

# Hypertension HNA Data Pack

**June 2026**

Heather Hopton - Senior Intelligence Analyst ([heather.hopton@kent.gov.uk](mailto:heather.hopton@kent.gov.uk))

Thomas Wilson - Analyst ([thomas.wilson@kent.gov.uk](mailto:thomas.wilson@kent.gov.uk))

Correspondence to: [heather.hopton@kent.gov.uk](mailto:heather.hopton@kent.gov.uk)

## Contents

|          |                                                                                         |           |
|----------|-----------------------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Epidemiology and Burden of Hypertension .....</b>                                    | <b>3</b>  |
| 1.1      | Prevalence.....                                                                         | 3         |
| 1.1.1    | Kent and Medway .....                                                                   | 3         |
| 1.1.2    | Geographical variation .....                                                            | 3         |
| 1.1.3    | Inequalities .....                                                                      | 5         |
| 1.1.4    | Comorbidities .....                                                                     | 5         |
| 1.1.5    | Learning disability as a co-occurring condition .....                                   | 6         |
| 1.1.6    | Serious mental illness as a co-occurring condition .....                                | 7         |
| 1.2      | Chronic Kidney Disease.....                                                             | 7         |
| 1.2.1    | Geographical variation .....                                                            | 7         |
| 1.2.2    | Prevalence by age, sex, deprivation, ethnicity .....                                    | 9         |
| 1.3      | Risk Factors for hypertension.....                                                      | 9         |
| 1.3.1    | Age .....                                                                               | 9         |
| 1.3.2    | Deprivation .....                                                                       | 11        |
| 1.3.3    | Smoking .....                                                                           | 11        |
| 1.3.4    | Excess Dietary Salt, Unhealthy Diet .....                                               | 11        |
| 1.3.5    | Obesity .....                                                                           | 12        |
| 1.3.6    | Lack of Physical Activity .....                                                         | 13        |
| <b>2</b> | <b>Healthcare metrics for people with Hypertension and CKD .....</b>                    | <b>14</b> |
| 2.1      | Blood pressure monitoring and treatment.....                                            | 14        |
| 2.1.1    | Monitoring and treatment variation in Kent and Medway ICB from CVDPrevent               | 14        |
| 2.1.2    | Monitoring and treatment in those with a learning disability or mental health condition | 16        |
| 2.1.3    | Measurements at home vs clinic .....                                                    | 16        |
| 2.1.4    | Hypertension control (treating to target) in those with CKD .....                       | 18        |

|          |                                                                                                                  |           |
|----------|------------------------------------------------------------------------------------------------------------------|-----------|
| 2.1.5    | Hypertension control (treating to target) in those with raised ACR .....                                         | 19        |
| 2.1.6    | Explanatory model for treating to target for hypertension patients with a BP reading in the last 12 months ..... | 20        |
| 2.2      | Kidney function monitoring .....                                                                                 | 24        |
| 2.2.1    | Testing coverage and completeness (from KMCR June 2026) .....                                                    | 24        |
| 2.2.2    | Local performance and comparisons .....                                                                          | 26        |
| 2.2.3    | Inequalities in testing .....                                                                                    | 26        |
| 2.2.4    | Kidney function distribution (from KMCR May 2026) .....                                                          | 27        |
| 2.2.5    | Gaps in ACR testing among people with CKD (from KMCR May 2026) .....                                             | 27        |
| 2.2.6    | Severity of albuminuria (ACR distribution) (from KMCR May 2026) .....                                            | 28        |
| 2.2.7    | Recent improvement in ACR testing rates in CKD patients .....                                                    | 28        |
| <b>3</b> | <b>Hypertension Mortality .....</b>                                                                              | <b>30</b> |
| 3.1      | Hypertensive disease total mortality rate (national indicator) .....                                             | 31        |
| 3.2      | Hypertensive disease PCMD data .....                                                                             | 32        |
| 3.2.1    | Overview .....                                                                                                   | 32        |
| 3.2.2    | Geography Breakdown .....                                                                                        | 32        |
| 3.2.3    | Inequalities Breakdown .....                                                                                     | 32        |
| 3.2.4    | Poisson Model for age, deprivation, sex and year .....                                                           | 33        |
| 3.3      | Hypertensive disease premature mortality .....                                                                   | 34        |

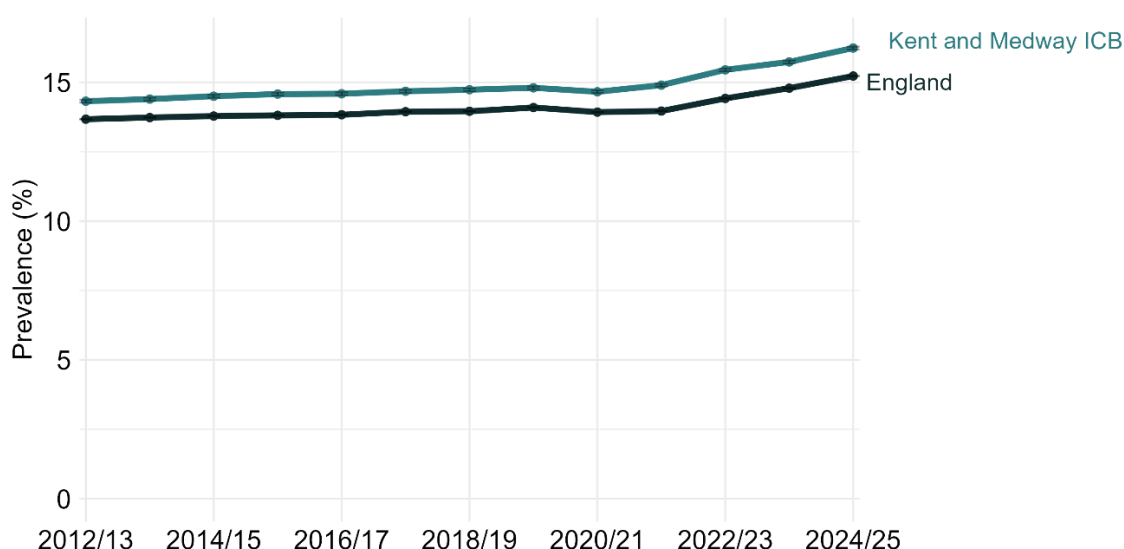
# | 1. Epidemiology and Burden of Hypertension

## 1.1 Prevalence

### 1.1.1 Kent and Medway

In Kent and Medway, the latest publication from March 2025 reports a prevalence of 16.2%, equating to about 331,000 people (Quality Outcomes Framework, NHS England). The prevalence of hypertension in Kent and Medway has been consistently higher than in England for the last 12 years, and increased only slightly between 2012/13 and 2021/22, from 14.3% to 14.9% (Figure 1). In the last 3 years, there have been sharper increases and in 2024/25 the recorded rate was 16.2%. This places Kent and Medway as the 3<sup>rd</sup> highest out of 6 South Eastern ICBs.

Figure 1. Prevalence of Hypertension in Kent and Medway ICB and England from 2012/13 to 2024/25. Source: QOF, OHID.



Using the Kent and Medway Care Record (KMCR) allows us to take a closer look at the health records of people on the Quality Outcomes Framework (QOF) Hypertension register, with the added benefit that KMCR offers data linkage such as demographic information and comorbidities. One drawback is that patients can opt out of their data being included in the KMCR for secondary research purposes (such as use by KCC), so about 5% of people do not appear in KMCR. Despite this, KMCR remains an excellent resource to better understand trends and inequalities in the treatment of those with hypertension.

Approximately 308,200 people are on the QOF Hypertension register in KMCR as of May 2026, which represents a prevalence of 16.3%. Hypertension can affect someone of any age, but is more common in older ages (average age of 69) and males (males 16.3% vs females 16.0%). Approximately 17,000 people were diagnosed in the last year in Kent and Medway (KMCR to June 2026).

### 1.1.2 Geographical variation

Figure 2 shows the variation between HCPs as both a crude prevalence and an age-standardised prevalence, whereby the prevalence is adjusted for the age structure of the area.

East Kent has the highest crude prevalence at 17.4%. This is statistically significantly higher than in the other HCPs. Medway and Swale HCP also has a statistically higher rate than Dartford, Gravesham and Swanley (DGS) HCP and West Kent HCP. However after accounting for the age structure in each area, DGS and Medway and Swale HCPs have the highest rates. This indicates that people in these areas may have a higher burden of disease but an overall younger population.

Figure 3 shows the variation in hypertension prevalence by PCN. East Kent HCP contains the PCNs with the highest and lowest prevalences - ranging from 11.7% to 24.4%. The prevalence of hypertension is approximately 1% higher in coastal areas versus non-coastal areas in Kent and Medway. After age-standardisation, it's still 1% higher in coastal areas.

Figure 2. Crude and age-standardised prevalence of hypertension by HCP, with 95% confidence intervals. Source: KMCR, May 2026.

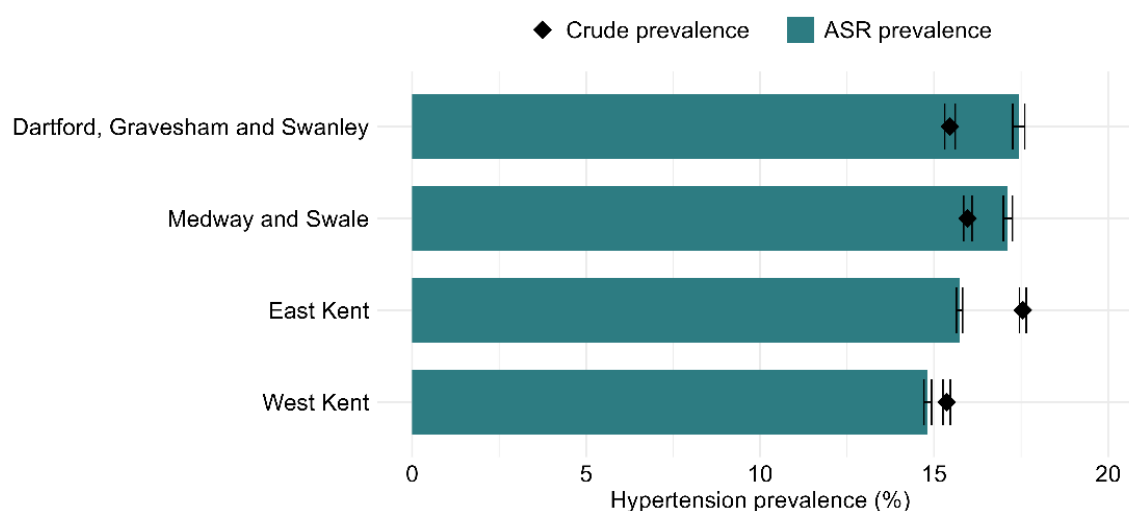
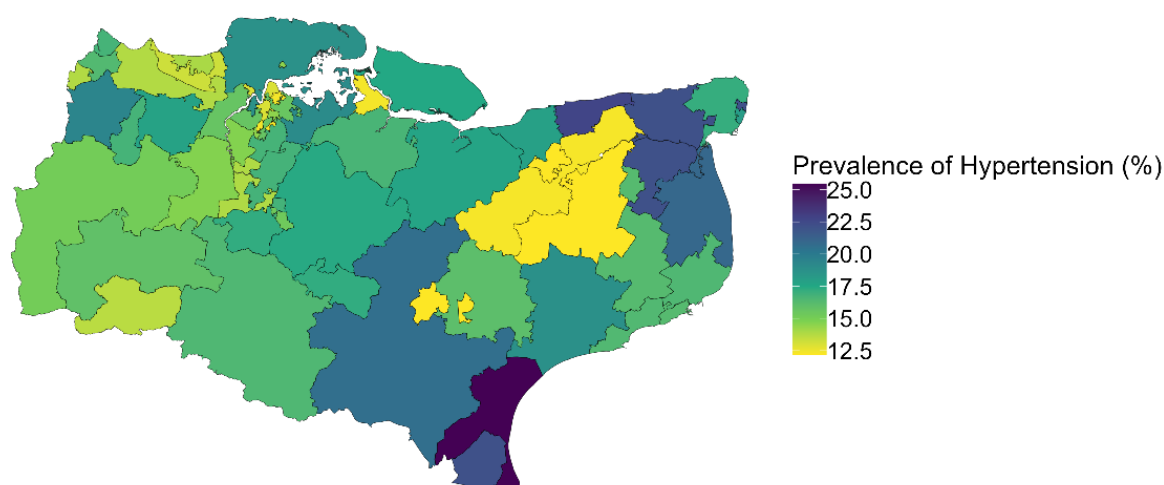


Figure 3. Hypertension prevalence for each PCN in Kent and Medway. Source: KMCR, May 2026.



While these figures and statistics do show the actual burden of hypertension across areas and groups, differences in prevalence can often be due to differences in the makeup of the

population, particularly age. We can use statistical methods to look at the effect or burden in a particular group while controlling the effects of other confounding variables.

