

# NHS Tayside

## Director of Public Health

### Annual Report 2023



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# Foreword



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**Director of Public**  
**Health**

Earlier this year the World Health Organisation declared the end of COVID-19 as a public health emergency. That was not to say that COVID-19 was 'over', rather it was to indicate that, worldwide, we had transitioned to living with the infection, like many other infectious diseases which we manage and respond to on a daily basis, in primary and secondary care, and through the continued work of our health protection teams in Public Health.

However, whilst the emergency response has been stepped down, the considerable indirect impact of the pandemic endures and the resulting widening of health inequalities has been further magnified by current inflationary pressures and the cost of living crisis.

Health inequality in Tayside is starkly apparent when comparing the average life expectancy of a man living in an area of greatest deprivation (67 years) with his counterpart living in an area of least deprivation (82 years). Substance use (drugs and alcohol) and suicide are amongst the most common causes of early loss of life for people living in greatest deprivation and are often termed 'deaths of despair'. Through collective action though we can make a difference and this has been shown in the current reduction in drug-related harm in Dundee.

Furthermore, other considerable public health challenges continue. Whilst the number of people who smoke is continuing to decrease, we are still managing the health impact from exposure in previous years, and rising obesity levels are also taking a significant toll on people's lives. New risks to health are becoming increasingly urgent to address, most notably the widespread emergence of vaping and the existential threat of climate change.

We all have a vested interest in improving health in our communities, for friends, families, colleagues and businesses. This report summarises some of the targeted interventions being progressed by Public Health but it is vital that actions are prioritised across all settings to improve health and wellbeing, be it quality housing, workplace, leisure activities (where alcohol is not a focus), promotion of healthy eating and exercise.

We must continue to focus on creating the best possible environment for our current communities and future generations, where the protection and promotion of good health and wellbeing is the priority for all and is cherished. All of us have that responsibility and together, by building on current work and seeking new opportunities, we can achieve it for the people of Tayside.



# Executive Summary

- The current Tayside population is 417,650: 153,810 people (37%) live in Perth & Kinross, 147,720 (35%) in Dundee City and 116,120 (28%) in Angus.
- The median age of people living in Dundee City (38 years) is almost a decade lower than people living in the other two local authority areas.
- The number of people aged over 75 in Tayside is expected to increase by 24% between 2018 and 2028.
- Life expectancy in Scotland is the lowest of all the UK countries and no longer increasing. While life expectancy overall in Tayside is higher than the Scottish average, it varies across the region. Males born in the most deprived areas in Dundee City are on average likely to live 14.1 years fewer than males in the least deprived areas of Dundee City.
- The proportion of life spent in good health varies across Tayside. Males in Dundee City are currently experiencing decreasing healthy life expectancy, with men born currently anticipated to live only 55.9 years in good health on average.
- Premature mortality in Tayside is three times greater in the most deprived areas than in the least deprived areas. Drug and alcohol-related deaths and suicide disproportionately impact people in the most deprived areas of Tayside.
- The number of people living in Scotland with type 1 and type 2 diabetes has steadily increased over the last 10 years. In Tayside there were 1,596 new cases diagnosed in 2022 with the majority (approx 90%) being new cases of type 2 diabetes.
- Trends in the diagnosis of new cancers have changed very little over the past 10 years, however, data for 2020 and 2021 show that there was a decrease in the number of new diagnoses in 2020, during the COVID-19 pandemic, and a subsequent increase in 2021.
- While lung cancer is the most common cancer in Scotland, incidence has decreased over time. Liver cancer mortality has increased the most (by 38%) over the last decade with the main risk factors being obesity, alcohol and infection with hepatitis B and C viruses.
- The suicide rate in Tayside is higher than the national average, with Dundee City showing particularly high rates of 22 per 100,000 population compared to 14 per 100,000 population for Scotland, with there being a substantial increase affecting males over the last decade.
- Alcohol-related health harm is increasing in Tayside. Alcohol-related hospital admissions are 30% higher in Dundee City than the national average while deaths are 26% higher.
- Drug-related hospital admissions have increased in Dundee City by almost 800% in the last 18 years and current rates in Dundee City are more than double the national average.
- Alcohol-related hospital admissions are five times higher for people in the most deprived areas compared to the least deprived, while drug-related admissions are 16 times higher.

- Post-pandemic data shows that rates of sexually transmitted infections (STIs) are increasing once again with Tayside showing higher rates of infection than Scotland. Gonorrhoea infection rates more than doubled in Tayside between 2019 and 2022.
- Teenage pregnancy rates have been decreasing over time however rates in Angus and Dundee City are consistently higher than the national average. In 2018-20, the rate for Scotland was 27 per 1,000 females compared to 38 for Angus and 30 for Dundee City.
- Termination rates have been slowly but steadily increasing over the past decade with the rate in Tayside higher than Scotland overall (19.4 per 1,000 females compared to 16.1 in 2022).
- While smoking prevalence, smoking related hospital admissions and smoking attributable deaths have decreased over time, a fifth of deaths in Scotland in 2021 continue to be smoking related.
- Two thirds of adults in Tayside are meeting physical activity guidelines, however, this varies considerably by sex, area and deprivation.
- Fewer than one third of the Tayside population are of healthy weight, with this proportion being lower in males than females and for people living in more deprived areas.
- The proportion of children who are of healthy weight in Tayside has decreased from 75% in 2014/15 to 72% in 2021/22 and is consistently lower than the national average.
- Breastfeeding rates are improving across Tayside and Scotland with rates in Perth & Kinross considerably higher than Scotland overall (40% compared to 32% in the most recent period).
- The proportion of primary school children showing no obvious dental decay continues to improve – only two thirds of children had no signs of decay in 2012/13 compared to over three quarters in 2021/22.
- Breast screening uptake in Tayside is above the Scottish average and the minimum standard of 70% but is not meeting the target uptake rate of 80%.
- Bowel screening uptake in Tayside overall is above the Scottish average and above the target rate of 60%, however, uptake is below the target rate in areas of greatest deprivation.
- Uptake rates for diabetic eye screening almost halved to approximately 48% for Tayside and Scotland during COVID-19 and have not yet recovered to the pre-pandemic levels of 85%.
- There has been a slight decrease in abdominal aortic aneurysm screening uptake rates in Tayside although the target of 85% is still being met.
- While the proportion of children completing their childhood immunisation schedule was consistently above the national target of 95% in Tayside, uptake rates have dropped both locally and nationally in recent years due to the impact of the COVID-19 pandemic.
- The uptake rates for many of the adult immunisation programmes in Tayside in 2022/23 have been higher than the Scottish average: COVID-19 vaccination was 73.5% compared to 72.6%; adult flu vaccination was 64.6% compared to 63.7%; shingles vaccination for 70-year-olds was 65.9% compared to 45.1% and for 71 to 79-year-olds was 75% compared to 63.1%.

# 1. General Population Statistics

To be able to plan and deliver health and social care services most effectively and identify opportunities to prioritise early intervention and reduce inequalities, it is important to understand who our population are and what affects their health. This understanding helps identify people and communities which are more likely to experience inequalities and where targeted health improvements can be made, in addition to seeking to promote health and wellbeing across the whole population.



The Tayside population is 417,650: 153,810 (37%) live in Perth & Kinross, 147,720 (35%) in Dundee and 116,120 (28%) in Angus.



The median age of people living in Dundee (38 years) is almost a decade lower than people living in Angus and Perth & Kinross.



The number of people over 75 in Tayside is expected to increase by 24% between 2018 and 2028.



37% of Dundee's population live in the most deprived areas of Scotland compared to 7% in Angus and 6% P&K.



Life expectancy is higher in Tayside than Scotland, but varies across the region. Males born in the most deprived areas of Dundee are likely to live 14.1 years fewer than in the least deprived.



The birth rate in Tayside has fallen by almost 25% since 2008 and while the rate in Angus and Perth & Kinross increased in the most recent year, Dundee birth rates continue to fall.



The proportion of life spent in good health varies across Tayside. Healthy life expectancy is decreasing for Dundee males, with men born currently anticipated to live only 55.9 years in good health on average.



Premature mortality is three times greater in the most deprived areas in Tayside than the least deprived. Drug and alcohol-related deaths and suicide disproportionately impact people in deprived areas.

## 1.1 Key population demographics

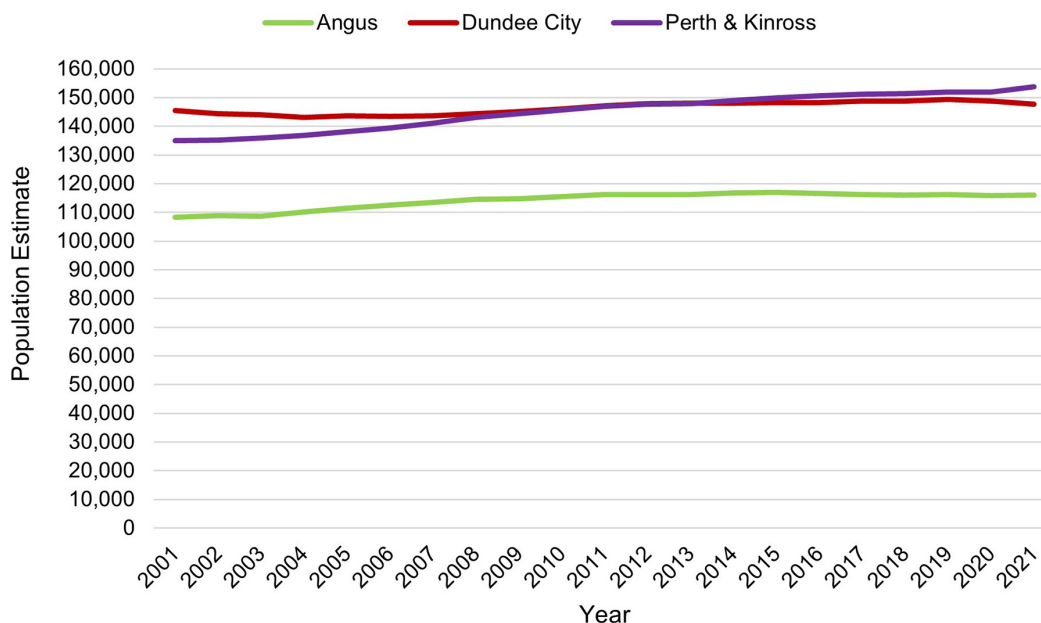
### 1.1.1 Population estimates

The geographical area covered by Tayside comprises the three local authority areas of Angus, Dundee and Perth & Kinross, with an estimated combined population of 417,650<sup>1</sup> (49% male, 51% female). Of the three local authority areas, Angus accounts for 28% (116,120) of the population, Dundee City for 35% (147,720) and Perth & Kinross 37% (153,810).

Overall, the estimated population in Tayside has increased in all three areas over the last twenty years, particularly in Perth & Kinross, but has remained relatively constant overall between 2015 and 2020.

Between 2020 and 2021, the Angus population is estimated to have remained constant, the Dundee City population decreased marginally, and the Perth & Kinross population increased slightly (figure 1).

Figure 1: Population estimates of Tayside by local authority area; 2001-2021



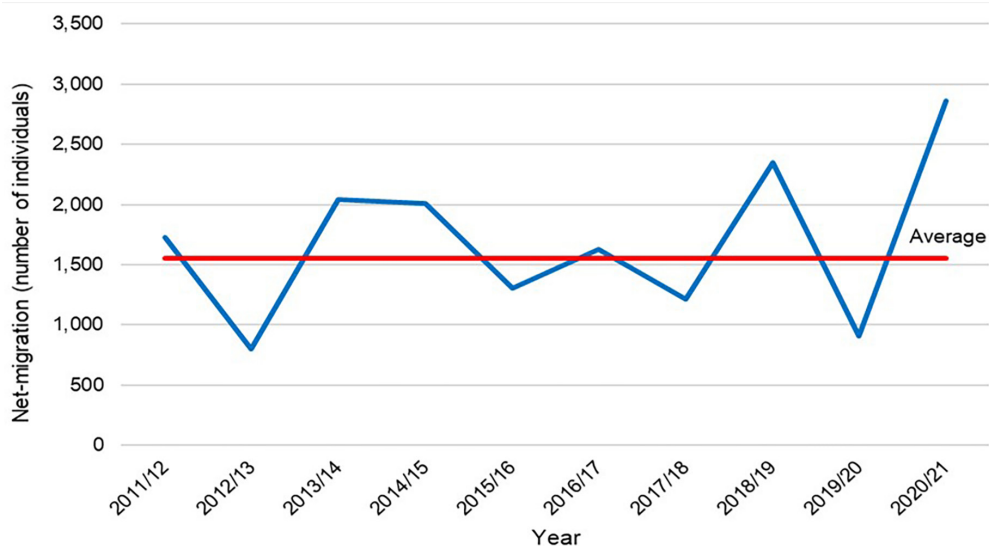
Source: National Records of Scotland (NRS) Midyear Population Estimates (MYPE)

### 1.1.2 Migration

Overall, the population of Tayside is relatively constant with estimated net-migration into the region of 1,550 each year on average (figure 2). In 2020/21 there was the largest estimated net-migration over the last ten years with a net increase of 2,860 individuals. This comprised of 16,050 individuals moving into the area and 13,190 moving out.

<sup>1</sup> <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2021>

Figure 2: Net-migration for NHS Tayside; mid-2011 to mid-2012 – mid-2020 to mid-2021



Source: National Records of Scotland (NRS) Midyear Populations Estimates (MYPE)

### 1.1.3 Ethnicity

Data on ethnicity is from the 2011 Census<sup>2</sup> and therefore will inevitably have some limitations. 93% of the population of Tayside self-identified themselves as white: Scottish, other British or Irish (table 1). This varied from 90% in Dundee City to 96% in both Angus and Perth & Kinross. The next largest ethnic groupings comprised people of an Asian or Polish background.

Table 1: Tayside 2011 Census population by ethnic group

Ethnicity	Number of people
White: Scottish, other British or Irish	382,358
White: Polish	5,486
White: Other White	8,058
White: Gypsy/Traveller	702
Asian, Asian Scottish or Asian British	8,611
African	1,527
Caribbean or Black	495
Other ethnic groups: Arab, Arab Scottish or Arab British	982
Mixed or multiple ethnic groups	1,420
Other ethnic groups	259

Source: Census 2011 ([www.scotlandscensus.gov.uk](http://www.scotlandscensus.gov.uk))

The ethnic background of a person impacts the likelihood of developing some health conditions<sup>3</sup> and also services must be responsive to ensuring people from all ethnic backgrounds can experience equitable access to healthcare in an easy and timely manner. Where possible, Public Health analyses data by ethnicity to help with the targeting of resources, and this is described in the more detailed reports that are presented to the Public Health Committee (standing committee of NHS Tayside). However, current data systems do not allow for easy analysis of health outcomes by ethnicity due to poor data quality and issues of

2 2021 Census was delayed due to COVID-19 pandemic. The Census 2022 outputs will be published during 2023. (<https://www.scotlandscensus.gov.uk/taking-part-in-the-2022-census/census-outputs-consultation/>)

3 <https://www.kingsfund.org.uk/publications/health-people-ethnic-minority-groups-england>

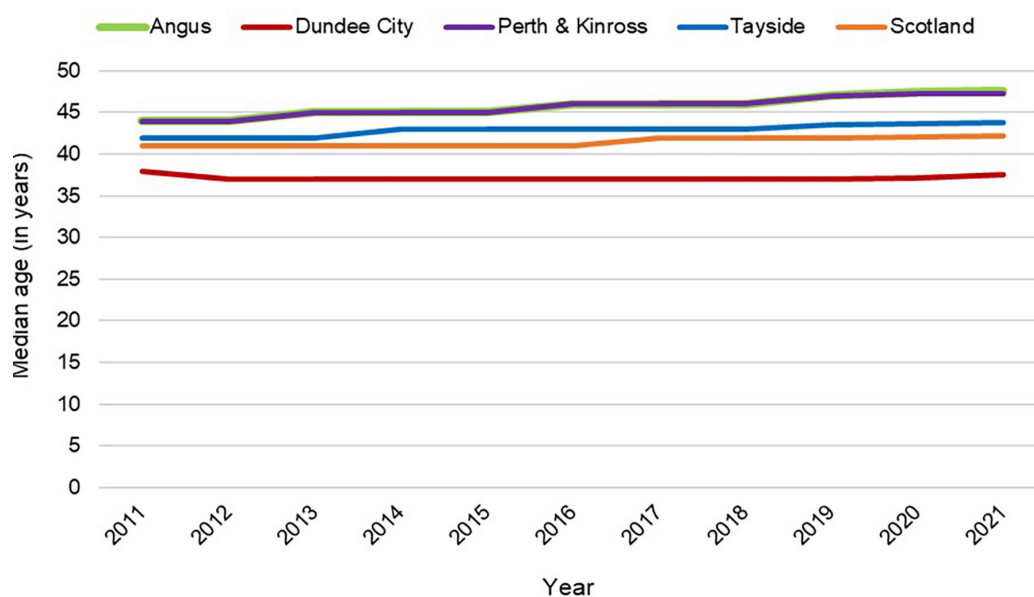
completeness. Public Health Scotland are working with NHS Boards and other key partners to improve the recording of ethnicity across all routinely collected health and social care datasets<sup>4</sup>.

Whilst ethnicity is a protected characteristic and there is an increased probability of poorer health outcomes for some conditions based on race<sup>3</sup>, socioeconomic and environmental factors are by far the greatest determinants of health at a population level. Many of these wider determinants of health are captured in the Scottish Index of Multiple Deprivation (SIMD): this is an area-based measure of relative deprivation and looks at combined deprivation across income, employment, education, health, access to services, crime and housing<sup>5</sup>. Action to reduce all inequalities will also significantly benefit people of ethnic minority groups.

### 1.1.4 Median age

The population of Tayside is, overall, older than the Scottish average. Twenty one percent are of a pensionable age<sup>6</sup> compared to 18% nationally. The median age of people living in Tayside is 43.8 years old compared to 42.2 years across Scotland as a whole. There is, however, considerable variation within Tayside, with the median age of people in Dundee City being 37.5 years compared to 47.6 years and 47.3 years in Angus and Perth & Kinross respectively. Furthermore, whilst the median age of people in Angus and Perth & Kinross has increased steadily over the last ten years, it has only recently slightly increased in Dundee City in 2021 (figure 3).

Figure 3: Comparison of median age of the population of Tayside and Scotland; 2011-2021



Source: National Records of Scotland (NRS) Midyear Populations Estimates (MYPE)

### 1.1.5 Population pyramids

The population pyramids (figures 4-6) show the distribution of age and sex across the three local authority populations. In Angus and Perth & Kinross, the largest proportion of adults are in the 55 to 59 years and adjacent age groups. Therefore, as these larger cohorts continue to grow older, we are seeing what is termed an ‘ageing population’. In Dundee City the largest proportion of its population are younger adults (aged 20-34 years), most likely a result of the

4 [https://publichealthscotland.scot/media/11979/pra\\_annual-monitoring-report-on-ethnic-health-inequalities.pdf](https://publichealthscotland.scot/media/11979/pra_annual-monitoring-report-on-ethnic-health-inequalities.pdf)

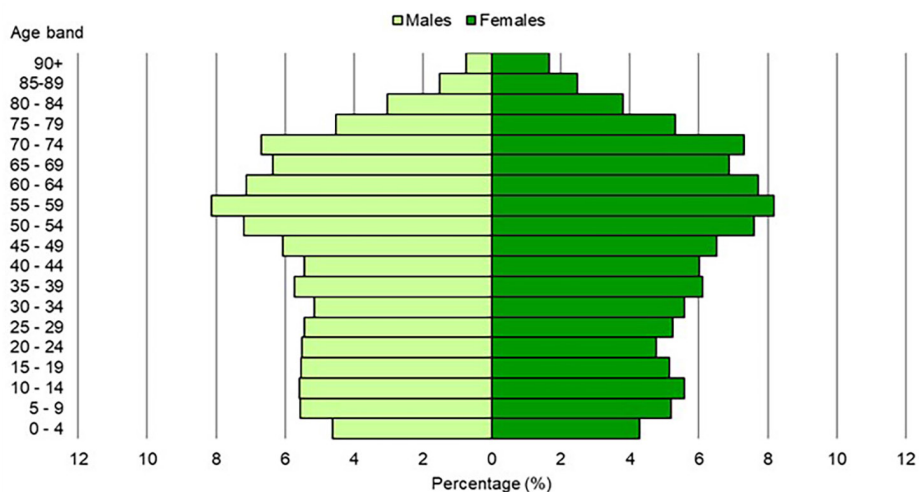
5 <https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/>

6 Pensionable age as at 30 June 2021 was approximately 66 years



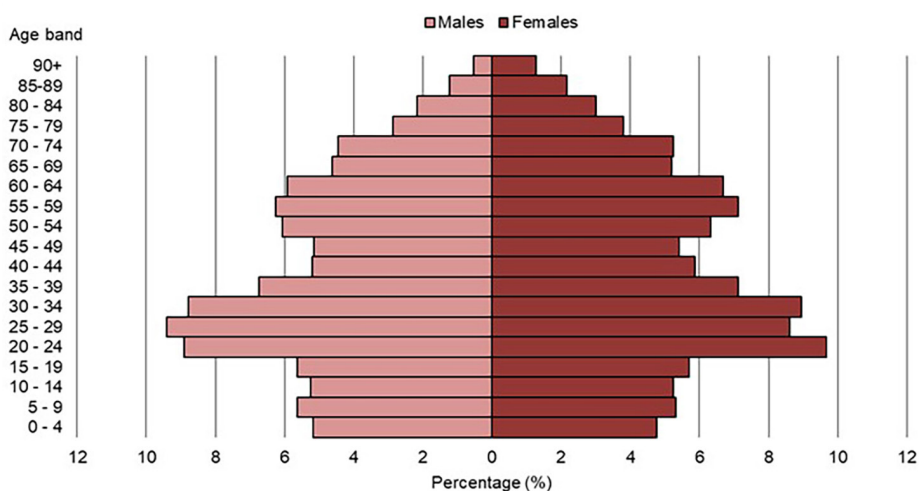
significant student population in the city. The next greatest grouping of population is around the 55-59 year olds, similar to the other local authority areas.

Figure 4: Population estimates of Angus by age and sex as at 30 June 2021



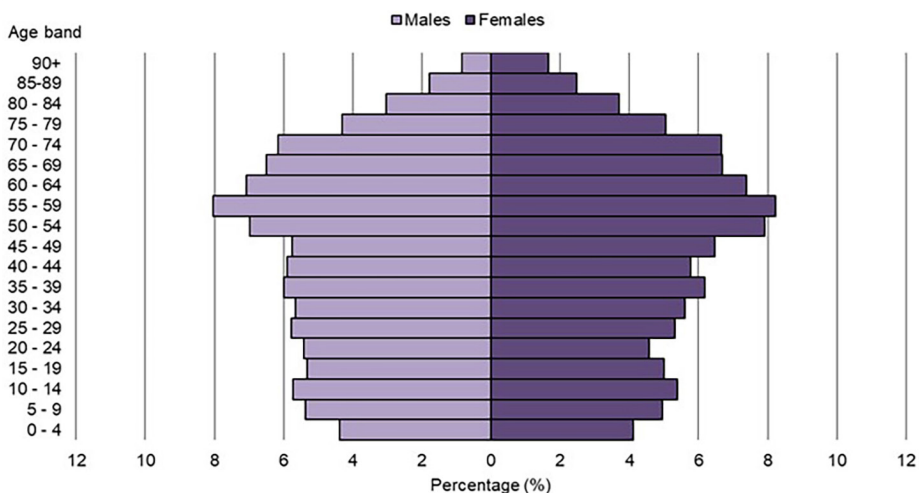
Source: National Records of Scotland (NRS) Midyear Populations Estimates (MYPE)

Figure 5: Population estimates of Dundee City by age and sex as at 30 June 2021



Source: National Records of Scotland (NRS) Midyear Populations Estimates (MYPE)

Figure 6: Population estimates of Perth & Kinross by age and sex as at 30 June 2021

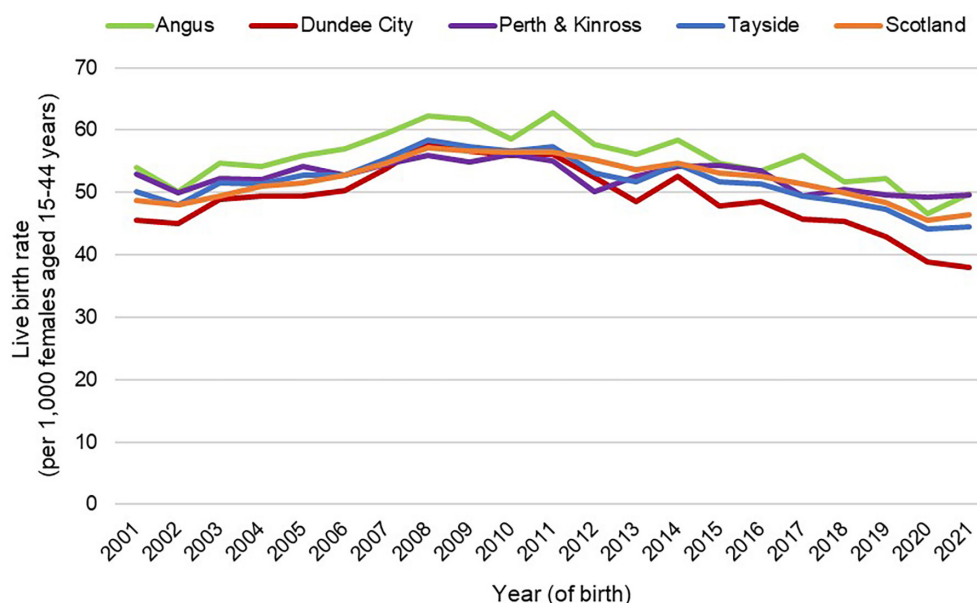


Source: National Records of Scotland (NRS) Midyear Populations Estimates (MYPE)

### 1.1.6 Birth rates

Since 2008, birth rates in Tayside and Scotland have been decreasing overall (figure 7). In 2021, there were 3,364 live births to women living in Tayside, a rate of 45 births per 1,000 female population aged 15-44 years. This was a slight increase on the previous year but a fall from 58 per 1,000 in 2008. By comparison, the national birth rate fell from 57 to 46 per 1,000 females aged 15-44 years. Within Tayside, while rates in Perth & Kinross (47) and particularly Angus (47) increased in 2021, Dundee City rates have continued to decrease (38).

Figure 7: Live birth rate per 1,000 female population aged 15-44 years in Tayside by local authority area and Scotland; 2001-2021



Source: National Records of Scotland (NRS) - Vital Events Birth Table 3.8

## 1.2 Population Projections

Population projections are useful for healthcare planning. They are trend-based and calculated to show how the population may change if particular assumptions are made. Interim 2020-based national projections for Scotland were published in January 2022<sup>7</sup>. They were classed as 'interim' to recognise the period of uncertainty in the mid-2020 base year and in setting long-term demographic assumptions following the onset of the coronavirus pandemic. Whilst the results of the Scotland Census 2022 are awaited, no sub-national population projections have been produced and so only 2018-based projections are available for Tayside<sup>8,9</sup>.

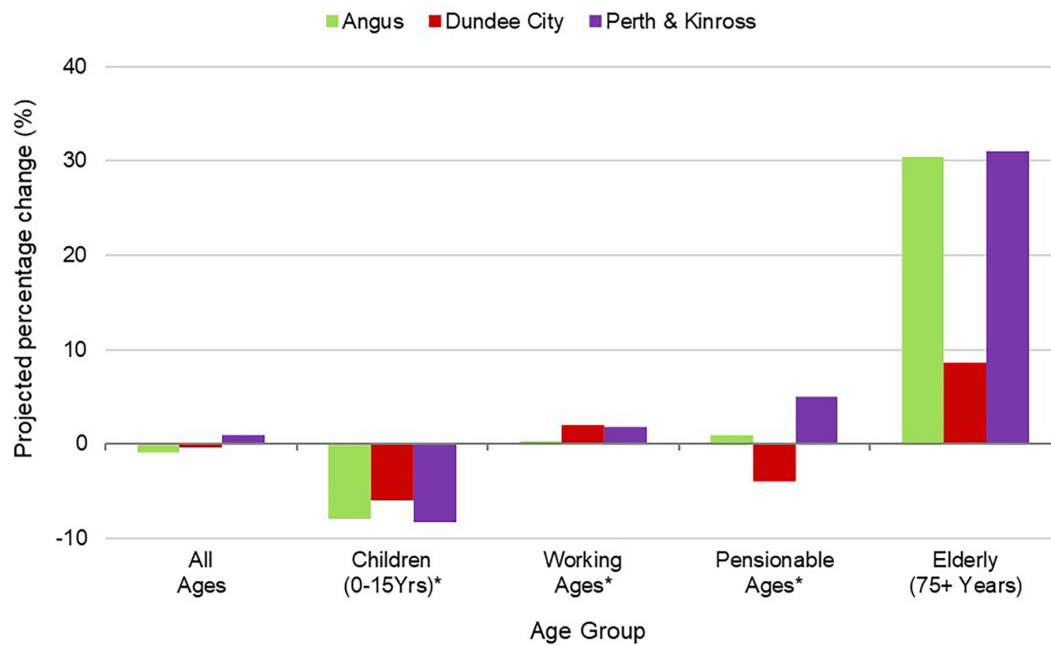
National Records Scotland (NRS) predicts that the overall population of Tayside shall remain stable over the next 5 years. A slight decrease (-0.8% and -0.3%) is predicted in the population of Angus and Dundee City respectively; however, this will be offset by a predicted slight increase (+1.0%) in Perth & Kinross. However, any projected change in the population varies when further examined by specific age groups. For example, whilst the 75+ years age group is expected to increase overall by 24% for Tayside (compared to 25% nationally), the increase in this age group is predicted to be greatest in Angus (30%) and Perth & Kinross (31%), compared to 9% in Dundee City (figure 8).

