The primary care records indicate that only the 0.44% is predominant which is equivalent to about 1,472 registered individuals. The true prevalence, however, is estimated through demographic modelling to be 2.14% to 2.27%, or about 5,846 adults (East London NHS Foundation Trust, 2023).

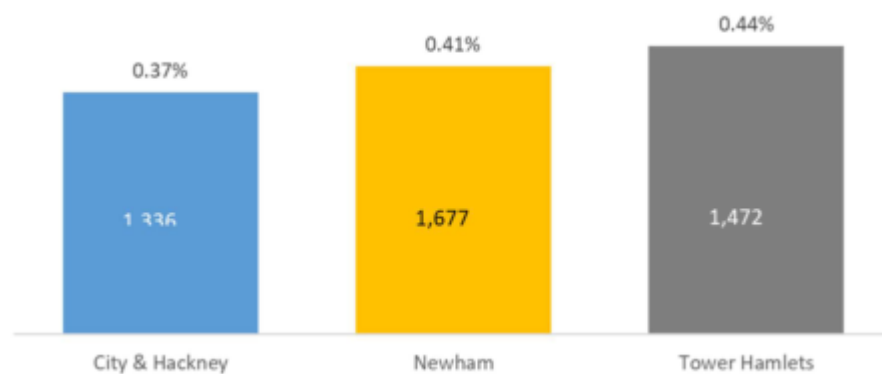


Figure 6 Prevalence of learning disabilities age 18-64yrs (NEL ICB) (East London NHS Foundation Trust, 2023)

In Tower Hamlets thousands of adults are simply off the books and they are not getting regular obesity tests annually. This absent population is mostly in the most deprived wards as indicated by the health needs assessment. At 53.6%, a huge number of which identify themselves as Asian or Asian British. Initial audits showed that less than 30% of service users recorded a body mass index last year (East London NHS Foundation Trust, 2023).

Monitoring and Surveillance Systems

The local and national surveillance systems are needed to monitor the incidence of obesity among this defined population although both have serious methodological problems. In primary care, primary care coding is the predominant type of tracking and in this case, the general practitioners are expected to use electronic registers to record the body mass index in their annual health checks. This information is subsequently processed into bigger systems to track the health of the people. The national data hub run by NHS England Digital (2026) records these health metrics in various regions to determine where it is necessary to support the areas. Nevertheless, this system is wholly dependent on the doctors properly diagnosing and coding the patient with a learning disability in the first instance. These registers only capture the more severe cases, excluding those with mild disabilities due to the huge under-

identification problem in Tower Hamlets. To monitor the long-term results, the region uses mortality surveillance. NHS North East London (2025) uses the LeDeR programme to review the deaths of people with learning disabilities. This system is very good in detecting when unmanaged obesity has terminal results.



Figure 7 NHS LeDeR Programme (NHS North East London, 2025)

Public Health Impact

Based on epidemiology, we are able to clearly identify the devastating short-term and long-term impacts of obesity on this particular population. Short-term excess weight can make a person physically less mobile and make their joints extremely sore. This causes them to be very reliant on the support workers to perform their daily chores and severely restricts their freedom of movement out of the house resulting in extreme social isolation and depression. The long-term outcome of the epidemiology of uncontrolled obesity is the disastrous multi-system failure. It contributes greatly to the prevalence of Type 2 diabetes, respiratory failure and cardiovascular disease. Morris and Julian (2024) demonstrate that these long-term clinical complications are the main contributors to the 39% of the avoidable mortality in this population. Finally, the enduring implication on the wider population health is the continued existence of a colossal disparity in life expectancy, whereby adults with learning disabilities die many years younger than the general population because of avoidable metabolic diseases.

