

Falls and Hip Fractures in Halton

Summary

- Halton has significantly high rates of emergency admissions due to injuries from falls (ages 65+) than England.
- There are gender differences. Rates of both emergency admissions due to injuries from falls and hip fractures from falls (ages 65+) are higher among females than males in Halton.
- Older people have a higher risk of a fall. Halton's oldest residents (aged 80+) account for approximately two thirds of our falls admissions and hip fracture admissions, though they only account for 22.9% of our 65+ population.
- The oldest residents in the borough were much more likely to have a repeat falls admission.
- There is a moderate-strong relationship between deprivation and falls admissions in Halton; generally as deprivation increases, the rate of falls admissions increases.

Risk factors for falls

The natural ageing process means older people have a higher risk of a fall.¹ There are numerous risk factors for falls that are generally more prevalent among older people, including: muscle weakness, balance problems, poor vision, long-term health conditions (e.g., heart disease, dementia or low blood pressure). However there are numerous other factors that are not inherently linked with being older, but may fall under that category, including: polypharmacy, and the use of psychotropic and anti-arrhythmic medicines, environmental hazards and a number of specific conditions, including: arthritis, cognitive impairment, depression, diabetes, high alcohol consumption, incontinence, Parkinson's disease, stroke and syncope.

Having a history of falls increases the likelihood of a future fall. Major risk factors for fragility include: low bone mineral density, previous fracture, age, female sex, history of falls, glucocorticoids, rheumatoid arthritis, smoking, high alcohol consumption, low BMI and visual impairment.

Recommendations

The National Institute for Healthcare Excellence (NICE) produced guidance illustrating a series of recommendations to prevent falls in older people². These include case/risk identification, remaining physically active and multi-factorial risk-assessments and interventions. However Public Health England produced a document outlining the current evidence surrounding multifactorial falls-

¹ Falls, NHS: <https://www.nhs.uk/conditions/falls/>

² Falls: Assessment and prevention of falls in older people, June 2013:
<https://www.nice.org.uk/guidance/cg161/evidence/falls-full-guidance-190033741>

prevention interventions³. The PHE document draws on systematic reviews produced and published by The Cochrane Library, which delivered the key message that the evidence may illustrate that the strength of multi-factorial interventions are not as effective as previously thought. However, in their summation, PHE also outline there to be ‘...no changes in clinical practice or policy, or strategic, commissioning or service decision relating to multifactorial prevention intervention’, as a result of the systematic reviews carried out in July and September of 2018.

In essence, although the systematic reviews point to multifactorial interventions being less effective in reducing falls, the evidence itself is not of sufficient quality to legitimise making policy or service-level decisions or changes. PHE recommend further work and review of evidence, but that whilst this occurs, the clinical assessment of falls risk factors, including medical conditions which can increase the risk of falls and delivery of interventions that reduce the risk, should continue.

³ Evidence briefing: multifactorial falls-preventions interventions:
<https://www.bgs.org.uk/resources/nfpcg-evidence-briefing-multifactorial-falls-prevention-interventions>

Financial and human cost of falls and hip fractures

A third of people aged 65 and over fall at least once a year and are the most common cause of injury deaths among this age group, which costs the NHS over £2billion a year.⁴

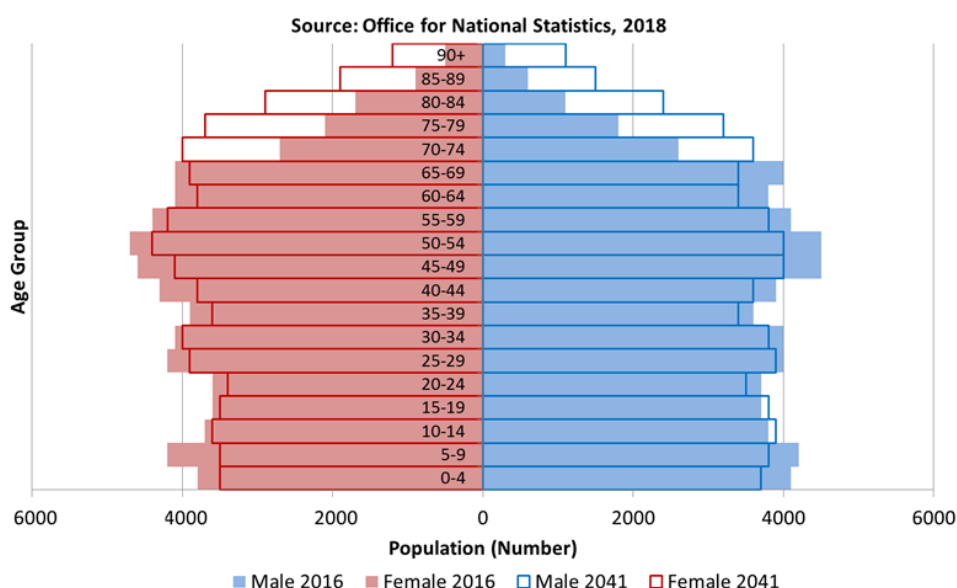
“Stop Falling: Start Saving Lives and Money”⁵ is a joint report by AgeUK and Age Concern. In this report it is estimated hip fractures alone cost the NHS and social care £6 million a day (£2.3 billion per year). With an increasing number of elderly people in England and Halton, there is likely to be a greater proportion of our population who are at-risk of having a fall, or who will have a fall.