7 <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-projections-scotland/2020-based>

8 <https://www.nrscotland.gov.uk/files//statistics/population-projections/pop-proj-future-timings.pdf>

9 Next update expected to be 2023-based projections and will be published Spring/Summer 2025

Figure 8: Projected percentage change in population of Tayside by local authority area; 2018-2028



\* Children under 16, working age and pensionable age populations based on state pension age (SPA) for a given year. The figure for 'working' age and 'pensionable age and over' take into account the changes in the State Pension Age (SPA), as set out in the 2014 Pensions Act. In 2018, SPA reached 65 for women, meaning it was the same as for men. Between 2019 and 2020, SPA will rise from 65 years to 66 years for both men and women (by October 2020 (Pensions Act 2011)). A further rise in state pension age to 67 will take place between 2026 and 2028 (Pensions Act 2014).

Source: National Records of Scotland (NRS) Projected Population of Scotland (2018-based)

### 1.3 Socioeconomic Context

Deprivation across Scotland is measured using the Scottish Index of Multiple Deprivation<sup>10</sup> (SIMD). This is an area-based measure of deprivation, combining indicators across various domains to give a relative measure of deprivation for small geographies called datazones (areas containing approximately 500-1000 people) which are then ranked from most to least deprived across Scotland. Data are most commonly presented by quintiles, as in this report. Approximately 20% of the Scottish population live within each SIMD quintile, with quintile 1 containing the most deprived datazones and quintile 5 containing the least deprived.

However, it should be noted that many people experiencing socio-economic disadvantage live outside areas categorised as the most deprived communities. Also, if an area is identified as 'deprived', this can relate to people having a low income or it could also mean that people who are living in that area have fewer resources or opportunities. This is because other indicators, such as 'average drive time to a GP surgery in minutes' or 'premises without access to superfast broadband', are also included in the calculations for SIMD.

Deprivation varies across Tayside. More than one-in-three people (37%) who live in Dundee City are living in areas of greatest deprivation in Scotland compared to only one-in-14 people (7%) in Angus and one-in-17 people (6%) in Perth & Kinross (table 2).

10 Source: www.gov.scot/SIMD

Table 2: Proportion of Tayside's 2021 population estimates living in each SIMD 2020 quintile by local authority area

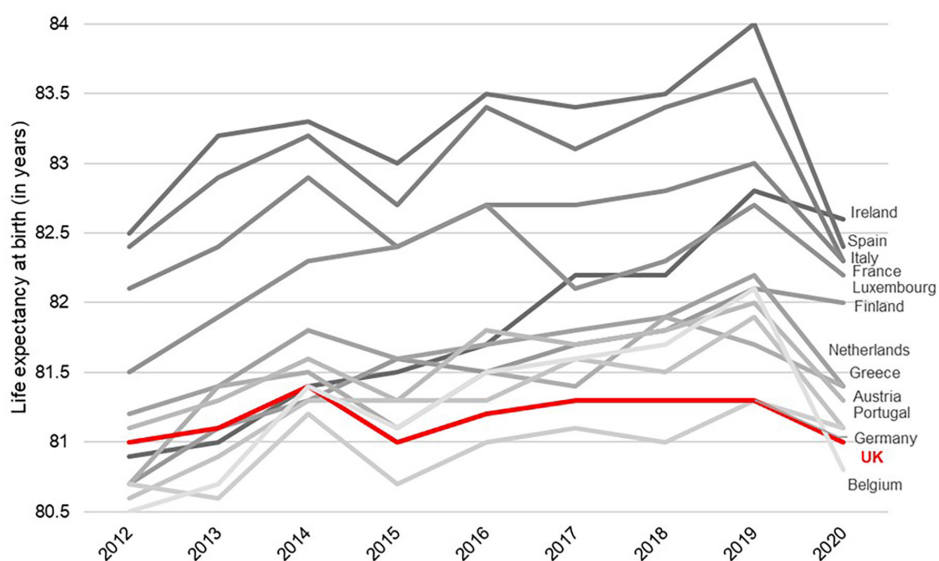
SIMD 2020 Quintile	Angus	Dundee City	Perth & Kinross
1 (most deprived)	7%	37%	5%
2			
3			
4			
5 (least deprived)	13%	16%	25%

Source: 'Small Area Population Estimates [SAPE]' based on Data Zones for 2021 via NRS and 'SIMD\_2020' - Scottish Government

### 1.4 Life expectancy

The UK has one of the lowest life expectancies in Western Europe (figure 9) and Scotland has the lowest life expectancy<sup>11</sup> of all the UK countries (figure 10). Trends across Scotland overall had been improving year on year, until 2012-2014, but since then growth in life expectancy has stalled (figure 11), primarily due to declining life expectancy amongst the most deprived communities. The current life expectancy in Tayside for men is 76.9 years and 81.2 years for women. This is slightly higher than the Scottish average of 76.6 and 80.8 years respectively.

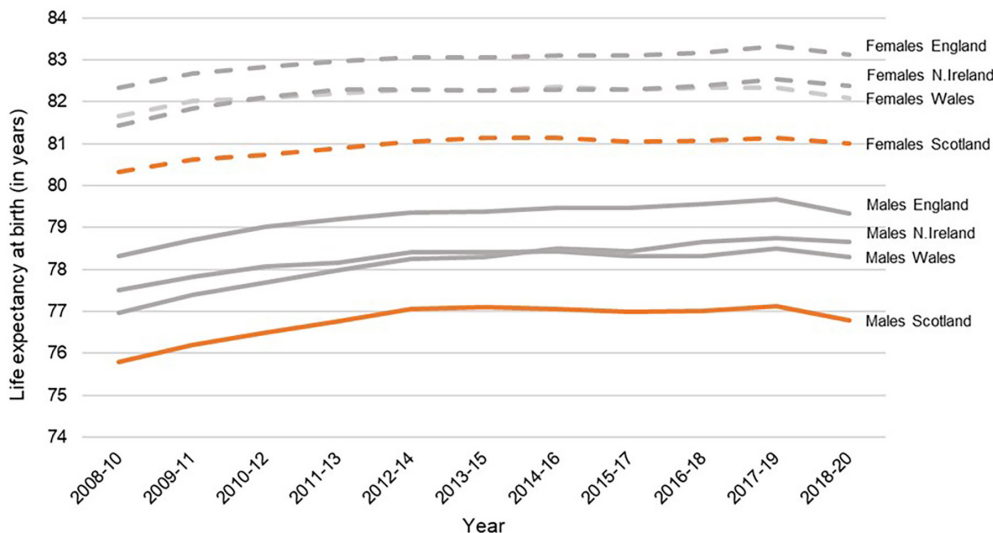
Figure 9: Life expectancy (LE) at birth for population of Western Europe; 2012-2020



Source: <https://data.oecd.org/healthstat/life-expectancy-at-birth.htm>

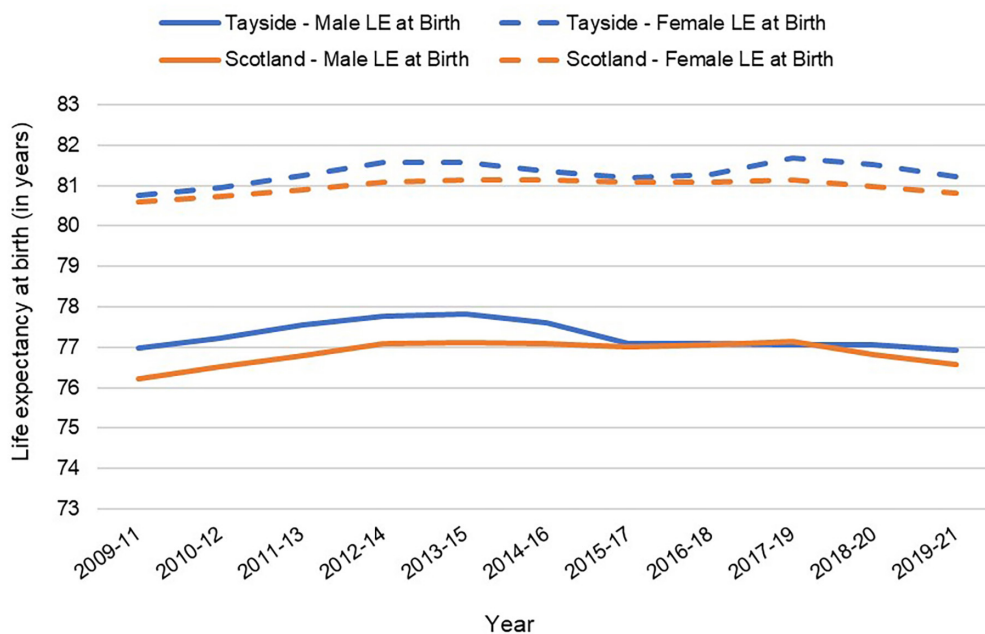
11 the average number of years a baby born today can expect to live if current mortality rates continue to apply

Figure 10: Life expectancy (LE) at birth for population across the United Kingdom; 2008-10 to 2018-20



Source: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/bulletins/nationallifetablesunitedkingdom/2018to2020>

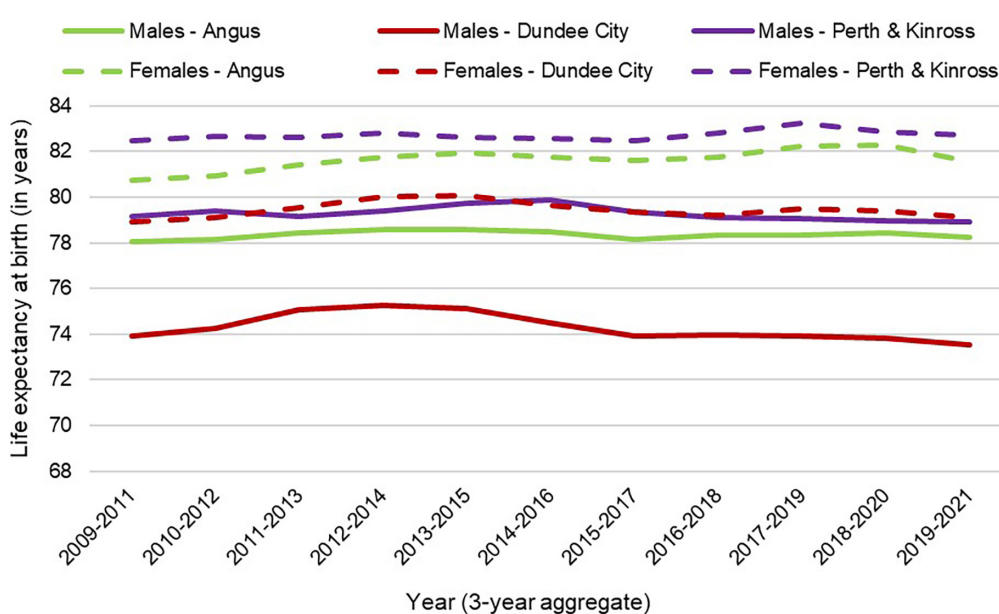
Figure 11: Life expectancy (LE) at birth for population of Tayside and Scotland by sex; 2009-11 to 2019-21



Source: Life expectancy in Scotland 2019-2021 (NRS)

Within the local authority areas in Tayside, men and women who live in Dundee City have the lowest life expectancy. Growth in life expectancy has generally stalled in each of the local authority areas in Tayside and it is now starting to show a notable slowly decreasing trend in Dundee City males (figure 12).

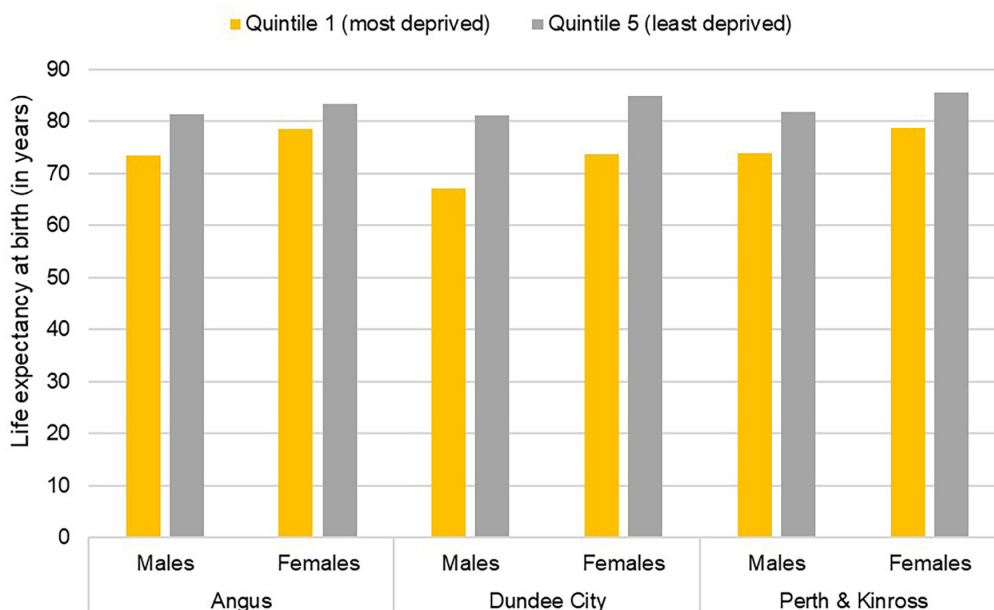
Figure 12: Life expectancy (LE) at birth for population in Tayside by local authority area and sex; 2009-11 to 2019-21



Source: Life expectancy in Scotland 2019-2021 (NRS)

Deprivation is strongly linked to life expectancy. Currently males born in the most deprived areas in Dundee City are anticipated to live on average 14.1 years fewer than people in the least deprived areas. The equivalent gap in Angus and Perth & Kinross is 8.0 and 7.9 years respectively. While the inequality gap in females is less prominent, it has widened slightly<sup>12</sup>. The current difference in life expectancy for females is 11.2 years, 5.0 years and 6.8 years in Dundee City, Angus and Perth & Kinross respectively (figure 13).

Figure 13: Life expectancy at birth for population of Tayside by local authority area and deprivation; 2017-2021



Source: Life expectancy in Scotland 2017-2021 (NRS)

12 <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/life-expectancy/life-expectancy-in-scotland/2019-2021>



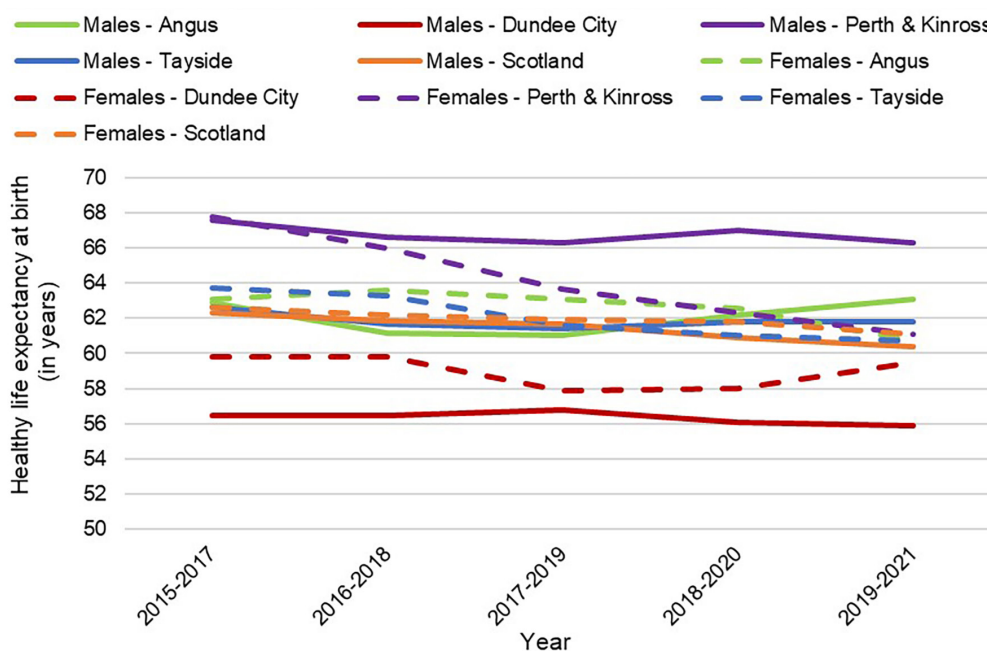
## 1.5 Healthy life expectancy

Healthy life expectancy (HLE) provides insight into the proportion of life spent in good health. It is calculated by extracting the prevalence of self-reported good health from each age group and geography, drawn from the 2011 census, and combining this with population statistics to provide HLE estimates<sup>13</sup>.

Nationally, in the last decade, estimated HLE has fluctuated but decreased overall. In the most recent period that data is available (2019-21), both males and females across Scotland reported a decrease in their HLE from the previous year (2018-20) while in Tayside, very little change overall has occurred.

Whilst the number of years that males and females are expected to live healthy lives in Tayside is similar to the national average, there is variation across the region. Healthy life expectancy for males in Angus and females in Dundee City increased in 2019-21. However, despite the increase in HLE for females in Dundee City, residents continue to experience the least number of years in good health (figure 14).

Figure 14: Healthy life expectancy at birth for population of Tayside and Scotland by sex; 2015-17 to 2019-21



Source: Healthy life expectancy in Scotland (NRS)

A comparison of life expectancy and healthy life expectancy gives an indication of the proportion of their life that an individual can expect to live in good health (table 3).

Notably, the HLE for women is much closer to the HLE for men than overall life expectancy and therefore women experience a longer period of living with comorbidities in later life.

While males living in Dundee not only have the lowest life expectancy in Tayside, they also spend the least amount of time living in good health.

There has been a decrease in healthy life expectancy for females in Perth & Kinross in recent years but the reasons for this are unclear and are being explored further.

13 <https://www.nrscotland.gov.uk/files//statistics/life-expectancy-15-17/le-methodology-feb-19.pdf>

Table 3: Proportion of life spent in good health in Tayside by local authority area and Scotland; 2019-2021

Administrative Area	Males			Females		
	HLE at birth (years)	LE at birth (years)	Proportion of life spent in good health (%)	HLE at birth (years)	LE at birth (years)	Proportion of life spent in good health (%)
Scotland	60.4	76.6	78.9%	61.1	80.8	75.6%
Angus	63.1	78.3	80.6%	60.7	81.6	74.4%
Dundee City	55.9	73.5	76.1%	59.5	79.1	75.2%
Perth & Kinross	66.3	78.9	84.0%	61.1	82.7	73.9%
Tayside	61.8	76.9	80.4%	60.7	81.2	74.8%

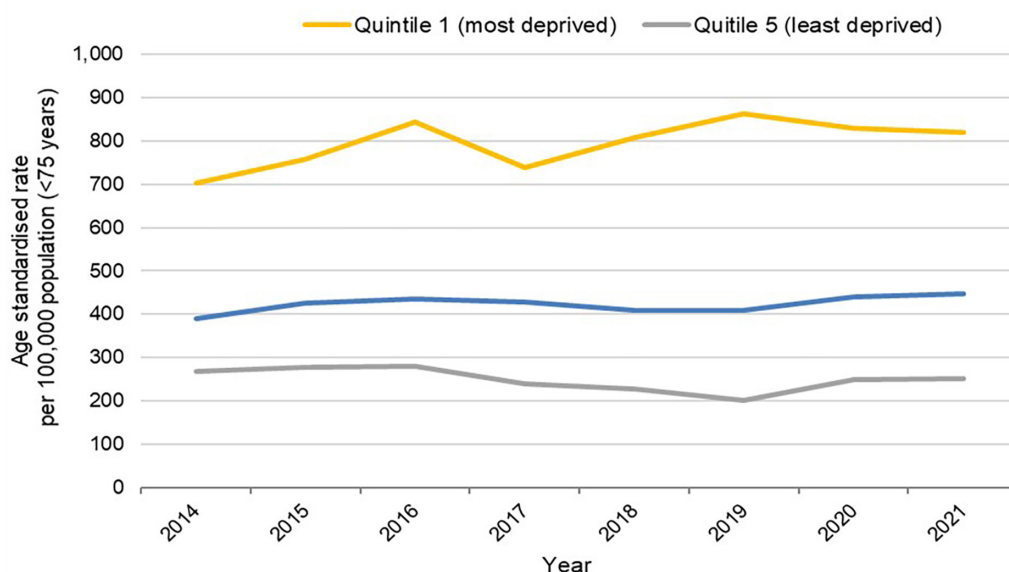
Source: Life expectancy and healthy life expectancy in Scotland (NRS)

### 1.6 Premature mortality (<75 years)

Premature mortality gives a further indication of the health status of a population. In Scotland, more than 24,000 people aged under 75 years died in 2021 – an age standardised rate of 471 per 100,000 population – and an increase of 690 deaths (3%) from the previous year. A disproportionate number of people who died before reaching 75 years old lived in the most deprived areas of Scotland. The premature mortality rate was 839 per 100,000 population in the most deprived areas in 2021, compared to 247 per 100,000 in the least deprived.

In Tayside, there were 1,823 deaths in people aged under 75 years in 2021, an age standardised rate of 448 per 100,000 population, and an increase of 53 (3%) deaths from 2020. Comparing the premature mortality rate over time, there has been a widening of the gap between people living in the most and least deprived quintiles (figure 15). In Tayside, the gap closed slightly in 2020 and data for 2021 show that despite overall premature mortality rates increasing, the difference in the rates between the most and least deprived areas (820 v 448) has once again closed very slightly.

Figure 15: Age standardised premature (<75 years) mortality rates per 100,000 population in Tayside by SIMD quintile; 2014-2021



Source: NRS, SIMD 2016 and 2020v2

There are differences in the main causes of premature death when the most and least deprived areas in Tayside are examined (table 4). While lung cancer and myocardial infarction (heart attack) were the most common cause of death in the least deprived areas, substance use (drugs) followed by lung cancer were the most common drivers of premature mortality in the most deprived areas.

*Table 4: Causes of premature (<75 years) mortality in Tayside  
Comparison of the 10 main causes of death within the most and least deprived areas  
Based on five-year aggregate (2017-2021)*

SIMD Quintile 1 (most deprived)	% of all SIMD Quintile 1 premature deaths	Top 10 Main Causes	SIMD Quintile 5 (least deprived)	% of all SIMD Quintile 5 premature deaths
Substance use (drugs)	9.7%	1	Lung cancer	7.5%
Lung cancer	9.3%	2	Heart attack	5.3%
COPD* related	6.4%	3	Coronary Heart Disease (CHD)	4.0%
Coronary Heart Disease (CHD)	5.9%	4	Breast cancer	3.9%
Heart attack	5.3%	5	Brain cancer	3.3%
Liver disease	3.3%	6	Pancreatic cancer	2.8%
COVID-19	3.3%	7	Prostate cancer	2.7%
Suicide (hanging, strangulation & suffocation)	2.3%	8	COPD* related	2.7%
Mental & behavioural disorders - psychoactive drug use	2.1%	9	Cancer of the digestive organs	2.6%
Breast cancer	1.5%	10	COVID-19	2.5%
<b>SIMD 1 (Premature) Total</b>	<b>49.1%</b>	<b>-</b>	<b>SIMD 5 (Premature) Total</b>	<b>37.3%</b>

\*Chronic Obstructive Pulmonary Disease

Source: National Records for Scotland (NRS) – Annual Deaths Files (2017-2021) via Health Intelligence Team

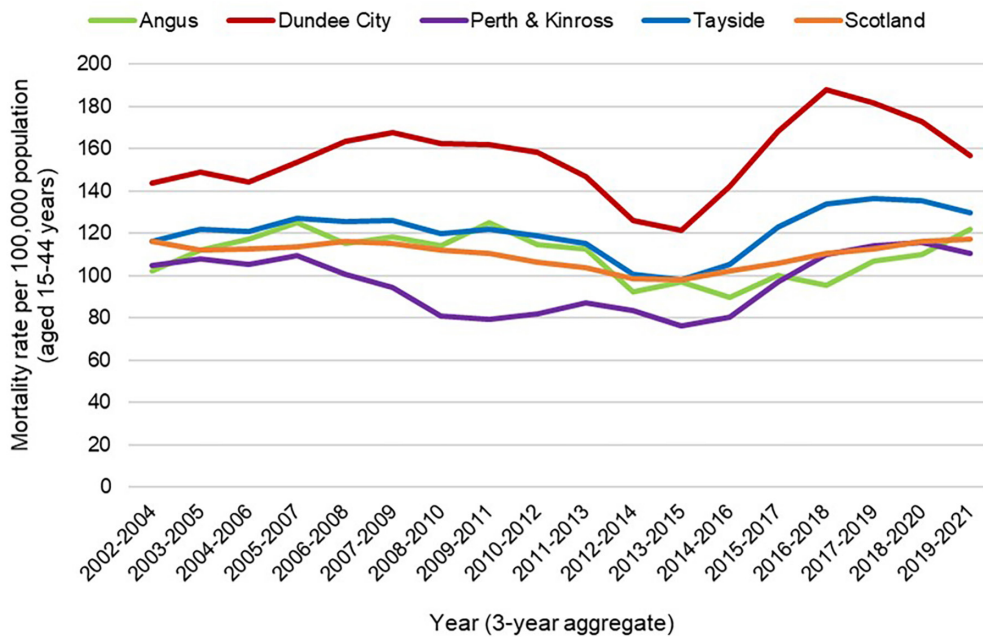
### **1.7 Premature mortality (15-44 years)**

The mortality rate in people aged 15-44 years has been increasing across Scotland since 2012-14 (figure 16).

Previously, Tayside showed a similar mortality rate to the national average but between 2014-16 and 2017-19, local rates rose at a faster rate than Scotland. This was predominantly due to a large increase in Dundee City, although rates in Angus and Perth & Kinross had also risen. Since then, while rates in Tayside have decreased slightly, they remain higher than the national average.

Within Tayside, a fall in the Dundee City rate has been offset by an increase in Angus and very little change in Perth & Kinross. A substantial proportion of these premature mortalities are due to 'deaths of despair' (suicide, alcohol and drug-related mortality) which are heavily patterned by age, sex and socioeconomic status (table 4).

Figure 16: Age-sex standardised premature mortality rates per 100,000 population aged 15-44, in Tayside by local authority area and Scotland; 2002-04 to 2019-21



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

## 2. Physical Health

After considering the main measures that describe the composition, trends and projections of the overall population of Tayside, chapters two and three consider in more detail the principle health conditions which contribute to life expectancy and healthy life expectancy.

At any one time, approximately one in four adults (16+ years) in Scotland will be experiencing some form of long-term condition (LTC), health problem or disability. By the age of 65 it is estimated that nearly two thirds of adults will have developed an LTC<sup>14</sup>. In addition, the prevalence of LTCs is increasing and the greatest increase is being experienced by people living in greatest deprivation. For example, people in the most deprived areas in Tayside are 1.8 times more likely to have repeat hospital admissions within 365 days, be hospitalised with asthma (2.3 times), coronary heart disease (1.7 times) or mental illness (4.1 times), and be diagnosed with cancer (1.2 times) than people in the least deprived areas.

This chapter looks at the physical health conditions coronary heart disease, cancer, chronic obstructive pulmonary disease and diabetes, as comparative data between local and national activity is most readily available from national sources such as The Scottish Public Health Observatory Profiles (ScotPHO)<sup>15</sup> and the Scottish Diabetes Survey<sup>16</sup>. For summary statistics of other key diseases e.g. stroke, please see publications held within Public Health Scotland<sup>17</sup>.



Hospitalisations for coronary heart disease have decreased but vary by area and deprivation, with Dundee higher than the national average.



Trends in cancer diagnoses have changed very little in the past 10 years. New diagnoses decreased in 2020 during the pandemic then increased again in 2021.



Lung cancer, the most common cancer in Scotland, has decreased. Liver cancer mortality has increased the most (38%) with obesity, alcohol and hep B & C the main risks.



COPD hospitalisations have decreased in the last five years and prevalence is lower in Tayside than Scotland. However, Dundee is higher than Scotland with the gap widening in recent years.



The number of people living in Scotland with type 1 and type 2 diabetes has steadily increased over the last 10 years. In Tayside there were 1,596 new cases in 2022 with approx 90% being new cases of type 2 diabetes.

14 Improving the Health & Wellbeing of People with Long Term Conditions in Scotland: A National Action Plan (<http://www.gov.scot/Publications/2009/12/03112054/0>)

15 [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

16 <https://www.diabetesinscotland.org.uk/wp-content/uploads/2023/02/Diabetes-Scottish-Diabetes-Survey-2021-final-version.pdf>

17 <https://publichealthscotland.scot/publications/>

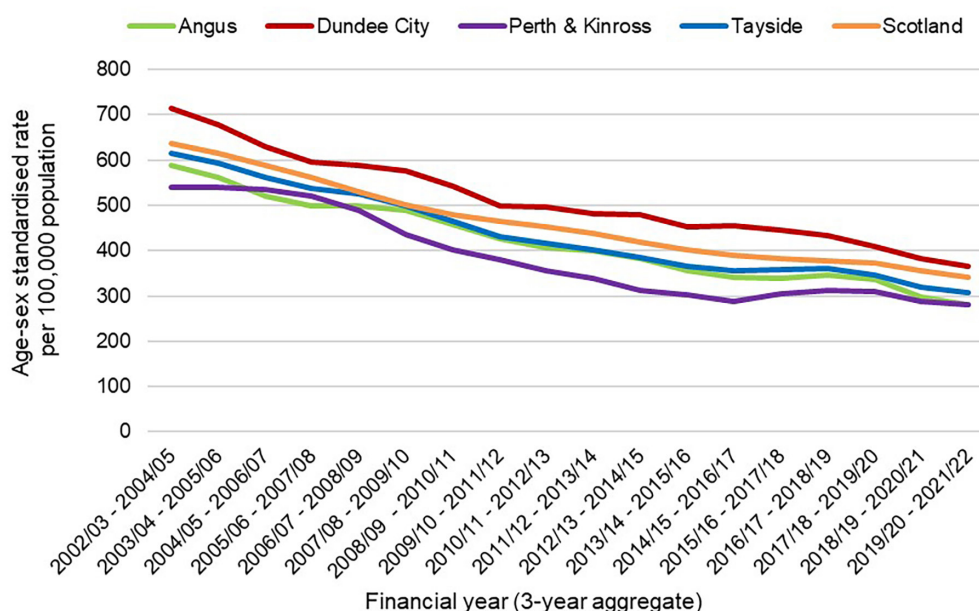
## 2.1 Coronary heart disease (CHD)

It is estimated that 7% of men and 4% of women are currently living with CHD in Scotland<sup>18</sup>. Risk factors associated with CHD include smoking, poor diet and physical inactivity and are particularly prevalent in Scotland.