### 1.1.3 Inequalities

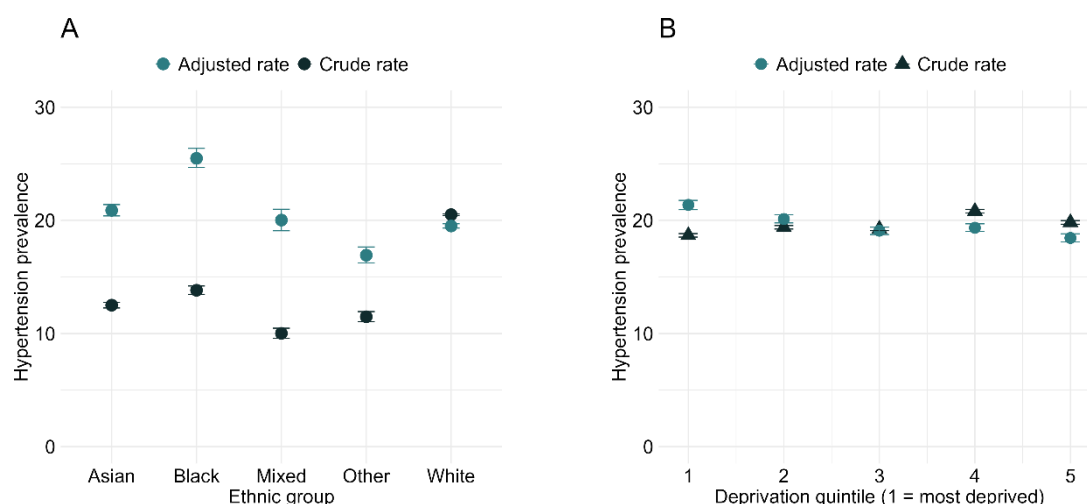
The NHS Core20PLUS5 is a national approach to reducing healthcare inequalities which defines a target population, including the 20% most deprived part of the population and people with a learning disability, as well as 5 clinical areas to focus on, including people with SMI, and hypertension case-finding and optimal management and lipid optimal management.

Figure 4-B compares crude and adjusted rates of hypertension by deprivation quintile. The crude rate suggests that hypertension is more prevalent in less deprived areas. However once we adjust for age, ethnicity, sex and area type (rural/urban and coastal/non-coastal), the trend is reversed, and people living in deprived areas have much higher rates of hypertension. This means that the higher crude rates in affluent areas are driven by differences in population characteristics—not by a genuinely lower risk in deprived communities. After accounting for these factors, the true relationship becomes clear: deprivation is strongly associated with an increased risk of being diagnosed with hypertension, revealing significant inequalities linked to area-level disadvantage.

Figure 4-A shows crude and adjusted rates of hypertension by ethnicity. The crude rate suggests that the highest burden is in people of white ethnicity, but once adjusted for age, sex, deprivation and area type, the prevalence is much higher in the Black and Black British group.

Figure 4. A - Hypertension prevalence by ethnicity, crude rate and rate adjusted for deprivation quintile, age, sex, rural/urban and coastal status; B - Hypertension prevalence by deprivation quintile, crude rate and rate adjusted for ethnicity, age, sex, rural/urban and coastal status.

Source: KMCR, November 2025.



### 1.1.4 Comorbidities

Of the approximately 308,000 people who have hypertension, 66.3% have at least one comorbid QOF long term condition. 34.4% of people have 2+ additional conditions and 15.9% have 3+ additional conditions. There are a small number of very complex patients - about 1% of

people with hypertension have an additional 6+ conditions, with the maximum being 11 conditions on top of hypertension. Increasing multimorbidity is strongly associated with age, whereby older people are more likely to have more co-occurring conditions. Multimorbidity can make controlling hypertension more difficult as having a higher treatment burden can make self-care harder.<sup>1</sup>

The most common condition occurring alongside hypertension is diabetes, which 24% of people with hypertension also live with. The second and third most common comorbidities are depression and chronic kidney disease, each occurring in approximately 18% of people. Approximately 24% of people with hypertension have also already acquired at least one of coronary heart disease, atrial fibrillation, heart failure, peripheral arterial disease or a stroke/TIA. This means most people haven't yet acquired a further cardiovascular disease and presents a large opportunity for prevention.

Table 1. Prevalence of conditions co-occurring with hypertension. Source: KMCR, January 2026.

| Condition/comorbidity                 | Prevalence (%) |
|---------------------------------------|----------------|
| Diabetes                              | 24.2           |
| Depression                            | 18.1           |
| Chronic Kidney Disease                | 18.0           |
| Cancer                                | 13.0           |
| Coronary Heart Disease                | 10.4           |
| Atrial fibrillation                   | 9.4            |
| Stroke/TIA                            | 7.5            |
| Chronic Obstructive Pulmonary Disease | 6.2            |
| Asthma                                | 5.1            |
| Heart failure                         | 4.3            |
| Dementia                              | 3.1            |
| Peripheral Arterial Disease           | 2.0            |
| Rheumatoid arthritis                  | 2.0            |
| Palliative Care                       | 1.5            |
| Mental health                         | 1.3            |
| Epilepsy                              | 0.8            |
| Learning disability                   | 0.4            |
| Osteoporosis (50+)                    | 0.2            |

### 1.1.5 Learning disability as a co-occurring condition

Across Kent and Medway, 0.43% of people with hypertension also have a learning disability, which is less than 0.01% of the total population. There is a little bit of variation across HCPs. The prevalence of LD in hypertensives in West Kent is 0.36% and in East Kent it is statistically significantly higher at 0.49%. The other HCPs fall somewhere in the middle and are not statistically significantly different from any of the others.

<sup>1</sup> Lee, J.E., Lee, J., Shin, R. *et al.* Treatment burden in multimorbidity: an integrative review. *BMC Prim. Care* **25**, 352 (2024). <https://doi.org/10.1186/s12875-024-02586-z>

This cohort is typically younger than the wider hypertension cohort, with the average age around 57 years old (vs 69 years). Approximately 72% of people with hypertension and a learning disability also have another condition, further complicating their care. The most common third conditions are depression and diabetes, with approximately 27% of people having each. The age-standardised prevalence of hypertension in people with a learning disability is 16.01% compared with 16.1% in the wider population, which is an insignificant difference and indicates no notable extra risk in those with a learning disability.

### 1.1.6 Serious mental illness as a co-occurring condition

1.31% of people with hypertension also have a serious mental illness (SMI), defined as a diagnosis of schizophrenia, bipolar affective disorder or other psychoses. This cohort is also slightly younger than the general hypertension cohort, with an average age of 65 years. While there is a small amount of variation between HCPs, the differences aren't statistically significant. 86% of people with hypertension and SMI also have another condition. The most common is depression, which 55% of this cohort also live with, followed by diabetes in 33%. Both of these are more prevalent than in the general hypertension cohort.

## 1.2 Chronic Kidney Disease

Hypertension and Chronic Kidney Disease (CKD) are closely linked whereby hypertension is a major cause of CKD, and CKD can worsen hypertension<sup>2</sup>. Early detection, and treatment, of hypertension can therefore prevent or delay CKD development<sup>3</sup>. The early stages of CKD are typically asymptomatic and many people are unaware of their disease status. Early diagnosis of CKD improves outcomes and therefore screening for kidney disease is especially important in people with high BP who are at increased risk.<sup>4</sup> Approximately 5.5% of the Kent and Medway population is on the QOF register for CKD, equating to about 81,800 people, according to the KMCR. Of those, approximately 56,900 also have hypertension (69.6%).

### 1.2.1 Geographical variation

The PCNs with the highest prevalence are in Medway and East Kent where it can be as high as 8.2% in the adult population (Medway Rainham PCN). Ashford Rural, Medway Peninsula, The Marsh, Deal and Sandwich and Sheppey PCNs all have rates higher than 7%. On the other hand, the PCNs with lowest rates are around Canterbury, Dartford and Gravesend, where the population is typically younger.

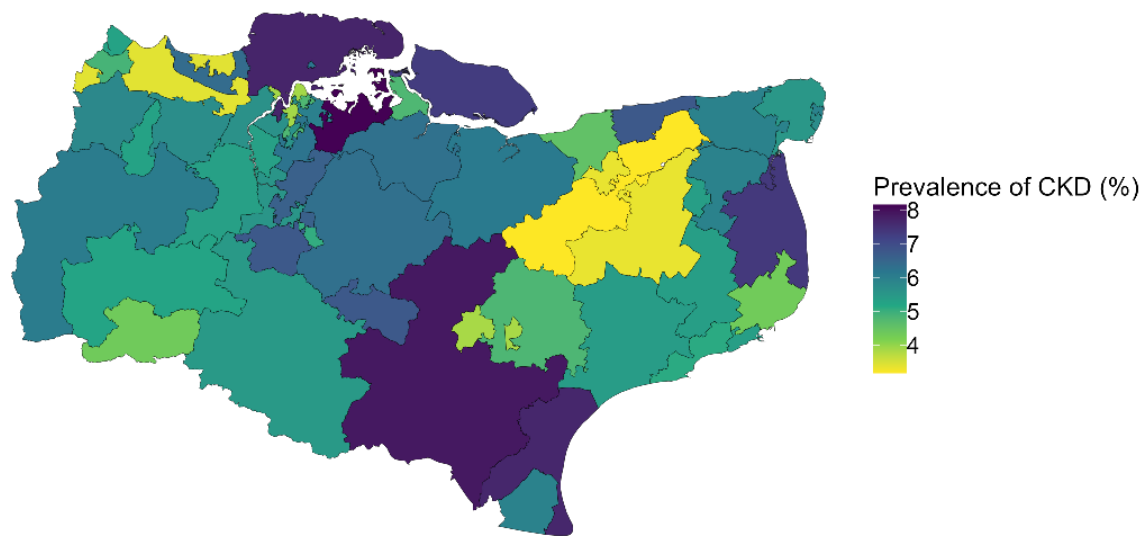
---

<sup>2</sup> [Focus on high blood pressure and kidney disease | Kidney Care UK](#)

<sup>3</sup> [Focus on high blood pressure and kidney disease | Kidney Care UK](#)

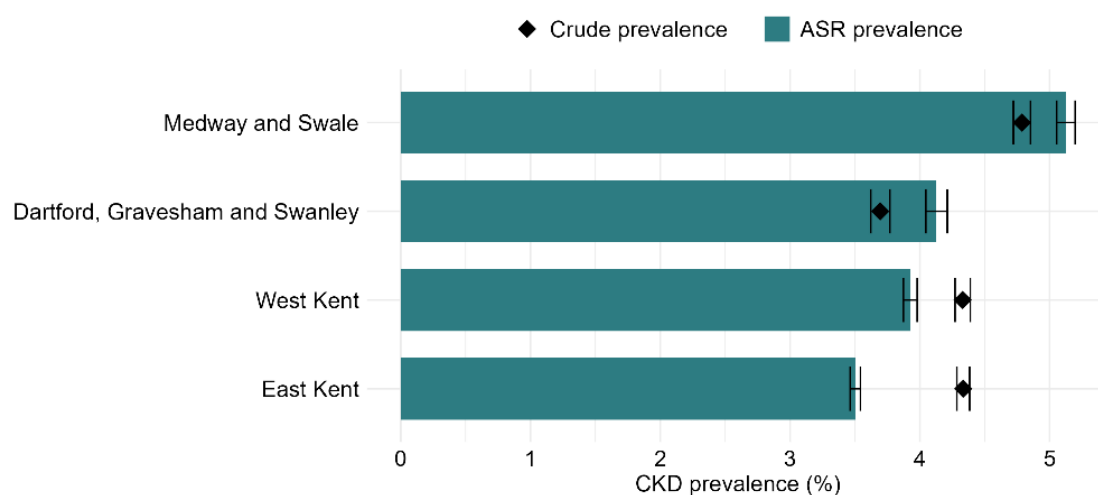
<sup>4</sup> Vassalotti JA, Francis A, Soares Dos Santos AC Jr, Correa-Rotter R, Abdellatif D, Hsiao LL, Roumeliotis S, Haris A, Kumaraswami LA, Lui SF, Balducci A, Liakopoulos V; World Kidney Day Joint Steering Committee. Are your kidneys ok? Detect early to protect kidney health. *Ren Fail.* 2025 Dec;47(1):2503514. doi: 10.1080/0886022X.2025.2503514. Epub 2025 May 20. PMID: 40394853; PMCID: PMC12096682.

Figure 5. Crude prevalence of CKD for ages 18+ by PCN. Source: KMCR, May 2026.



Both crude and age-standardised prevalence of CKD is highest in Medway and Swale HCP. Crude prevalence is quite high in West Kent and East Kent but after standardisation the prevalence is lower - suggesting that the high prevalence in these areas is driven at least in part by the older age of the population. In Dartford, Gravesham and Swanley the prevalence is second highest of the HCPs after standardisation. Note that these prevalences are for the whole population, not just the adult population, to make comparison with the age-standardised rate possible.