Falls in Older People in Halton

1. Halton’s older population

The population of Halton as a whole has been growing and the proportion of the population made up by people aged 65 and over is projected to increase in the coming decades (**Chart 1**). Between 2016 and 2041, it is projected that the Halton population aged 65 plus will increase by 46.4% (from 22,400 to 32,800). Whereas the proportion of people aged under 65 is projected to reduce by 6.9% (from 105,100 in 2016 to 97,900 in 2041). The projected increase in the population aged 65 plus will likely result in a greater number of residents at-risk of a fall in the coming decades.

Chart 1: Resident population estimate of Halton (2016) and projected population for 2041



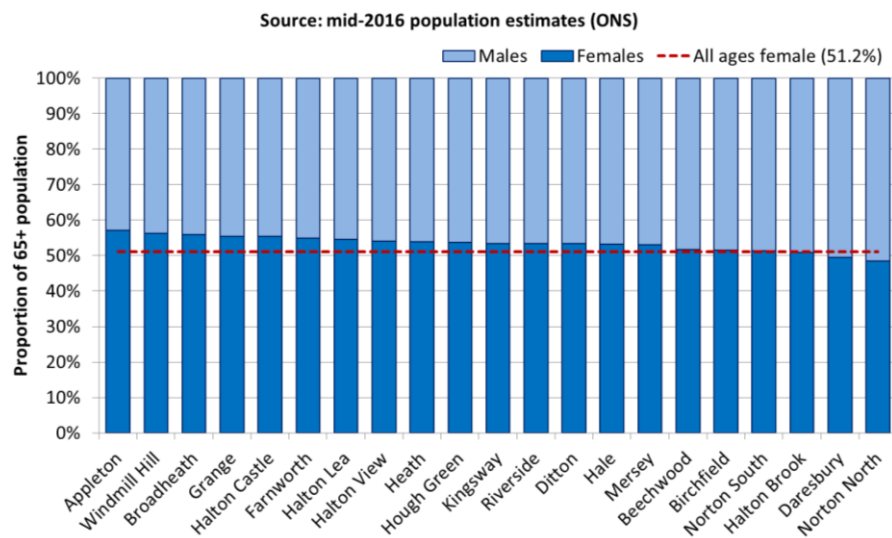
Nationally and locally a greater proportion of the 65 plus population are female; 54.1% of Halton’s 65 plus population. Based on mid-2016 population estimates, this is the case with the majority of the constituent wards of Halton (**Chart 2**). There is wide variation across the borough; in Appleton 57.1% of the older population are female – the highest in the borough - and Daresbury and Norton

⁴ The Human Cost of Falls: <https://publichealthmatters.blog.gov.uk/2014/07/17/the-human-cost-of-falls/>

⁵ Stop Falling: Start Saving Lives and Money: https://www.ageuk.org.uk/documents/en-gb/campaigns/stop_falling_report_web.pdf?dtrk=true

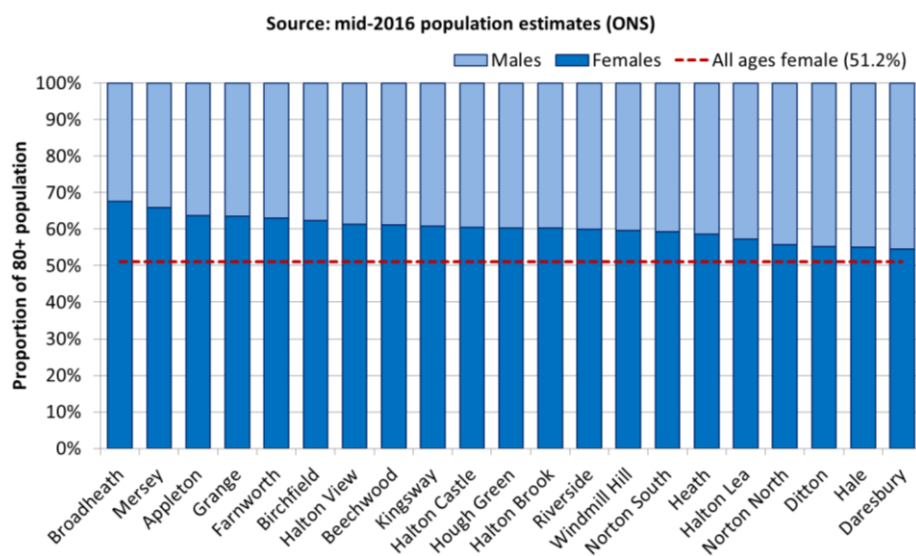
North are the only wards with males (50.5% and 51.5% respectively) accounting for a greater proportion of the 65 plus population than females (49.5% and 48.5% respectively).