Hospitalisations due to CHD have been decreasing since 2002/03 (figure 17) and the main drivers for this include a decrease in smoking and improvements in medical treatments and interventions. However, increases in the prevalence of diabetes and obesity have contributed to a slowing in this reduction since circa 2014.

While the overall Tayside hospitalisation rate is lower than that of Scotland, hospitalisation rates are consistently higher in Dundee City.

Figure 17: Age-sex standardised rate of coronary heart disease patient hospitalisations per 100,000 population in Tayside and Scotland; 2002/03-2004/05 to 2019/20-2021/22



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

Examining hospitalisation rates for people with coronary heart disease by deprivation shows that admissions to hospital would be 19% lower in Tayside (25% across the whole of Scotland) if the rates of the least deprived area were applied to the whole population<sup>19</sup>.

## 2.2 Cancer

It is estimated that two out of five people will develop cancer in their lifetime. The risk of cancer increases with age and has historically been higher in men than in women. This continues to be the case<sup>20</sup>.

18 <https://www.gov.scot/publications/scottish-health-survey-2021-volume-1-main-report/>

19 [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

20 <https://www.publichealthscotland.scot/media/12645/2022-04-12-cancer-incidence-report.pdf>



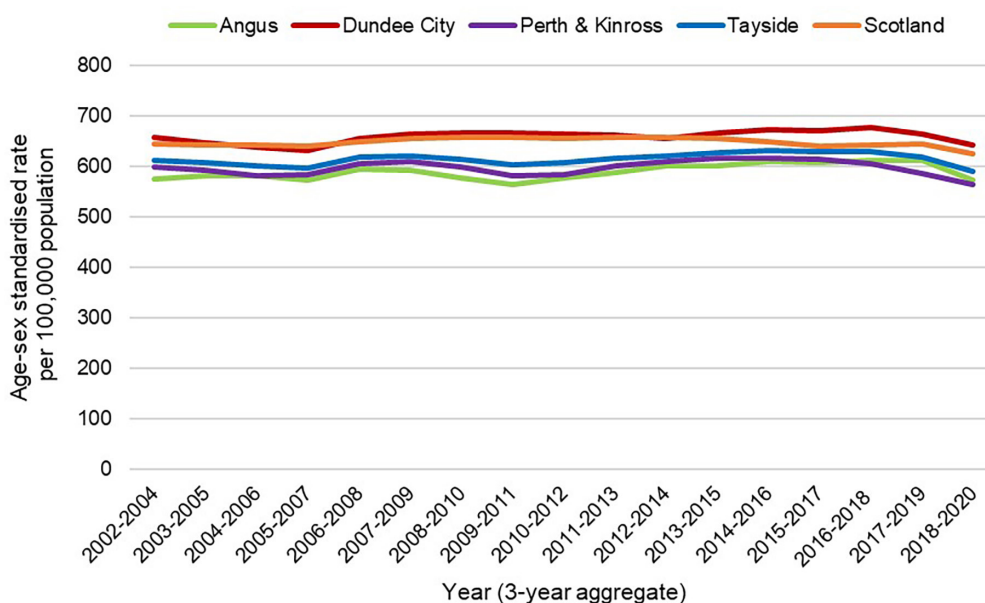
Whilst welcome reductions in smoking prevalence have occurred in Scotland, there remains considerable potential to prevent cancers through further reductions in smoking, reducing overweight and obesity, improving diet and reducing alcohol consumption<sup>21</sup>.

Over the last 20 years there has been little change in overall cancer incidence<sup>22</sup> and the incidence of cancer in Dundee City has been consistently higher than in Angus and Perth & Kinross and Scotland as a whole (figure 18).

It should be noted, however, that the COVID-19 pandemic has had a huge impact on all aspects of cancer management in Scotland. Public Health Scotland reported a large decrease in the number of new cancers identified in 2020 compared with the expected long-term trend.

Most of this decrease was likely due to under-diagnosis caused by the pandemic. Any changes in overall trends and the impact of delayed diagnoses will become evident in the coming years.

*Figure 18: Age-sex standardised rate of cancer diagnoses per 100,000 population; 2002-2004 to 2018-2020*



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

The most common cancers in Scotland in 2021 were lung, breast, bowel and prostate, accounting for over half (54%) of all malignancies (excluding non-melanoma skin cancers).<sup>23</sup>

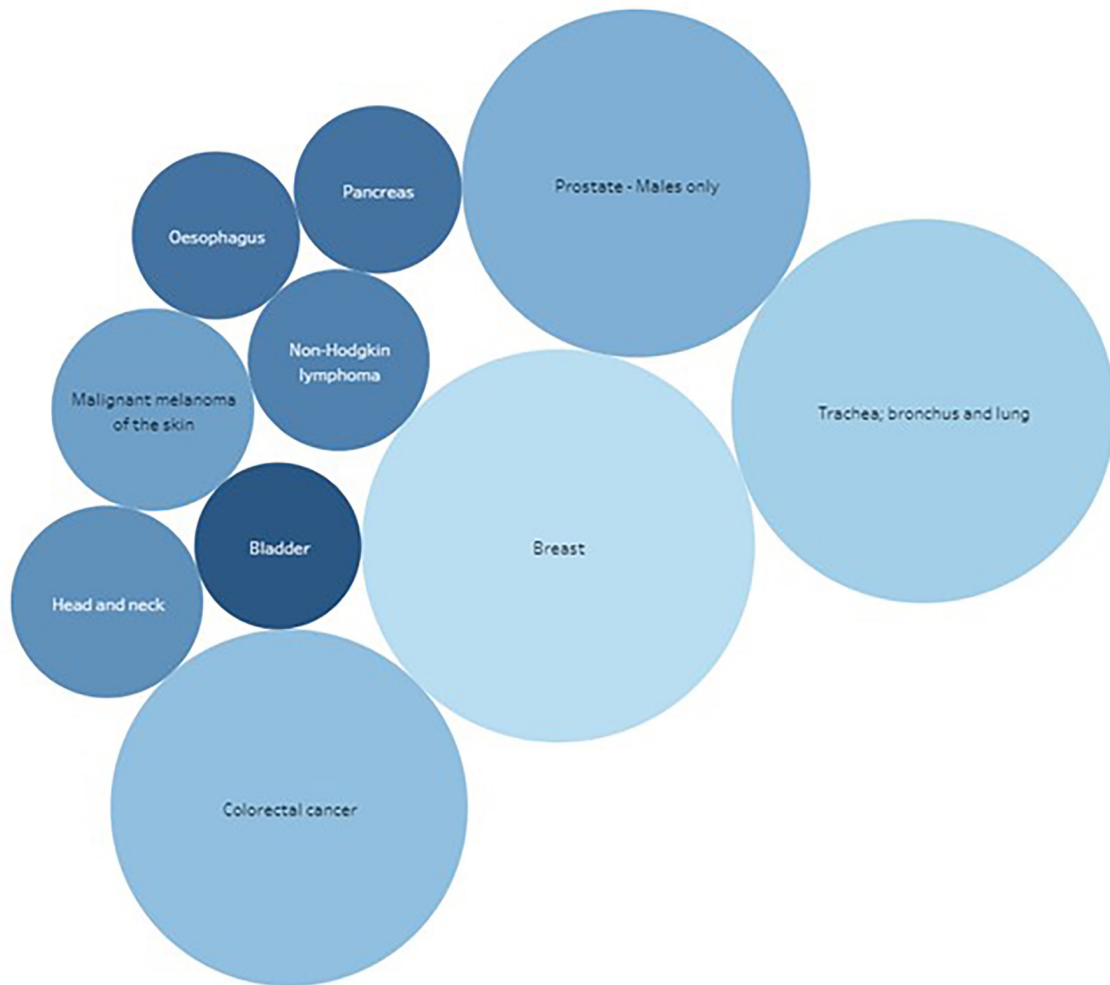
In Tayside, breast cancer was the most commonly diagnosed cancer in 2021 (figure 19) with 422 new registrations followed by lung (403 registrations), colorectal (348) and prostate cancer (331).

21 <https://www.publichealthscotland.scot/publications/cancer-incidence-in-scotland/cancer-incidence-in-scotland-to-december-2021/>

22 Cancer incidence is the number of new cancers of a specific site or type occurring in the population per year, usually expressed as the number of new cancers per 100,000 population

23 <https://www.publichealthscotland.scot/publications/cancer-incidence-in-scotland/cancer-incidence-in-scotland-to-december-2021/>

Figure 19: The 10 most commonly diagnosed cancers in Tayside, 2021



Source: Cancer Incidence in Scotland dashboard, Public Health Scotland

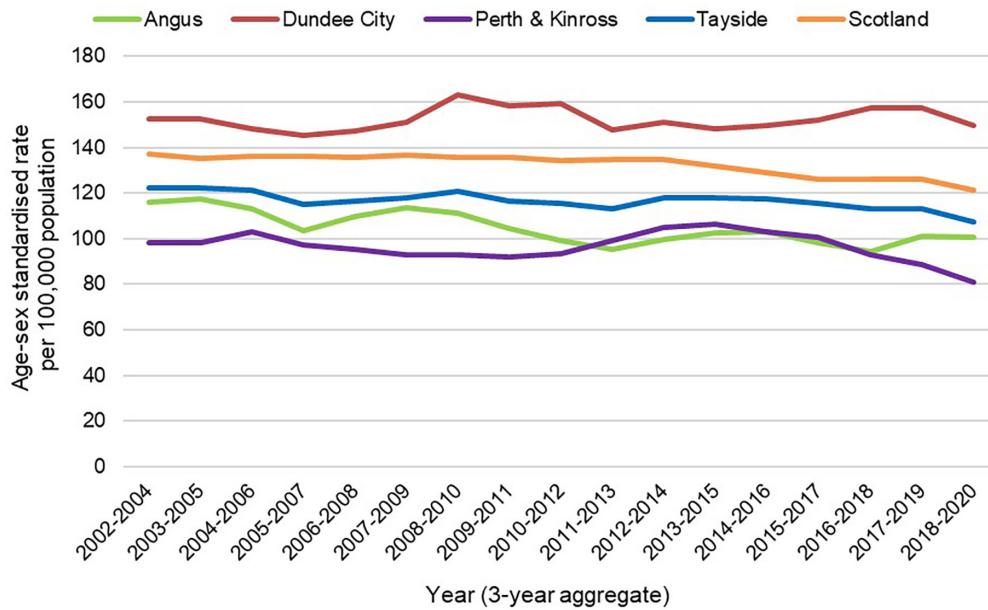
Socioeconomic deprivation is associated with incidence, survival and mortality from cancers. Broadly, increasing deprivation is associated with poorer survival from cancer but its relationship with incidence varies in size and direction. For example, the most commonly diagnosed cancer overall in Scotland, lung cancer, has a higher incidence in more deprived areas.

Conversely, the most commonly diagnosed cancers in men and women individually (prostate and breast cancer, respectively) occur more often in less deprived populations but these cancers respond better, on average, to available treatment and are associated with lower mortality rates overall.

Lung cancer is three times more common in the most socio-economically deprived areas compared with the least deprived areas in Scotland. The incidence rate for lung cancer is considerably higher in Dundee City than Scotland overall (figure 20).

Furthermore, the incidence rate in Dundee City had been increasing since 2013 until 2018, in contrast to the Scotland overall, but is now appearing to decrease once more.

Figure 20: Age-sex standardised rate of lung cancer diagnoses per 100,000 population; 2002-2004 to 2018-2020



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

While lung cancer accounted for the largest number of cancer-related deaths across Scotland in 2021, the largest increase in mortality rates, for all types of cancer, across Scotland over the last decade has been for liver cancer (38% increase) with the main risk factors being obesity, alcohol and infection with hepatitis B and C viruses<sup>24</sup>.

### 2.3 Chronic obstructive pulmonary disease (COPD)

Long-term respiratory conditions, such as asthma and COPD, can cause significant challenges for the people who live with them and lead to the greatest use of health resources to assist with management. Over 129,000 people are diagnosed with COPD annually in Scotland<sup>25</sup>. While situational factors (such as air quality and working conditions) and genetics can cause the disease, smoking is still by far the main cause of COPD. Approximately 25% of long-term smokers will end up developing COPD<sup>26</sup>. The risk is increased for women, who tend to develop the condition with lower exposure to smoke than men<sup>27</sup> in contrast to lung cancer which has a higher incidence in men<sup>28</sup>.

Hospitalisation rates for COPD have decreased over the last five years with the overall rates for Tayside lower than the national average. However, Dundee City has higher hospitalisation rates for COPD than Scotland overall with the gap widening in recent years. Similar to new lung cancer diagnoses, there had also been a steady increase in COPD hospitalisations in Dundee City until recently (figure 21).

24 <https://publichealthscotland.scot/publications/cancer-mortality/cancer-mortality-in-scotland-annual-update-to-2020/>

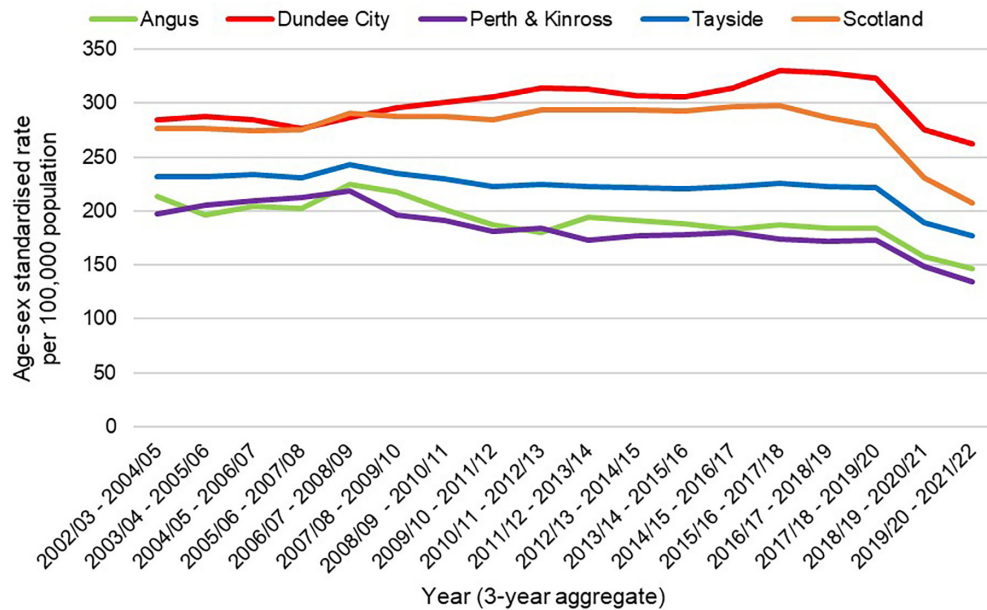
25 Chest Heart and Stroke Scotland and SPRAG: 2017 Pulmonary Rehabilitation Survey

26 <https://www.gov.scot/publications/scottish-health-survey-2018-main-report-revised-edition-2020/pages/68#fn-9>

27 <https://www.gov.scot/publications/scottish-health-survey-2018-main-report-revised-edition-2020/pages/68#fn-9>

28 <https://www.publichealthscotland.scot/publications/cancer-incidence-in-scotland/cancer-incidence-in-scotland-cancer-incidence-and-prevalence-in-scotland-to-december-2019/cancer-incidence-dashboard/>

Figure 21: Age-sex standardised rate of COPD hospitalisation per 100,000 population 2002/03-2004/05 to 2019/20-2021/22



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

Analysing COPD patient hospitalisations by deprivation shows that COPD admission rates in Tayside would be 65% lower (Scotland 70%) if the levels of the least deprived area were experienced across the whole population<sup>29</sup>.

## 2.4 Diabetes

Diabetes is a common life-long health condition, although remission can be achieved in type 2 diabetes with weight management and early intervention. The most recent Scottish Diabetes Survey (2021) estimated that there were almost 328,000 people with a diagnosis of diabetes in Scotland, representing a prevalence<sup>30</sup> rate of 6.0% (compared to 4.8% in 2012) with the majority (88%) having type 2 diabetes<sup>31</sup>.

When only adults are considered, the prevalence rate rises to approximately 1 in 10. Furthermore, approximately 500,000 people in Scotland are currently considered at high risk of developing type 2 diabetes<sup>32</sup> in future and it is estimated that 10% of type 2 diabetes is undiagnosed.

In Scotland, more cases of diabetes were diagnosed in 2021 than in previous years but this may be due partially to a delay in diagnosing cases during the COVID-19 pandemic in 2020. These trends were mirrored in Tayside with the number of new cases of diabetes diagnosed in 2021 and 2022 (1,619 and 1,596 respectively) higher than those seen annually since 2010.

The prevalence of both type 1 and type 2 diabetes in Tayside in 2022 was 5.9%, compared to 5.0% in 2012 (figure 22), and 90% of people living with diabetes in 2022 had type 2 diabetes.

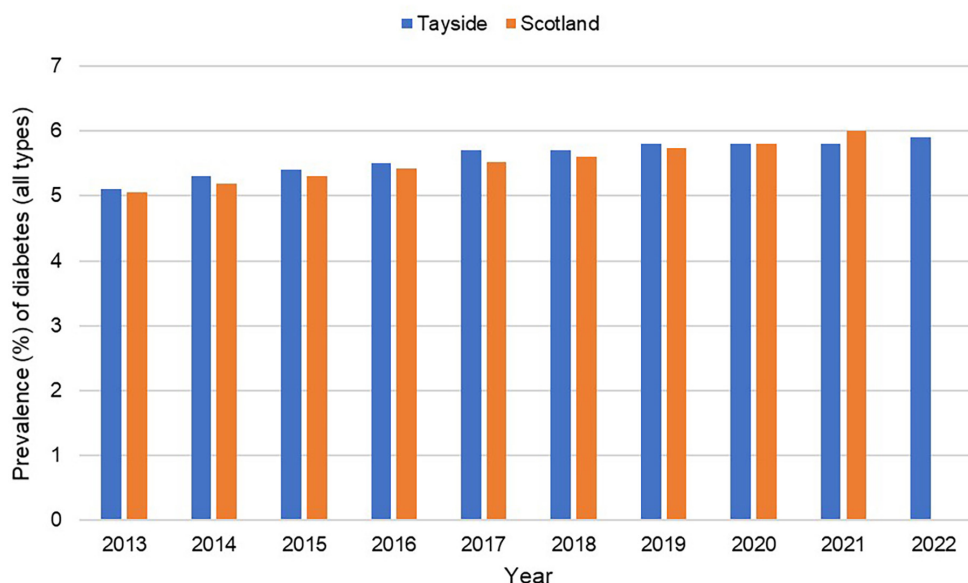
<sup>29</sup> Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

<sup>30</sup> Prevalence refers to proportion of persons who have a condition at or during a particular time period

<sup>31</sup> <https://www.diabetesinscotland.org.uk/wp-content/uploads/2023/02/Diabetes-Scottish-Diabetes-Survey-2021-final-version.pdf>

<sup>32</sup> Diabetes UK Position Statement 2014

Figure 22: Crude prevalence rate of all types of diabetes for all ages per 100,000 population; 2013-2022\*



\* Scotland data for 2022 not yet available

Source: Scottish Diabetes Survey 2021 and Tayside Diabetes MCN annual report 2022

## 2.5 Summary

Physical health outcomes are influenced by a person's individual characteristics and behaviours, as well as by their physical, social and economic environments.

Whilst the physical health status of person can be managed to prevent hospital admissions and prolong life expectancy, to ensure sustainability of health and social care services long-term, it is imperative that a public health approach is adopted across the whole system to focus on prevention and early intervention, targeted to populations at greatest need, to improve overall health and reduce health inequalities.

It is the modifiable risk behaviours that Public Health as a specialty primarily focuses on changing, to improve the health outcomes of the population, and it is in the next chapter that this report will describe some of the current and future activities that will have a positive impact on the population's health.

# 3. Mental Health

Mental illness is one of the major public health challenges in Scotland. Poor mental health is the leading cause of sickness absence in the UK and is generally more debilitating than most chronic physical conditions. Currently around one in four people are estimated to be affected by mental illness. Good mental health is fundamental to good public health as mental health influences our capacity and motivation for healthy behaviours, outcomes in chronic disease and our ability to engage with health services.

Mental health is strongly influenced by social, environmental and economic conditions. Poverty and deprivation are key determinants of children’s development and subsequent adult mental health. Symptoms of anxiety and depression are over twice as common and self-harm and suicide over four times as common in the most deprived quintile compared to the least<sup>33</sup>.

Young people are experiencing increasing mental health challenges over recent years and the COVID-19 pandemic has added to this with disadvantaged young people most affected<sup>34</sup>. Locally this is evident in challenges faced by schools and in the increasing number of referrals to statutory and non-statutory services.



Poor mental health, particularly self-harm, suicide, anxiety and depression, is strongly associated with deprivation.



Hospitalisations for psychiatric illness have decreased but are higher in Tayside, and Dundee in particular, than Scotland.



The suicide rate in Tayside is higher than the national average with 22 per 100,000 population in Dundee compared to 14 per 100,000 for Scotland.



Suicide rates vary by sex. While the suicide rate in females has not changed significantly over the past decade, the rate in males has increased.



Children and young people’s mental health has declined in the past decade, exacerbated by the pandemic.



Three quarters of people with a mental health condition start developing it prior to 18 years of age.

33 <https://www.gov.scot/publications/scottish-health-survey-2021-volume-1-main-report>

34 <https://publichealthscotland.scot/our-areas-of-work/conditions-and-diseases/covid-19/covid-19-data-and-intelligence/covid-19-and-children-research/covid-19-early-years-resilience-and-impact-survey-ceyris/overview/>



### 3.1 Local and national context

#### 3.1.1 Hospitalisations

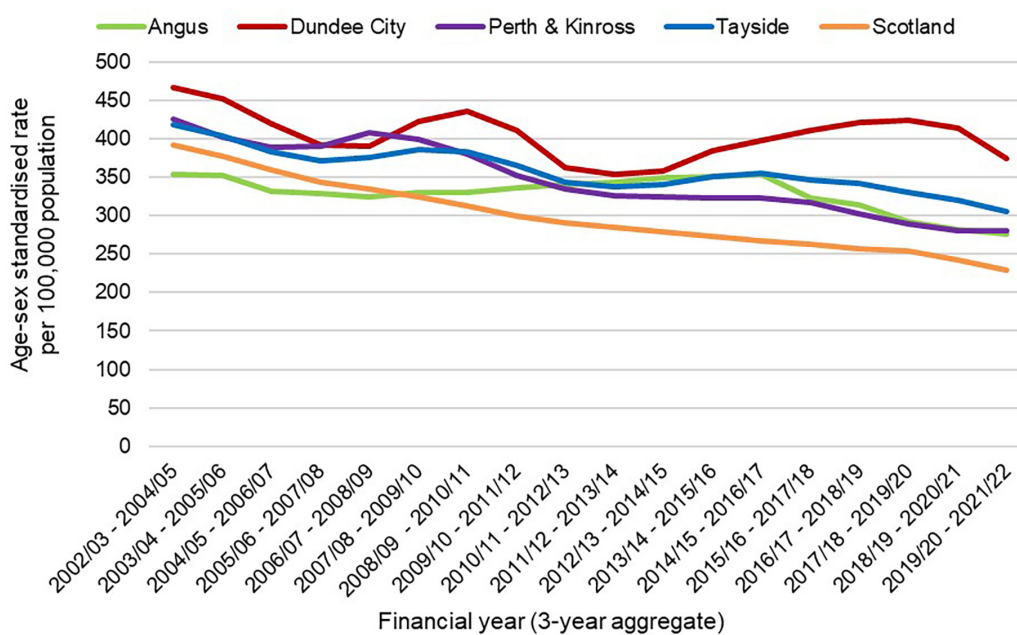
Over the last 20 years, the rate for psychiatric hospitalisations across Scotland has decreased (figure 23) with Tayside rates following a similar pattern, albeit with higher rates than Scotland overall.

Differing numbers of inpatient beds and patterns of service delivery between areas of Scotland may also explain some of the variation in admission rates and these are currently being explored further.

Hospitalisations for residents of Dundee City had however diverged from this overall Tayside and national trend and increased between 2015 and 2019.

Despite a decrease in the rate in the most recent period, psychiatric hospitalisations for Dundee City residents remains considerably higher than the rest of Tayside and indeed Scotland.

Figure 23: Age-sex standardised rate of psychiatric patient hospitalisations per 100,000 population; 2002/03-2004/05 to 2019/20-2021/22

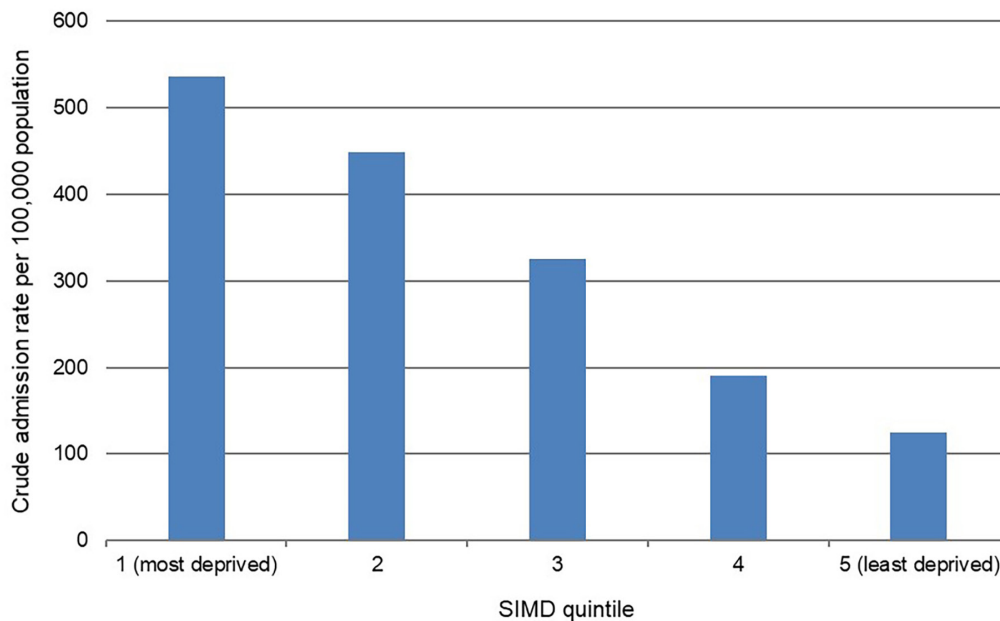


Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

Psychiatric hospitalisations show a clear inequality gradient with people living in the most deprived areas of Tayside four times more likely than people living in the least deprived areas to be admitted to hospital with a psychiatric illness (figure 24).

In addition, psychiatric hospitalisations would be 56% lower if the rates of the least deprived areas were experienced across the whole population.

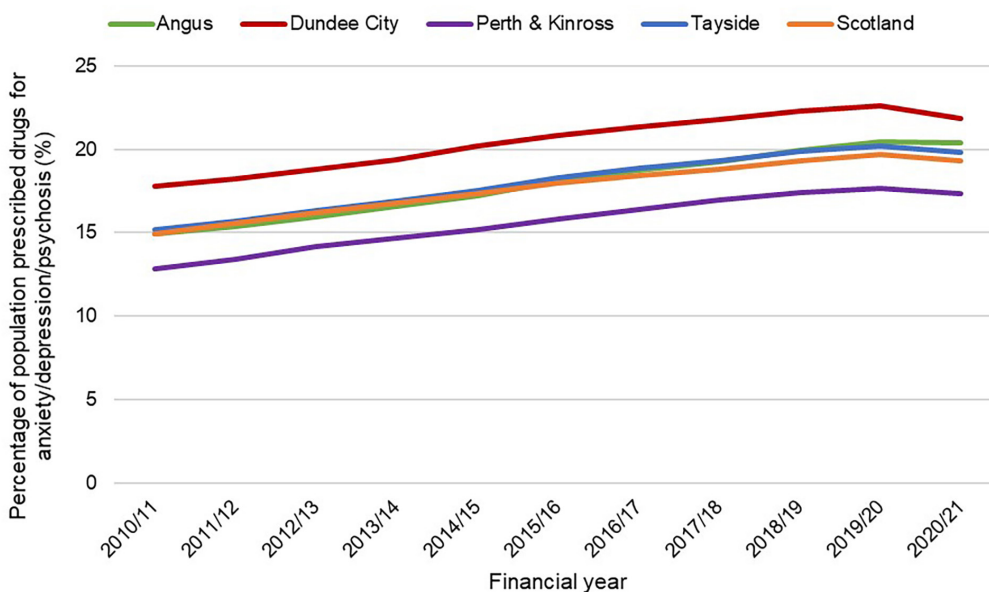
Figure 24: Adult psychiatric patient hospitalisations per 100,000 population in Tayside by SIMD2020 quintile; 2021/22



Source: Discovery (PHS)

The proportion of the population who are prescribed drugs for anxiety/depression/psychosis can be used as a proxy measure for mental health prevalence (in the absence of robust community prevalence data for mental health), and data show that while hospitalisations have decreased overall, prevalence of mental health illness in the community that is being treated with medication has increased (figure 25).