Figure 6. Crude and age-standardised prevalence of CKD by HCP, with 95% confidence intervals. Source: KMCR, May 2026.



### 1.2.2 Prevalence by age, sex, deprivation, ethnicity

It's well documented that CKD becomes more likely with age, if you are female<sup>5</sup>, of Black ethnicity<sup>6</sup>, or living in a deprived area<sup>7</sup>. CKD prevalence is much higher in females than in males (6% vs 4.5% from CVDPrevent), and this is still true after age-standardisation although the gap does reduce. CKD becomes much more prevalent in older age and by age 80, about a third of people have a CKD diagnosis. Similarly to with hypertension, recorded prevalence is lowest in the most deprived 20% and highest in the least deprived. However after age-standardisation this is inverted and it is people in the most deprived areas who have the highest true burden (4.7% vs 3.6%, KMCR). Age-standardised rates are also much higher in the Black population, at 6.2%. This is statistically significantly higher than for any other ethnicity. Mixed ethnicities have the second highest rate at 4.1%, followed by White (4%), Asian (3.5%) and Other (3.4%).

## 1.3 Risk Factors for hypertension

Hypertension has multiple risk factors and usually the exact cause is not clear or attributable to one specific factor, but a combination of several including diet, lifestyle, genetics and medication<sup>8</sup>. That means that some risk factors are modifiable while others are not. Some risk factors, such as anxiety and excess alcohol consumption, have very limited data available on them so haven't been discussed in this chapter.

### 1.3.1 Age

One of the main risk factors for hypertension is age - whereby you are more likely to acquire it as you get older. The age structure of Kent and Medway varies, with East Kent having a generally older population. To get an indication of where older people are more concentrated, Figure 7 shows the proportion of people in each PCN who are aged 50 or over. Across Kent and Medway, approximately 39% of people are aged 50 or over. The seven highest PCNs are in East Kent HCP and range from 47% to 58% of their population aged 50+. The Marsh PCN is the highest, and is also the PCN with the highest prevalence of hypertension. At HCP level, East Kent is highest with 42%, followed by West Kent (39.6%), Medway and Swale (35.8%) and finally Dartford, Gravesham and Swanley at 34.4%. While age is not the only risk factor for hypertension, this map does correspond quite well to the map of hypertension prevalence above.

Kent and Medway's population is changing all the time, and by 2036 the ONS population projections forecast an additional ~78,000 people ageing into the 50+ group, representing a 10% increase. We can also expect a 19% increase in the number of people aged 65+ and 52% more people aged 85+ (approx. 27,000 additional people). This represents a challenge for the health service across the board, but may be particularly impactful on the number of people requiring treatment for hypertension.

<sup>5</sup> [Kidney Failure Risk Factor: Gender \(Sex\) | National Kidney Foundation](#)

<sup>6</sup> [Prevalence | Background information | Chronic kidney disease | CKS | NICE](#)

<sup>7</sup> Christopher H Grant, Ehsan Salim, Jennifer S Lees, Kate I Stevens, Deprivation and chronic kidney disease—a review of the evidence, *Clinical Kidney Journal*, Volume 16, Issue 7, July 2023, Pages 1081–1091, <https://doi.org/10.1093/ckj/sfad028>

<sup>8</sup> [High blood pressure \(Hypertension\) - causes and symptoms - BHF](#)

Figure 7. The percentage of the population in each PCN who are aged 50+, Kent and Medway.  
Source: PCIS, November 2025.

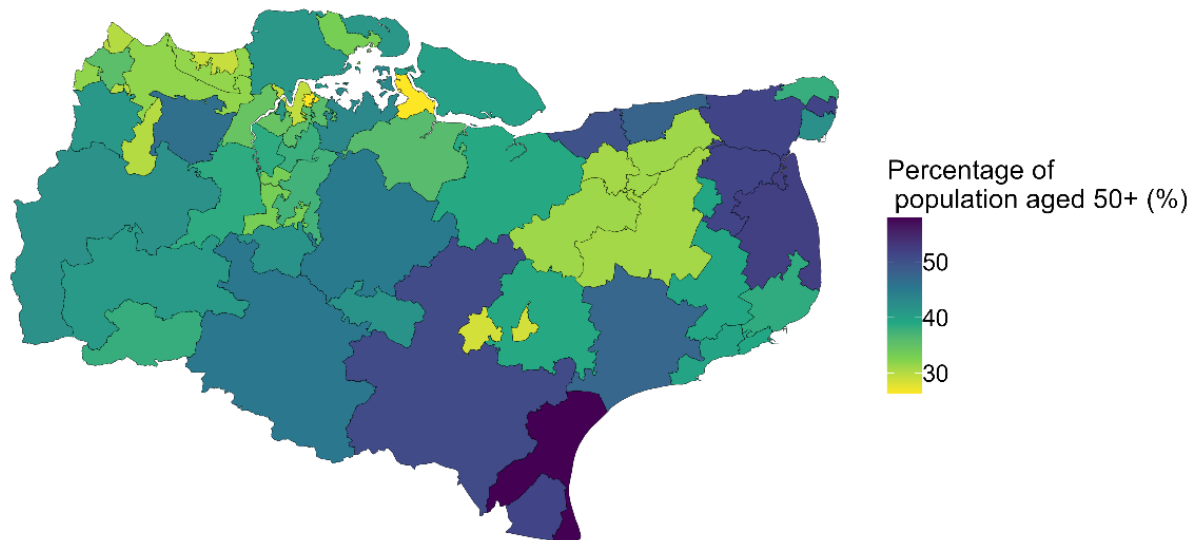
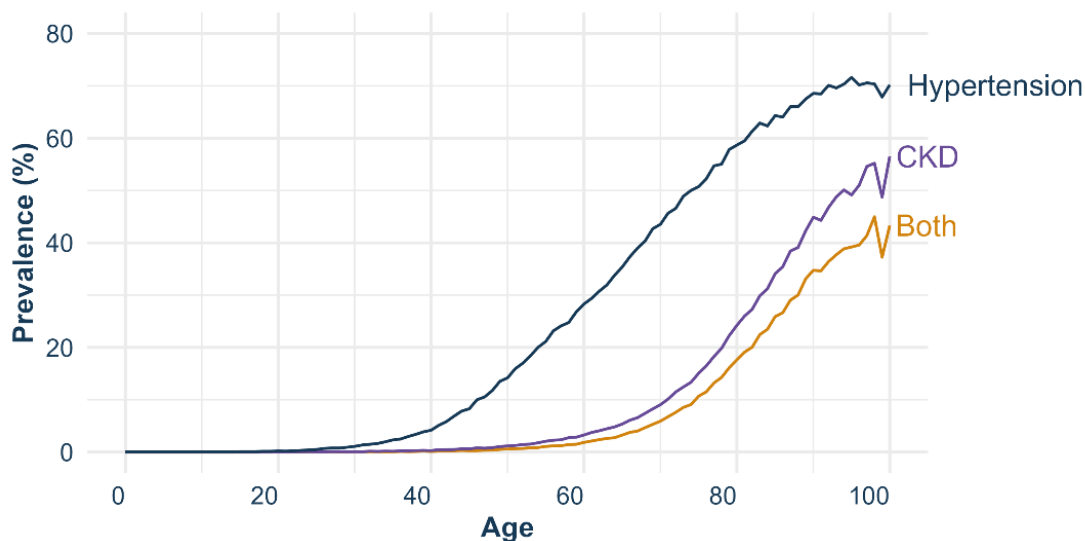


Figure 8 shows prevalence of hypertension, CKD and co-occurring hypertension and CKD at ages 0 to 100+. Of course as age increases, these conditions become more prevalent. People typically develop hypertension younger, with 20% of people diagnosed by around age 55. By age 75, approximately 50% of people have hypertension. Meanwhile for CKD the trend is shifted approximately 20 years later, with 20% prevalence by about age 75, and only hitting 50% in the mid-90s. The age profile for those with both conditions is older still.

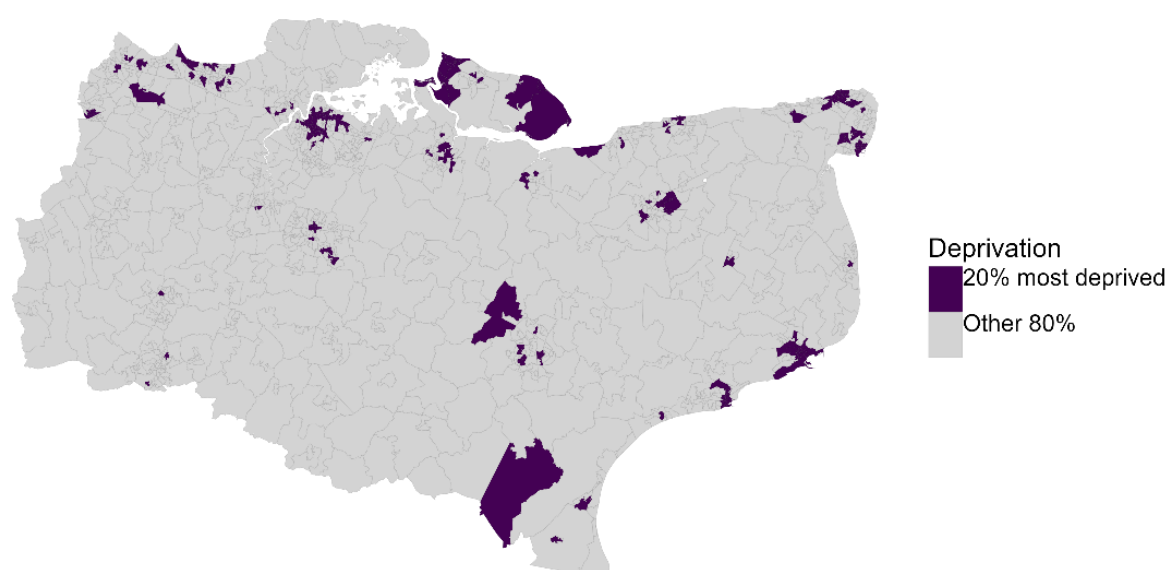
Figure 8. The prevalence of hypertension, CKD and co-occurring Hypertension and CKD at each age, in Kent and Medway. Source: KCMR, May 2026.



### 1.3.2 Deprivation

Social deprivation is a significant risk factor for hypertension<sup>9</sup>, as well as being a focus of the Core20PLUS5 strategy. There are pockets of high deprivation all over Kent so it can be misleading to summarise at a high level geography without appreciating that there are inequalities in every HCP. However East Kent and Medway and Swale HCPs have high proportions of their population in the 20% most deprived areas nationally, 23.7% and 21.9% respectively. In Dartford, Gravesham and Swanley HCP approximately 15.3% of people live in a deprived area, and in West Kent HCP it's only 4.9%. Figure 9 shows the LSOAs which are in the 20% most deprived LSOAs in England.

Figure 9. Map of Kent and Medway highlighting LSOAs which are in the most 20% deprived in England. NB: while LSOAs have comparable population sizes, they can cover different areas so rural LSOAs are geographically bigger. Source: IMD 2025, MHCLG.



### 1.3.3 Smoking

Smoking damages blood vessels and raises blood pressure.<sup>10</sup> Smoking prevalence can vary by source, but most sources align in that the PCNs with the highest rates are in East Kent and Medway and Swale HCPs.

### 1.3.4 Excess Dietary Salt, Unhealthy Diet

Salt intake is widely regarded as one of the most significant modifiable drivers of hypertension.<sup>11</sup> Across England, progress on reducing salt intake has slowed and average consumption among working-age adults (8.4 grams) currently fails to meet NICE recommendations of 6 grams per day or the WHO's recommendation of 5 grams per day.

A recent study by the British Heart Foundation that modelled the potential impact of a reduction in salt consumption, found that reducing salt intake over a 15-year period (2021-2035) would

<sup>9</sup> [Risk factors | Background information | Hypertension | CKS | NICE](#)

<sup>10</sup> [Smoking and the effect on your heart - BHF](#)

<sup>11</sup> [Reducing sodium intake to reduce blood pressure and risk of cardiovascular diseases in adults](#)

lead to 1.4 million fewer people living with hypertension in 2035 compared to a baseline scenario.<sup>12</sup>

Kent's population is likely to reflect national patterns, with many residents exceeding the recommended daily salt intake. Some communities experience more obesogenic environments, characterised by greater access to fast-food outlets and fewer supermarkets. Across England, deprived neighbourhoods have around five times as many fast-food outlets as affluent areas,<sup>13</sup> and closer proximity has been linked to higher takeaway consumption and increased excess weight in some studies.<sup>14</sup> In Kent and Medway, more deprived areas are typically located nearer fast-food outlets,<sup>15</sup> which often sell high-salt foods that increase the risk of hypertension<sup>16</sup>.