Chart 2: Halton's mid-2016 older population (ages 65+) estimate, electoral ward % by sex



The difference in male-female makeup of Halton ward-level populations is further emphasised when looking at the population aged 80 plus (**Chart 3**). Although there is some variation across the wards of Halton, approximately six in every 10 residents aged 80 plus are female. No ward in the borough has more men than women aged 80 plus; the lowest proportion of female residents in this age group is in Daresbury (54.6%; 59 females), with the highest in Broadheath (67.6%; 202 females).

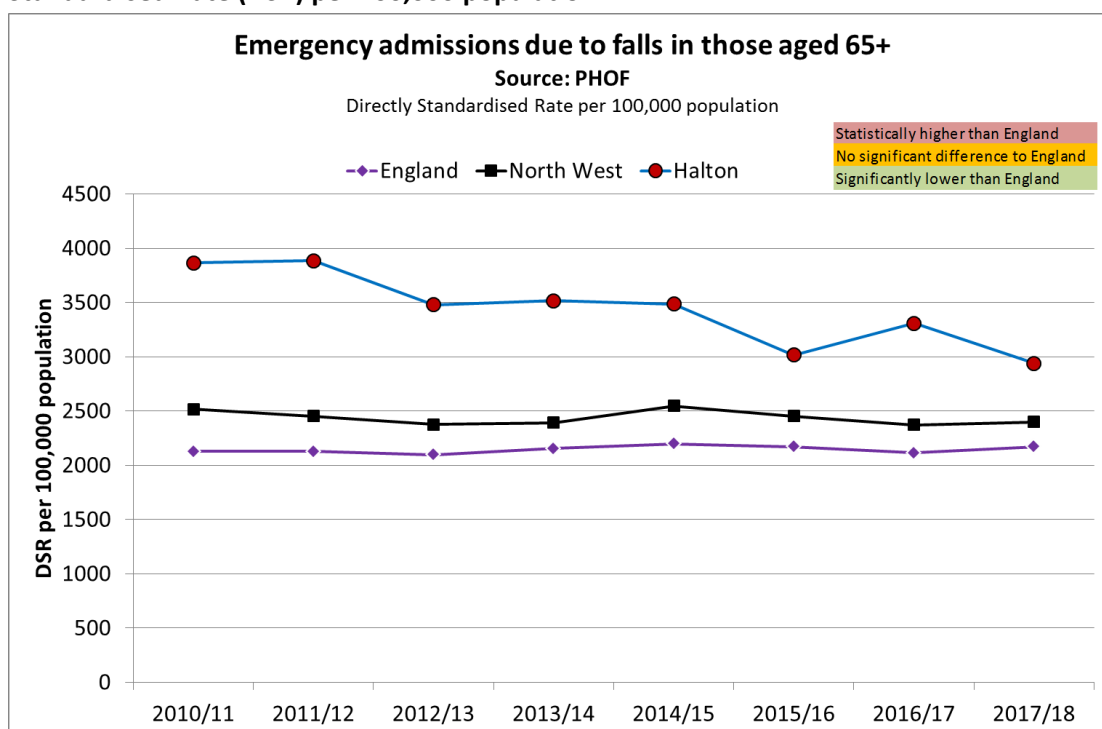
Chart 3: Halton's mid-2016 older population (ages 80+) estimate, electoral ward % by sex



2. Emergency admissions due to injuries from falls

Since 2010/11, Halton has witnessed significantly higher rates of falls admissions amongst its population aged 65 and over, than England and the North West. Although the rate of such admissions increased in 2016/17, there has been a general downward trend and a drop in 2017/18 to the lowest value seen in the period analysed. The gap has now narrowed between Halton and England (**Chart 4**). The picture is altogether different when we consider males and females separately. The rate of emergency admissions due to falls in male Halton residents has fallen to a level that is statistically similar to that of both the North West and England as a whole. Amongst female Halton residents, the rate of such admissions has plateaued since initial reductions to 2015/16 and remains significantly higher than both the North West and England.