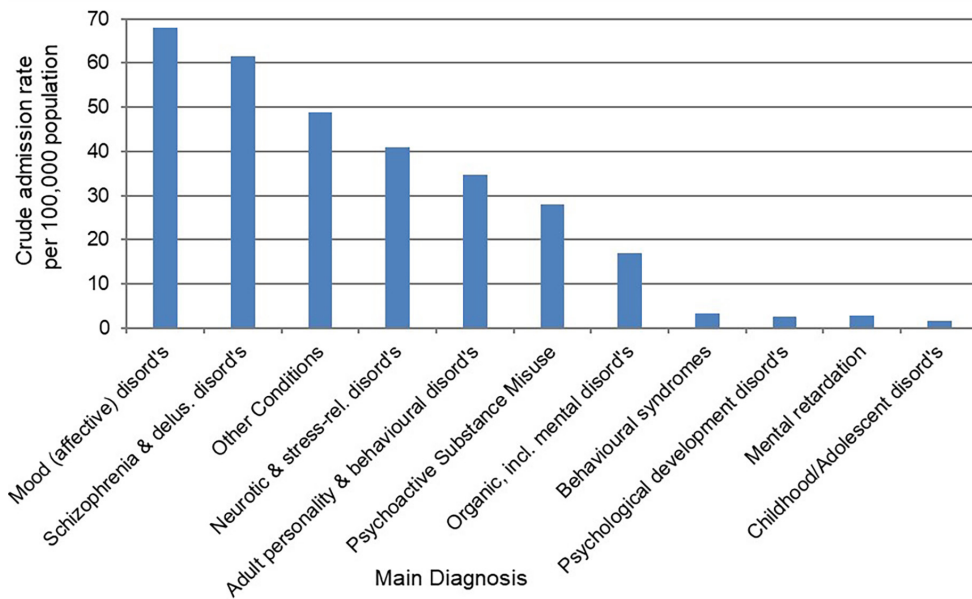
Figure 25: Percentage of population prescribed drugs for anxiety/depression/psychosis between 2010/11 and 2020/21



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

Examining the diagnoses of people being admitted to a psychiatric hospital shows that mood, schizophrenia and personality disorders are the most commonly treated conditions (figure 26).

Figure 26: Adult psychiatric patient hospitalisations per 100,000 population in Tayside by main diagnosis grouping; 2021/22

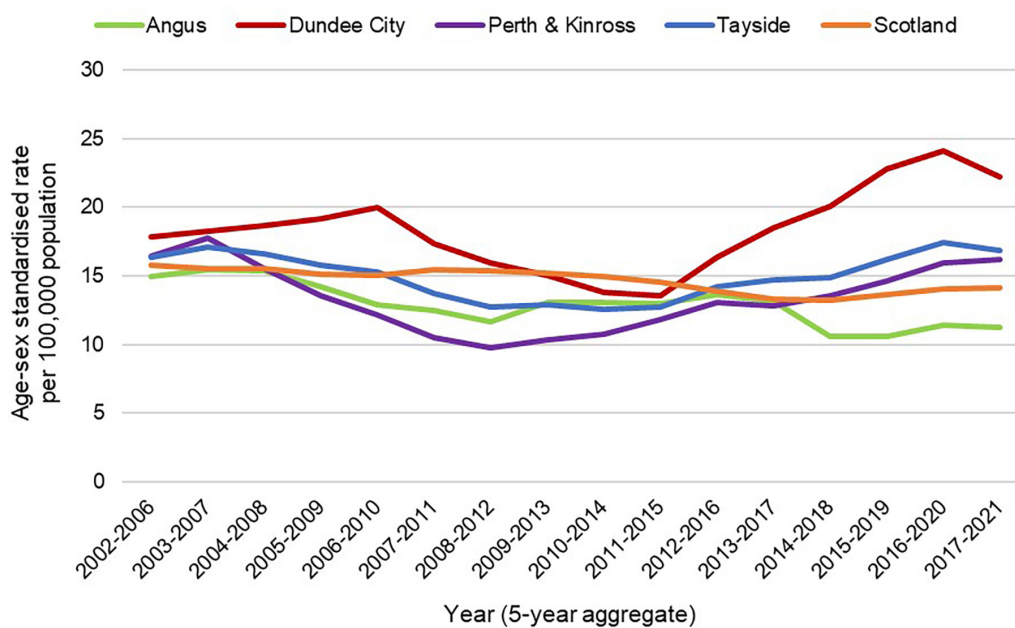


Source: Discovery (PHS)

### 3.1.2 Suicide

In 2021, there were 66 suicides in Tayside. While suicide rates across Scotland had been generally decreasing, recent data show that Scotland rates are now starting to rise slowly, with a particular notable increase in Tayside (figure 27)<sup>35</sup>. This is predominantly due to a rise in the number of suicides in Dundee City, although there have been increases in both Angus and Perth & Kinross also since 2014-2018. Despite a slight decrease in the rate in the most recent period, Dundee City continues to experience a considerably higher rate of suicide than other Scotland mainland local authority areas<sup>35</sup>.

Figure 27: Age-sex standardised suicide rate per 100,000 population in Tayside and Scotland; 2002-2006 to 2017-2021

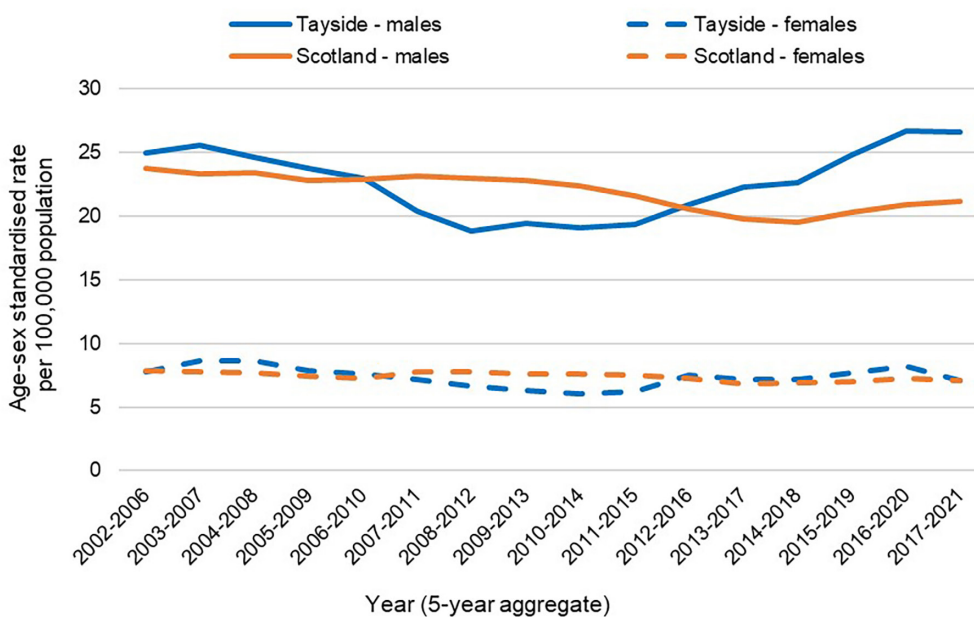


Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

35 <https://www.nrscotland.gov.uk/files//statistics/probable-suicides/2020/suicides-20-report.pdf>

A clear difference in sex and deprivation exists when suicides are examined more closely. In the most recent period, the suicide rate in Tayside was four times higher in males than in females and while the suicide rate in females has remained relatively unchanged, the suicide rate in males has increased over last decade (figure 28). Further analyses of suicides in Tayside show that the mean age of death was 44 years and half of the suicides were in people known to have problem alcohol/substance use<sup>36</sup>. When deaths from suicide across Scotland are considered by SIMD quintile, rates in the most deprived areas are three times higher than people living in the least deprived areas.

Figure 28: Age-sex standardised suicide rates per 100,000 population in Tayside and Scotland by sex; 2002-2006 to 2017-2021



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

### 3.1.3 Self-harm

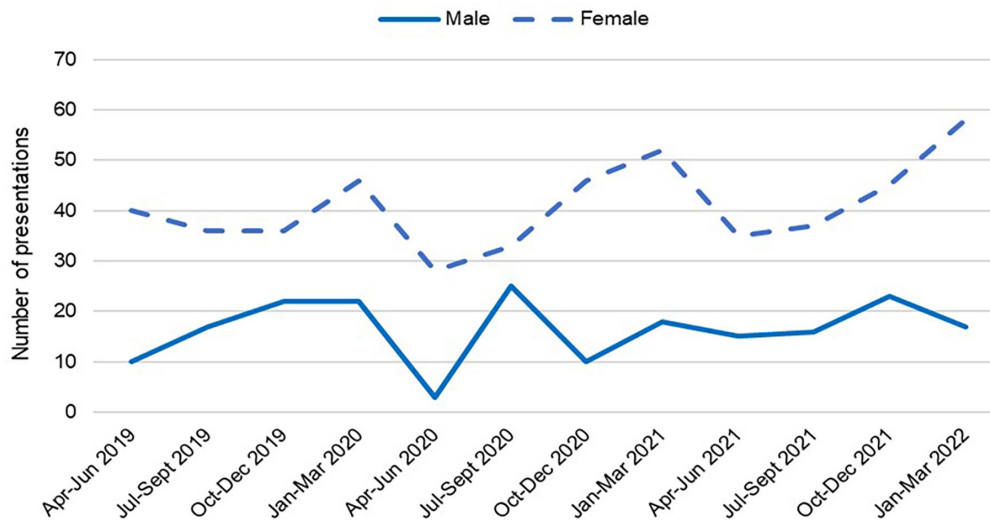
Repeated self-harm is one of the main risk factors for suicide. It is much more common in young people, particularly young women. A recent study conducted in England reported that more than a quarter of women aged 16-24 years had self-harmed at some point<sup>37</sup>.

More than seven out of 10 young people (16-25 years) presenting to NHS Tayside Accident and Emergency (A&E) with a self-harm diagnosis between 2019/20 and 2021/22 were female. Conversely, two in 10 suicides of people aged 16-25 years in the same period were female. Self-harm presentations have fluctuated over the last three years but in the most recent quarter there were 75 presentations to A&E in this age group (figure 29), averaging almost six attendances per week.

36 Tayside Multi Agency Suicide Review Group Annual Report 2021

37 S. McManus et al., "Mental Health and Wellbeing in England: Adult Psychiatric Morbidity Survey 2014.," no. Generic (2016), [http://digital.nhs.uk/media/32987/APMS-2014-Full-Report/pdf/Mental\\_health\\_and\\_wellbeing\\_in\\_England\\_full\\_report](http://digital.nhs.uk/media/32987/APMS-2014-Full-Report/pdf/Mental_health_and_wellbeing_in_England_full_report)

Figure 29: Number of self-harm presentations (people aged 16-25 years) to NHS Tayside Accident & Emergency, 2019/20-2021/22 by quarter



Source: NHS Tayside Psychiatry Liaison Team

### 3.1.4 Mental health in children

There is concern that mental health is worsening amongst children. Nearly half of all lifetime mental health conditions occur before the age of 14 years, with emotional disorders increasing, especially in young girls. Poor childhood mental health can impact on relationships, educational engagement and self-confidence, often persisting throughout adult life with direct consequences on an individual’s health, social and economic outcomes<sup>38</sup>.

Many factors influence mental health and wellbeing, e.g. diet, physical activity, sleep, substance use, social relationships, the school experience, as well as deprivation. Children from socio-economically deprived backgrounds are 2-3 times<sup>39</sup> more likely to develop mental health issues. These children are also more likely to encounter adverse life circumstances which, in turn, will affect their mental health.

Development and publication of ‘Connected Tayside: an emotional health & wellbeing strategy for children & young people’ (2020-2023), by the Tayside Regional Improvement Collaborative for children’s services, has set out how all partners will work together to ensure children and young people get the right help, at the right time, from the right people with universal support for all and targeted support when needed.

Prevention, early intervention and attention to the impact of Adverse Childhood Experiences (ACEs) on the life course are key in achieving improved mental health and wellbeing for Tayside’s children.

38 ‘Findings from The HBSC 2018 Survey In Scotland Health Behaviour In School-Aged Children: World Health Organization Collaborative Cross-National Study’ (January 2020), Inchley, J et al. [https://www.gla.ac.uk/media/Media\\_707475\\_smxx.pdf](https://www.gla.ac.uk/media/Media_707475_smxx.pdf)

39 Mental Health Foundation (Website) - Statistics & Poverty [www.mentalhealth.org.uk/statistics/mental-health-statistics-poverty](http://www.mentalhealth.org.uk/statistics/mental-health-statistics-poverty)

## **3.2 Current and future activity**

### **3.2.1 Primary prevention of Mental Health Disorder**

The Directorate of Public Health is working with Public Health Scotland to increase the use of a 'Health in all Policies' approach. The aim will be to develop a Health in All Policies and Health Impact Assessment infrastructure, capacity and champions in Tayside.

### **3.2.2 Prevention and early intervention for mental health conditions and improving primary and community mental health services**

A key component of public mental health work is to build capacity with partners. Training is used to increase knowledge and promote effective actions that will improve population mental health and wellbeing. Public Health has mapped training needs and is developing and delivering a co-ordinated programme of training.

### **3.2.3 Mental health and wellbeing strategic planning**

Public Health works closely with partners from the health and social care partnerships, third sector and other agencies to drive forward an upstream preventative approach to mental health, which targets people with greatest health needs. Public Health inputs into the three locality community mental health and wellbeing strategic planning groups and co-chairs the early intervention sub-groups in Dundee and Perth & Kinross.

### **3.2.4 Mental health identification in general inpatient services**

Unidentified mental health conditions result in poorer outcomes for patients and increase health costs. Public Health is supporting the development and use of a mental health screening question for use in inpatient nursing documentation.

### **3.2.5 Suicide prevention**

The Public Health Directorate set up the Tayside Multi-agency Suicide Leadership Group in early 2021 which has three key workstreams:

#### **1. Tayside Multi-agency Suicide Review Group (TMASRG)**

Public Health leads this group which undertakes in-depth reviews of all suicide deaths in Tayside. The purpose is to identify risk factors, emerging issues, locations of concern and areas for service improvement<sup>40</sup>.

#### **2. Suicide Prevention Training Group**

The purpose is to ensure quality and responsiveness of training, build capacity and facilitate access to training, based on need.

#### **3. Children and Young People's Suicide Prevention Group**

This group was set up to respond to local stakeholder concerns and national strategy recommendations. A comprehensive needs assessment has been undertaken and action plan developed. Actions include improving data collection, developing better information sharing between agencies and improving access to training<sup>41</sup>.

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40 Tayside Multi Agency Suicide Review Group Annual Report 2021

41 Tayside Needs Assessment to Inform the Prevention of Suicide and Self Harm in Children and Young People



### *3.2.6 Mental health services improvement*

Public Health is a member of the Executive Leadership Group for the Tayside Mental Health and Learning Disability Whole System Change Programme. This group is leading an overarching piece of work to understand the current and future mental health service needs of the population of Tayside. Public Health also contributes to a number of the priority workstreams as described in the Mental Health and Learning Disabilities Improvement Plan – March 2023.

### *3.2.7 Physical health of individuals with severe and enduring mental health disorders*

Individuals with severe and enduring mental illness die, on average, 10-20 years prematurely due to preventable physical health conditions. Public Health is working closely with mental health and other services to develop a physical health strategy to implement systems change to address physical health needs over the next three years.

# 4. Modifiable Risk Factors

Whilst we cannot impact or influence some risk factors for disease, for example age, there are a range of risk factors that can be changed to decrease the risk of a disease happening, or becoming worse, and these are therefore called 'modifiable'.

However, whilst many of these factors can be changed at an individual level e.g., a person's weight, it is far too simplistic to think that the reason a population as a whole is experiencing rising levels of obesity is down to individuals' choice.

Rising levels of obesity are a direct result of increasingly obesogenic environments, for example where food and drink in high calorific content are easily available and marketed, and options for active travel are limited. The wider socioeconomic and cultural context impacts far more extensively than simply individual 'choice'.

This chapter describes current trends in the key metrics available to measure modifiable risk factors for the development of disease and ill health.



Alcohol-related health harm is increasing across Tayside. Alcohol-related hospital admissions are 30% higher in Dundee than the national average while deaths are 26% higher.



Drug-related hospital admissions have increased in Dundee by almost 800% in the last 18 years and current rates in Dundee are more than double the national average.



Alcohol-related hospital admissions are five times higher for people living in the most deprived areas compared to the least deprived areas, while the difference in drug-related admissions is 16 times.



Following a long-term upward trend in drug-related deaths, the rate has recently fallen in Tayside. Despite a substantial decrease in Dundee, the rate remains higher than for Scotland as a whole.



The COVID-19 pandemic resulted in a decrease in diagnoses of STIs. Post-pandemic, rates of STIs are increasing again with a higher rate of infection in Tayside than Scotland.



The infection rate for gonorrhoea more than doubled in Tayside between 2019 and 2022. The incidence of HIV in Tayside and Scotland are showing a downward trend.



Teenage pregnancy rates have decreased, however, the rate in Angus was 38 per 1,000 females and 30 in Dundee compared to 27 in Scotland in 2018-20.



Terminations have been steadily increasing over the past decade with Tayside higher than Scotland (19.4 per 1,000 females compared to 16.1 in 2022).



While smoking prevalence, smoking-related hospital admissions and smoking-attributable deaths have decreased, in 2021 a fifth of deaths in Scotland continue to be smoking-related.



Two thirds of Tayside adults are meeting physical activity guidelines, however, this varies considerably by sex (higher in males at 70%), area and deprivation (lower in Dundee at 57%).



Fewer than one third of the Tayside population are of healthy weight with this proportion being lower in males than females and for people living in more deprived areas.



The proportion of children who are of healthy weight in Tayside has decreased from 75% in 2014/15 to 72% in 2021/22 and is consistently lower than the national average.



Children and young people who are growing up in the most deprived areas are less likely to have a healthy weight.



Fewer than a quarter of adults in Scotland eat the recommended five or more portions of fruit and vegetables per day.



Breastfeeding rates are improving with Perth & Kinross higher than Scotland (40% compared to 32% in the most recent period) but rates vary by age of mother and deprivation.



The proportion of primary school children showing no obvious dental decay continues to improve although deprivation is associated with poorer dental health.

## 4.1 Substance Use – Alcohol and Drugs

Substance use adversely impacts health and wellbeing. For example, alcohol is known to be a causal factor in over 200 diseases and injury conditions<sup>42</sup>. Substance use often occurs concurrently with poor mental health and both can impact more widely, affecting family, friends, and local communities. Furthermore, both poor mental health and problem substance use (drugs and alcohol) disproportionately affects people who live in areas of greater socioeconomic deprivation. Alcohol and Drug Partnerships (ADPs) undertake a strategic role to develop good quality accessible services that promote the recovery of people affected (both directly and indirectly) by substance use.

### 4.1.1 Alcohol consumption

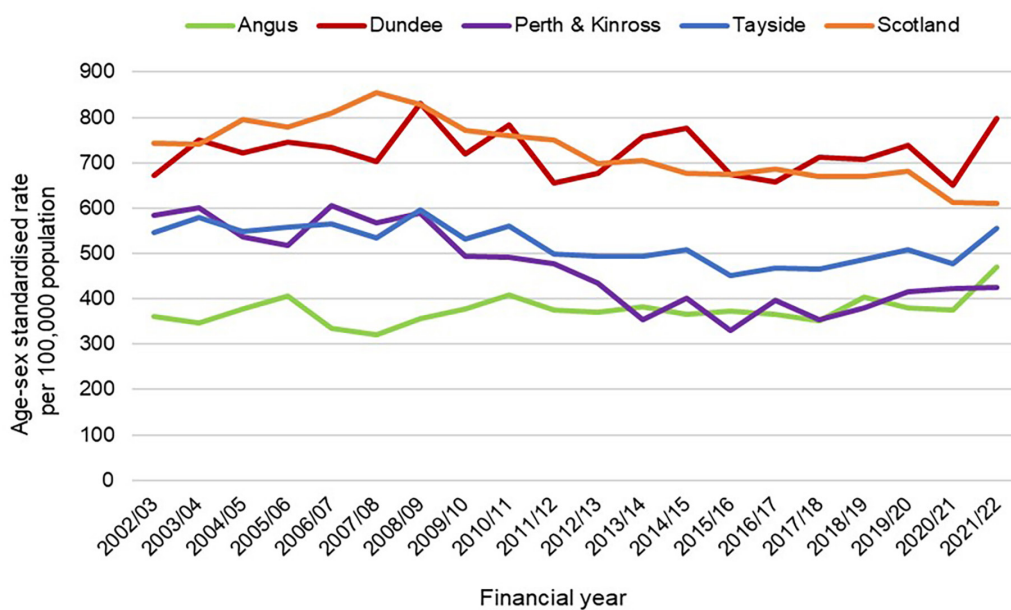
A considerable proportion of adults continue to drink alcohol in excess of the recommended government guidelines of 14 units per week for all adults<sup>43</sup>. Thirty percent of men and 15% of women currently drink alcohol at levels that are considered hazardous or harmful.

### 4.1.2 Alcohol-related health harm

Alcohol continues to be one of the largest drivers for A&E attendances and subsequent hospital admissions in Tayside and alcohol mortality remains a significant public health concern.

Alcohol-related hospital admissions in Tayside have consistently been lower than Scotland. However, while national rates have shown a decrease, the Tayside rates have risen in recent years and in 2021/22, were the highest seen in a decade. Although all three local authority areas have shown an increase over the last reported year, the admission rate is considerably higher for people living in Dundee City (figure 30).

Figure 30: Age-sex standardised alcohol-related hospital admission rate per 100,000 population; 2002/03-2021/22



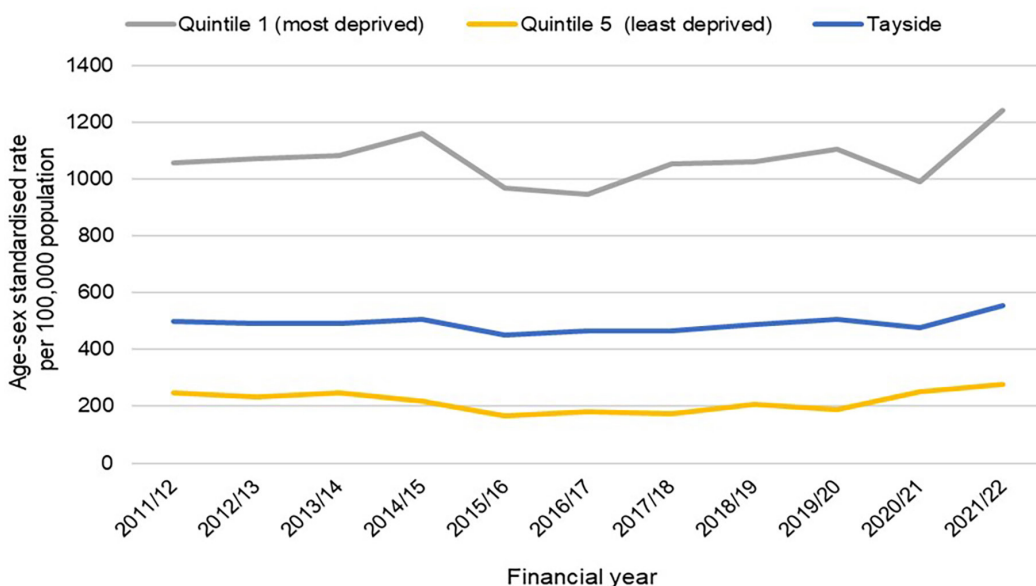
Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

42 World Health Organization. Global status report on alcohol and health 2014. Available from: [http://www.who.int/substance\\_abuse/publications/global\\_alcohol\\_report/en/](http://www.who.int/substance_abuse/publications/global_alcohol_report/en/)

43 Scottish Government / National Statistics. The Scottish Health Survey 2019 Edition. Available from: Scottish Health Survey (shinyapps.io)

When considering the socioeconomic status of people admitted to hospital for alcohol-related conditions a clear deprivation gradient exists with admissions five times higher for people living in the most deprived communities than for people in the least deprived areas (figure 31).

Figure 31: Age-sex standardised alcohol-related hospital admission rate per 100,000 population by SIMD quintile; 2011/12-2021/22

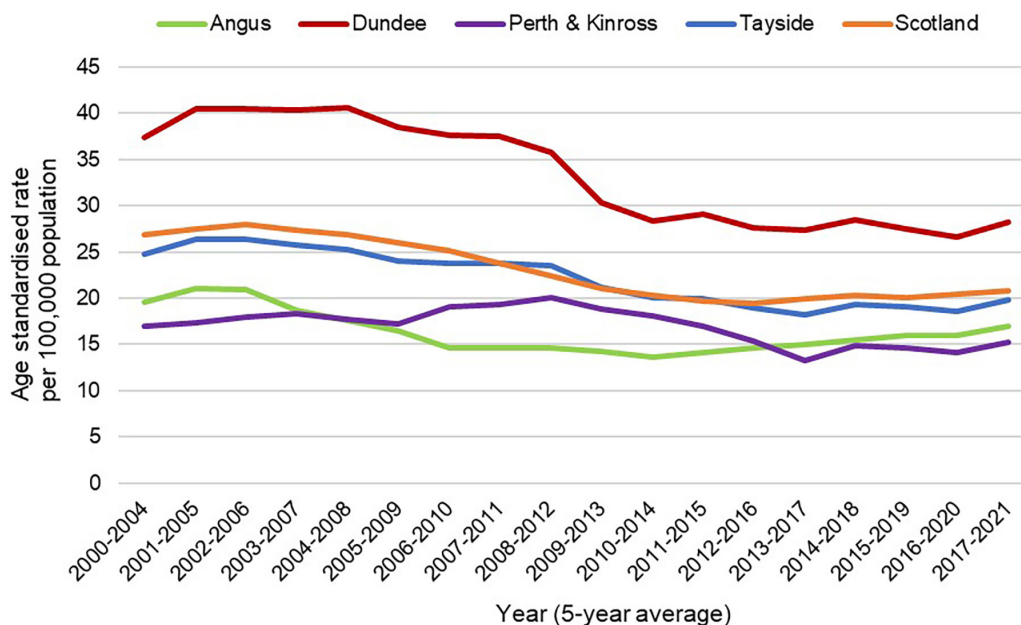


Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

### 4.1.3 Alcohol-specific mortality

Overall, deaths due to alcohol have decreased over the last 20 years with the Tayside rate currently slightly lower than the national average. However, this decline has now stalled and there has been a small increase now in all three local authority areas across Tayside during the most recent reporting period (figure 32).

Figure 32: Alcohol-specific age standardised mortality rates per 100,000 population in Tayside and Scotland; 2000-2004 to 2017-2021



Source: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/alcohol-deaths>

#### 4.1.4 Drug prevalence

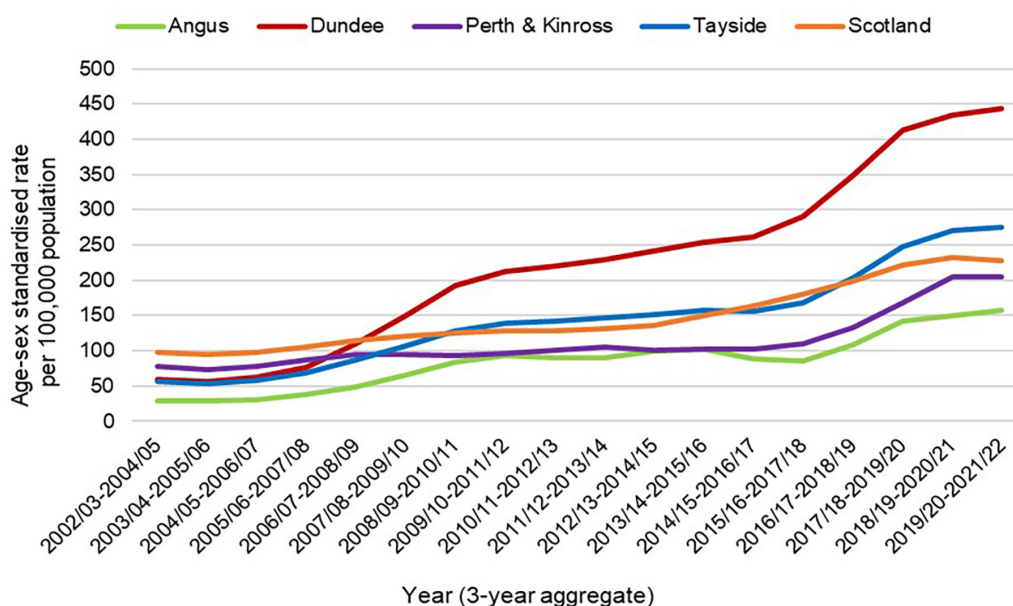
The most recent national drug prevalence study<sup>44</sup> estimated that there are approximately 4,600 people with problem drug use in Tayside with the majority (61%) living in Dundee.

While the prevalence of problem drug use overall in Tayside (1.7%) is slightly higher than the national average (1.6%), the prevalence of problem drug use in Dundee is much higher (2.8%).

#### 4.1.5 Drug-related health harm

Across Scotland, trends in drug-related hospital admissions have increased over time. Since 2016/17, the rate for Tayside has been higher than the Scottish average, predominantly due to the significantly higher rate in Dundee City (figure 33).