Designing and Evaluating a Health Intervention

In order to address this crisis in Tower Hamlets, a highly-targeted, multi-component health intervention needs to be developed and executed, since the traditional weight loss programmes

do not work with this population, as they are based on the complicated calorie counting process. The offered intervention is based on the systematic dietary modifications and thorough employee education to establish a supportive environment. The essence of the programme will rely on an energy deficit diet, which is easy to follow and apply. Harris et al. (2017) have shown that clinically significant weight loss can be achieved with a multi-component programme with a targeted energy deficit diet of about 600 calories less than maintenance. The dietary plan will not be counting calories but highly visual, easy-read portion control guides which rely on symbols and pictures. Since individuals with learning disabilities do not always purchase or prepare their own meals, the intervention should directly work on their support network. Carers must be trained to help this population maintain a healthy weight, according to Coulman et al. (2025). All paid and unpaid carers in the borough will receive mandatory and accessible nutrition training modules to learn how to control nutrition and not use unhealthy food as a reward. This intervention will be evaluated by health officials using the Plan-Do-Study-Act cycle to measure continual quality improvement. The rise in local clinic BMI records will be the major success metric. Other previous projects found that implementing wheelchair-accessible weighing scales and simple staff training increased body mass index measurements by 3% to 20% (Akkash Purani, 2025). Clinical outcomes will be evaluated by helping 36-41% of individuals lose 5% of their body weight in 12 months.

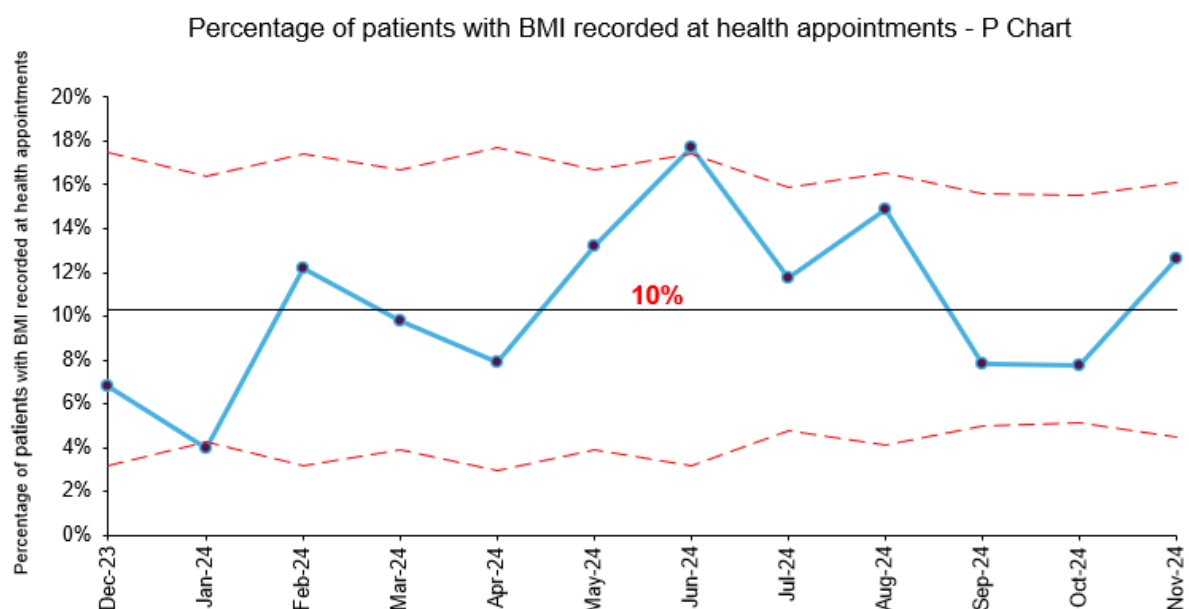


Figure 8 P Chart showing the percentage of patients with weight recorded at health appointments each month (Akkash Purani, 2025)

Strengths and Weaknesses of the Epidemiological Approach

There exist definite strengths and significant weaknesses of this epidemiological approach to obesity management in Tower Hamlets which influences its utility. Its major advantage is that it is based on the triangulation of the local health needs data and national statistics to produce a very precise image of the issue. East London NHS Foundation Trust (2023) was able to offer granular local data to support the tailoring of the intervention specifically to the extreme deprivation and under-identification problems that are specific to the borough. The method is, however, inherently restricted by the misclassification bias in the data systems. Lee, Herrieven and Harrower (2024) note that diagnostic overshadowing implies that physical health problems are usually neglected or miscoded by physicians. As a result, primary care data that has been relied on to design this intervention is probably not complete. It targets primarily those with the severe disabilities that are already on record with the system and fails to cover those with mild cognitive impairments who are the same risk of becoming obese but not showing up in the official registers.

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