Kent has 99.9 fast-food outlets per 100,000 residents, which is lower than the England average (115.9) but higher than the South East (91.7). Within Kent, outlet density varies widely, from 151 per 100,000 in Thanet to 72.6 in Sevenoaks, with higher rates concentrated in more deprived districts. Meanwhile Medway has a slightly higher rate than Kent at 102.2 per 100,000.<sup>17</sup> Evidence also shows that better access to supermarkets (which is unequal) and healthier food options may be linked to lower obesity.<sup>18</sup>

Although local salt intake data are limited, fast-food and supermarket proximity provides a useful proxy for understanding dietary salt exposure across Kent.

### 1.3.5 Obesity

Obesity is defined as a BMI greater than or equal to 30 kg/m<sup>2</sup> or greater than or equal to 27.5 kg/m<sup>2</sup> for patients with a South Asian, Chinese, other Asian, Middle Eastern, Black African or African-Caribbean family background, as recorded in the previous 12 months on the practice disease register.

Across Kent and Medway, GP recorded obesity prevalence has increased from 13.3% in 2023/24 to 14.3% in 2024/25 in those aged 18 or over, as recorded in the previous 12 months on the disease practice register. The PCNs with the highest rates of obesity were Dartford model (21.0%) in Dartford, Gravesham and Swanley HCP, The Mote and Wallis Health (20.7%) and ABC (17.3%) in West Kent HCP. Meanwhile, Sevenoaks PCN (8.1%) (West Kent), Canterbury North (8.5%) and Canterbury South (8.8%) (East Kent) saw the lowest rates of obesity in 2024/25.

---

<sup>12</sup> Modelling the potential impact of a reduction in salt consumption on hypertension, coronary heart disease and stroke in the population of the United Kingdom from 2021 to 2035. May 2022. British Heart Foundation. [<https://www.bhf.org.uk/-/media/files/what-we-do/influencing-change/healthlumensalt2022/bhf-salt-report-22.pdf?rev=04e38b527bd544e1b94aef7fbf767da2>].

<sup>13</sup> [England's poorest areas are fast food hotspots - GOV.UK](#)

<sup>14</sup> Burgoine, T et al. Does neighborhood fast-food outlet exposure amplify inequalities in diet and obesity? A cross-sectional study. *Am J Clin Nutr*; 11 May 2016; DOI: 10.3945/ajcn.115.128132.

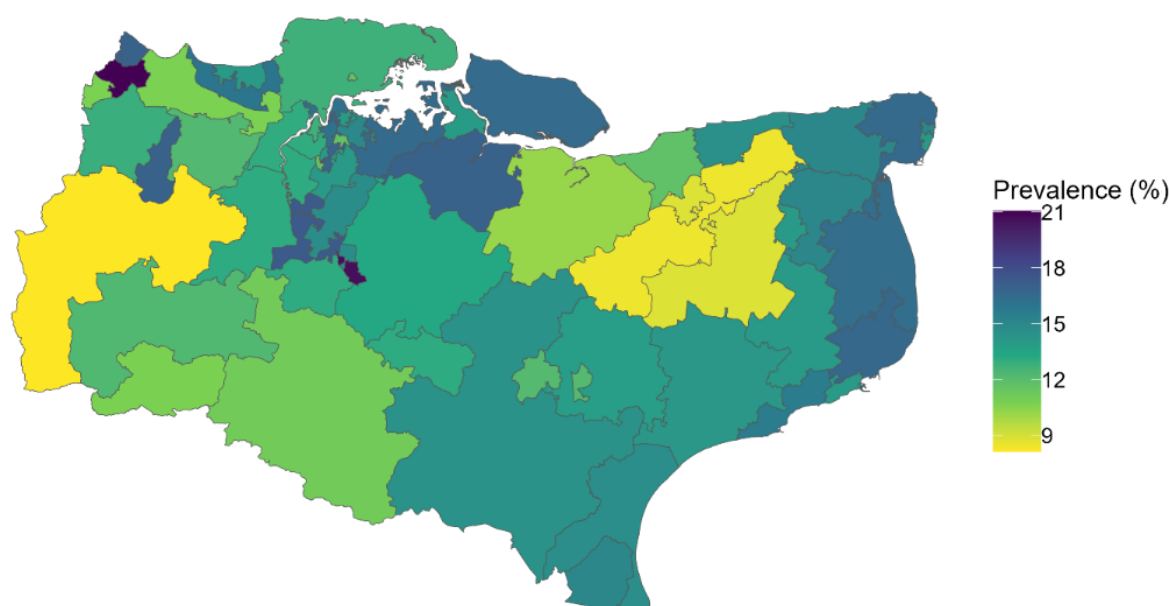
<sup>15</sup> Previous KPHO analysis presented on page 71 of the [Adult-Obesity-Needs-Assessment-2025-v1.1.pdf](#). Original data is from Consumer Data Research Centre.

<sup>16</sup> [England's poorest areas are fast food hotspots - GOV.UK](#)

<sup>17</sup> [Obesity, physical activity and nutrition - Data | Fingertips | Department of Health and Social Care](#)

<sup>18</sup> Zhou Q, Zhao L, Zhang L, et al. Neighborhood supermarket access and childhood obesity: A systematic review. *Obesity Reviews*. 2021;22(S1):e12937. <https://doi.org/10.1111/obr.12937>

Figure 10: Obesity prevalence in those aged over 18 in Kent and Medway by PCN, 2024-25.  
Source: Fingertips.



### 1.3.6 Lack of Physical Activity

Physical activity has been associated with reduced risk of hypertension, suggesting that low activity levels pose a significant public health concern<sup>19</sup>. In 2023/24, 22.1% of adults aged 19 and over were physically inactive in Kent, reporting less than 30 minutes moderate intensity physical activity equivalent minutes a week, which was higher than the South East region average of 18.9%. Prevalence of physical inactivity is higher around coastal areas, particularly in Folkestone and Hythe, as well as in Northern Kent, particularly Gravesham and Swale.

<sup>19</sup> The effects of physical inactivity on other risk factors for chronic disease: A systematic review of reviews. October 2024. Preventative Medicine Reports. [<https://doi.org/10.1016/j.pmedr.2024.102866>].

## | 2. Healthcare metrics for people with Hypertension and CKD

### 2.1 Blood pressure monitoring and treatment

The NICE hypertension guidance recommends that adults with hypertension should be reviewed every year to monitor blood pressure, provide patients with support, and discuss their lifestyle, symptoms, and medication.<sup>20</sup> The percentage of patients aged 18 and over with GP recorded hypertension, who also have a record of a blood pressure reading in the preceding 12 months in Kent and Medway ICB in March 2025 was 87.3%. This compares with the England average of 90.0% and places Kent and Medway ICB as the third lowest performing ICB in the country in this regard. This represents a considerable missed opportunity for ensuring hypertension is treated to target levels. Furthermore, while the England average has increased year on year, between 2024 and 2025 there was no improvement in Kent and Medway.

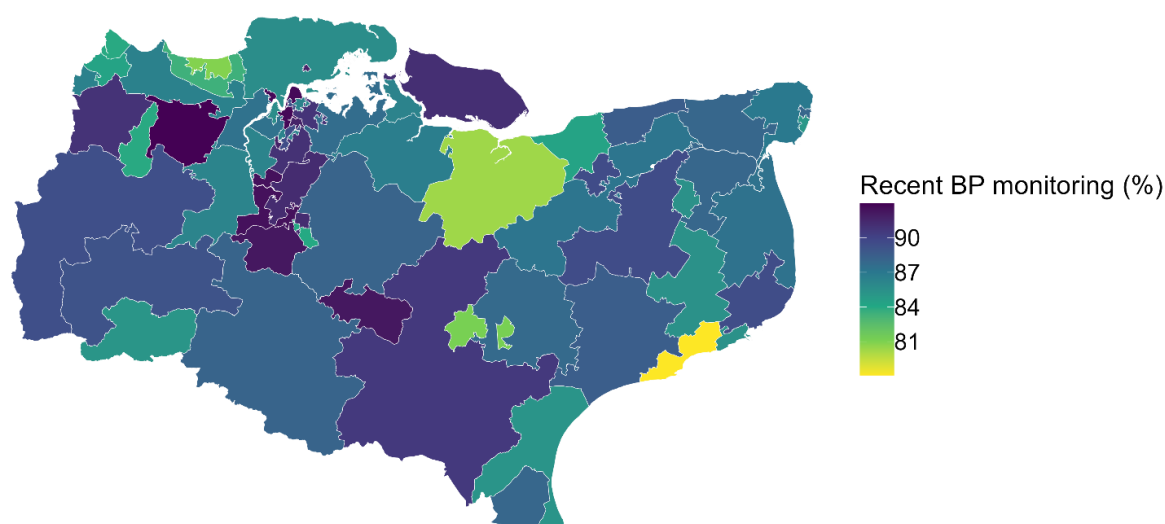
Of those who haven't had a recording in the last 12 months, two-thirds have had one within the last two years, and nearly the whole remainder within the last three years.

Following on from this, Kent and Medway ICB also treats a relatively low percentage of hypertension patients to the appropriate threshold. In March 2025, this was achieved in 67.6% of patients, ranked as the 4<sup>th</sup> lowest in the country. The England average is 70.3% (CVDPrevent).

#### 2.1.1 Monitoring and treatment variation in Kent and Medway ICB from CVDPrevent

The proportion of people with a recent blood pressure record (within 12 months) varies by PCN. The PCNs with lower rates are in Medway and Swale and DGS HCP, with the lowest at 81.4% in March 2025 and the highest at 92%.

Figure 11. The percentage of hypertensives in each PCN who have had their blood pressure monitored in the last 12 months, Kent and Medway. Source: CVDPrevent, March 2026.



Records of recent blood pressure monitoring can be split by age, sex and ethnicity within each PCN to get an idea of where further inequalities lie. By doing this we can see which groups have

<sup>20</sup> [Recommendations | Hypertension in adults: diagnosis and management | Guidance | NICE](#)

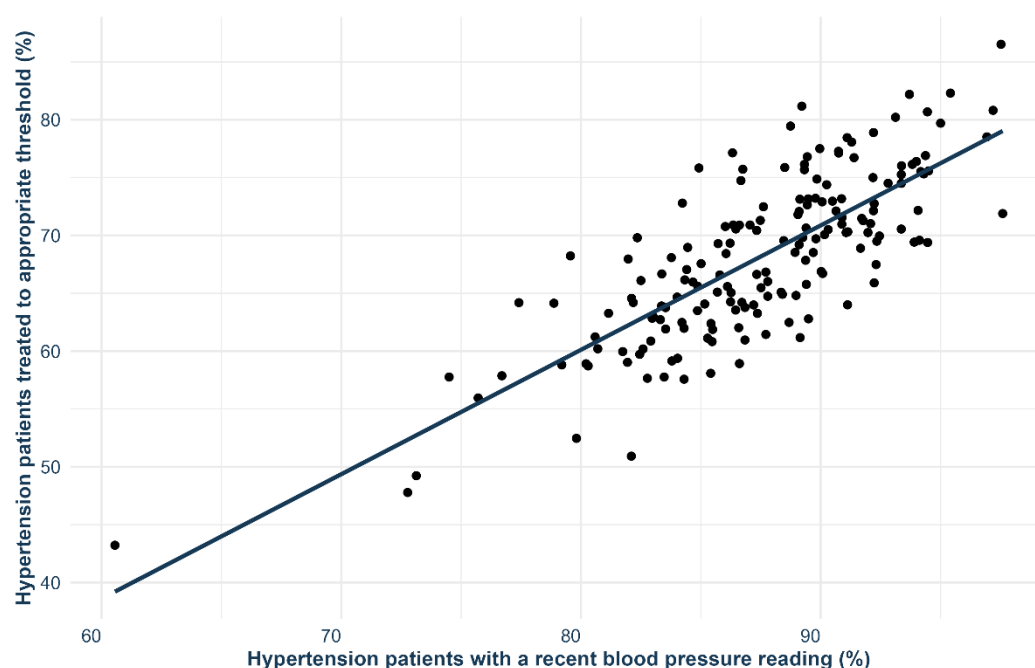
low rates of monitoring and in general, young people and males have lower rates of monitoring. Indeed, the lowest rates are in males aged 18-39, and especially in 3 PCNs where the rate is below 60%: Dartford Central, Folkestone Hythe & Rural and Care Kent PCNs. Some PCNs don't follow this trend and have lower rates in their older patients. Aspire Medical, Ramsgate and Ashford Rural seem to have more difficulty in monitoring patients aged 80+ (CVDPrevent).

Most of the PCNs have some variation between ethnicity but there's no obvious trend and at that low level it's hard to see statistically significant differences. At ICB level the trends are more clear. Monitoring is highest for White people, at 84.5%, followed by people of Mixed ethnicity (81%), Black (80.9%), Asian (80.4%), Not Stated (77.1%) and Missing (70.3%) (CVDPrevent).

People in the 20% most deprived parts of Kent and Medway have significantly lower rates of blood pressure monitoring than in other areas at 81.7%. In fact, blood pressure monitoring is significantly higher in each deprivation quintile, increasing at each step up to the least deprived 20% where the rate is 85.5% (CVDPrevent).