Figure 33: Age-sex standardised drug-related hospital admission rate per 100,000 population; 2002/03-2004/05 to 2019/20-2021/22



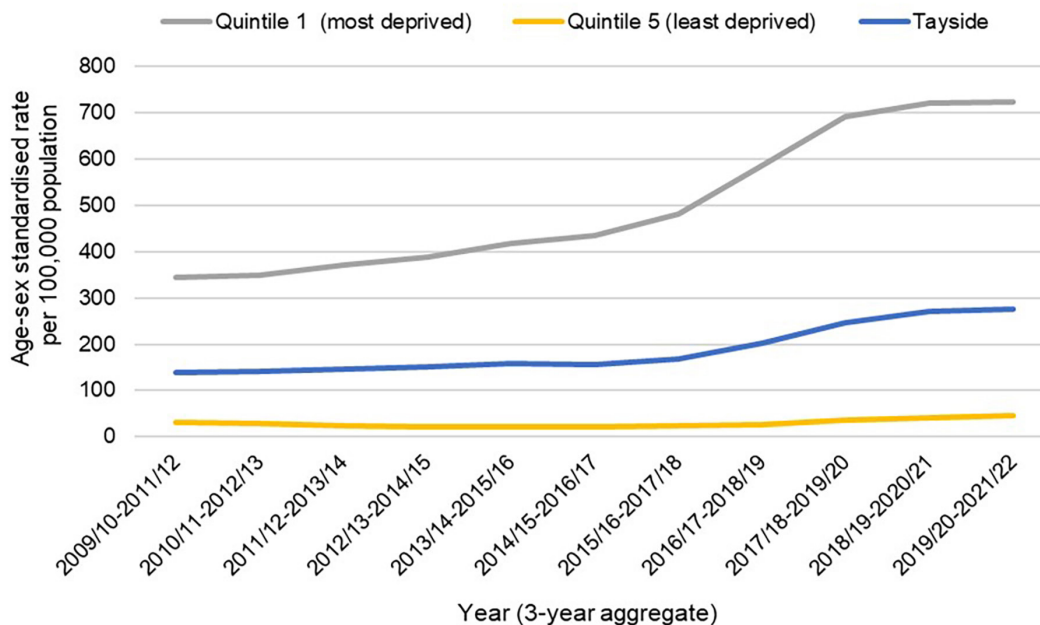
Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

There is a huge inequality gap in rates of drug-related hospital admissions. In the most recent period, the rate for people living in the most deprived areas was 16 times higher than the rate for people living in the least deprived areas (figure 34).

44 Study last carried out in 2016



Figure 34: Age-sex standardised drug-related hospital admission rate per 100,000 population by SIMD quintile; 2009/10-2011/12 to 2019/20-2021/22

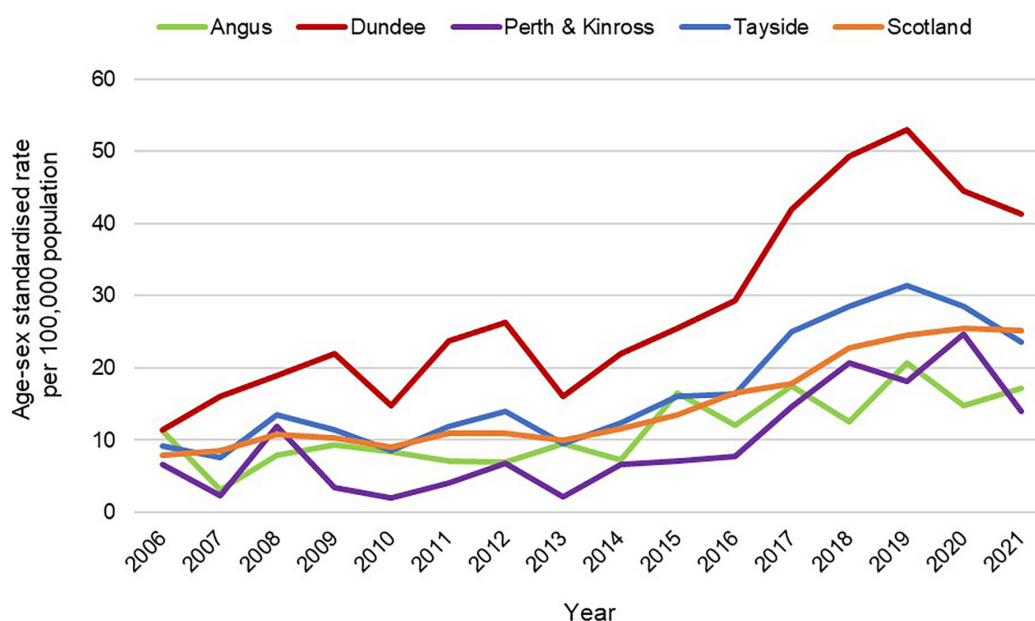


Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

#### 4.1.6 Drug-related mortality

Drug-related deaths across Scotland have increased over time, with a sharp rise seen since 2013. The drug-related death rate for Tayside as a whole, has consistently been above the national average, due to the high rate in Dundee City. However, the data for 2020 and 2021 show that the Dundee rate has decreased considerably bringing the Tayside average below that of the national average (figure 35).

Figure 35: Age-sex standardised drug-related death rate per 100,000 population in Tayside and Scotland; 2006-2021



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

#### *4.1.7 Current and future activity*

Alcohol brief interventions are endorsed by the World Health Organisation (WHO) as a cost-effective measure to support people to reduce the amount of alcohol they consume. The alcohol brief interventions (ABI) co-ordinator for NHS Tayside works within Public Health to support and develop the national programme of ABI delivery across Tayside. This includes providing training, both face to face and through development of an e-module, co-ordinating and improving data collection and contributing to the national review of the ABI programme across Scotland.

The Health Improvement team in Public Health has worked within Dundee Alcohol and Drugs Partnership (ADP) Prevention sub-group to develop an evidence-based prevention framework which has been published on the ADP website and will form a core part of its action plan over the next five years. The Health Improvement team is also working with partners to deliver a pilot of the 'Planet Youth' project to strengthen school, community and family responses to prevent substance use amongst young people. It is planned that this work will expand to cover additional schools over the coming years.

The Health Intelligence Team in Public Health has worked with partners to deliver the intelligence and reporting requirements to support implementation of the national Medication Assisted Treatment (MAT) standards. The team has also been supporting the roll out of and developing reporting from the new national Drug and Alcohol Information System, including training staff locally and contributing to national work to refine and improve the system.

Public Health has led the Tayside-wide group tasked with implementation of MAT standard 4, to make comprehensive harm reduction services available wherever opioid substitution therapy is provided. The harm reduction interventions include injecting equipment provision, testing for blood-borne viruses, overdose awareness training and provision of take-home naloxone, wound care and targeted vaccination delivery. Public Health will continue to support implementation of MAT standards over the coming year.

The Public Health team continues to lead the drug death learning reviews across Tayside and has recently recruited a new Near Fatal Overdose pathway co-ordinator, funded by the three Tayside ADPs, to develop and support the overdose response pathways within each Partnership.

In March 2023, Public Health published a health needs assessment for people who use benzodiazepines. This report will be discussed at key stakeholder groups to consider implementation of the 10 recommendations. A substance use needs assessment group for Tayside has been established, led by Public Health, and this group will oversee a needs assessment for alcohol use over the coming year.

#### *4.2 Sexual health and blood borne virus*

Sexual health and blood borne viruses (BBV) – HIV, hepatitis B and C – remain a major public health issue in Scotland. Early diagnosis and treatment can dramatically improve outcomes and avoid significant morbidity and mortality. There is a clear association between BBVs, poor sexual health, early parenthood and inequalities. Many people living with BBV continue to face stigma and discrimination.

## 4.2.1 Harm reduction and maintaining hepatitis C elimination

### Local and national context

Tayside was one of the first regions in the world to achieve hepatitis C elimination in 2020 (as defined by WHO<sup>45</sup>). Access to regular testing and timely treatment is vital to ensure elimination is maintained. One of the main impacts of COVID-19 restrictions was a dramatic reduction in attendance at harm reduction clinics, associated with a significant decrease in the amount of injecting equipment provided from these sites across Tayside and a reduction in testing. Similar patterns were seen across the whole of Scotland.

Recent laboratory data suggests BBV testing rates are increasing but focused work is required with services that support people at the highest risk of acquiring hepatitis C (HCV) to ensure national guidance on testing is implemented and there is continuing recovery and further improvement in testing. In the four NHS Boards core to the HCV test database (NHS Greater Glasgow and Clyde, NHS Lothian, NHS Tayside and NHS Grampian) 53,649 individuals were tested for HCV antibodies in 2021. While this represents a 13% increase on 2020, it remains 17% lower than in 2019 prior to the COVID-19 pandemic<sup>46</sup>. In 2021, 1,116 new cases of HCV antibody-positivity were diagnosed in Scotland. This figure compares with 1,496 and 1,016 for the calendar years 2019 and 2020, respectively. The 2021 total was the lowest recorded in Scotland since 1996 and reflects the impact of the COVID-19 pandemic on HCV testing services in Scotland. Of the 1,116 newly diagnosed cases in 2021, 7% (77) were in Tayside.

The number of needles and syringes distributed in Tayside has decreased by over two thirds in the last decade with just under 184,000 distributed in 2021/22 compared to just over 579,000 in 2011/12<sup>47</sup>.

## 4.2.2 HIV elimination - Getting to zero new transmissions and Fast Track Cities

There have been transformational developments in the diagnosis, treatment and care for HIV. Highly effective medications for HIV exist offering treatment as prevention (TasP), meaning a person living with HIV with a sustained undetectable viral load due to effective treatment cannot pass on infection to others, including sexual partners – undetectable equals untransmittable (U=U). This, together with the introduction of pre-exposure prophylaxis (PrEP), provide all the tools to end new transmissions of HIV, prevent AIDS-related deaths and stop stigma and discrimination. UNAIDS and partners are looking to countries to accelerate their work to eliminate HIV transmission by 2030 developing 95-95-95 targets:

- 95% of people living with HIV know their status
- 95% of people who know their status are receiving treatment
- 95% of people on treatment have an undetectable HIV viral load

### Local and national context

Scotland, and Tayside, perform well against these targets however it is estimated that only 92% of people living with HIV in Scotland are aware of their status (board level data unavailable). As with hepatitis C, access to preventative interventions is vital to ensure HIV transmission can be eliminated.

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45 full-final-who-ghss-hiv-vh-sti\_1-june2022.pdf

46 Surveillance of Hepatitis C in Scotland 2022

47 <https://www.publichealthscotland.scot/publications/injecting-equipment-provision-in-scotland/injecting-equipment-provision-in-scotland-2021-to-2022/>

During 2021, a total of 218 reports of HIV diagnoses were recorded in Scotland. This compares to a total of 326 reports in 2019 and 254 reports in 2020 and continues the downward trend seen in the number of HIV diagnoses recorded prior to the COVID-19 pandemic. Of these 218, fewer than five cases were in Tayside bringing the total number of individuals diagnosed and living with HIV in Tayside to 438.

### Current and future activity

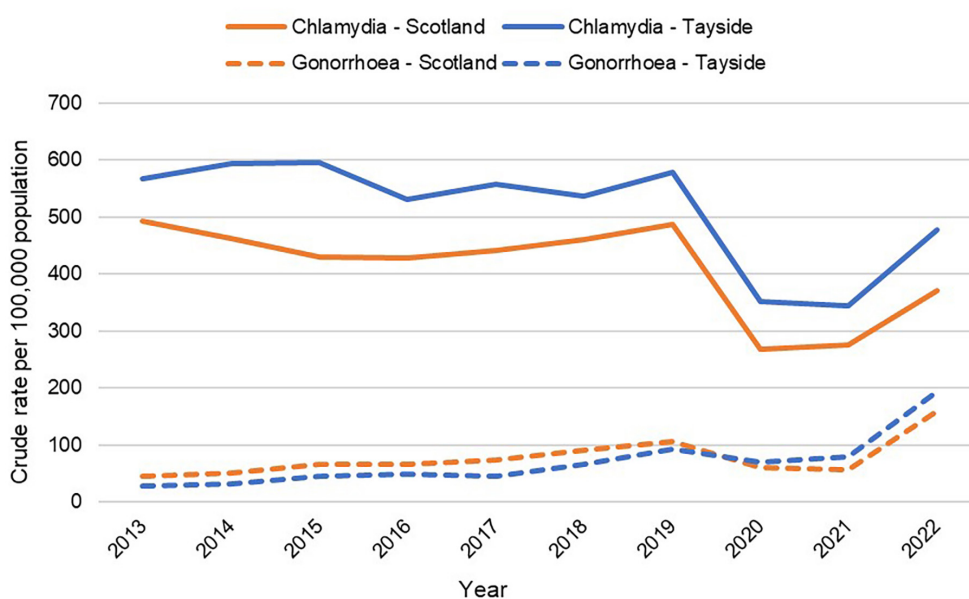
Both Dundee City and Perth & Kinross councils signed the 'Paris Declaration'<sup>48</sup> in 2023 to become Fast Track Cities. This represents a shared commitment from the local authorities, health and social care partnerships and NHS Tayside to accelerate local work to meet the UNAIDS 95-95-95 targets and become part of the global Fast Track Cities initiative.

### 4.2.3 Sexual and Reproductive Health

#### Local and national context

Infection rates for many STIs have increased over time. Chlamydia diagnoses in Tayside and Scotland increased between 2016 and 2019 before decreasing in 2020 and 2021 mainly due to a decrease in testing while restrictions were in place during the COVID-19 pandemic. In 2022, the number of diagnoses increased in Tayside but still remains 18% lower than the number recorded in 2019 (figure 34). Chlamydia infection rates vary by age and sex. The highest incidence of chlamydia in women aged 15-64 years was observed in Tayside, with a rate of 541 per 100,000 population. The incidence of chlamydia is substantially higher in people aged less than 25 years, with the highest incidence in Tayside in both young women and men at 2,372 per 100,000 and 1,338 per 100,000 respectively. Rates of gonorrhoea infection have increased in Tayside and Scotland and despite a drop in rates in 2020 and 2021 due to the COVID-19 pandemic, rates are higher in 2022 than pre-pandemic levels (figure 36).

Figure 36: Chlamydia trachomatis infection and gonorrhoea infection rates per 100,000 population (aged 15-64 years) in Tayside and Scotland, 2013-2022



Source: Chlamydia trachomatis infection in Scotland-2013-2022v3 and gonorrhoea infection in Scotland 2013-2022v4, Public Health Scotland

48 <https://www.iapac.org/fast-track-cities/paris-and-sevilla-declarations/>

## 4.2.4 Teenage pregnancy

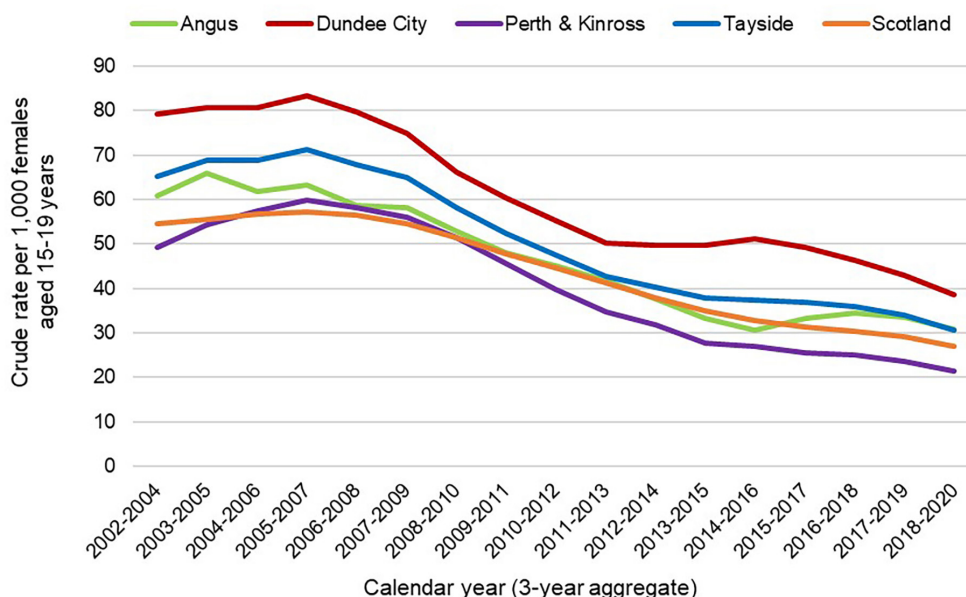
### Local and national context

Teenage pregnancy rates in Scotland are at their lowest level since reporting began in 1994. While Tayside conceptions have also fallen, Dundee City shows considerably higher rates than the national average (figure 37).

While teenage pregnancy rates have reduced across all areas in the last decade, they have fallen more rapidly in the most deprived areas which has narrowed the absolute gap between the most and least deprived areas.

In 2020, however, people living in the areas of highest deprivation still had teenage pregnancy rates five times higher than people in the least deprived<sup>49</sup>.

*Figure 37: Teenage (under 20 years) pregnancy rate per 100,000 population (aged 15-19 years) in Tayside and Scotland, 2002-2004 to 2018-2020*



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

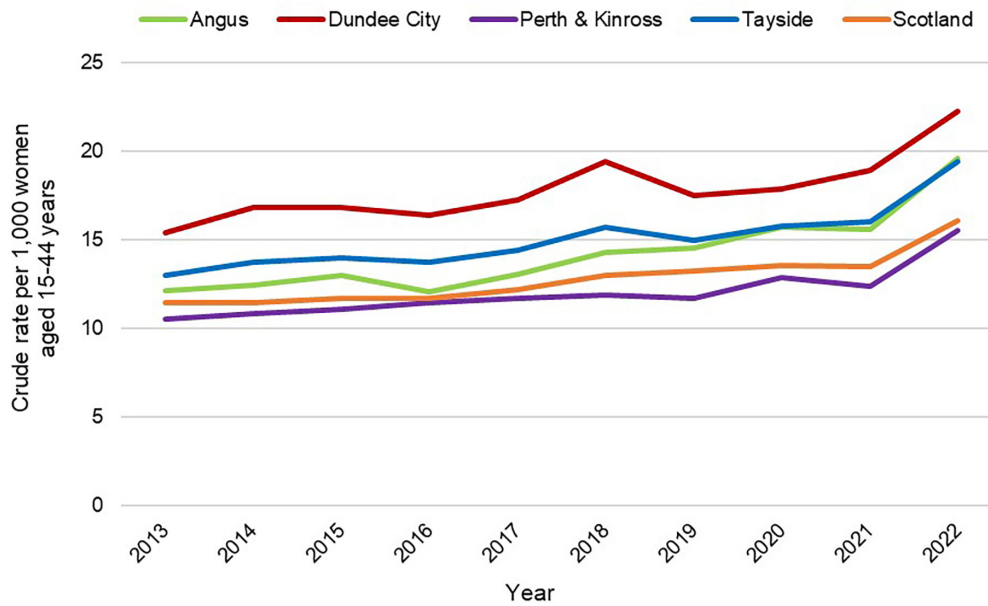
## 4.2.5 Terminations

The rate of termination of pregnancy in Scotland increased steadily from 2013 to 2020 with a sharper increase seen in the most recent year.

Termination rates in Tayside have been consistently higher than Scotland consistently mostly due to high rates in Dundee City but Angus also shows higher than average termination rates (figure 38).

<sup>49</sup> <https://www.publichealthscotland.scot/publications/teenage-pregnancies/teenage-pregnancies-year-of-conception-ending-31-december-2020/>

Figure 38: Termination rates per 1,000 women (aged 15-44 years) in Tayside and Scotland, 2013-2022



Source: <https://publichealthscotland.scot/publications/termination-of-pregnancy-statistics/termination-of-pregnancy-statistics-year-ending-december-2022/>

### Current and future activity

Improved access to sexual and reproductive health (SRH) services, both specialist and non-specialist, is a key action required to reduce transmission of sexually transmitted infections (STIs) and unplanned pregnancy.

SRH encompasses promotion of positive sexual relationships and wellbeing, supporting good sexual health, and working to minimise risk-taking behaviours. In recent years there has also been an increasing demand for improved management of menopause in both primary care and the specialist SRH service.

The Director of Public Health and Director of Midwifery are the Board Executive co-leads for implementation of the Women’s Health plan<sup>50</sup> in Tayside, which will provide strategic leadership and co-ordination for improvement in both sexual health and women’s health in general.

## 4.3 Tobacco use

### 4.3.1 Local and national context

Failing to address the continued challenge posed by tobacco use will inevitably place greater burdens on health and social care resources in future. Tobacco is still the single greatest cause of preventable death, disability, illness and social inequality. One in two people who smoker will die prematurely. Tobacco addiction is a chronic relapsing disease that often begins in childhood. In addition, people experiencing poverty are more likely to smoke.

Through collective action, the proportion of people smoking has fallen over time, however, to reach the Scottish Government target of a smoke-free nation by 2034 further action is required.

<sup>50</sup> <https://www.gov.scot/publications/womens-health-plan/>

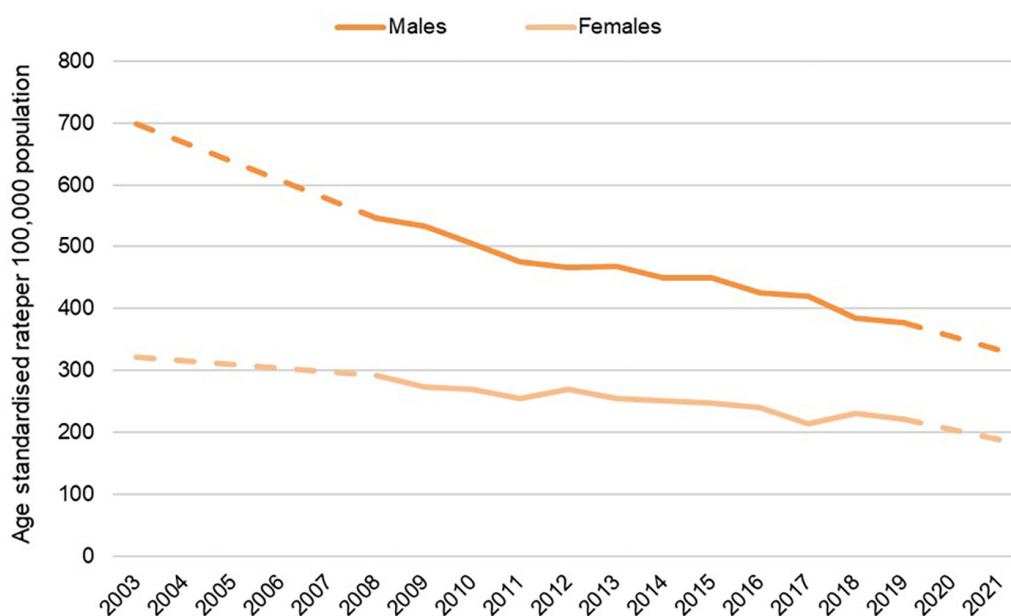


Recent figures (2017-2021) show that while adult smoking prevalence<sup>51</sup> in Tayside is the same as that for Scotland (16%), there is variability across the region with Angus and Dundee City showing higher rates (19% and 18% respectively) and Perth & Kinross showing a lower rate (11%)<sup>52</sup>.

In Scotland<sup>53</sup> in 2021, there were an estimated 86,302 hospital admissions (2,585 admissions per 100,000 population) where a smoking-attributable disease or condition was the primary or secondary reason for hospital admission. The estimated rate varied considerably when examined by deprivation with the rate for people living in the most deprived areas 4.5 times higher than for people in the least deprived areas.

In 2021, smoking accounted for an estimated 8,260 deaths (250 deaths per 100,000 population) in people aged 35 years and over in Scotland. This accounts for a fifth of all Scottish deaths in 2021. The death rate in males was 1.8 times higher than for females. However, there has been a considerable decrease in the rate of smoking attributable deaths in Scotland between 2003 and 2021 (figure 39).

Figure 39: Smoking attributable deaths by sex in Scotland, 2003, 2008-2021\*



\* No data available for the period 2004-2007 and 2020  
 Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

In 2021, rates for smoking-attributable deaths in the most deprived areas were over four times higher than in the least deprived areas<sup>54</sup>.

### 4.3.2 Current and future activity

Over the next year we look forward to the publication of the new Tobacco Plan by the Scottish Government. In Tayside, we will continue to work to achieve the delivery of a “tobacco-free generation” by 2034, where the prevalence of tobacco use is 5% or less. Key actions to support the progress towards this includes continuing to decrease opportunities to smoke and reducing, where possible, the supply of tobacco products.

51 Prevalence is the proportion of persons in a population who have a particular disease at a particular point in time or over a specified period of time

52 <https://scotland.shinyapps.io/sg-scottish-health-survey/>

53 Data for Tayside not currently available

54 Smoking attributable deaths - ScotPHO

We are collaborating with secondary care colleagues to streamline the referral pathways for people who smoke to smoking cessation services. We will continue to target our smoking cessation incentive schemes to benefit vulnerable groups, including people who use food banks, and will work closely with our community pharmacy partners to maximise the impact of the “Quit Your Way” branded intervention. Furthermore, we are working closely with colleagues who deliver the mental health inpatient service to provide support to people who smoke and are admitted as inpatients.

We are cognisant of the high-profile issue of vape use in school-age children and of the potential issues for their future health. Our Children’s and Young People Team in Public Health delivers evidence-based interventions in schools, that draw on peer-influence and we are working with partners in HSCPs and local authorities to scope and design work that is effective in protecting our young people against this new and emerging public health threat.

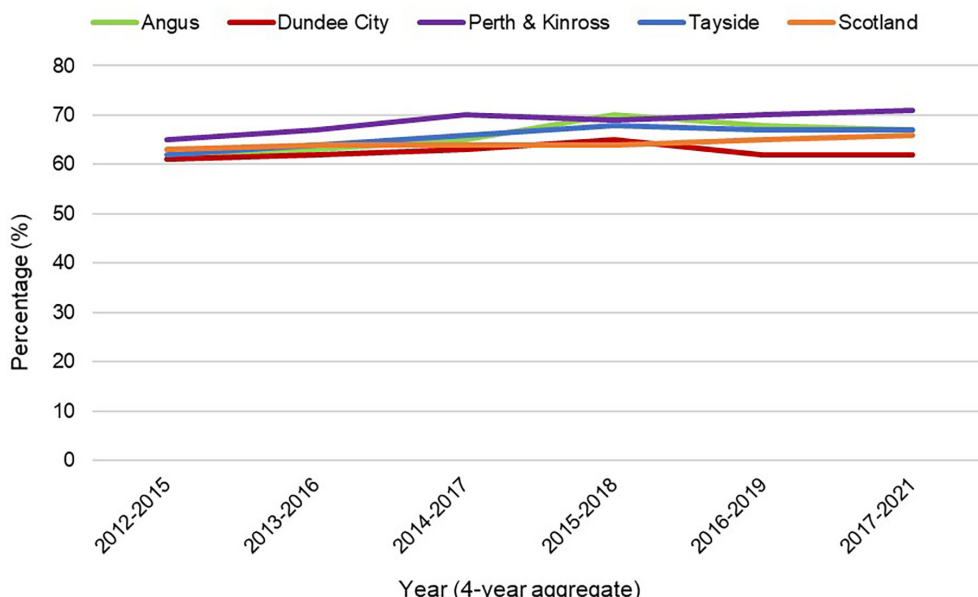
## 4.4 Physical activity

### 4.4.1 Local and national context

Across Tayside, two thirds of adults achieve the recommended physical activity guidelines of 30 minutes of exercise five days per week<sup>55</sup> (figure 40). This is a similar proportion to that for Scotland as a whole (62%).

Proportions vary when considered by sex (63% of females compared to 70% of males in Tayside) and local authority area (from 57% in Dundee City to 66% in Perth & Kinross).

*Figure 40: Percentage of adults meeting physical activity guidelines, Tayside and Scotland; 2012-2015 to 2017-2021*



\*Note no data available for 2020 due to COVID-19 pandemic  
 Source: <https://scotland.shinyapps.io/sg-scottish-health-survey/>

<sup>55</sup> <https://scotland.shinyapps.io/sg-scottish-health-survey/>

Participation in physical activity and sport also varies with deprivation with people in the most deprived areas of Scotland less likely to be physically active than people in the least deprived areas (57% compared to 77% in 2021)<sup>56</sup>.

#### **4.4.2 Current and future activity**

Over the last year, work in the Directorate of Public Health is underway to develop and implement the National Physical Activity Pathway (NPAP) as designed by Public Health Scotland. Links between services and local physical activity opportunities have been strengthened.

Physical activity awareness sessions have been delivered to a number of staffing groups across Tayside to support the application of this vital health promoting tool.

Implementation of the NPAP is dependent on NHS Tayside staff engaging patients in conversations related to physical activity and how this health promoting resource can support and improve their health and wellbeing. Patients can then be referred or signposted towards local opportunities. Across Tayside, there is access to programmes such as GOGA<sup>57</sup> Tayside and Dundee's Green Health Partnership, alongside leisure provider provision.

Upcoming priorities include:

- Continue to develop the NPAP and widen the use of NPAP across multiple services
- Develop a Waiting Well pilot
- Develop digital options for referrals in partnership with NHS Tayside and local activity providers
- Scale the use of Green Health Approaches across Tayside, in partnership with multidisciplinary teams
- Contribute to the development of an NHS Tayside Active and Sustainable Travel strategy

### **4.5 Healthy weight**

#### **4.5.1 Adults**

##### **Local and national context**

Being obese or overweight increases the risk of developing a range of serious diseases including type 2 diabetes, hypertension, heart disease and some cancers; as well as contributing to premature death.

In Tayside, fewer than one third (32%) of adults are of healthy weight<sup>58</sup>, similar to the Scotland proportion of 33%<sup>59</sup>. These proportions vary when broken down by sex with higher proportions of females being of healthy weight (figure 41).