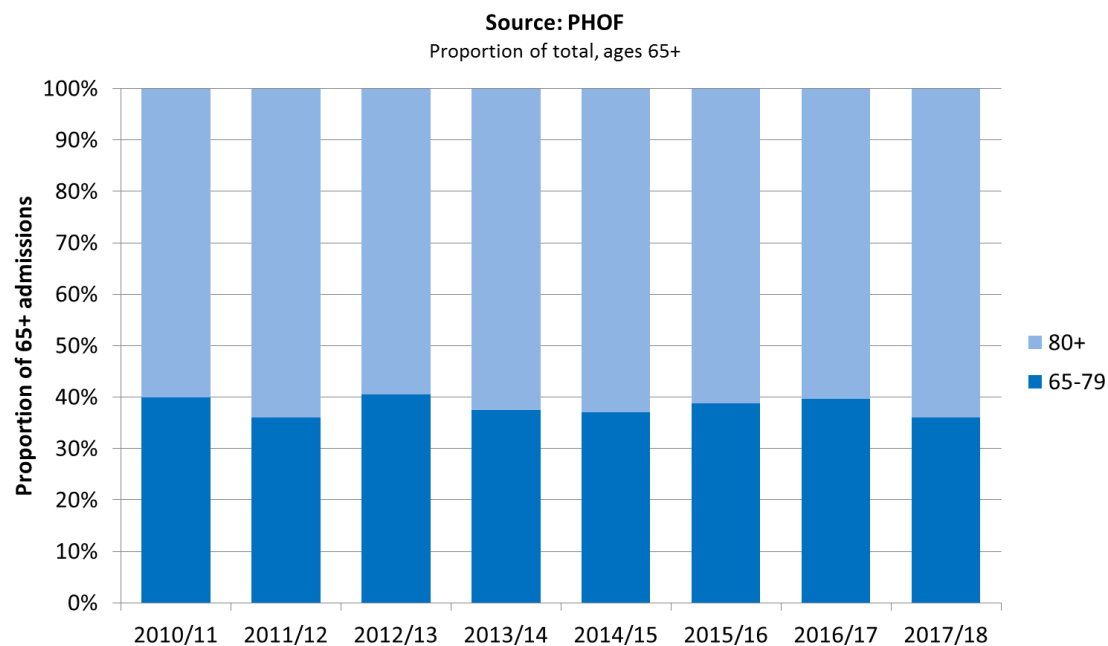
Chart 4: Trend in rate of emergency admissions due to injuries from falls, ages 65+; Directly Standardised Rate (DSR) per 100,000 population⁶



The story is similar amongst Halton residents aged 80 and over. In the borough, the rate of falls admissions has remained significantly higher than that of England since the start of the current decade with the male rate for 2017/18 similar to that of the North West and England. Although Halton residents aged 80+ only account for 22.9% of the total population aged 65 and over, this same age group account for almost two-thirds (64%) of the falls admissions amongst those aged 65 and over (**Chart 5**).

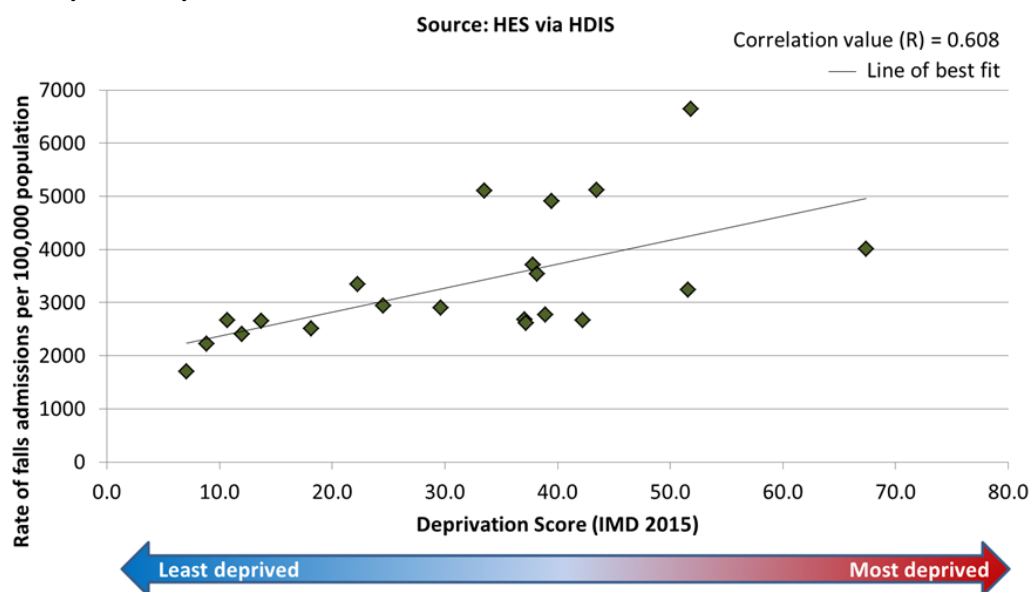
⁶ Please note: 2017/18 data used in this document is provisional and unpublished. As such, caution is advised as the data is still open to change.