Figure 12 shows the percentage of hypertension patients with a recent blood pressure reading and treated to the appropriate threshold in every GP practice in Kent and Medway. There's marked variation between GPs, with recent monitoring ranging from about 60% to 98%, and treating to target ranging from 44% to 86%. The two are highly correlated whereby more than half (61%) of the variation in treatment performance can be explained by the variation in monitoring performance. This suggests that GP surgeries which monitor regularly are much more likely to treat their patients to target and as a system we should strive to monitor all patients routinely. Section 4.1.3 analyses trends in uncontrolled blood pressure at a person level.

Figure 12. Hypertension patients treated to appropriate threshold (%) and hypertension patients with a recent blood pressure reading (%) for all GP surgeries in Kent and Medway in 2025, with regression line. Source: Fingertips.



### 2.1.2 Monitoring and treatment in those with a learning disability or mental health condition

In Kent and Medway, people with a learning disability or SMI are monitored more regularly than the general population. In both LD and SMI groups, 90% of people with hypertension have had a BP reading in the last 12 months (CVDPrevent).

Treatment to appropriate threshold is slightly higher than the rest of Kent and Medway in these groups too, with 66.6% of people with LD meeting that criterion and 65.5% of people with SMI. This does mean however that both groups are treated to below the England average of 68.7% (September 2025) (CVDPrevent).

### 2.1.3 Measurements at home vs clinic

This section examines how people with hypertension have their most recent complete blood pressure reading recorded. For each person, the latest complete blood pressure reading within the previous 12 months was classified as either recorded in a clinical setting, recorded at home, or not recorded at all within the last year. The data has been drawn from KMCR using GP recorded information.

Clinical settings remain the main route through which blood pressure is recorded for people with hypertension. However, home monitoring accounts for a sizeable minority of latest complete

readings, suggesting that self-monitoring is now an important part of hypertension management for many people.

Understanding where blood pressure is recorded is important because it may reflect wider differences in access, confidence and engagement with care. Home monitoring may indicate greater capacity for self-management, while clinic-based recording may suggest greater reliance on appointments, transport, or face-to-face support.

Subsequent analysis in this document suggests that blood pressure control (treating to target) varies by recording method. This should not be interpreted as a direct causal relationship, but the setting of the latest reading may act as a useful marker of broader differences in service access, health literacy, resources and support.

Exploring these patterns in blood pressure recording method could help identify which groups may benefit from home monitoring, which may need additional support to use it effectively, and where clinical services remain essential. This could support more equitable advice, targeted interventions and better planning of primary care resources for hypertension management.

Overall, there were roughly 308,900 people with hypertension included in the analysis. Of these, 65.6% had their latest complete BP reading recorded in a clinical setting. A further 18.5% had their latest complete BP recorded in their homes. The remaining 15.9% had no complete BP reading recorded in the last 12 months.

There was a clear difference by age. Among people aged 80 and over, 74.8% had their latest complete BP recorded clinically, 12.7% had a home reading and the rest had no reading in the last 12 months. This compared with 62.8% clinically and 20.3% at home among people aged under 80. The under-80 group was therefore more likely to have a home reading, but also more likely to have no recent complete BP recorded in the last 12 months, at 17.0%, compared with 12.5% among those aged 80 and over.

There was some variation by sex. Clinical recording was slightly higher among women, at 66.9%, compared with 64.4% among men. Home recording was slightly higher among men, at 18.8%, compared with 18.1% among women. Men also had a higher proportion with no complete BP reading in the last year, at 16.8%, compared with 14.9% among women.

Variation by ethnicity was more marked. Clinical recording was highest among White people, at 66.1%, followed by Asian or Asian British people at 64.8%, Other ethnic groups at 61.8%, Mixed or multiple ethnic groups at 60.8%, and Black, Black British, Caribbean or African people at 59.7%. Home recording was highest among Black, Black British, Caribbean or African people, at 20.5%, compared with 18.5% among White people and 16.2% among Asian or Asian British people.

There was also a clear deprivation pattern in how BP was recorded. Clinical recording was highest in the most deprived IMD quintile, at 67.7%, and lowest in the least deprived quintile, at 63.2%. Conversely, home recording increased inversely with deprivation, from 14.4% in the most deprived quintile to 22.6% in the least deprived quintile. This suggests that people in less deprived areas are more likely to have BP recorded through home recording routes, while people in more deprived areas are more reliant on clinical recording.

Variation was substantial at PCN level. The lowest clinical recording rates were seen in Ashford Medical Partnership, at 43.5%, Athena, at 47.4%, and Medway Valley, at 50.8%, where home reporting was more common. These same PCNs had some of the highest use of home reported BP recording, at 40.3%, 39.1%, and 38.5% respectively. In contrast, the highest clinical recording rates were seen in Whitstable, at 83.7%, Dover Town, at 80.5%, Sheppey, at 77.0%, and Folkestone Hythe and Rural, at 76.1%. This suggests that local recording models differ substantially, with some PCNs relying much more heavily on home monitoring and others relying mainly on clinical readings.

#### 2.1.4 Hypertension control (treating to target) in those with CKD

This section examines whether people in Kent and Medway with both hypertension and chronic kidney disease (CKD) are being treated to the blood pressure targets defined by the NHS. For each person, the most recent complete blood pressure reading recorded within the last 12 months was identified. The source of the reading was then used to determine the appropriate threshold, as recommended targets differ depending on whether the blood pressure was recorded in a clinical setting or through home recording. The data in this section has been taken from the Kent and Medway Care Record (KMCR) using GP recorded data.

In Kent and Medway, as of May 2026, there were around 56,997 people with both hypertension and CKD. Of these, 73.5% were treated to target which is higher than for all hypertension patients. A further 16.2% had a recent BP reading but were above target, while 10.3% had no recent complete BP recorded. This means that around one in four people with hypertension and CKD were either above target or did not have a recent complete BP reading.

Treatment to target was higher among people aged 80 and over than among those aged under 80. In the 80+ group, 77.2% were treated to target, compared with 69.5% of people aged under 80. The under-80 group also had a higher proportion above target, at 20.3%, compared with 12.5% in the 80+ group. This difference is likely to partly reflect the less stringent BP target applied to older adults.

There was a small difference by sex. 75.0% of men were treated to target, compared with 72.4% of women, a gap of 2.6 percentage points. This difference is present but smaller than the inequalities seen by ethnicity, deprivation and PCN.

Ethnicity shows a clear inequality. The highest treat-to-target rate was among the White ethnicity, at 74.2%. This compared with 69.9% among Asian or Asian British people, 66.0% among Other ethnic groups, 64.6% among Mixed or multiple ethnic groups, and 57.0% among Black, Black British, Caribbean or African people. The Refused and not stated group had the lowest recorded rate, at 56.3%, although this group is likely to be harder to interpret. This means White ethnicities are experiencing a 30.1% better proportion of people being treated to target compared to Black, Black British, Caribbean or African people.

There was also a deprivation gradient. In the most deprived IMD decile, 70.1% of people were treated to target, compared with 76.1% in the least deprived decile. BP recording rates were relatively similar across deprivation groups, so this difference appears to reflect poorer BP control.

Variation was more marked at PCN level. The lowest rates were seen in Gravesend Central, where 66.7% were treated to target, and Gravesend Alliance, at 68.4%. Other lower PCNs included The Marsh at 69.0%, Total Health Excellence West at 69.1%, Medway Peninsula at 69.5%, and Ramsgate at 69.7%. The highest PCN was Maidstone Central, at 80.6%, followed by Ashford Rural at 78.0%, Folkestone Hythe and Rural at 77.9%, and ABC at 77.8%. The overall largest PCN gap was 14.0 percentage points, suggesting that local variation is substantial.

There was substantial variation between GP practices. Among practices with larger denominators, the lowest treat-to-target rates were around 59% to 63%, while the highest were around 86% to 88%. However, comparing geographies this small reduces the reliability of significant differences as the differences could be by chance or due to factors that are not clinically important in this case.

### 2.1.5 Hypertension control (treating to target) in those with raised ACR

This section examines whether people in Kent and Medway with both hypertension and raised ACR are being treated to the blood pressure targets defined by CVDPrevent. A raised albumin-to-creatinine ratio (ACR) indicates an increased amount of protein in the urine, which can be an early marker of kidney damage and is commonly used to identify people at higher risk of chronic kidney disease and cardiovascular complications. Raised ACR is defined here as a latest ACR stage of A2 or A3. For each person, the most recent complete blood pressure reading recorded within the last 12 months was identified. The source of the reading was then used to determine the appropriate threshold, as recommended targets differ depending on whether the blood pressure was recorded in a clinical setting or through home monitoring. The data in this section has been taken from the Kent and Medway Care Record (KMCR) using GP recorded data.

In Kent and Medway, as of May 2026, there were 49,502 people with both hypertension and raised ACR. Of these, 34,758 people were treated to target, equivalent to 70.2% of the population. A further 9,890 people, or 20.0%, had a recent BP reading but were above target, while 4,854 people, or 9.8%, had no recent complete BP recorded. This means that around three in ten people with hypertension and raised ACR were either above target or did not have a recent complete BP reading.

Overall BP recording was high in those with hypertension and raised ACR, with 90.2% of people having a recent complete BP reading within the last year. However, the remaining 9.8% without a recent complete BP still represents a sizeable group. Among people with a recorded BP, 77.8% were at target, but this falls to 70.2% when the full hypertension and raised ACR population is used.

Treatment to target was higher among people aged 80 and over than among those aged under 80. In the 80+ group, 78.5% were treated to target, compared with 65.9% of people aged under 80. The under-80 group also had a higher proportion above target, at 23.6%, compared with 13.1% in the 80+ group. This difference is likely to partly reflect the less stringent BP target applied to older adults.

There was very little difference by sex. 70.5% of women were treated to target, compared with 70.0% of men, a gap of around 0.5 percentage points. This suggests that sex was not a major driver of variation in this analysis.

Ethnicity showed the clearest inequality. The highest treat-to-target rate was among the White ethnicity group, at 71.2%. This compared with 65.4% among Asian or Asian British people, 63.7% among Other ethnic groups, 60.1% among Mixed or multiple ethnic groups, and 51.4% among Black, Black British, Caribbean or African people. The Refused and not stated group was also low, at 52.8%, although this group is harder to interpret. The gap between White people and Black, Black British, Caribbean or African people was 19.8 percentage points, meaning the White group had a substantially higher proportion treated to target.

There was also a deprivation gradient. In the most deprived IMD quintile, 67.3% of people were treated to target, compared with 73.1% in the least deprived quintile. BP recording was 88.4% in the most deprived quintile compared to 91.9% in the least deprived quintile, suggesting that levels of monitoring contribute to the treatment difference by deprivation.

Variation was more marked at PCN level. The lowest rates were seen in MPA, where 58.6% were treated to target, followed by Gravesend Central at 63.5%, Gravesend Alliance at 64.5%, The Mote and Wallis Health at 64.7%, and Ramsgate at 64.8%. The highest PCN was Sheppey, at 78.8%, followed by Maidstone Central at 78.1%, Dover Town at 76.8%, and Medway Rainham at 75.9%. The overall PCN gap was around 20 percentage points, suggesting that local variation is substantial.

There was substantial variation between GP practices. Among practices with larger denominators, the lowest treat-to-target rates were around 53% to 56%, while the highest were around 84% to 86%. However, comparisons at practice level should be interpreted carefully, as smaller denominators can make rates less stable and differences may reflect case mix, recording behaviour or chance variation rather than clinically meaningful differences alone.

### **2.1.6 Explanatory model for treating to target for hypertension patients with a BP reading in the last 12 months**

This section examines variation in whether people with diagnosed hypertension are treated to blood pressure target. The analysis includes people on the hypertension register who had a complete blood pressure reading recorded in the last 12 months. For each person, the latest complete BP reading was assessed against age and source-specific treatment thresholds, and the outcome was whether the person was at target or not. The modelling was designed to understand inequalities and variation in current BP control based on patient demographics, rather than to predict future risk for individual patients. The data in this section has been taken from KMCR.

Overall, there were approximately 259,000 people with hypertension included in the model. This is the cohort of hypertension patients with a recorded BP reading in the last 12 months. Of these, 198,440 people (76.6%) were treated to target, while 60,600 people (23.4%) were not treated to target. In other words, around one in four people with hypertension who had a recent complete BP reading were still above the relevant blood pressure target.

The model adjusted for age, sex, ethnicity, deprivation, chronic kidney disease (CKD) status, number of chronic conditions per person, number of active ingredients prescribed to each person, BP reading source (clinic vs non-clinic), BP reading recency and GP practice. The

outcome was “uncontrolled blood pressure”, so an odds ratio above 1 means higher adjusted odds of having uncontrolled blood pressure, while an odds ratio below 1 means the variable is associated with being at target. These results should be interpreted as adjusted associations. They identify groups and places where BP control appears less favourable, but they do not prove that any single factor causes poorer control. Figure 13 summarises the effects of each, and findings are described in more detail as follows.