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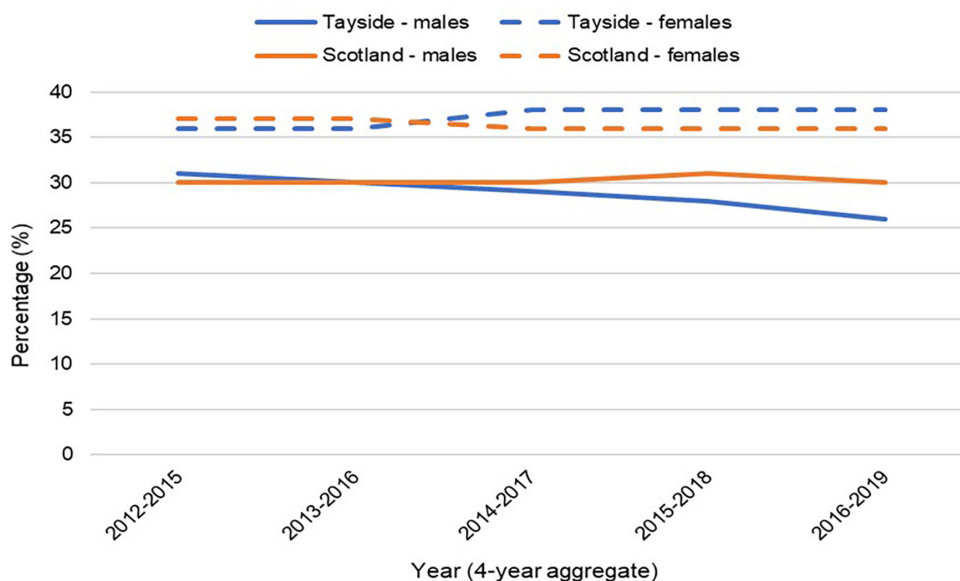
56 <https://scotland.shinyapps.io/sg-scottish-household-survey-data-explorer/>

57 Get Out Get Active – a programme created to bring disabled and non-disabled people together to be active

58 Defined as a Body Mass Index (BMI) greater than 18.5 and lower than 25

59 <https://scotland.shinyapps.io/sg-scottish-health-survey/>

Figure 41: Percentage of adults estimated to be of healthy weight in Tayside and Scotland; 2012-2015 to 2016-2019

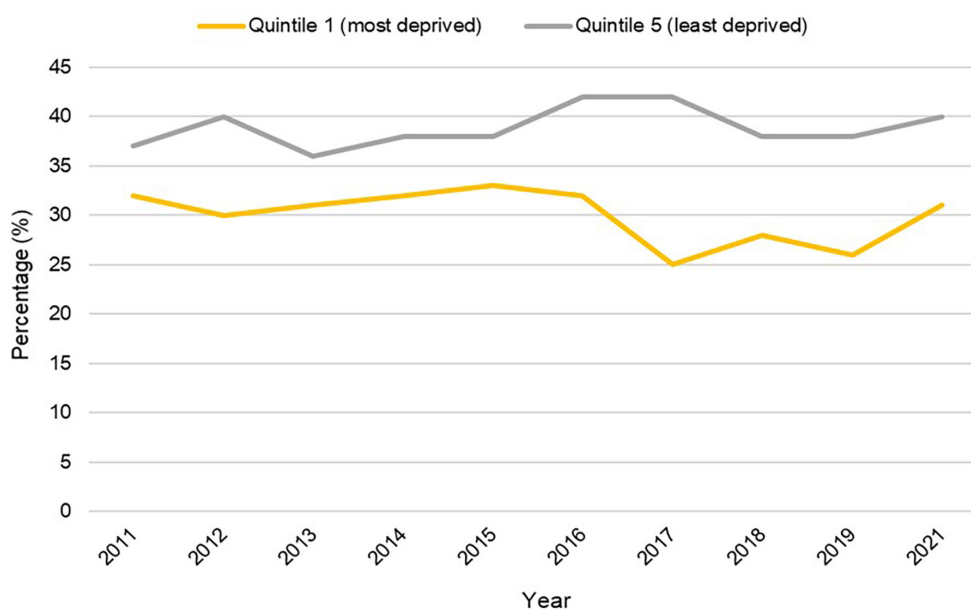


Note: This is the most recent data available due to the impact of COVID-19 on data collection but national data for 2021 show that there has been little change

Source: <https://scotland.shinyapps.io/sg-scottish-health-survey/>

Healthy weight also varies by deprivation. Data for Scotland by SIMD shows that in the most recent year (2021), 40% of adults in the least deprived quintile were estimated to be of healthy weight compared to 31% of people living in the most deprived areas in Scotland. While the inequality gap has closed in the most recent year, it remains wider than it had been prior to 2015 (figure 42).

Figure 42: Percentage of adults estimated to be of healthy weight in Scotland by SIMD quintile; 2011-2021\*



\*Note no data available for 2020 due to COVID-19 pandemic

Source: <https://scotland.shinyapps.io/sg-scottish-health-survey/>

## Current and future activity

While not all cases of type 2 diabetes are associated with excessive weight, it is the single greatest risk factor, responsible for 80-85% of someone's risk of developing it. Age, family history and ethnicity also contribute to risk. People of African-Caribbean, South Asian or Black African descent are two-four times more likely to develop type 2 diabetes than white people<sup>60</sup>. Weight loss addresses the key metabolic abnormalities associated with type 2 diabetes and is therefore central to prevention, effective management, and even type 2 diabetes remission i.e. to a non-diabetic state. NHS Tayside receives annual funding from the Scottish Government to support each of these objectives and referral pathways are embedded within primary care to enable patients who are newly diagnosed with type 2 diabetes, prediabetes or previous gestational diabetes to receive targeted weight management interventions. This programme of work is strategically led by the Public Health Nutrition Team and operationalised in coordination with colleagues across NHS Tayside including the Nutrition and Dietetic Service.

**Type 2 diabetes prevention programme** – Referrals to a 9-month type 2 diabetes prevention programme are accepted from primary care for individuals aged 18-70 if they have a diagnosis of pre-diabetes or a previous history of gestational diabetes. People can also self-refer into type 2 diabetes prevention programmes. Referral numbers have increased in the last 12 months, with nearly 300 people accessing this intervention. Preliminary outcome data suggests that of those completing the programme, an average weight loss of 6.5% body weight is achieved. HbA1c (a measure of average blood sugar level over the last three months) data are in the process of being evaluated.

**Type 2 diabetes early intervention programme** – People who have been diagnosed with type 2 diabetes in the last three years can self-refer, or be referred by their GP practice, to a 12-week type 2 diabetes support programme. This is a remotely delivered intervention and was accessed by nearly 500 people in the last 12 months. Around half of participants are male, 6% (where ethnicity has been reported) are from Black and Minority Ethnic (BAME) groups, and 40% come from the most deprived areas (SIMD 1 and 2) across Tayside. Nearly 80% of people enrolling complete the programme, with significant improvements in weight, HbA1c and confidence to manage the condition observed.

**Type 2 diabetes remission programme** – Type 2 diabetes has traditionally been viewed as a progressive and lifelong condition, but recent evidence has demonstrated that one-third of people can achieve type 2 diabetes remission for at least two years, if they lose and maintain sufficient weight loss, soon after diagnosis. Remission is high on the agenda of people with type 2 diabetes, and has a central place within Scottish Government priorities. In Tayside, people who have been diagnosed with type 2 diabetes within three years can be referred by their GP practice for an intensive weight management delivered over 12 months by health psychologists and dietitians.

**Early detection of type 2 diabetes** – It is well established that weight loss prevents conversion from prediabetes to type 2 diabetes but identifying and intervening in high-risk individuals at an earlier stage (without overburdening primary care) remains a key challenge. Community pharmacies are present in each town and village and their significant reach into disadvantaged populations provides an ideal opportunity to target the highest risk population for progression to type 2 diabetes. With this in mind, a project investigating point of care systems for HbA1c testing in community pharmacies is due to begin shortly and will involve 15-20 pharmacies in Tayside. It is planned that 1250 people identified as moderate/high risk of T2D via a risk assessment tool will have their HbA1c tested and people who are identified with prediabetes will be offered information and joining instructions for a type 2 diabetes prevention programme.

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60 [https://www.diabetes.org.uk/in\\_your\\_area/scotland/news/increase-diabetes](https://www.diabetes.org.uk/in_your_area/scotland/news/increase-diabetes)

## 4.5.2 Children

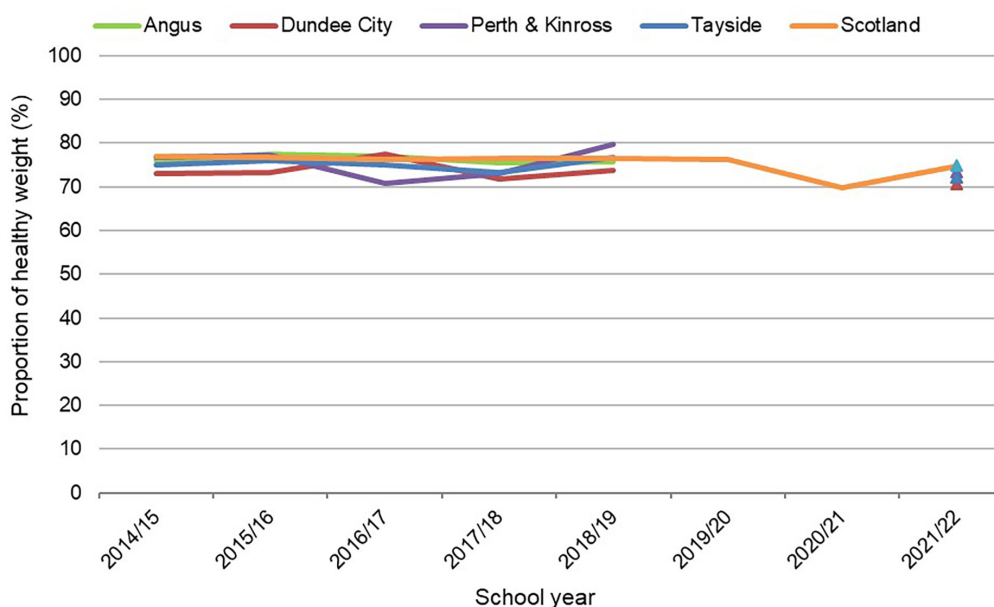
### Local and national context

Monitoring healthy weight across all children is a way of seeing how well the needs of children are being met and to gain robust public health surveillance data on Body Mass Index (BMI) to understand and monitor prevalence and trends. In addition to surveillance, weighing and measuring children at home as part of the Universal Health Visiting Pathway and at school as part of the Child Health Surveillance Programme – School (CHSP-S) has been used locally to inform the development, implementation and monitoring of the Tayside Child Healthy Weight Strategy and to support child healthy weight interventions.

Maintaining a healthy weight throughout childhood is associated with many health benefits<sup>61</sup>. Children and young people living with obesity are five times more likely to be adults living with obesity, further reinforcing the rationale for monitoring and intervening early in the life course. In 2021/22 in Tayside, 7 in 10 (72%) Primary 1 school children were assessed as being of healthy weight (based on epidemiological thresholds)<sup>62</sup>. This was a decrease from 75% in 2014/15 and Tayside has generally remained below the national average (figure 43). Within Tayside, rates varied slightly with Angus reporting 71% of children being of healthy weight, 72% in Dundee City and 73% in Perth & Kinross as at 2021/22.

As with adults, children's healthy weight varies by deprivation and data show that while the inequality gap had closed in the proportions of healthy weight children in 2016/17 in Tayside, they widened again in the subsequent two years (figure 44). Data in the most recent year show a slight closing of that gap once again with 79% of children being of healthy weight in the least deprived areas and 68% in the most deprived areas.

*Figure 43: Proportion of primary 1 children who are of healthy weight (epidemiological) in Tayside and Scotland; 2014/15-2021/22\**



\*No data available for Health Boards in 2019/20 and 2020/21 due to low coverage during COVID-19 pandemic

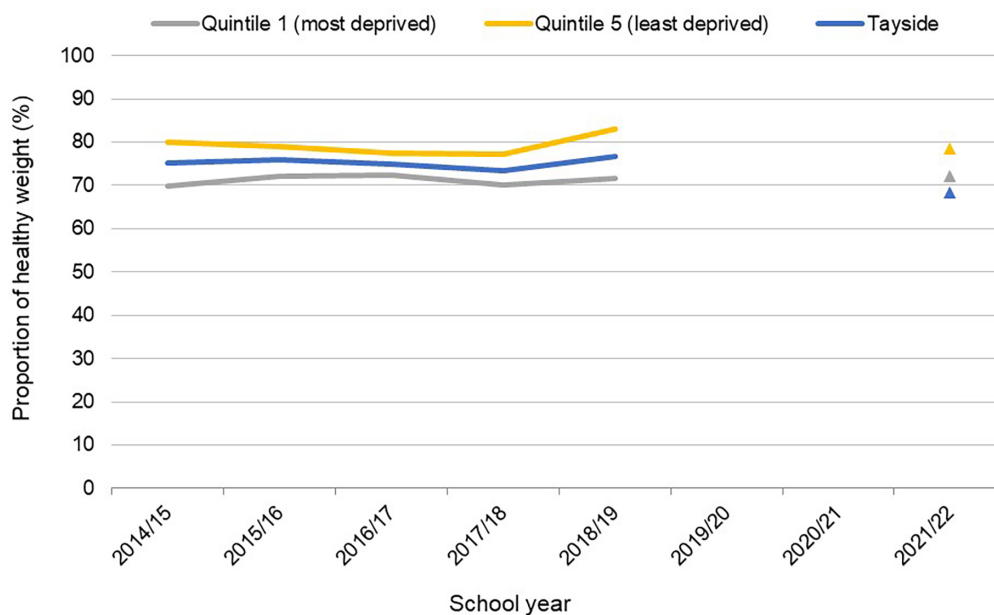
Source: CHSP-School November 2022, Public Health Scotland

61 <https://www.publichealthscotland.scot/publications/primary-1-body-mass-index-bmi-statistics-scotland/primary-1-body-mass-index-bmi-statistics-scotland-school-year-2021-to-2022/>

62 For details of definition see <https://www.publichealthscotland.scot/publications/primary-1-body-mass-index-bmi-statistics-scotland/primary-1-body-mass-index-bmi-statistics-scotland-school-year-2021-to-2022/>



Figure 44: Proportion of primary 1 children who are of healthy weight (epidemiological) in Tayside by SIMD quintile; 2014/15-2021/22\*



\*No data available for Health Boards in 2019/20 and 2020/21 due to low coverage during COVID-19 pandemic

Source: CHSP-School November 2022, Public Health Scotland

### Current and future activity

In Tayside, increasing the proportion of children who have a healthy weight and reducing the disparity between higher levels of obesity in the least affluent areas compared to the most affluent areas is a key focus of work being led by the Directorate. As part of this effort, action on the upstream determinants of health and wellbeing are critically important.

The Tayside Plan for Children, Young People, and Families (2017-2020) included a commitment by the Tayside Regional Improvement Collaborative (TRIC) to create a strategy for promoting healthy weight in children. 'Helping Tayside's Children and Young People to Feel Great and Ready to Learn' is Tayside's Child Healthy Weight Strategy (CHWS)<sup>63</sup> was co-produced over a 22-month period. The CHWS remains a health and wellbeing priority within the current Tayside Plan for Children, Young People and Families (2021-23) and will be a continued priority in the next iteration (2023-26). The CHWS has five ambitions with associated calls to action:

1. Child healthy weight is seen as a society wide issue
2. Children have the best start in life
3. Our environment supports healthier choices
4. Families get helpful weight management support, and
5. Families and communities in most need are our main concern

Achieving these ambitions includes the application of a whole systems approach (WSA) and the wish to extend existing good practice so that a firm foundation for obesity prevention can be established. The overarching purpose of the CHWS is to start a social movement across Tayside so that all our children, young people and families can eat well, drink well, be active and have a healthy weight.

The aim is to embed community-centred ways of working within a WSA to improve health and wellbeing of children, young people and their families and, to focus collective effort towards

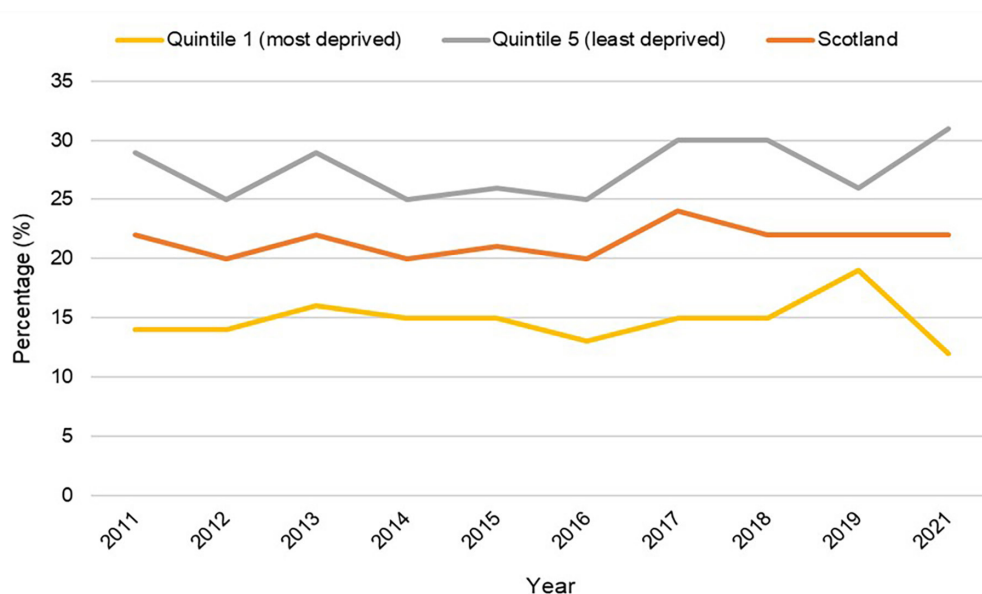
63 <https://www.taycollab.org.uk/wp-content/uploads/2021/06/Child-Healthy-Weight-Strategy-2020-2030.pdf>

preventative approaches that includes improve the combined action on nutrition and the food environment, physical activity and the built environment.

## 4.6 Dietary intake

Government guidelines recommend adults (and children) should aim to consume at least five varied portions of fruit and vegetables per day. The most recent survey data show that fewer than a quarter (22%) of the Scottish population meet these guidelines and while this overall proportion has changed very little over the last few years, there is considerable disparity when people living in the most deprived areas are compared to the least deprived. This gap has widened in the most recent year (figure 45).

Figure 45: Percentage of adults meeting recommended fruit and vegetable consumption guidelines by SIMD quintile, Scotland; 2011-2021



\*Note no data available for 2020 due to COVID-19 pandemic

Source: <https://scotland.shinyapps.io/sg-scottish-health-survey/>

While data on fruit and vegetable consumption is not available for Tayside for 2021, previous trend data shows that Tayside proportions were similar to Scotland. These varied across the region with Angus showing the lowest proportion in 2016-2019 with only 15% meeting guidelines compared to 20% and 29% in Dundee City and Perth & Kinross respectively<sup>64</sup>.

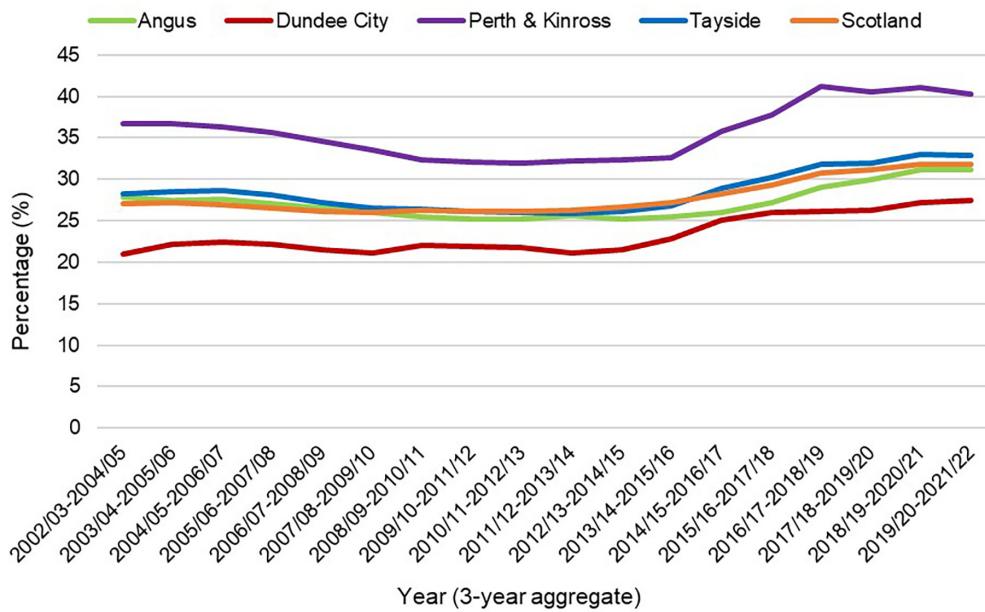
## 4.7 Breastfeeding

### 4.7.1 Local and national context

Encouraging and supporting breastfeeding helps to improve the health of babies and mothers, and reduce inequalities in health. Overall, breastfeeding rates across Scotland have been increasing in recent years and while this is mainly due to an increase in mixed breast and formula feeding, there has also been an increase in the percentage of babies exclusively breastfed at the 6-8 week review (figure 46). Breastfeeding rates in Perth & Kinross have been consistently higher than the Scottish average but both Angus and Dundee City have been showing notable improvements too in recent years.

<sup>64</sup> <https://scotland.shinyapps.io/sg-scottish-health-survey/>

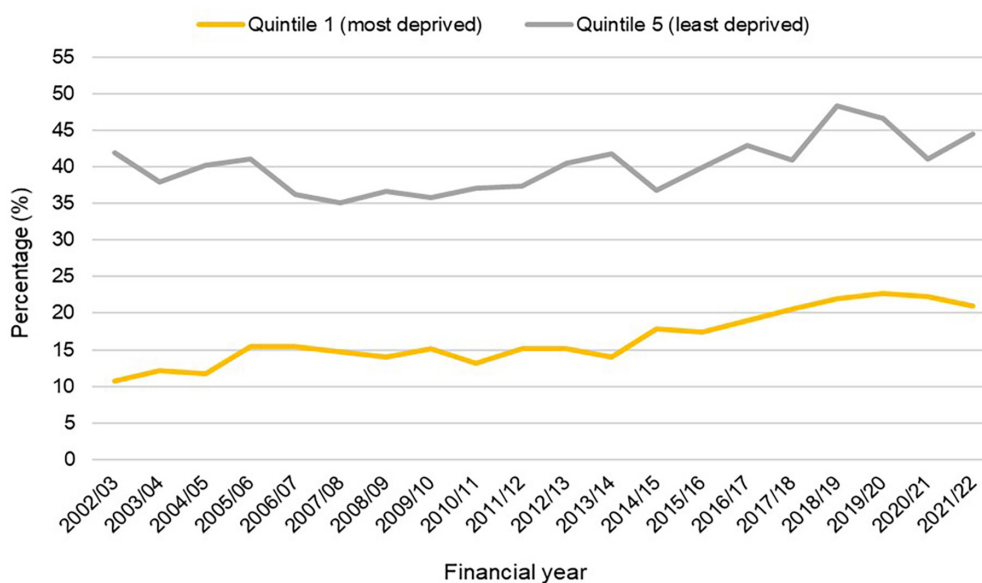
Figure 46: Percentage of babies exclusively breastfed at 6-8 weeks, Tayside and Scotland; 2002/03-2004/05 to 2019/20-2021/22



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

There are marked inequalities in breastfeeding, with babies born to mothers in more deprived areas, younger mothers, and babies of white Scottish ethnicity<sup>65</sup> least likely to be breastfed. However, the gap is reducing, as a result of increases in breastfeeding at 6-8 weeks among babies born to mothers in the most deprived areas and mothers in the younger age groups in recent years (figures 47 and 48).

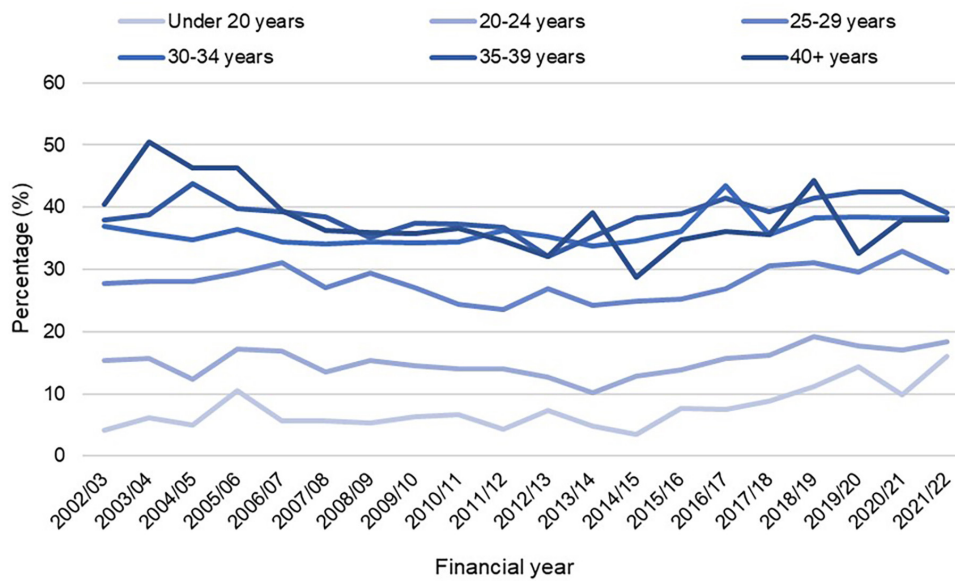
Figure 47: Percentage of babies exclusively breastfed at 6-8 weeks, Tayside by SIMD quintile; 2002/03-2021/22



Source: <https://www.publichealthscotland.scot/publications/infant-feeding-statistics/infant-feeding-statistics-financial-year-2021-to-2022/dashboard/>

65 <https://www.publichealthscotland.scot/publications/infant-feeding-statistics/infant-feeding-statistics-financial-year-2021-to-2022/dashboard/>

Figure 48: Percentage of babies exclusively breastfed at 6-8 weeks by age of mother, Tayside; 2002/03-2021/22



Source: <https://www.publichealthscotland.scot/publications/infant-feeding-statistics/infant-feeding-statistics-financial-year-2021-to-2022/dashboard/>

#### 4.7.2 Current and future activity

The Public Health Nutrition team provides strategic leadership and coordination of breastfeeding peer support across Tayside. The peer support service is hosted in the third sector with the aim of increasing breastfeeding rates, particularly where families are impacted by deprivation. Work is in progress in partnership with Home Start Dundee to support young women in areas of deprivation with feeding choices and parenting skills during pregnancy and after birth through the Bumps and Beyond Buddies programme. A Healthy Choices Coordinator provides families with evidence-based information and guidance about healthy infant feeding and nutrition. This is delivered via groups, home visits and online.

The Public Health Nutrition team has funded infant feeding support workers based within the maternity unit at Ninewells Hospital to support mothers and staff with infant feeding. Success of this work has now meant that Maternity Services have embedded this service and are funding two full time infant feeding support workers. The NHS Tayside Infant Feeding Team led by Public Health provides coordinated support for NHS Tayside staff and families, including a specialist breastfeeding clinic and breastfeeding support workers who provide intensive support in the first 10 days. The Breastfeeding Friendly Scotland initiative is implemented across Tayside, with currently 109 establishments who have been supported to promote and provide an environment where breastfeeding is normalised. The team have also embedded the UNICEF UK Baby Friendly accreditation within Maternity Services, Health Visiting, Family Nurse Partnership and Neonatal Services. NHS Tayside was the first health board in Scotland to receive the prestigious Achieving Sustainability award.

### 4.8 Oral Health

#### 4.8.1 Local and national context

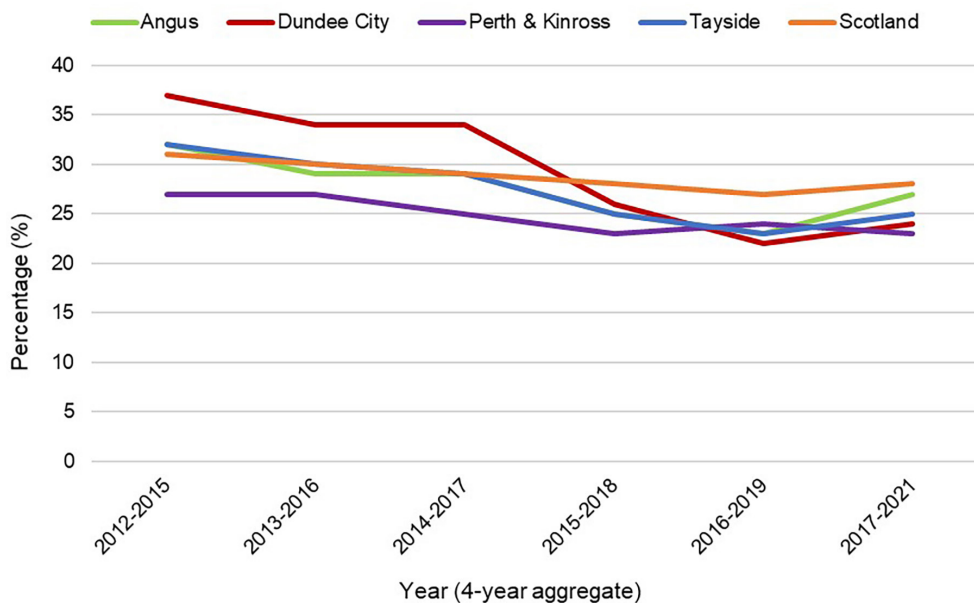
##### Adults

The overall oral health of our adult population is challenging to ascertain however data from

the Scottish Health Survey show that people are retaining their teeth for longer<sup>66</sup>. While this is a positive indication that oral health is improving, frailty and co-morbidities present challenges in providing dental treatment for an ageing dentate population and in maintaining oral hygiene as they become dependent on others for support with personal care.