Chart 5: Number of emergency admissions due to injuries from falls amongst residents aged 65+, by age and year



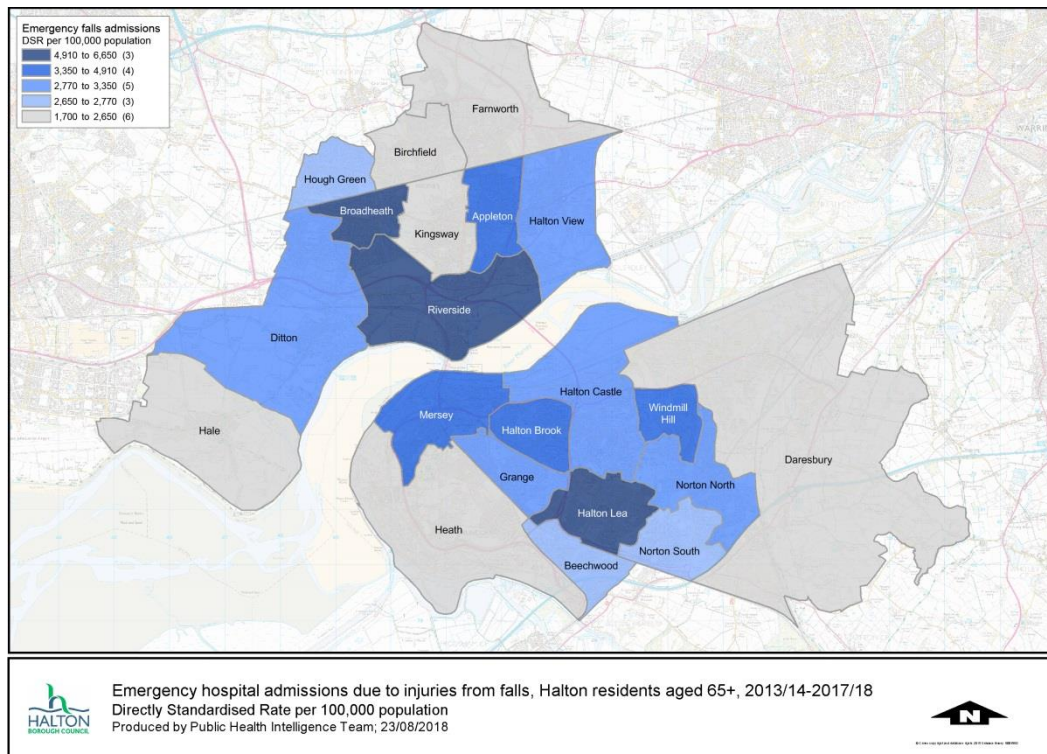
There are wide variations in the rates of falls admissions across Halton (**Map 1**). The correlation at ward-level presents a moderate relationship ($R=0.608$) between deprivation and falls admissions (**Figure 1**), emphasising the link between the two. Although at LSOA-level there is only a very weak correlation ($R=0.373$) between socioeconomic deprivation (IMD 2015) and falls admissions, this may be at least in part due to the small populations and numbers of falls admissions in each LSOAs. This is particularly the case when focused on one year of data.

Figure 1: Scatterplot for falls admissions and deprivation score (IMD 2015) in Halton wards, 2013/14-2017/18



The link with deprivation is evident when looking at a map of the rates of falls admissions across the wards of Halton. The wards with the lowest rates of falls admissions are those in the most affluent areas of the borough: Birchfield, Daresbury, Farnworth and Hale. Whereas more socioeconomically deprived areas witness the highest rates of falls admissions: Halton Lea, Riverside and Windmill Hill.

Map 1: Rate of emergency admissions due to injuries from falls amongst residents aged 65+



3. Repeat falls admissions⁷

Between 2013/14 and 2017/18, there were 2,346 Halton residents aged 65 and over who had an emergency admission to hospital due to injuries from falls; accounting for a total of 3,084 such admissions. Of those 2,346 residents, 21.3% (500) had multiple admissions for falls in the period; accounting for a combined 1,238 (40.1%) of the total admissions (**Table 1**).

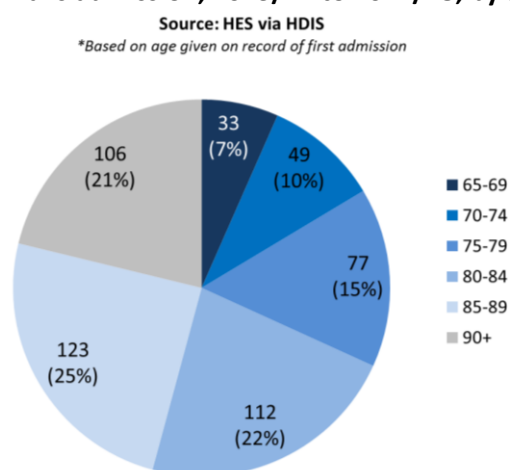
In terms of the source of emergency admissions due to injuries from falls, the majority of the 3,084 happened in the individual's residence (3,003; 97.4%). Only 48 (1.6%) came from care homes and a further 29 (0.9%) came from other NHS hospital provider locations.