There was a clear deprivation gradient. Compared with people in the least deprived quintile, people in the most deprived quintile had 17% higher odds of having uncontrolled blood pressure when adjusted for the other variables, with an odds ratio of 1.17 and a 95% confidence interval of 1.13 to 1.22. The pattern then reduced across the deprivation gradient: people in quintile 2 had 11% higher adjusted odds than the least deprived group, people in quintile 3 had 8% higher adjusted odds and people in quintile 4 had 4% higher adjusted odds.

There were also important differences in ethnicity. Compared with White patients, people recorded as Black, Black British, Caribbean or African had 39% higher odds of uncontrolled blood pressure after adjusting for the other variables (OR 1.39, 95% CI 1.32-1.47). This was the strongest ethnic inequality in the model. People recorded as Mixed or multiple ethnic groups also had higher adjusted odds, at 24% above White patients (OR 1.24, 95% CI 1.13-1.36). People recorded in Other ethnic groups had 15% higher adjusted odds (OR 1.15, 95% CI 1.05-1.27).

For Asian or Asian British patients, there was 5% higher odds compared with White patients (OR 1.05, 95% CI 1.00-1.10). This suggests slightly higher odds of being above target, although the evidence was weaker than for the other ethnic minority groups.

There was a smaller but statistically significant difference by sex. Men had 9% higher odds of having uncontrolled blood pressure than women after adjusting for the other variables (OR 1.09, 95% CI 1.07-1.11).

Age was strongly associated with lower adjusted odds of being above target. For each 13.5-year increase in age, the odds of having uncontrolled blood pressure were 28% lower after adjusting for the other variables (OR 0.72, 95% CI 0.71-0.73). This is a large association, but it needs careful interpretation. The main reason for caution is that the blood pressure target threshold changes at age 80. Older patients have a less stringent treatment threshold, so they may be more likely to be classified as at target even where their absolute BP is higher than the threshold used for younger patients. The age finding should therefore not be read as evidence that older people necessarily have better BP control. It reflects the combined effect of different clinical thresholds, clinical management and possibly closer monitoring among older patients with long-term conditions.

The source and timing of the latest BP reading were strongly associated with whether patients were treated to target or not. People whose latest BP reading was recorded through home reporting had 48% higher adjusted odds of not being at target compared to people whose latest reading was in a clinical setting (OR 1.48, 95% CI 1.45-1.52). This was one of the largest associations in the model.

This should not be interpreted as home monitoring causing poorer control. A plausible explanation is that home readings are often used for patients who need follow-up, repeat monitoring or confirmation after a raised reading. They may therefore be more common among

patients whose BP is already difficult to control or is being actively reviewed. Alternatively, patients who have BP read in clinical settings may be of higher need with more attention on their treatment, that results in better management. Due to these reasons, it is important to interpret these findings cautiously because differences in being at target or not by the source of the BP recording may be impacted by factors not captured in the model, which are causing confounding.

BP reading recency also mattered. Patients who were not treated to target on average had their blood pressure taken 34 days more recently than patients who were treated to target.

In the model, each 101.5-day increase in time since the latest BP reading was associated with 32% lower odds of having uncontrolled blood pressure after adjusting for the other variables (OR 0.68, 95% CI 0.68-0.69). Again, this should be interpreted carefully as this could be because raised readings trigger more recent repeat measurement, review or follow-up. This variable was included as it was hypothesised that patients with more recent readings would likely be under more regular care and therefore be more likely to be treated to target, but the results show the opposite.

Patients with CKD had lower odds of having uncontrolled blood pressure than patients without CKD after adjusting for the other variables; there were 8% lower odds (OR 0.92, 95% CI 0.90-0.95). This should not be interpreted as CKD being protective. A more likely explanation is that people with CKD may receive closer monitoring, more structured long-term condition review, clearer treatment pathways or more frequent medication reviews.

Medication burden was also associated with slightly lower adjusted odds of having uncontrolled blood pressure. For each increase of around 5 active ingredients, the odds reduced by 6% (OR 0.94, 95% CI 0.93-0.95). This again may reflect closer clinical management among people with greater treatment complexity, but it should not be interpreted as a direct effect of medication, particularly because the active ingredient count is not limited to antihypertensive medicines.

Chronic condition count itself was not meaningfully associated with being treated to target, after adjustment. For each increase of around 3.1 chronic conditions, the odds ratio was 1.00 (95% CI 0.95-1.01). This means that, once the other modelled factors were considered, chronic condition count did not independently explain whether patients were at target or not, in this dataset.

Even after allowing for differences in the types of patients registered at each GP practice, there was still variation between practices in the proportion of hypertension patients who were not treated to blood pressure target. This means that the differences between practices were not fully explained by patient mix. For example, the model adjusted for factors such as age, sex, ethnicity, deprivation, CKD, wider clinical complexity, the source of the BP reading, and how recent the BP reading was. After taking these factors into account, some practices still had a higher adjusted proportion of patients above target than others. The adjusted practice estimates varied substantially with the highest adjusted estimate of patients not being treated to target being 37.6% and the lowest practice at 8.7%.

The amount of variation linked to GP practice was modest but meaningful. The model estimated that around 3.4% of the remaining variation in who had uncontrolled BP was explained by what GP practice they were registered to. In plain terms, most variation in blood pressure control was

still linked to individual patient factors or factors not captured in the data, but the practice where a patient was registered also appeared to make some difference.

These figures should be interpreted carefully. They should not be used as a simple league table of GP practice performance. A higher adjusted percentage may reflect differences in clinical care, but it may also reflect other factors such as how BP readings are recorded, how home BP monitoring is used, how quickly patients are followed up after a raised reading, coding quality, appointment access, staffing capacity, or patient complexity not fully captured in the model.

Overall, uncontrolled blood pressure was associated with greater deprivation, being male, and being recorded in several ethnic minority groups, particularly Black, Black British, Caribbean or African patients. Home recordings and more recent BP readings were also associated with higher odds of having uncontrolled blood pressure. In contrast, older age, CKD status and higher active ingredient count were associated with lower odds of having uncontrolled blood pressure, while chronic condition count showed no meaningful independent association. Some adjusted variation remained between GP practices, suggesting some variation in service provision. The odds ratios and significance are visualised in Figure 13.

The model appears suitable for its explanatory purpose because calibration was good, and the pseudo-R-squared values suggested it explained a meaningful but modest amount of variation, with 9.0% explained by fixed effects and 12.2% when GP-practice variation was included. However, the findings should not be interpreted as causal, and several important factors were not directly captured including adherence to medication which isn't routinely measured, lifestyle factors which aren't measured on an individual level, clinical judgement, patient preference or any other unique factor that could affect the outcome. Antihypertensive medication type and dose were not included in the primary model because prescribing may lie on the causal pathway between demographic characteristics and blood pressure control, meaning that adjustment could obscure the demographic differences of interest. In addition, prescribing is highly indication-driven, with medication choice and dose influenced by individual clinical characteristics, making any observed associations difficult to interpret. The analysis also only includes patients with a complete BP reading in the last 12 months who have that recorded in KMCR, so it does not assess inequalities in BP monitoring coverage.

Figure 13. A forest plot for the fixed effects variables included in a mixed effects logistic regression model explaining the factors influencing hypertension patients having uncontrolled blood pressure in the last 12 months (Quintile 5 is the least deprived quintile). (Source: KMCR, 2026).



## 2.2 Kidney function monitoring

### 2.2.1 Testing coverage and completeness (from KMCR June 2026)

Most people with hypertension have had their kidney function assessed at some point following diagnosis, with only 2.5% having no recorded test. However, this high level of kidney health monitoring is almost entirely driven by estimated glomerular filtration rate (eGFR) testing. eGFR is a blood test-derived measure that estimates how effectively the kidneys are filtering waste products from the bloodstream and is widely used to identify reduced kidney function. While eGFR provides important information about overall kidney performance, it does not detect all forms of kidney damage.

Albumin creatinine ratio (ACR) testing provides complementary information by measuring the amount of albumin (a protein) leaking into the urine relative to creatinine. The presence of albumin in the urine can be an early sign of kidney damage, often appearing before a decline in

eGFR is evident. As a result, individuals may have significant kidney disease despite having a normal or near-normal eGFR.

Clinical guidelines recommend the use of both eGFR and ACR because the tests assess different aspects of kidney health. Together they enable more accurate identification, staging and risk stratification of chronic kidney disease (CKD), helping clinicians to identify patients at increased risk of kidney failure, cardiovascular disease and premature mortality. The finding that only 38% of people with hypertension have ever received an ACR test suggests that opportunities to detect early kidney damage and intervene before kidney function deteriorates may be being missed.

A similar pattern is observed among people with CKD. While eGFR recording is near-complete (only 0.5% have no record), over one-third (37%) have no documented ACR test. Kidney function is categorised using both eGFR and ACR, as shown in Figure 14. These measures should be used in combination to determine CKD stage and risk of progression. However, in practice, staging is frequently based on eGFR alone due to low ACR testing coverage.

This limitation reduces the ability to identify patients at higher risk of adverse outcomes and may delay appropriate management or intervention. A substantial proportion of patients may have their disease severity incorrectly staged, and in most cases that will be an underestimation.

Figure 14. Kidney function classification taken from the UK Kidney Association.

| GFR and ACR categories and risk of adverse outcomes                 |                                                                |                  | ACR categories (mg/mmol), description and range   |                           |                        |
|---------------------------------------------------------------------|----------------------------------------------------------------|------------------|---------------------------------------------------|---------------------------|------------------------|
|                                                                     |                                                                |                  | <3 Normal to mildly increased                     | 3–30 Moderately increased | >30 Severely increased |
|                                                                     |                                                                |                  | A1                                                | A2                        | A3                     |
| GFR categories (ml/min/1.73 m <sup>2</sup> ), description and range | >90 Normal and high                                            | G1               | No CKD in the absence of markers of kidney damage |                           |                        |
|                                                                     | 60–89 Mild reduction related to normal range for a young adult | G2               |                                                   |                           |                        |
|                                                                     | 45–59 Mild–moderate reduction                                  | G3a <sup>1</sup> |                                                   |                           |                        |
|                                                                     | 30–44 Moderate–severe reduction                                | G3b              |                                                   |                           |                        |
|                                                                     | 15–29 Severe reduction                                         | G4               |                                                   |                           |                        |
|                                                                     | <15 Kidney failure                                             | G5               |                                                   |                           |                        |

Increasing risk →

↑ Increasing risk

<sup>1</sup> Consider using eGFR<sub>cystatinC</sub> for people with CKD G3aA1 (see KDIGO recommendations 1.1.14 and 1.1.15)

Abbreviations: ACR, albumin:creatinine ratio; CKD, chronic kidney disease; GFR, glomerular filtration rate

Adapted with permission from Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2013) KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney International (Suppl. 3): 1–150

## 2.2.2 Local performance and comparisons

In Kent and Medway, 42.8% of people with CKD (defined as eGFR stage 3a or above) had a record of an ACR test in the 12 months to March 2025 (end of the QOF year). This is below the England average of 52.4%, placing Kent and Medway as the 6th lowest ICB nationally (CVDPrevent).

Testing rates are considerably lower among people with hypertension, where only 18.4% had an ACR test in the same period (CVDPrevent).

## 2.2.3 Inequalities in testing

There are clear inequalities in ACR testing by sex. Females are significantly less likely than males to have received an ACR test, both among people with CKD (39.3% vs 46.2%) and those with hypertension (16.3% vs 20.4%). This inequality is particularly evident in people aged over 60. Both people with a diagnosed learning disability and those with SMI had higher rates of ACR testing than Kent and Medway in general (21.5% and 19.9% respectively), but still fell significantly below the national average (CVDPrevent).

There is weaker and less consistent evidence of variation by deprivation and ethnicity in testing in CKD patients however among people with hypertension, ACR testing appears lower in the least deprived groups, and lower among those recorded as White, Black, or Other ethnicities.

People with hypertension and either a diagnosed learning disability or SMI had higher rates of ACR testing than Kent and Medway in general (21.5% and 19.9% respectively), but still fell significantly below the national average. For those with CKD plus a learning disability the rate of ACR testing is slightly higher than the general CKD group, but the difference is not statistically significant. Whereas people with CKD and SMI had slightly lower rates, at 39.4%, and this difference was statistically significant (CVDPrevent).

#### **2.2.4 Kidney function distribution (from KMCR May 2026)**

Among people with hypertension who have had either an eGFR or ACR test, the majority have good kidney function or no evidence of kidney disease, with 67.8% recorded in the green stage. A further 19.2% fall into the yellow category, 5.4% into the amber category, and 5.1% into the red category, as shown in Figure 15.

As expected, people with CKD have poorer kidney function overall, with 42% falling into the amber or red categories.