Access to dental care was particularly affected during the COVID-19 pandemic and dental services continue to experience significant pressures with an ongoing impact on the availability of routine NHS dental care. Survey data show that the proportion of adults who think they would need dental treatment has increased in the most recent period following a previously reported downward trend (figure 49).

*Figure 49: Percentage of adults who think they would need dental treatment, Tayside and Scotland; 2012-2015 to 2017-2021*



\*Note no data available for 2020 due to COVID-19 pandemic  
 Source: <https://scotland.shinyapps.io/sg-scottish-health-survey/>

## Children

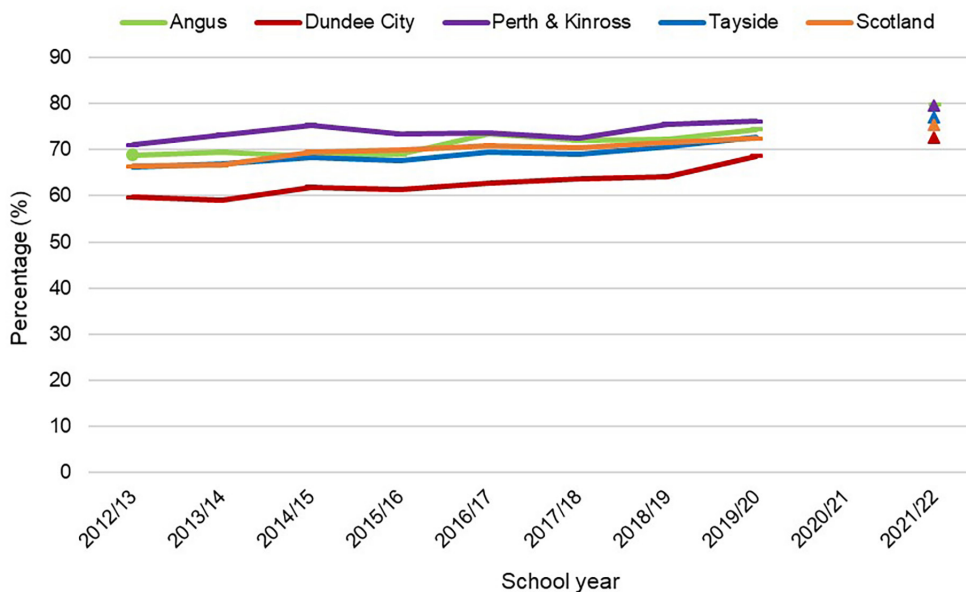
The National Dental Inspection Programme (NDIP) is carried out annually in primary 1 and primary 7 children with its aims being to inform parents/carers of the dental health status of their children and to allow reliable data to plan initiatives to improve dental health. Due to the COVID-19 public health measures in place until January 2022, only a basic primary 1 inspection took place (no primary 7 basic inspection or scheduled detailed inspection) and despite the limitations, approximately 76% of all primary 1 children in Scotland were seen, compared to around 88% during a typical year.

Results were weighted to make the data more reliable and comparable to previous years<sup>67</sup>. In Tayside, 77% of primary 1 children showed 'no obvious decay experience' at inspection. This was higher than the national average of 75% (figure 50) and a vast improvement from 2012/13 when only two thirds of children showed 'no obvious decay experience'. While the proportion is lower in Dundee City, this has improved over time. It should be noted however that data for Scotland show that the proportion of children with severe decay or abscesses requiring dental attention had increased in 2021/22 to 9.7% from 6.6% in 2019/20.

66 <https://scotland.shinyapps.io/sg-scottish-health-survey/>

67 For more detail: <https://www.publichealthscotland.scot/media/16081/national-dental-inspection-programme-2022-10-25.pdf>

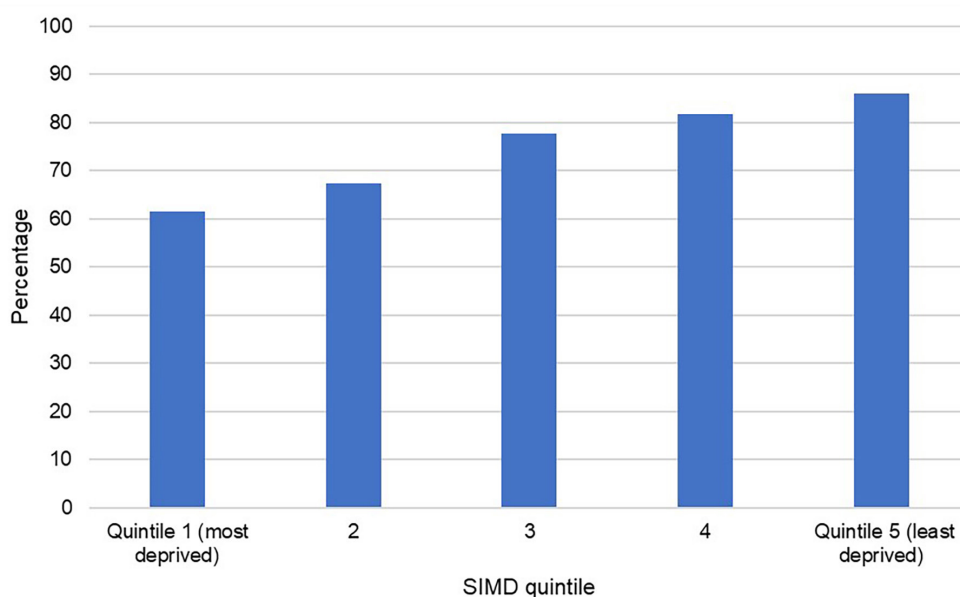
Figure 50: Percentage of primary 1 children with no obvious decay at basic inspection, Tayside by local authority area and Scotland; 2012/13-2021/22



Source: [https://scotland.shinyapps.io/ScotPHO\\_profiles\\_tool/](https://scotland.shinyapps.io/ScotPHO_profiles_tool/)

The most recent data for primary 7 children (2019/20) showed that three quarters of children in Tayside and Scotland showed ‘no obvious decay experience’. Again, this was a significant improvement from 2012/13 when just over half of P7 children had ‘no obvious decay experience’. Evidence would suggest that the Childsmile<sup>68</sup> programme has been the main driver in this clear improvement in dental health in children. Inspection data in primary 1 children for 2021/22 highlighted that there is a continuing link between area-based socio-economic deprivation and poor dental health in Scotland. While 62% of P1 children in Tayside had no obvious decay experience in the most deprived areas, this proportion increased to 86% in the least deprived areas (figure 51).

Figure 51: Percentage of primary 1 children with no obvious decay at basic inspection, Tayside by SIMD quintile; 2021/22



Source: <https://www.publichealthscotland.scot/publications/national-dental-inspection-programme/national-dental-inspection-programme/>

68 <http://www.child-smile.org.uk/>



#### *4.8.2 Current and future activity*

Over the past year, efforts have been made to raise the profile of oral health and integrate oral health activity with other public health workstreams including smoking cessation, breastfeeding, inpatient oral care, type 2 diabetes, support for people who use substances and people experiencing poor mental health. Working across the wider system will provide opportunities to further improve the oral health of the population of Tayside, with a particular focus on people experiencing disadvantage or at greater risk of poor oral health. Close relationships with dental services have helped to build an understanding of ongoing pressures and to explore opportunities to protect and support access to dental care and mitigate for current challenges.

#### *4.9 Cost of living*

As referred to at the start of this chapter, modifiable risk factors and people's behaviours are driven to a large extent by the wider socio-economic and cultural context in which we live. Currently health inequalities, on the whole, are widening and these will be further exacerbated by the current cost of living crisis.

A prolonged period of austerity, Brexit, the COVID-19 pandemic and price inflation have all contributed to what is commonly referred to as the 'cost of living crisis'. It is having a detrimental effect on workplaces, communities, households, public sector budgets and the delivery of key public services.

Poverty is a significant driver for ill health and is a key factor in health inequalities. The negative impacts of rising costs are being felt across Scotland including in Tayside. Poverty is set to worsen as high inflation makes the cost of living unaffordable for many, both increasing the level of poverty for people already living in deprived areas but also bringing more people living in Tayside into poverty. Alongside this, health inequalities have also increased with the gap between the least deprived and the most deprived widening across Scotland<sup>69</sup>.

Community planning partnerships across Scotland are tackling these issues related to the cost of living. Programmes in Tayside such as open doors community, benefits and money advice, food hubs and community fridges, and mental health and crisis support are freely available to the Tayside population to help mitigate the impact of this crisis. Public Health is working closely with the three local authorities in Tayside and partner agencies to deliver these and further details on our collaborative work and metrics concerning the wider socioeconomic determinants of health will be included in the 2024 DPH Annual Report.

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<sup>69</sup> Chapter 5: Households Most Affected - The Cost of Living Crisis in Scotland: analytical report - gov.scot (www.gov.scot)

# 5. Screening

The Director of Public Health has direct responsibility for the coordination and quality assurance of the local implementation of the national screening programmes.

Delivery of effective population screening remains a key NHS Scotland priority. National screening programmes are evidence-based interventions which provide cost effective opportunities to improve the health of individuals and to avert, or to identify at an early stage, serious clinical outcomes.

NHS Tayside is ensuring delivery of the five national adult screening programmes, namely breast cancer, bowel cancer, cervical cancer, diabetic eye screening (DES) and abdominal aortic aneurysm (AAA).



Breast screening uptake in Tayside is above the Scottish average and the 70% minimum standard, but is not meeting the 80% target, although some of the least deprived areas are meeting this.



Bowel screening uptake rates in Tayside overall are above the Scottish average and above the target rate of 60%, however, uptake is below the target rate in areas of greatest deprivation.



There has been a decreasing trend in uptake rates for cervical screening in both Tayside and Scotland and only the least deprived areas are meeting the target of 80%.



Uptake rates for diabetic eye screening almost halved to around 48% for Tayside and Scotland during the pandemic and have not yet recovered to the pre-pandemic levels of 85%.



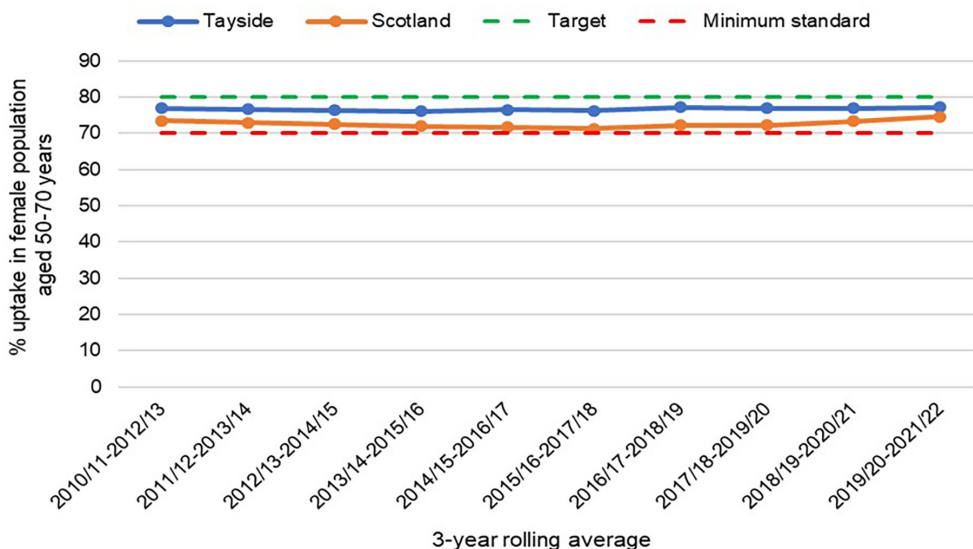
There has been a slight decrease in the abdominal aortic aneurysm screening uptake rates in Tayside although the target of 85% is still being met. Only the most deprived areas in Tayside are not meeting this target.

## 5.1 Local and national context

### 5.1.1 Breast screening

Of all women eligible for breast screening (aged 50-70 years) in the 3-year period (2019/20 – 2021/22), 77.2% in Tayside and 74.5% across Scotland were screened. This is above the minimum standard of 70% but does not meet the target of 80%. This percentage uptake in Tayside has changed very little over the last five years but has consistently been higher than the national average (figure 52).

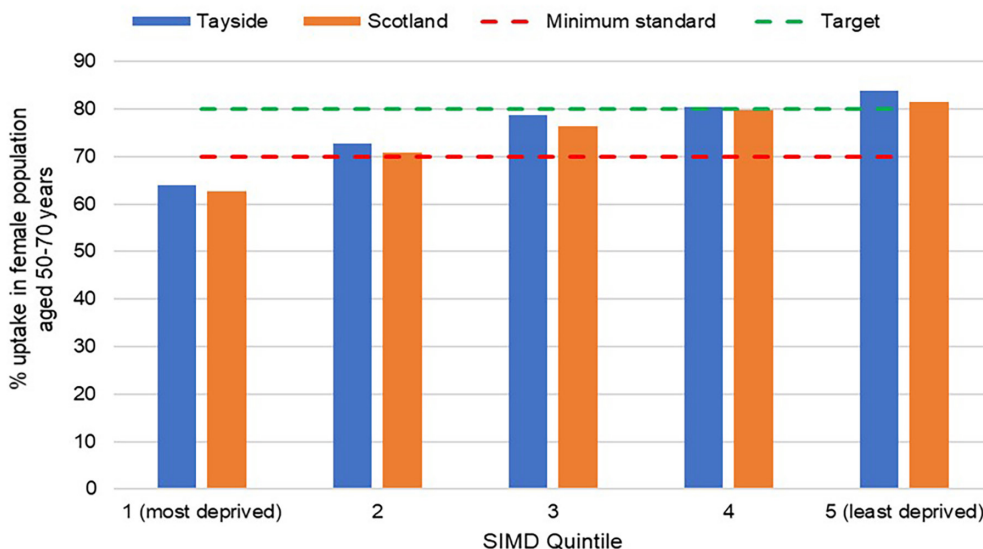
Figure 52: Breast screening uptake in female population aged 50-70 years, Tayside and Scotland; 3-year rolling average 2010/11-2012/13 to 2019/20-2021/22



Source: Scottish Breast Screening Programme (SBSP) Information System via PHS

There is a strong association between screening uptake and deprivation, with women from more deprived areas less likely to attend for breast screening (figure 53). The target uptake rate of 80% has been surpassed in least deprived areas but the minimum standard of 70% has not been met in the most deprived areas. This pattern is also seen in other screening programmes.

Figure 53: Breast screening uptake (%) in female population aged 50-70 years, Tayside and Scotland by SIMD quintile; 2019/20-2021/22

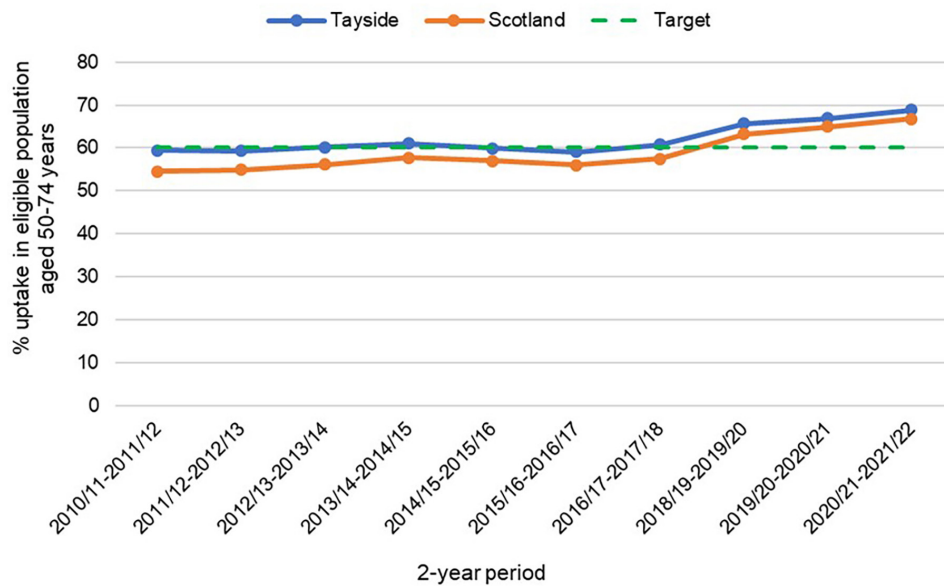


Source: Scottish Breast Screening Programme (SBSP) Information System via PHS

### 5.1.2 Bowel screening

Of all eligible people in Tayside (men and women aged 50-74 years) 68.8% were screened during the period May 2019 to April 2021. This was a continued improvement from previous years and above the national average of 66.7% (figure 54).

Figure 54: Bowel screening uptake in Tayside and Scotland population; 2-year average 2010/11-2011/12 to 2020/21-2021/22\*

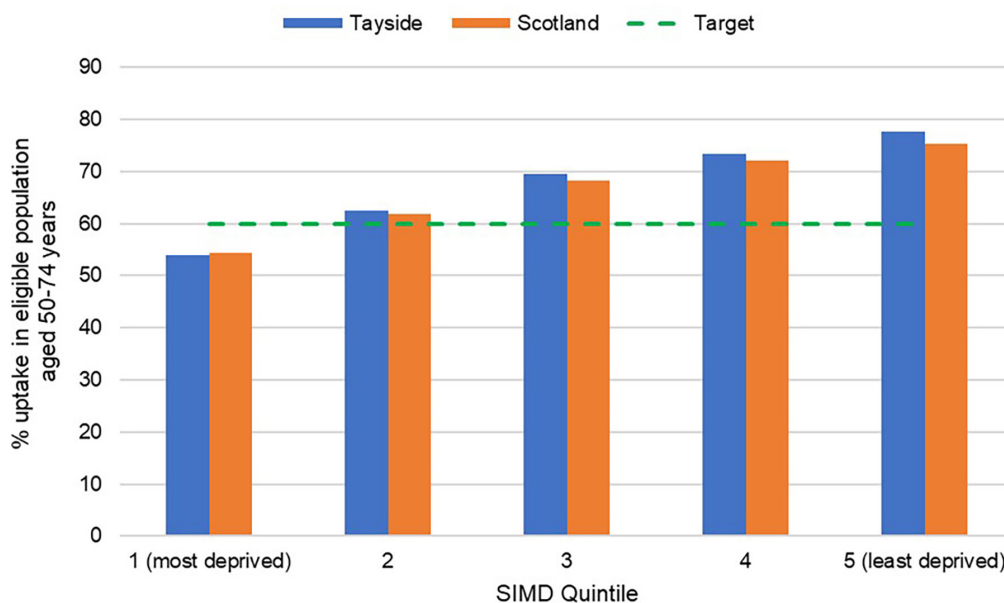


\*Note that due to screening being paused, there is no data available for the period 2017/18-2018/19

Source: Scottish Bowel Screening Programme Statistics via PHS

The bowel screening uptake rate varies with deprivation, with 78% of people in the least deprived areas being screened compared to 54% in the most deprived areas of Tayside (figure 55). This gap has widened slightly when compared to the previous period.

Figure 55: Bowel screening uptake in Tayside and Scotland population by SIMD quintile; 2-year average 2020/21-2021/22

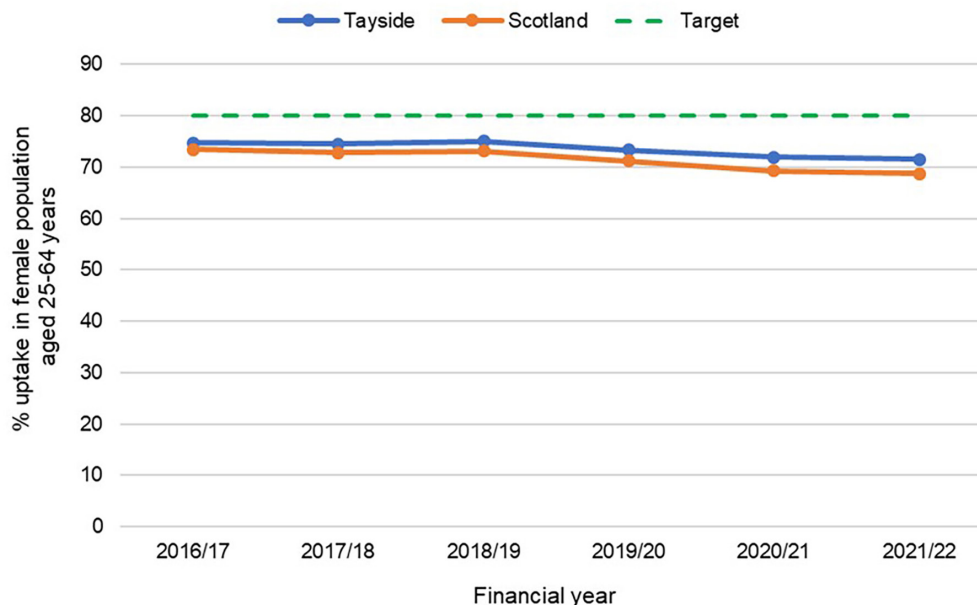


Source: Scottish Bowel Screening Programme Statistics via PHS

### 5.1.3 Cervical screening

The cervical screening uptake rate in Tayside is 71.5% and is higher than the overall Scotland rate of 68.7%. Tayside has consistently had a higher uptake rate than Scotland since 2016/17, although uptake has declined in Tayside and across Scotland in recent years (figure 56).

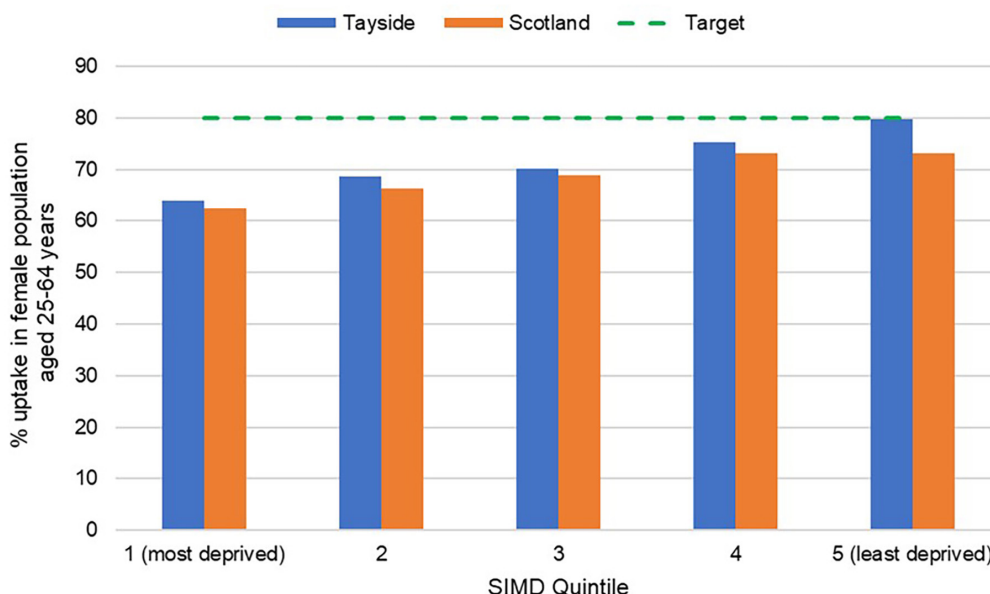
Figure 56: Cervical screening uptake in Tayside and Scotland female population aged 25-64 years; 2016/17-2021/22



Source: Scottish Cervical Screening Programme Statistics via PHS

Similar to other screening programmes, people from the most deprived areas are less likely to take part in screening, with uptake varying from 64.0% in the most deprived areas compared to 79.7% in the least deprived areas of Tayside (figure 57). It is worth noting that while Tayside shows better uptake than Scotland in each quintile, the overall gap between uptake in the most and least deprived areas of Tayside is wider than the Scottish average.

Figure 57: Cervical screening uptake in female population aged 25-64 years in Tayside and Scotland by SIMD quintile; 2021/22



Source: Scottish Cervical Screening Programme Statistics via PHS

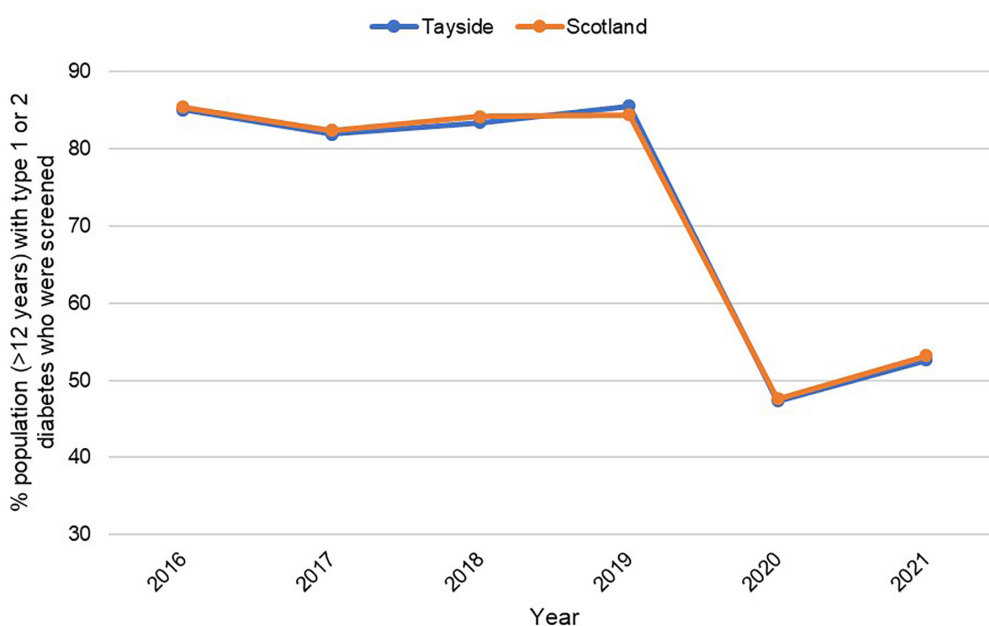
### 5.1.4 Diabetic retinopathy screening

Diabetic retinopathy is an eye condition which occurs when high blood sugar levels damage the cells in the retina. Diabetic retinopathy screening is an important part of diabetes care as screening can detect early forms of the condition before damage occurs and is offered every year to anyone with diabetes aged 12 years or over.

The proportion of people screened with type 1 and type 2 diabetes of appropriate age (>12 years) who were either recorded as having had diabetic retinopathy screening within the previous 15 months, were attending specialist ophthalmology clinics or were appropriately suspended from screening had consistently been above 80% in Tayside for people eligible in 2016 to 2019.

However, this proportion dropped below 50% in 2020 due to the temporary pause in the delivery of the programme. Figures for 2021 show that screening uptake has improved to 52.6% in Tayside and 53.2% across Scotland (figure 58).

*Figure 58: Percentage of people with type 1 and type 2 diabetes (>12 years) who were either recorded as having had diabetic retinopathy screening within the previous 15 months, were attending specialist ophthalmology clinics or were appropriately suspended from screening in Tayside and Scotland; 2016-2021*



Source: <https://www.diabetesinscotland.org.uk/publications/#survey-docs>

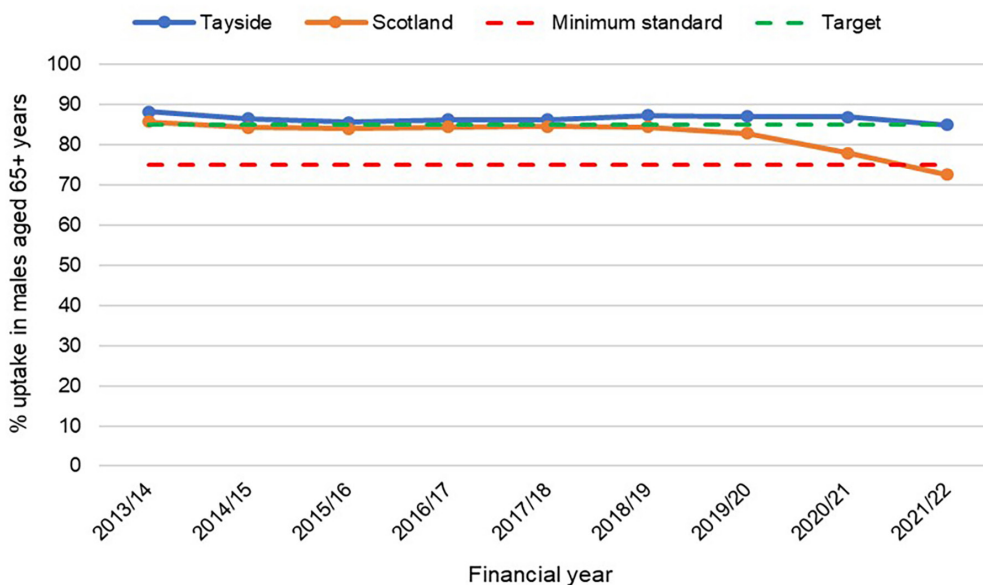
### 5.1.5 Abdominal aortic aneurysm (AAA) screening

The AAA screening programme aims to reduce the number of deaths caused by abdominal aneurysms in men aged 65 and over.

In 2021/22, 85% of eligible men in Tayside attended a screening appointment, a slight drop from previous years but above the national average (72%) and equal to the target of 85% (figure 59).