Table 1: Breakdown of emergency admissions due to injuries from falls and residents with multiple admissions, 2013/14 to 2017/18

Emergency admissions due to injuries from falls; 2013/14 to 2017/18	
Total falls admissions	3084
Total Number of residents with falls admission	2346
Total Number of residents with multiple falls admissions	500
Total number of admissions by residents with multiple admissions	1238

Of the 500 residents who were admitted multiple times over the five years, the majority were the oldest residents of the borough: 112 (22.4%) aged 80-84; 123 (24.6%) aged 85-89 and 106 (21.2%) aged 90 and over (**Chart 6**). Of the 1,238 admissions made by these 500 residents, 1200 (96.9%) happened in their own place of residence; a further 27 (2.2%) came from care homes.

Chart 6: Halton residents who had more than one emergency hospital admissions due to an injury from falls admission, 2013/14 to 2017/18, by age group

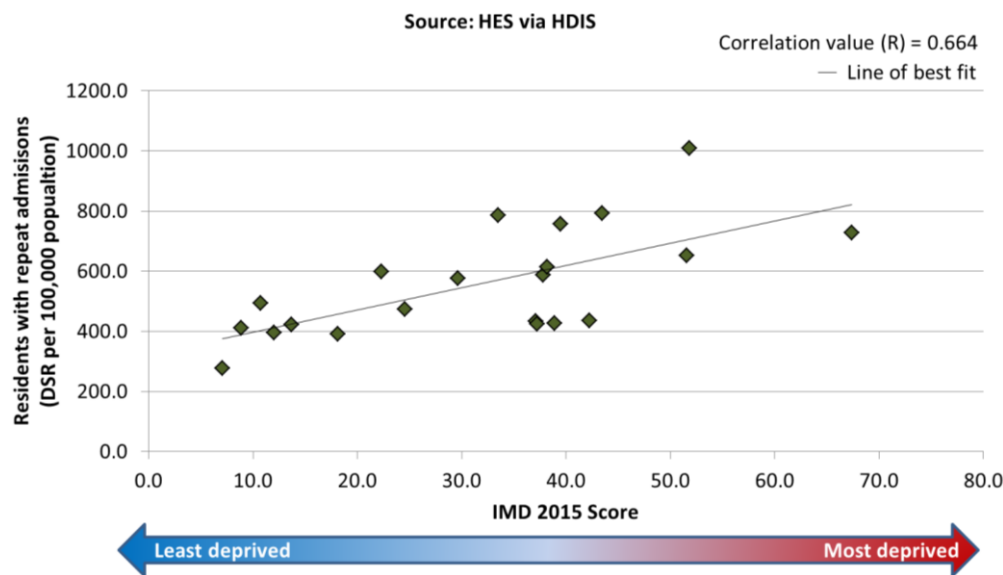


At ward level there is a moderate-strong relationship between socioeconomic deprivation and the rate of residents with multiple admissions⁸ ($R=0.664$) (**Figure 2**); indicating that residents aged over 65 and from the more socioeconomically deprived areas of Halton, were more likely to have repeated emergency admissions to hospital due to injuries from falls.

⁷ Age group for repeat admissions is based on the person's age on the record of their first admission.

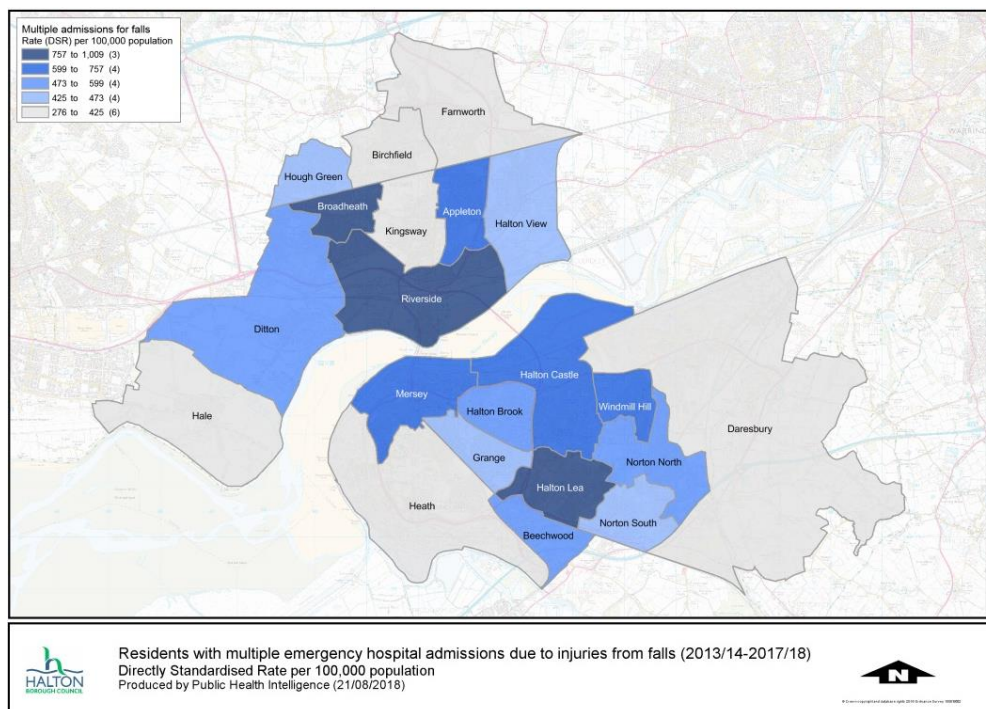
⁸ Directly standardised rates (DSR) per 100,000 population; calculated using the number of individual residents who have more than one emergency admissions due to injury from a fall; rather than their total number of admissions