When considering test results separately, most people with hypertension fall into lower-risk categories. Based on eGFR, 77% are in the green zone, with only 1.5% in the red zone. For ACR, 22% fall into the green category and 1.7% are in the highest (A3) category.

Within the CKD population, 20% are categorised as G1 or G2, 50% as G3a, 22% as G3b, 5% as G4 and 1.3% as G5, indicating that the majority of diagnosed CKD is in the earlier stages, though a significant proportion have moderate to severe disease, shown in Figure 16 and Figure 17.

Not all individuals with reduced kidney function have a recorded diagnosis of CKD. Among people with hypertension, 37% of those classified in the yellow category have a CKD diagnosis. This increases with severity, to 74% in the amber category and 93% in the red category.

This suggests that CKD is more likely to be recognised and recorded in more advanced stages, while milder disease may remain undiagnosed.

#### **2.2.5 Gaps in ACR testing among people with CKD (from KMCR May 2026)**

Despite being a key component of CKD assessment, ACR testing remains incomplete even among people with established disease. Data from KMCR in May 2026 shows that around 35% of people with CKD had an ACR test in the past year, and only 52% had one in the past two years.

The proportion of people who have never received an ACR test varies by eGFR stage (Table 2). It decreases from 45.9% among those with G1 eGFR to 22.5% among those with G4. However, it rises again to 45.3% among those with G5 eGFR.

Overall, approximately 8,800 people in the amber or red categories have no recorded ACR test. While all primary care networks (PCNs) have some patients in this position, the proportion varies considerably, reaching as high as 36% in some areas.

This highlights that ACR testing is being missed as a diagnostic and risk stratification tool, even among individuals with more advanced kidney disease, and that this gap is unevenly distributed across the system.

## 2.2.6 Severity of albuminuria (ACR distribution) (from KCMR May 2026)

Among those in the A2 category, most individuals have relatively low levels of albuminuria. Around 75% have ACR values between 3 and 7.4 mg/mmol, with a median of 3.7 mg/mmol. However, a smaller proportion have substantially higher values, covering the remainder of the range up to 30 mg/mmol.

For individuals in the A3 category, there is similarly wide variation. While the median ACR value is 62 mg/mmol and 75% are below 110 mg/mmol, there is a long tail of very high results. Around 500 individuals have ACR values greater than 200 mg/mmol, including 200 with values exceeding 300 mg/mmol.

This indicates that although most patients have modest elevations in albuminuria, a smaller group has very high levels and may be at substantially increased risk of progression and adverse outcomes.

## 2.2.7 Recent improvement in ACR testing rates in CKD patients

ACR testing among CKD patients in Kent and Medway GP practices improved substantially between 2024 and 2025, with the typical (median) practice increasing from around one quarter of patients tested to just over two fifths (Source: Fingertips). Gains were seen across the distribution, including in both lower- and higher-performing practices, and the highest recorded values increased notably. However, there remains considerable variation between practices, with testing rates in 2025 ranging from around 15% to over 80%. This suggests that while overall performance is improving, access to ACR testing is still inconsistent, with significant differences in delivery across practices.

Figure 15. Kidney function classification of people in Kent and Medway who have hypertension or CKD. Source: KCMR May 2026.

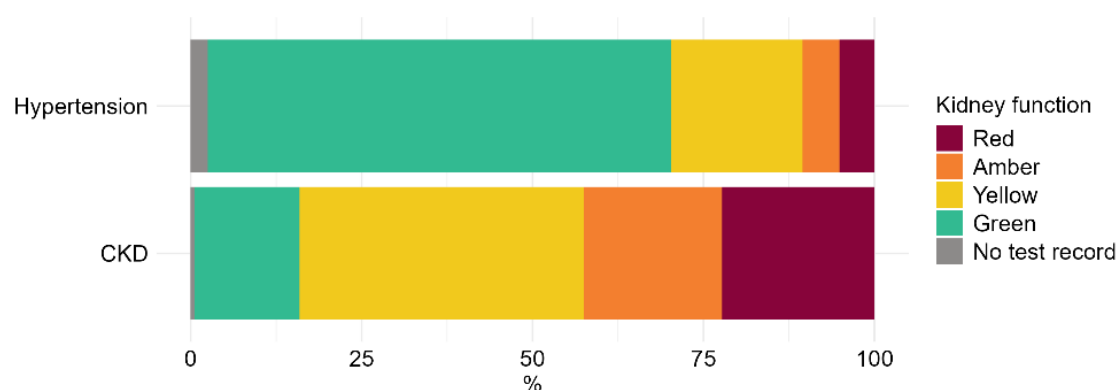


Figure 16. ACR test result classification of people in Kent and Medway who have hypertension or CKD. Source: KCMR May 2026.

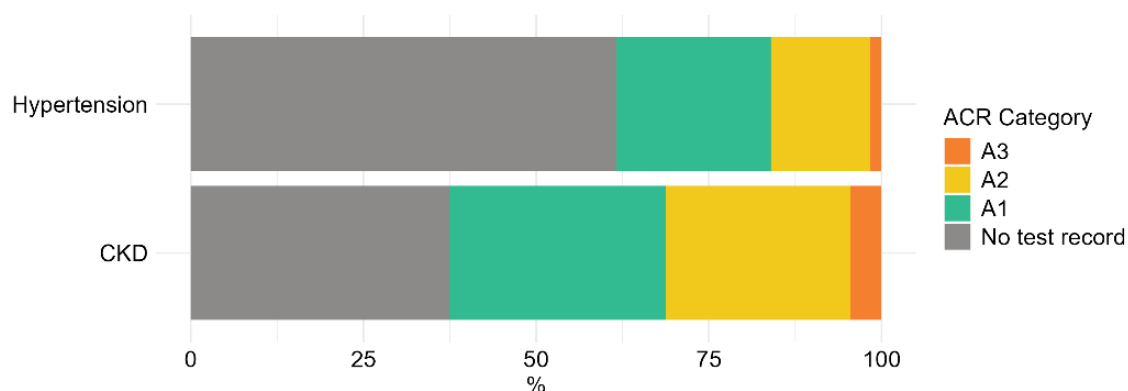


Figure 17. eGFR test result classification of people in Kent and Medway who have hypertension or CKD. Source: KCMR May 2026.

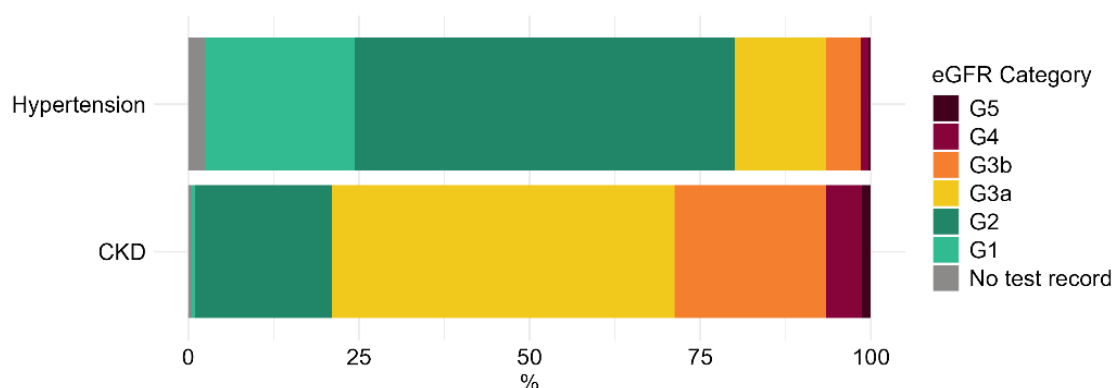


Table 2. Percentage of people with CKD who have not had an ACR test, by their eGFR stage. Source: KMCR May 2026.

| eGFR stage | Percentage of people who have never had an ACR test (%) | Percentage of people who have not had an ACR test in the last 12 months (%) |
|------------|---------------------------------------------------------|-----------------------------------------------------------------------------|
| G1         | 45.9                                                    | 70.9                                                                        |
| G2         | 41.3                                                    | 69.1                                                                        |
| G3a        | 40.0                                                    | 66.6                                                                        |
| G3b        | 29.5                                                    | 59.2                                                                        |
| G4         | 22.5                                                    | 54.7                                                                        |
| G5         | 45.3                                                    | 77.1                                                                        |

### | 3. Hypertension Mortality

Cardiovascular diseases (CVD) remain a leading cause of death, representing a major burden on population health and healthcare systems. Mortality from CVD reflects a combination of risk factors, including lifestyle behaviours, underlying health conditions, and access to timely prevention and treatment. Monitoring trends in CVD mortality is essential to understand progress in reducing disease burden and to identify groups at increased risk.

CVD is also one of the biggest contributors to inequalities in life expectancy in Kent and Medway. From the OHID Segment Tool, in 2022-23 there was a 7.7 year inequality in life expectancy between males in the most and least deprived quintiles of NHS Kent and Medway, and a 5.7 year gap for females. Analysis of the reasons for death that cause this difference in life expectancy show that circulatory diseases account for 22.4% of the gap in males, making it the largest contributor (compared with COVID-19, cancer, respiratory, digestive, external, mental, perinatal and other). In females, circulatory diseases account for 18.6% of the gap, making it the 3<sup>rd</sup> highest cause. Furthermore, previous analysis of the gap in life expectancy between Kent's coastal and non-coastal regions showed that ischaemic heart disease, cerebrovascular diseases (mainly stroke) and other circulatory diseases contributed to 14% of the gap in life expectancy for males, and 19% in females. This reflects the lower life expectancy experienced by people living in coastal areas compared with those in non-coastal regions, and shows that CVD are a significant part of this.

This chapter examines mortality involving hypertensive disease among Kent residents, mostly excluding Medway because KCC doesn't have access to death data for Medway. It draws mainly on the Primary Care Mortality Database (PCMD), using data from 2011 to 2024. Because local PCMD data are available only for Kent residents, a national comparator is also included to show how Kent compares with England, the South East and Medway.

The chapter first summarises the national indicator for all-age mortality involving hypertensive disease then presents local analysis of PCMD data for Kent, including differences by geography, sex and deprivation. A multivariable model is used to assess the independent association of age, sex, deprivation and year with mortality. The final section focuses on premature mortality, defined here as deaths before age 75.

Unless otherwise stated, 'rate' refers to a directly age-standardised, three-year pooled mortality rate per 100,000 population. Standardisation was carried out using the European Standard Population.

For consistency, this chapter uses the term 'mortality involving hypertensive disease' throughout. This is more accurately defined as any death in the PCMD dataset classified by underlying cause of death or mention of death recorded as ICD-10 codes I10 to I15. Briefly, this includes deaths involving primary hypertension, hypertensive heart disease, hypertensive renal disease or secondary hypertension.

Statistical significance in this chapter should be interpreted according to 95% confidence intervals not overlapping for two or more groups being compared.

### 3.1 Hypertensive disease total mortality rate (national indicator)

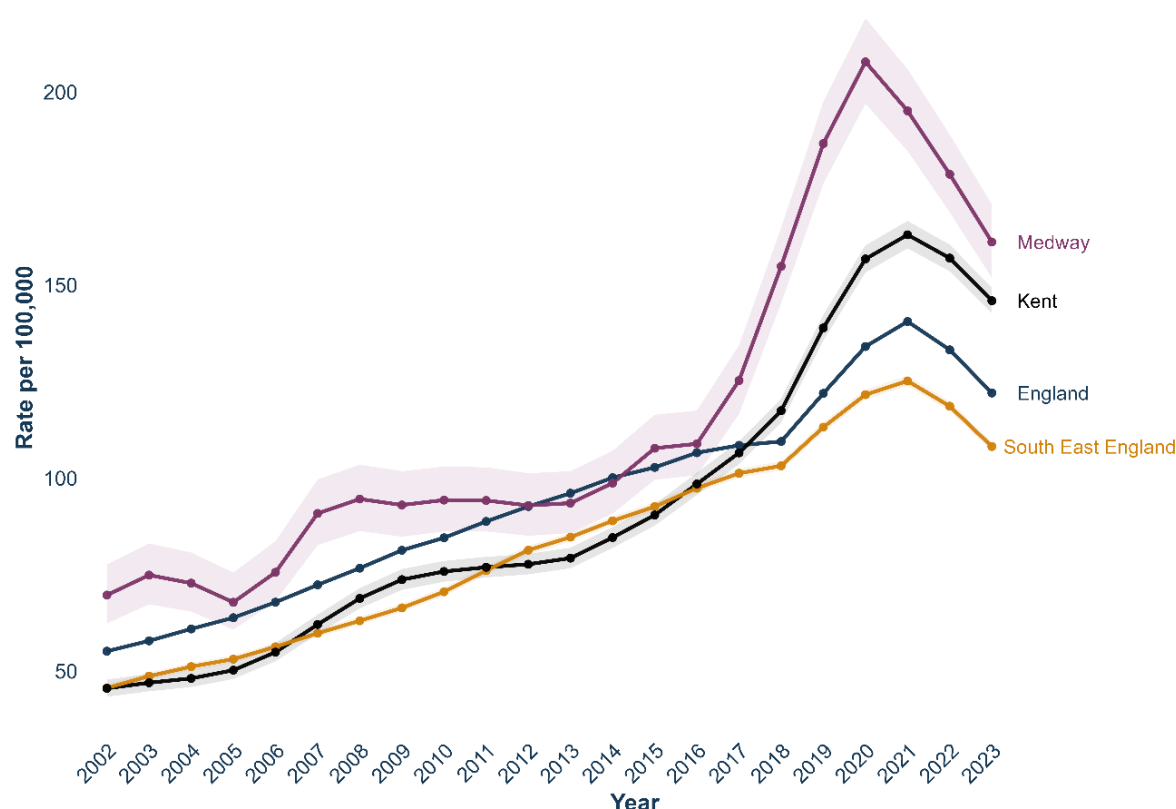
Mortality involving hypertensive disease has increased over time for England, the South East, Kent and Medway. Rates were broadly similar until the mid-2010s, but from around 2015–2017 the trends began to separate and clearer differences emerged between areas. This can be seen more clearly in Figure 18.