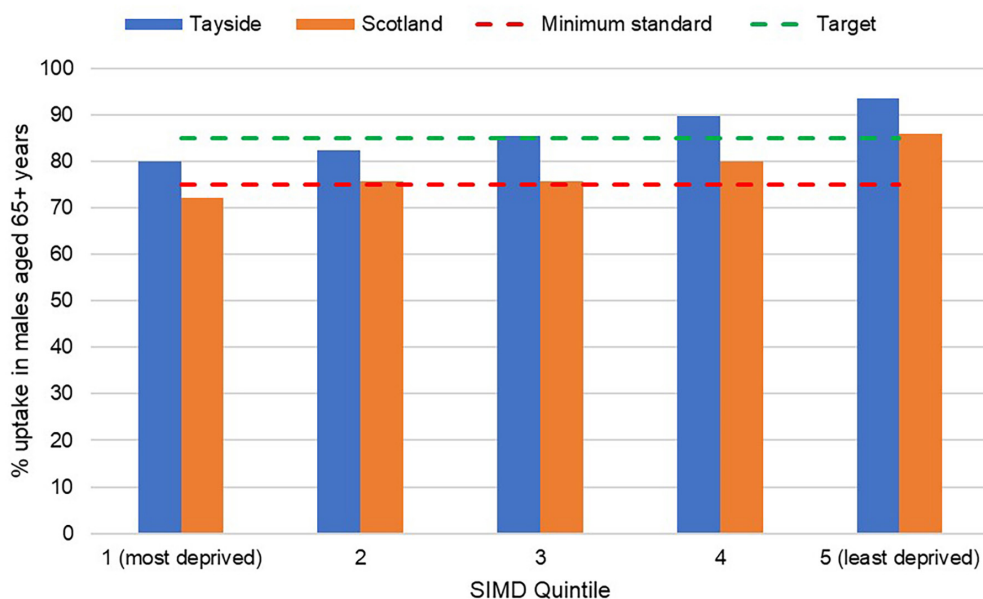
Figure 59: Abdominal aortic aneurysm screening uptake in Tayside and Scotland population; 2013/14-2021/22



Source: Scottish Abdominal Aortic Aneurysm (AAA) Screening Programme Statistics via PHS

Similar to other screening programmes, the AAA screening uptake varies with deprivation with 80% uptake rate in the most deprived areas and 94% in the least (figure 60).

Figure 60: Abdominal aortic aneurysm screening uptake in males aged 65+ years in Tayside and Scotland by SIMD quintile; 2021/22



Source: Scottish Abdominal Aortic Aneurysm (AAA) Screening Programme Statistics via PHS

## 5.2 Current and future activity

NHS Tayside's Public Health Adult Screening team has worked with the screening programmes on several interventions to improve patient experience and increase uptake both across the whole population and targeted to areas of greatest deprivation.

These have included:

- Improving uptake in breast screening amongst previous defaulters through a targeted telephone intervention
- Supporting pathway change in bowel screening and understanding the barriers to accessing colonoscopy in order to improve uptake and outcomes for people who screen positive
- Targeted pop-up cervical screening clinics for people overdue/never screened
- Piloting the use of hand-held cameras for DES
- Embedding Making Every Contact Count in AAA screening

Future programmes of work include developing more targeted approaches to increase engagement in screening, particularly for people who have never attended any screening programme. In 2024, it is anticipated that the roll out of the national Lung Cancer Screening Programme aimed at over 50s that have 'ever' smoked will commence.

# 6. Health Protection

The health protection function of the Public Health Directorate consists of fulfilling the statutory duties of NHS Boards to protect their populations from infectious diseases and environmental hazards. This is achieved through both reactive and strategic work carried out by the Health Protection Team (HPT) in preventing, monitoring, maintaining preparedness for, and carrying out investigation and public health management of individual cases, clusters, outbreaks and other incidents. These may involve a wide array of infections and environmental hazards, in community settings and across the general population.

In April 2022, the remaining COVID-19 related legal restrictions on the population were lifted. Although this did not signify the end of the circulation of the SARS-CoV-2 virus (which remains an important cause of morbidity and mortality), it did indicate an important change in emphasis on how we would continue to live with, and manage, the virus. In addition to ongoing circulation of SARS-CoV-2 virus, this year there have been a number of national outbreaks and surges in infectious disease activity (including mpox, hepatitis, shiga toxin-producing E.coli, Group A streptococcus and seasonal flu), driven at least in part by changes in the behaviour of the population following easing of pandemic restrictions and the impact of serial lockdowns in reducing exposure, and so immunity, to other micro-organisms.

The HPT also has responsibility for leading the coordination, governance and oversight of all immunisation programmes within Tayside. Its remit is safeguarding the health of the population in relation to vaccine-preventable infections, and ensuring fulfilment of Health Board and national programme objectives and vaccination uptake targets. The COVID-19 pandemic highlighted the importance of maintaining a robust infrastructure to provide the necessary oversight and support to ensure vaccination services can meet current and future needs, fulfil any requirements for programme acceleration and respond to emerging outbreaks and incidents in a consistent, efficient and sustainable manner.

Over the course of 2022/23, the Public Health Vaccinations Leadership Team has worked with partners to develop and implement an updated governance structure able to meet these challenges on a sustainable basis. At its centre is a multi-disciplinary Vaccinations Steering Group (VSG), which maintains a comprehensive overview of all immunisation programmes in Tayside, facilitating partnership working between Public Health, operational vaccination services, pharmacy, primary and secondary care, and support services. The VSG ensures the application of appropriate governance and risk management to facilitate strategic plans for the timely, safe and effective delivery of high quality, equitable immunisation programmes in line with national policy and good practice principles.

As well as its core governance role, the Directorate of Public Health, through its vaccinations leadership based within the HPT, operationally manages the single largest clinical service providing immunisations to patients for the Health Board – the Tayside Central Vaccination Service. This evolved from the service created in 2020 and, based within Public Health, tasked with delivering the COVID-19 vaccination programme. From autumn/winter 2021/22, the service also began contributing to the adult seasonal flu programme. It has since expanded to take over full responsibility for programmes that were previously delivered by general practice as part of Scotland's Vaccination Transformation Programme (VTP) and in line with the 2018 GMS contract. Since the completion of the VTP in March 2022, Public Health has been

responsible for operational delivery of the full adult flu and COVID-19 programmes, the adult pneumococcal and shingles programmes, unscheduled and catch-up vaccinations for adults, and core travel immunisations.



The HPT has managed and contained a number of non-COVID outbreaks, such as mpox, hepatitis, shiga toxin-producing E. coli, group A streptococcus and seasonal flu.



After COVID testing services were stepped down the HPT established testing in care homes for a range of respiratory pathogens in collaboration with other key teams.



While the proportion of children completing their immunisations in Tayside was consistently above the national 95% target, uptake rates have dropped locally and nationally in recent years due to the impact of the COVID-19 pandemic.



Uptake for many adult immunisations in 2022/23 have been higher in Tayside than Scotland. COVID-19 – 73.5% versus 72.6%, flu – 64.6% versus 63.7%, shingles – age 70 was 65.9% versus 45.1% and 71-79s was 75% versus 63.1%.



The HPT is working collaboratively with NHS Tayside children's immunisation service and wider partners to develop and implement strategies to address gradually declining uptake of routine childhood vaccination programmes, with particular emphasis on 6-in-1 and MMR programmes for which uptake in Tayside is lower than Scottish averages.

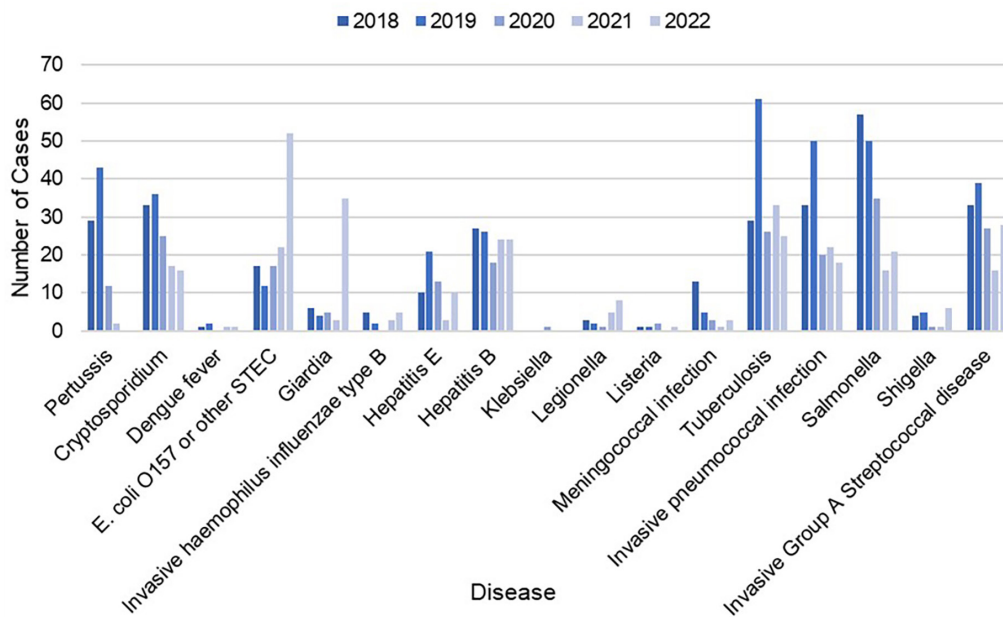
## 6.1 Infectious diseases

### 6.1.1 Local and national context

An analysis of the Health Protection Team's (HPT) response to infectious disease in the community showed that just over 1,080 non-COVID-19 clinical and laboratory notifications were received between 1st January 2022 to 31st December 2022, an average of three per day. Of these, 406 (37%) were laboratory notifications of campylobacter, a common gastrointestinal pathogen usually of low clinical consequence. The other 677 notifications spanned a full range from other common infections usually requiring limited follow-up (e.g., mumps, salmonella) to more severe and complex infections, such as E. coli O157 (and other Shiga-toxin producing E.coli), Legionnaire's disease and tuberculosis.

In addition to the workload represented by the notifications of diseases and pathogens, the HPT's day-to-day activities include responding to other reports and enquiries, including water quality failures and potential environmental hazards, and requests for advice on vaccinations. Trends in the number of cases of laboratory-confirmed notifiable organisms over the last five years are summarised in figure 61, with the numbers referring to individual disease/organism notifications and not individual people.

Figure 61: Number of Tayside laboratory-confirmed infectious disease cases, 2018-2022



Source: HPZone, NHS Tayside

### 6.1.2 Current and future activity

#### Response to outbreaks and emerging health protection threats in care homes

Tayside HPT manages outbreaks of infections, such as COVID-19 and other respiratory and gastrointestinal infections, and environmental hazards in care homes as well as other closed settings. In care homes, COVID-19 remains the main cause of respiratory infections, with a number of respiratory outbreaks occurring this winter secondary to seasonal influenza. The HPT has established, in collaboration with other key teams, mechanisms to test for a range of respiratory pathogens following the stepping down of services that had been established for COVID-19 testing. In outbreaks secondary to influenza virus, the HPT supports the assessment for the provision of antiviral treatment and prophylaxis. There have also been several outbreaks of gastroenteritis, diarrhoea and vomiting due to elevated levels of norovirus compared to previous years.

#### Mpox (formerly known as monkeypox)

This had a substantial impact on health protection systems across the UK during the spring/summer of 2022. Tayside HPT contributed to regular national Incident Management Team (IMT) meetings and led the local response. The latter included leading local IMT meetings to manage cases and situations, working with colleagues in a range of disciplines to develop care pathways, providing NHS Tayside-wide education sessions and developing a vaccination service.

#### Non A-E viral hepatitis

This outbreak affected mostly young children during the spring/summer of 2022 and resulted in hospital admissions due to severe hepatitis of unknown cause (and in a small number of cases leading to a liver transplant). The numbers across the UK were relatively small but all areas had to ensure the capability for early detection and notification of potential cases.

## Shiga toxin-producing E. coli

A UK-wide outbreak of Shiga toxin-producing E. coli cases was heightened locally by the adoption of a sensitive PCR test for faecal samples (NHS Tayside has been a pioneer in this), resulting in a large number of cases being notified on a regular basis and particularly during the summer of 2022. Members of Tayside HPT are currently working with colleagues across Scotland to share our learning.

## Group A Streptococcus (GAS)

During the winter of 2022/23, a number of high-profile cases of severe illness and death in children as a result of invasive Group A Streptococcus (iGAS) infections raised widespread concerns amongst the public and professionals. The high rate of GAS infections detected (both invasive and non-invasive) were believed to be as a result of both a genuine increase in GAS and an increase of reporting and testing of individuals with sore throats and scarlet fever. This placed significant pressures on primary care. Tayside HPT worked with a range of colleagues, provided support, advice and education to partners including through communications with schools and education departments, and education sessions with GP colleagues, as well as devising pathways to manage the situation proportionately.

## Avian influenza

A highly pathogenic influenza A virus subtype (H5N1) has emerged as a global concern since 2020. Public and animal health authorities increasingly began conducting detailed risk assessment and surveillance reporting, with increasing reports of outbreaks among wild and domestic birds, as well as sporadic, isolated human cases, in the UK, Europe and North America. In October 2022, as part of a UK four nations agreement prompted by the latest risk assessment, a Scottish Avian Influenza Prevention Zone (AIPZ) was introduced, requiring poultry producers and bird keepers to comply with stringent biosecurity measures.

While the risk to the general public's health from avian influenza is very low, Health Protection Teams were tasked with maintaining preparedness as part of a wider system response, ensuring local arrangements were in place for: advising and monitoring any persons exposed to infected birds (e.g., farm workers and veterinary professionals); providing antiviral prophylaxis; accessing antiviral stocks; and arranging sampling of any exposed persons who are symptomatic. The arrangements put in place by the Tayside HPT were utilised actively in a small number of situations involving confirmed avian influenza in birds locally during the winter of 2022/23.

## Diphtheria

In March 2022, following a rise in England of notifications of cases and outbreaks of diphtheria (an acute bacterial infection affecting the upper respiratory tract or the skin), the UK Health Security Agency (UKHSA) declared a national incident and issued updated guidance on public health management and control. A similar pattern was observed in a number of European countries, with rising incidence concentrated among refugees and people seeking asylum. While no cases were observed in Scotland, Health Protection Teams here were asked to be aware of the potential for cases of diphtheria in relevant groups and to support local arrangements for the provision of antibiotic prophylaxis, vaccination and testing where appropriate, in partnership with healthcare and community services. In Tayside, the HPT engaged extensively with colleagues in primary care, local authorities, HSCPs, the voluntary sector and government in order to provide information and advice, and assurance of suitable arrangements being in place.



## 6.2 Immunisations

Immunisations are highly effective at preventing or reducing severity of illness. A number of vaccinations (currently approximately 30) are available for people at different stages of their life<sup>70</sup>.

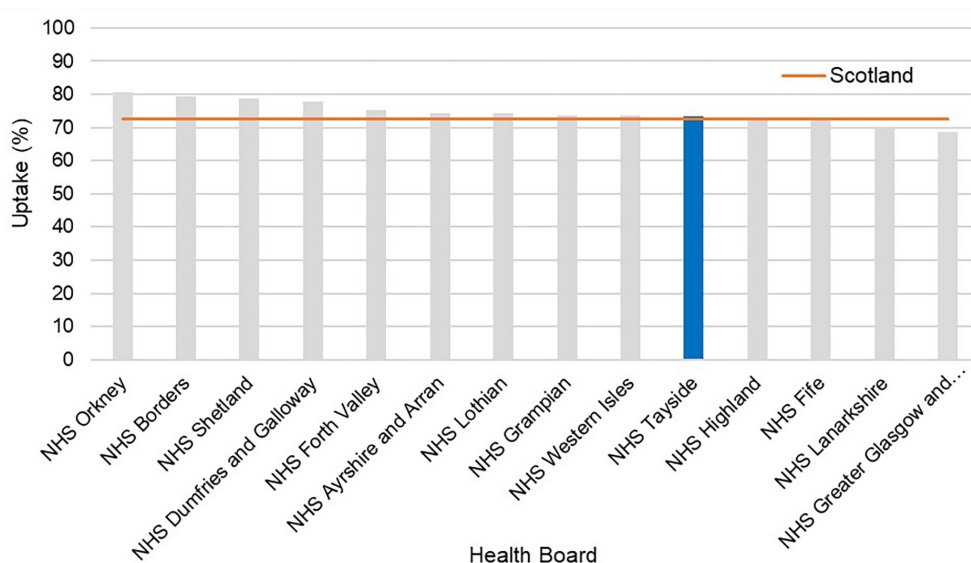
The UK routine vaccination schedule offers protection against diseases caused by 15 different infectious organisms. The majority of these vaccines are offered in childhood, at several key stages: infancy, pre-school and in secondary school. A smaller range of vaccinations are included in routine schedules for adults: age-based programmes providing protection against shingles and pneumococcal disease, and pertussis vaccination for pregnant women. There are two vaccination programmes which are primarily delivered seasonally to large age- and risk-based cohorts: flu and COVID-19. A further 12 vaccines are offered to individuals at highest risk of specific infections, including due to occupational and lifestyle factors, various health conditions, and travel.

### 6.2.1 COVID-19 and adult vaccination programmes

The COVID-19 vaccination programme is now largely delivered seasonally. A main autumn/winter booster programme targets older adults, care home residents, clinical risk groups and health and social care staff. There is a smaller spring booster campaign for over-75s, care home residents and people with a weakened immune system.

The latest uptake data are published by Public Health Scotland (PHS) on its respiratory infection and COVID-19 statistics dashboards. They show a total of 151,548 COVID-19 booster vaccinations have been administered within the 2022/23 autumn/winter programme in Tayside, giving an overall uptake of 73.5%, compared to 72.6% recorded for Scotland as a whole (figure 62). In the 2023 spring booster programme, the total number of vaccinations completed for Tayside (up to 2 July) was 42,119, an uptake of 79.0%, which compares to 76.4% in Scotland overall (figure 63).

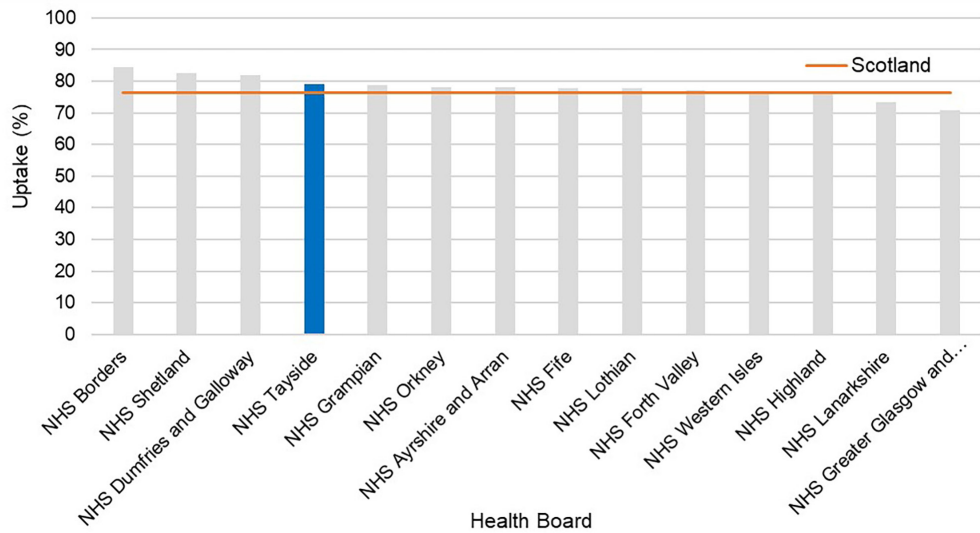
Figure 62: COVID-19 vaccination uptake in eligible population by Health Board, winter booster programme 2022/23



Source: Public Health Scotland (<https://www.publichealthscotland.scot/publications/covid-19-statistical-report/covid-19-statistical-report-28-september-2022/flu-and-covid-19-vaccination-uptake-in-scotland-dashboard/>)

70 <https://www.nhsinform.scot/healthy-living/immunisation/vaccines>

Figure 63: COVID-19 vaccination uptake in eligible population by Health Board, spring booster programme 2023

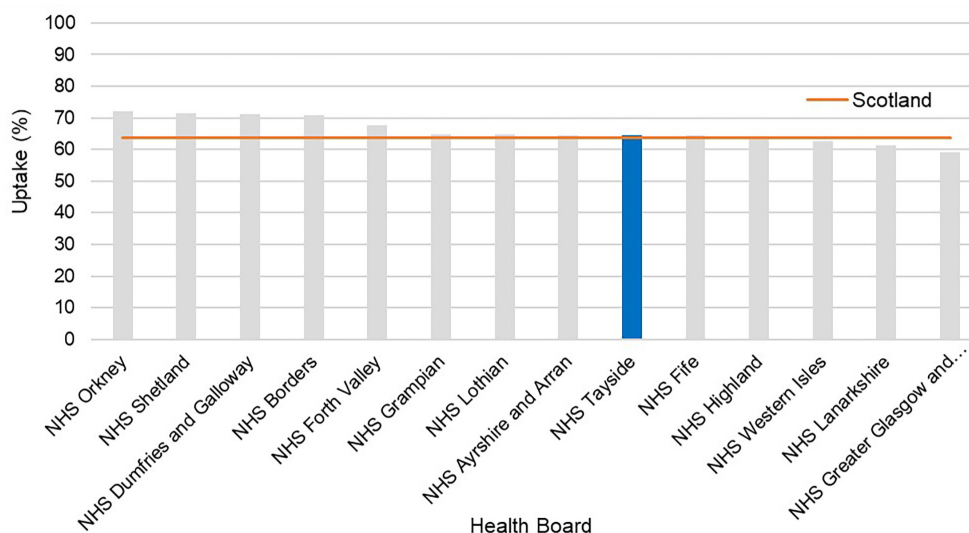


Source: Public Health Scotland (<https://www.publichealthscotland.scot/publications/covid-19-statistical-report/covid-19-statistical-report-28-september-2022/flu-and-covid-19-vaccination-uptake-in-scotland-dashboard/>)

In 2022/23, the cohorts eligible for flu vaccination were: all adults aged 50 or older, people aged under 50 in clinical risk groups, care home residents, and health and social care workers. PHS dashboards show that a total of 147,960 vaccinations were carried out in Tayside this year, equating to an uptake of 64.6%; Scotland’s overall uptake was 63.7% (figure 64).

Over 90% of individuals who were eligible for both flu and COVID-19 booster vaccinations received them at the same visit (co-administration).

Figure 64: Seasonal flu vaccination uptake in eligible population by Health Board, winter programme 2022/23



Source: Public Health Scotland (<https://www.publichealthscotland.scot/publications/covid-19-statistical-report/covid-19-statistical-report-28-september-2022/flu-and-covid-19-vaccination-uptake-in-scotland-dashboard/>)

All adults over the age of 70 are eligible for vaccination against shingles. Also those who are not yet vaccinated should be offered opportunities to catch up until they reach 80 years old. General practices in Tayside continued to provide shingles vaccinations until April 2022, when responsibility transferred to the central vaccination service operated by Public Health, which

carried out delivery primarily in July and August 2022. Arrangements are in place for the next delivery cycle to be carried out during summer 2023.

Uptake statistics are published by PHS annually, based on a reporting year running from September to August. Therefore, the most recent reported uptake data represents a combination of activity in both general practice care and the NHS Tayside Central Vaccination Service. The data (table 5) show Tayside maintaining a record of achieving uptake substantially higher than the overall levels for Scotland.

*Table 5: Shingles vaccination coverage amongst eligible cohorts, September 2021 to August 2022*

	NHS Tayside			All Scotland		
	Cohort	Vaccinated	Coverage	Cohort	Vaccinated	Coverage
<b>Routine cohort (70-year-olds)</b>	4,515	2,974	66%	55,529	25,054	45%
<b>Catch-up cohort (71 to 79-year-olds)</b>	35,393	26,539	75%	418,409	263,939	63%

*Source: Immunisation and vaccine-preventable diseases quarterly report - January to March 2023 (Q1) - Immunisation and vaccine-preventable diseases quarterly report - Publications - Public Health Scotland*

Other immunisations delivered by the NHS Tayside Central Vaccination Service include: the pneumococcal polysaccharide vaccine (PPV) for adults aged 65 and older; vaccinations such as tetanus, rabies and hepatitis B which must be offered urgently following potential exposure; catch-up doses of vaccinations missed in childhood including diphtheria, tetanus and polio, MMR, and MenACWY; and vaccines such as pneumococcal, meningococcal and hepatitis B for people with medical conditions or treatment which make them especially vulnerable. There are no up-to-date uptake statistics published nationally for these vaccinations, however internal service management data indicates that activity in Tayside is in line with overall levels for Scotland.

The Public Health managed service also offers travel vaccinations as part of a hybrid delivery model, in which patients have a choice of attending community clinics offering the core NHS travel immunisations or one of a number of independent service providers (community pharmacies) which offer vaccinations both via the NHS and privately. This model aims to optimise the flexibility and accessibility of services for patients.

### *6.2.2 Childhood immunisation*

In Tayside, a single dedicated childhood vaccination service was established in 2016. This new team took over responsibility from general practice, health visiting and school nursing for the delivery of all routine infant, pre-school, secondary school and childhood flu programmes, as well as the majority of selective/unscheduled and catch-up vaccinations for children. The Health Protection Team within Public Health works closely with the childhood vaccination team to support and facilitate provision of high-quality services.

The European Region of the World Health Organisation (WHO) recommends that on a national basis at least 95% of children are immunised against diseases preventable by immunisation. These infections include diphtheria, tetanus, pertussis, polio, Haemophilus influenzae type b (Hib), measles, mumps and rubella.

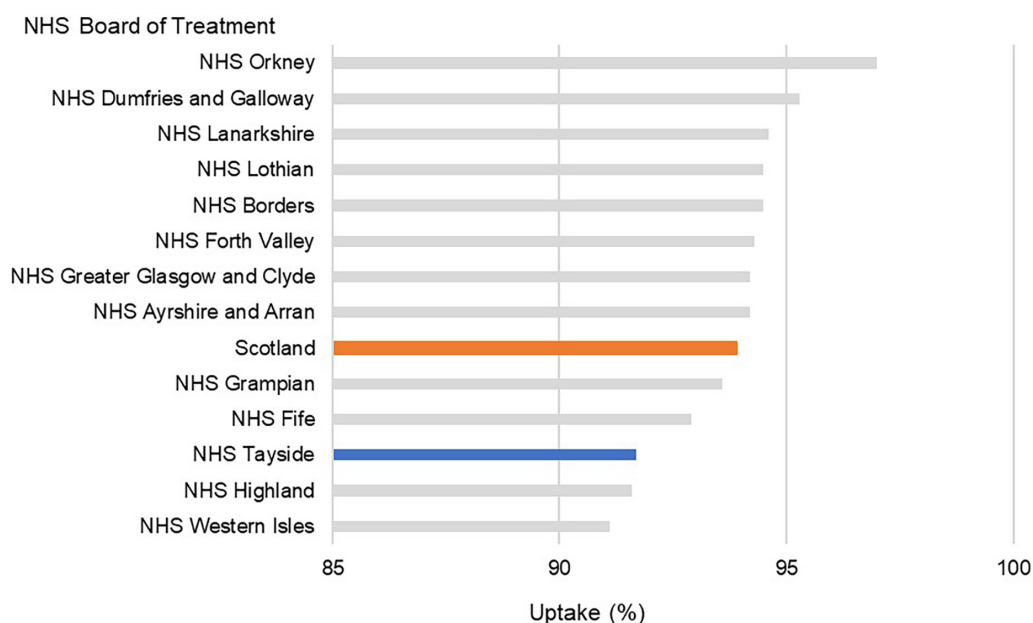
Quarterly uptake rates for routine childhood immunisations have shown gradual declines in Scotland over the past 10 years across all programmes. Throughout this period uptake has still remained high and for the latest quarter, around 95% of children across Scotland received each routine immunisation by the time they were 12 months old, except for rotavirus vaccine, which had 92.8% uptake.

Among the very first vaccinations offered in the routine schedule is the 6-in-1 vaccine, which protects against diphtheria, tetanus, pertussis, polio and Haemophilus influenzae type b (Hib). Children should receive 3 doses of the 6-in-1 vaccine before 12 months of age.

The latest annual statistical report released by PHS identifies NHS Tayside as one of four Health Boards in which uptake of the 6-in-1 vaccine was below 95% in the calendar year 2022: NHS Shetland (94.9%), NHS Fife (94.6%), NHS Tayside (94.0%) and NHS Highland (93.7%).

NHS Tayside was also reported to have a lower level of uptake of the MMR vaccine (by 24 months of age) than the average for Scottish Health Boards in 2022 (figure 65).

*Figure 65: Uptake of first dose of MMR by 24 months of age by NHS Board, 2022*



Source: Public Health Scotland (<https://publichealthscotland.scot/publications/childhood-immunisation-statistics-scotland/childhood-immunisation-statistics-scotland-quarter-and-year-ending-31-december-2022/>)

In view of these challenges, a key priority for the Health Protection Team is to further strengthen links and collaborative working with the NHS Tayside children’s immunisation service, as well as wider NHS and HSCP teams, to develop and implement partnership strategies, using a quality improvement approach, to address the observed trends of gradually declining uptake of routine childhood vaccination programmes.

Particular emphasis will be placed on the 6-in-1 and MMR programmes for which uptake in Tayside is lower than the Scottish averages.

# Summary

This report outlines the key public health challenges facing Tayside currently and action being taken by the Directorate of Public Health across a range of workstreams. As highlighted throughout the report, the socioeconomic conditions in which people live is the single greatest driver of health and wellbeing outcomes. With the current cost of living crisis, widening health inequalities, an ageing population and the sustainability of future health and social care services in question, it is absolutely essential that prevention and early intervention, targeted to people and areas of greatest need is achieved at pace. This includes maintaining a focus on highly effective national population health promoting measures, such as minimum unit pricing, in addition to collective and collaborative local activity.

As always, we welcome feedback on this report for future iterations and, lastly, my huge thanks go to the Health Intelligence Team in Public Health for preparing and assimilating the contents of this report – in particular Caroline Snowdon, Stephen Halcrow, Ally Stewart and Dr Fatim Lakha.

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