Figure 2: Scatterplot for Halton residents aged 65+ with repeat falls admissions (2013/14-2017/18) and deprivation score (IMD 2015), by ward



The relationship between deprivation and residents with repeat falls admissions can be made more visible when looking at the rates across the wards of Halton (**Map 2**). In wards with the highest socioeconomic deprivation, there tends to be higher rates of residents who had multiple falls admissions, including: Halton Lea, Riverside and Windmill Hill. Whereas, in those wards with the lowest socioeconomic deprivation, there tends to be much lower rates of residents with multiple falls admissions: Birchfield, Daresbury, Farnworth and Hale.

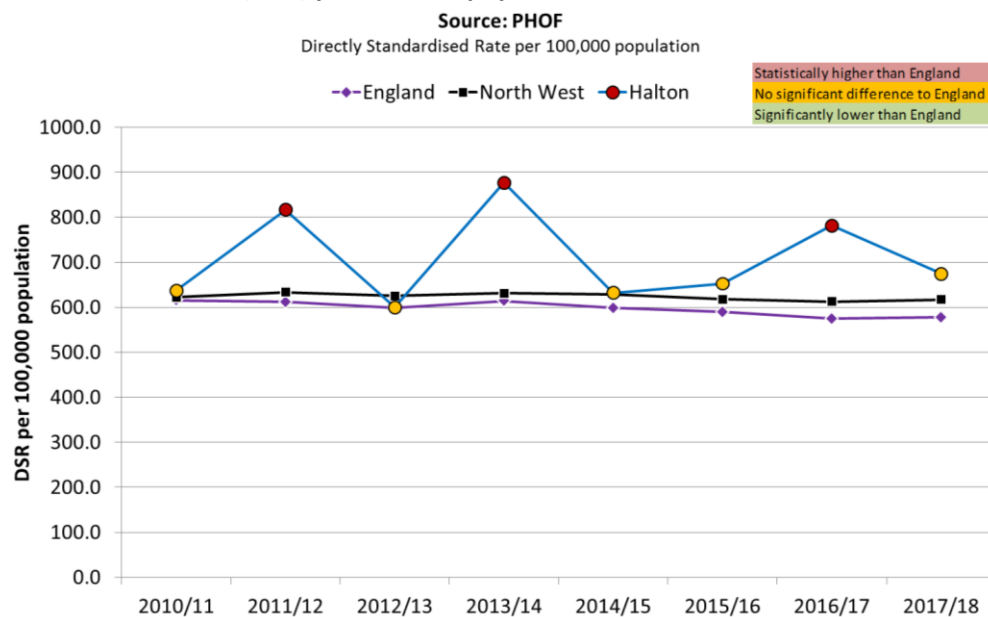
Map 2: Rate per 100,000 population of Halton residents aged 65 and over with multiple emergency admissions due to injuries from falls, 2013/14 to 2017/18