In 2022–2024, Medway had the highest rate at 161.1 deaths per 100,000 population. This was 131.1% higher than in 2001–2003 and significantly above the Kent rate for the same period. Kent also remained above the England average, with a rate of 145.9 per 100,000 in 2022–2024, which was 19.5% higher than England.

Across all areas, rates rose sharply around 2020–2021 before falling back slightly. However, by the latest period they remained above pre-pandemic levels, suggesting that the increase cannot be explained only by the temporary peak seen during those years.

This means that Kent is not only experiencing a long-term rise in mortality involving hypertensive disease but has higher rates than the England average in the most recent period.

Figure 18. Mortality rates for deaths involving hypertensive disease, all ages, all persons, Kent, Medway, South East and England; directly standardised rates per 100,000; three-year pooled periods plotted to the mid-year (2001–2024). Source: OHID Fingertips.



## 3.2 Hypertensive disease PCMD data

### 3.2.1 Overview

The PCMD analysis shows a substantial rise in mortality involving hypertensive disease in Kent across the study period. The three-year pooled rate rose from 77.5 deaths per 100,000 in 2011–2013 to 144.7 per 100,000 in 2022–2024, an increase of 86.7%. This matches the OHID data very closely for Kent. Rates peaked at 162.0 per 100,000 in 2020–2022 and have since fallen, although they remain well above the level seen in 2011–2013. This suggests that the recent fall should be interpreted as a decline from a peak rather than a return to the earlier baseline.

### 3.2.2 Geography Breakdown

The same approach was applied to Kent health and care partnerships (HCPs) and district areas. Most sub-areas showed the same broad pattern as Kent overall: a rise over time, a sharper increase around 2020–2021, and some decline afterwards, although rates in the latest period remained higher than before 2020.

Dartford, Gravesham and Swanley HCP had the highest rate in 2022–2024 at 193.8 deaths per 100,000. This was significantly higher than the other three HCPs and higher than the Kent average. East Kent (155.2 per 100,000) and Medway and Swale HCPs (excluding Medway) (162.7 per 100,000), were also significantly above the Kent average, but were not significantly different from one another. West Kent had the lowest rate, at 102.2 per 100,000, and was significantly below the Kent average.

District rates were relatively similar until around 2018 after which they diverged significantly. Now the highest rates in 2022–2024 were seen in Dartford (197.6 per 100,000), Gravesham (197.0 per 100,000) and Thanet (177.5 per 100,000). These three districts were the only districts above the Kent average. In contrast, Sevenoaks, Maidstone, Tunbridge Wells, and Tonbridge and Malling were all significantly below the Kent average.

### 3.2.3 Inequalities Breakdown

Clear inequalities by sex and deprivation are evident throughout the period. Men consistently had significantly higher mortality involving hypertensive disease than women for the last 15 years.

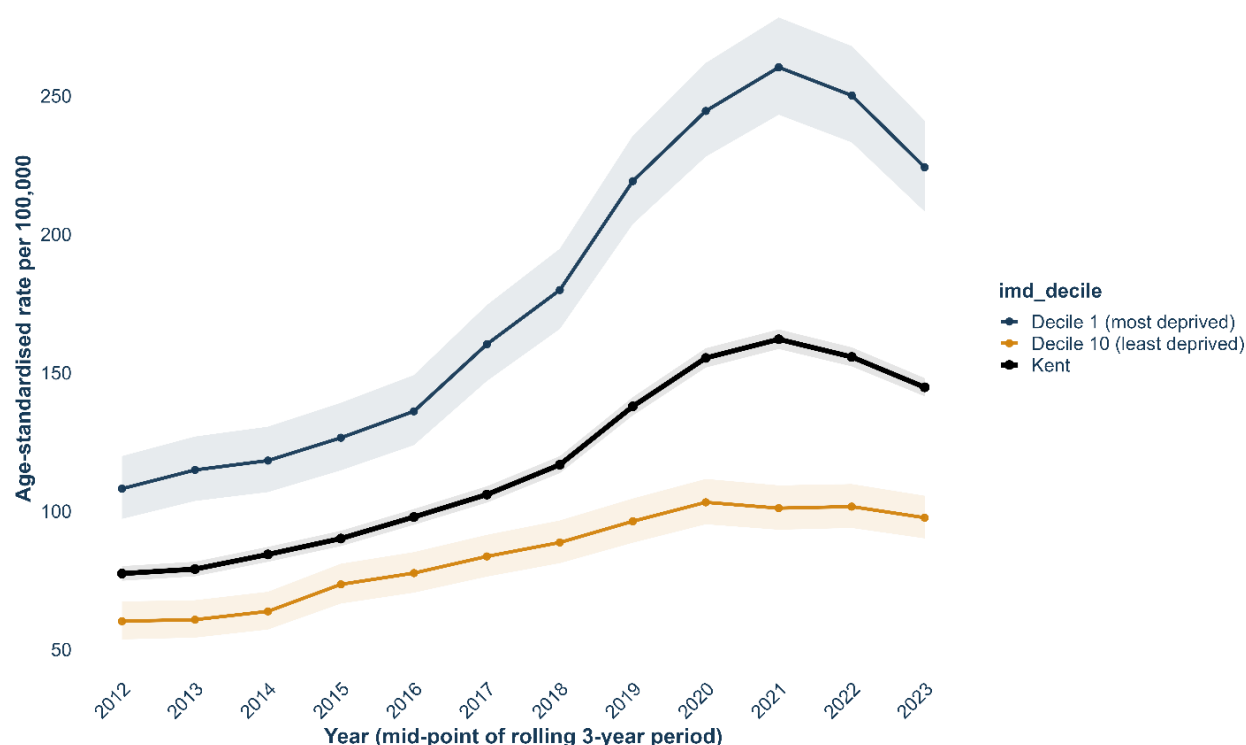
In 2011–2013, the male rate was 85.3 deaths per 100,000 compared with 69.5 per 100,000 among females, a difference of 22.7%. By 2022–2024, the male rate was 37.5% higher than the female rate, indicating that this inequality has widened over time.

A strong deprivation gradient is also present. Mortality rates increased as deprivation increased, with the highest burden in the most deprived areas of Kent. In 2022–2024, the rate in the most deprived decile was 224.2 deaths per 100,000, which was 129.7% higher than in the least deprived decile.

The absolute gap between the most and least deprived deciles widened from 47.9 deaths per 100,000 in 2011–2013 to 126.6 per 100,000 in 2022–2024. In other words, the gap in relative terms was around 1.6 times larger by the end of the series than at the beginning. The deprivation trend also suggests that the sharp rise around 2020–2021 was concentrated more heavily in deprived communities. Although the least deprived group still shows an increase over

time, the shape and scale of the trend indicate that recent increases in mortality have been driven disproportionately by areas with higher deprivation.

Figure 19. Directly age-standardised three-year pooled mortality rate per 100,000 in Kent for deaths where hypertensive disease was recorded on the death certificate, by deprivation decile; plotted to the mid-year; European Standard Population used for standardisation (PCMD 2011–2024; ONS mid-year population estimates 2011–2024).



### 3.2.4 Poisson Model for age, deprivation, sex and year

A multivariable Poisson regression model was used to examine the independent effect that age, sex, deprivation and year have on hypertensive disease linked mortality. The results showed that all four variables remained significantly associated with mortality after adjustment, providing evidence that age, sex, deprivation and calendar year each have an independent relationship with hypertensive disease mortality.

Age was the strongest predictor. After adjustment for sex, deprivation and year, people aged 65–74 had a mortality rate 458.7% higher than those aged 50–64. The difference increased further for those aged 75–84 (1,623% higher) and those aged 85 and over (6,470.8% higher). This confirms that mortality involving hypertensive disease rises steeply with age.

Even after adjustment for age, year and deprivation, men had a significantly higher mortality rate than women. The model estimated that the male rate was 25.1% higher than the female rate (95% confidence interval 19.9% to 30.6%). This suggests that the difference seen between men and women is not explained only by differences in age structure or deprivation profile.

After adjustment for age, sex and deprivation, mortality increased by an average of 7.6% with each year in the dataset (95% confidence interval 6.9% to 8.2%). This indicates that the

upward trend over time persists even after accounting for the main demographic and socioeconomic factors included in the model.

Although rates have fallen somewhat since the peak around 2020–2021, the model suggests that the overall direction of travel across the full period remains upward. This is important because it implies that the increase over time is not explained solely by an ageing population or by the changing distribution of deprivation.

The model also confirmed a strong deprivation gradient. Using the least deprived quintile as the reference group, the adjusted mortality rate increased with deprivation quintile: 23.1% higher in quintile 4, 21.4% higher in quintile 3, 39.7% higher in quintile 2 and 81.9% higher in quintile 1. Overall, this supports the conclusion that deprivation has a very strong and independent association with mortality involving hypertensive disease in Kent.

### 3.3 Hypertensive disease premature mortality

Reporting premature mortality from hypertensive disease highlights deaths occurring at younger ages, which reflects preventable loss of life and helps identify inequalities in risk, access to care, and effectiveness of early intervention. Overall mortality rates alone can mask these patterns, as they are heavily influenced by deaths at older ages and may underestimate the societal and economic impact of the disease. Including premature mortality therefore provides a more sensitive indicator for targeting prevention strategies and evaluating public health interventions.

A directly comparable national indicator is not available for premature mortality, so this section uses PCMD data for Kent only. The broad pattern is similar to that seen for all ages, but at a lower overall level because deaths before age 75 are less common.

In Kent, the premature mortality rate involving hypertensive disease rose from 19.0 deaths per 100,000 in 2011–2013 to 33.9 per 100,000 in 2022–2024, an increase of 78.0%. This increase is slightly smaller than the increase seen for all-age mortality over the same period.

At HCP level, Dartford, Gravesham and Swanley remained significantly above the Kent average in 2022–2024, as did Medway and Swale excluding Medway, with rates of 49.5 and 33.2 per 100,000 respectively. East Kent was not significantly different from the Kent average for premature mortality, in contrast to the all-age analysis where it was significantly above average.

At district level, the pattern was also broadly similar to that for all-age mortality. Gravesham (56.4 per 100,000), Dartford (47.8), Swale (43.7) and Thanet (42.1) were all significantly above the Kent average in 2022–2024.

The inequality by sex was stronger for premature mortality than for all ages combined. In 2022–2024, the male premature mortality rate was 46.2 deaths per 100,000 compared with 22.5 per 100,000 for females. This means the male rate was 105.3% higher than the female rate.

The deprivation gradient was also steeper for premature mortality. In 2022–2024, the rate in the most deprived decile was 68.2 deaths per 100,000 compared with 17.9 per 100,000 in the least deprived decile. This means the rate in the most deprived decile was 281% higher, more than double the relative gap seen for all-age mortality.

Figure 20 compares mortality rates by sex and deprivation at the start and end of the study period, to show how inequalities changed over time. The chart labels show that the relative gap between groups widened over this period. For example, in 2011–2013 the male age-standardised mortality rate was 95.4% higher than the female rate; by 2022–2024 this had increased to 105.3%. This indicates that the inequality between men and women increased over the period covered by the data.

Figure 20 also shows that inequalities by sex and deprivation are wider for premature mortality than for all-age mortality, with the relative gap for both measures more than twice as large for deaths before age 75. One likely explanation is that age is such a strong determinant of mortality overall that, when deaths at the oldest ages are included, the high risk in these age groups affects all populations and can make differences between groups appear less marked. When the analysis is restricted to premature deaths, many deaths mainly associated with very old age are removed, making inequalities linked to sex and deprivation easier to see.

Figure 20: Bar charts showing hypertensive disease-associated mortality rates for all-age and premature deaths in Kent by sex and deprivation for 2011–2013 and 2022–2024, with percentage differences labelled (PCMD 2011–2024; ONS mid-year population estimates 2011–2024).