4. Emergency admissions due to hip fractures

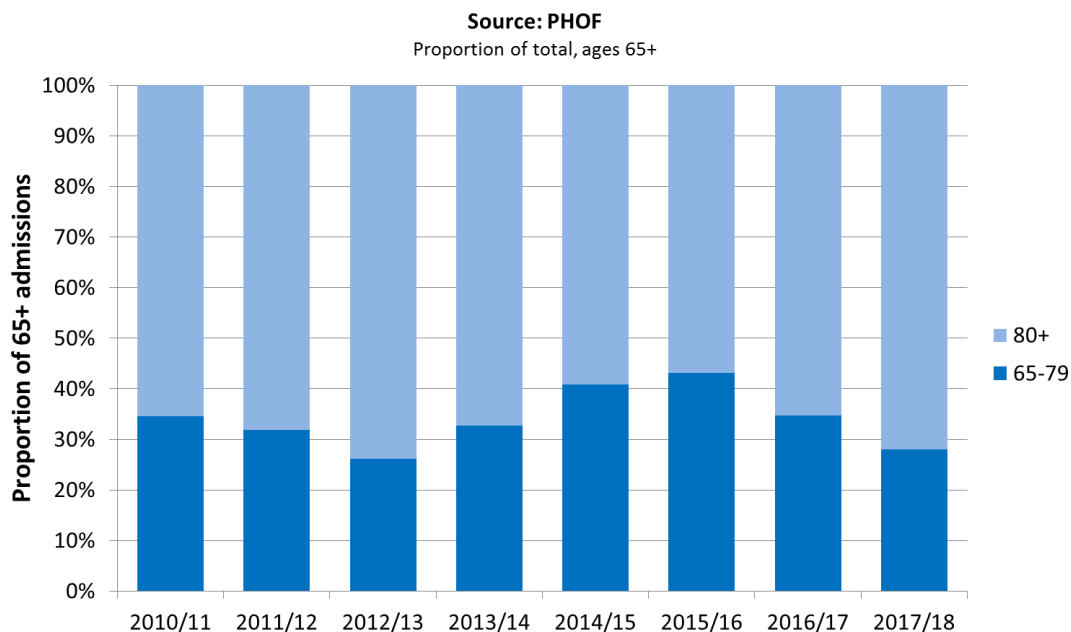
The rate of hip fracture admissions has fluctuated over the last eight years (**Chart 7**), and so it is difficult to determine a definitive trend. There were visible peaks during 2011/12, 2013/14 and 2016/17; however the latest data for 2017/18 indicates that the rate has fallen again back in line with the England and North West averages.

Chart 7: Trend in rate of emergency admissions due to hip fractures, ages 65+; Directly Standardised Rate (DSR) per 100,000 population



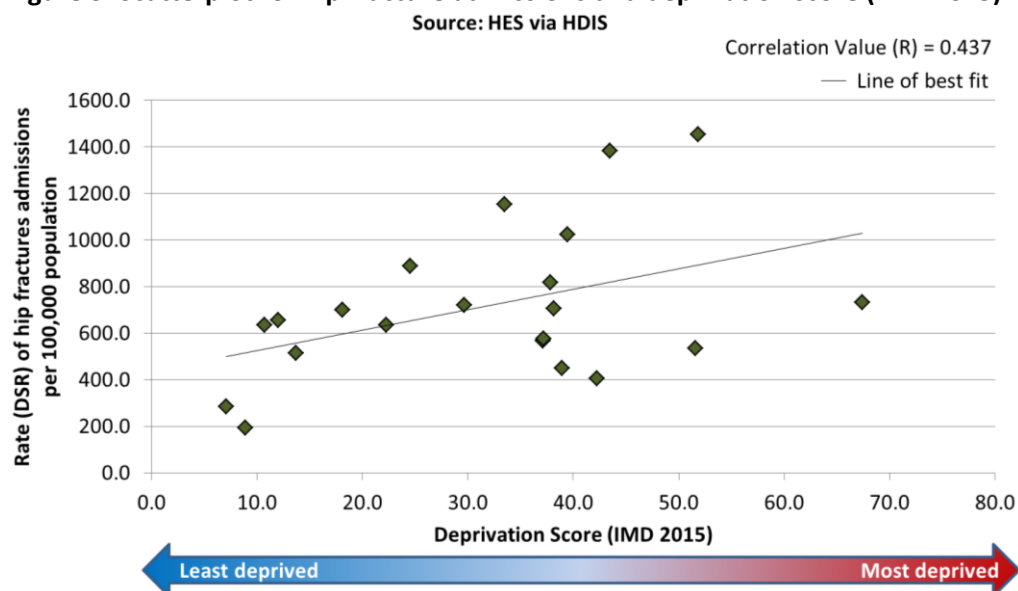
The age breakdown of hip fracture admissions for those aged 65 and over is similar to that of falls admissions in general. As previously noted, although less than a quarter (22.9%) of the 65 plus population is comprised of those aged 80 plus, the majority of hip fracture admissions amongst residents of Halton aged 65 and over, were amongst our oldest residents (**Chart 8**); between 2010/11 and 2017/18 approximately two-thirds (65%) were amongst residents aged 80 and over.

Chart 8: Number of emergency admissions due to hip fractures amongst residents aged 65+, by age and year



There are a lot fewer emergency admissions for hip fractures than there are overall admissions for falls. As such, there is likely to be more variation in the number and rates of hip fracture admissions across the wards of Halton. The correlation across the wards of Halton ($R=0.437$), indicates a weak, positive relationship between deprivation and hip fracture admissions (**Figure 3**).

Figure 3: Scatterplot for hip fracture admissions and deprivation score (IMD 2015) in Halton wards



However, with that said, for 2013/14 to 2017/18 (**Map 3**), there are wards that have both high levels of deprivation and some of the highest rates of hip fracture admissions, including: Ditton, Halton Lea, Riverside and Windmill Hill. The most affluent wards tended to have the lowest rates of hip fracture admissions, such as: Birchfield, Daresbury and Hale.

Map 3: Rate of emergency admissions due to hip fractures amongst residents aged 65+

