National Cardiovascular Health Intelligence Network:

CVD data resources: focus on atrial fibrillation (AF) and hypertension

February 2018
Hypertension and Atrial Fibrillation

What resources can help to answer these questions?

- How many people have hypertension and AF?
- How well are they managed?
- What is the impact of these conditions?
What is Public Health Intelligence?

- Fixed risk factors
- Behavioural risk factors
- Bodily risk factors

CVD pathway

- RF identification and management
- CVD
- CHD
- Stroke

Disease progression

Public health and primary care

Secondary care
How many people have hypertension and AF?

Number of people diagnosed with AF and Hypertension East Midlands

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</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>631,774</td>
<td>644,363</td>
<td>652,658</td>
<td>662,372</td>
<td>669,727</td>
<td>681,216</td>
<td>693,869</td>
<td>14.6</td>
<td>62,095</td>
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<tr>
<td>Atrial Fibrillation</td>
<td>66,132</td>
<td>69,800</td>
<td>72,388</td>
<td>75,926</td>
<td>79,405</td>
<td>84,245</td>
<td>92,191</td>
<td>1.9</td>
<td>26,059</td>
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Source: NHS Digital Quality and Outcomes framework

PHE Disease and Risk Factor Prevalence: https://fingertips.phe.org.uk/profile/prevalence
Is everyone with hypertension and AF diagnosed?

300 people diagnosed and registered on GP list (OBSERVED)

500 people estimated to have the condition (EXPECTED)

Observed to expected ratio = $\frac{3}{5} = 0.6 = 60\%$

NCVIN have developed several prevalence models with other partners

How many people have a condition but are not yet diagnosed

Hypertension observed (diagnosed) to expected ratios at CCG and practice level

CVD primary care intelligence packs
Estimates of CVD prevalence

The CVD estimates can help healthcare professionals understand the prevalence of cardiovascular conditions among certain populations (for example, by sex or age) in their area. Some of the datasets also show the variation in the condition across the local area and between CCGs.

Use the data to estimate how many people in your local area have a particular CVD diagnosis and how many people may be undiagnosed. This can help with planning services and improving outcomes for patients.

The data used in these estimates are from various sources. The estimates use data from local authorities, CCGs and GP practices.

Atrial fibrillation prevalence estimates for local populations

Chronic kidney disease estimates for local and regional populations

Diabetes prevalence estimates for local populations

Hypertension prevalence estimates for local populations

Non-diabetic hyperglycaemia prevalence in England
How well are AF and hypertension managed? Management in primary care

CVD primary care intelligence packs

How well are AF and hypertension managed? Management in primary care

PHE General practice profiles: https://fingertips.phe.org.uk/profile/general-practice
The complications of AF and hypertension - CVD profiles

- CVD profiles
- Diabetes, kidney disease, CHD, stroke
- One for each CCG
- Covers the whole pathway of care
  - Diagnosis
  - Primary care management
  - Secondary care/complications
- Interactive and report based versions

https://fingertips.phe.org.uk/profile/cardiovascular
### What is Public Health Intelligence?

#### What is the impact of better diagnosis?

Health checks STP fact sheets

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**Combating CVD through the NHS Health Check programme**

**Birmingham and Solihull**

**What the evidence tells us**

One in ten people continue to live with CVD. It is the second biggest cause of death in England with 200 people dying each day from a heart attack or stroke.

Every day there are over 1200 admissions to accident and emergency because of heart problems and 290 as a result of cerebrovascular problems.

**What is the NHS Health Check programme?**

The NHS Health Check is a national programme that systematically measures a range of risk factors driving the burden of CVD and other non-communicable diseases such as dementia, respiratory disease and some cancers.

**Improving CVD outcomes**

National research shows that the programme is cost effective, can prevent illness and has the potential to save 250–500 lives each year across England. It also shows that there is equitable take up of checks among high CVD risk groups and prioritising these groups is cost effective.


- **Number of people invited for an NHS Health Check**: 304,156
- **Number of people who have had an NHS Health Check**: 154,599
- **Number of people still to benefit from an NHS Health Check**: 169,734

#### 2. Disease detection, 2013 – 2018

- **Estimated number of people that could be diagnosed with hypertension following a NHS Health Check**: 8,400

#### 3. Medication, 2013 – 2018

- **Estimated number of people at high risk of CVD that could be prescribed a statin following an NHS Health Check**: 8,110
- **Estimated number of people at high risk of CVD that could be prescribed an antihypertensive following an NHS Health Check**: 3,700

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What is Public Health Intelligence?

What is the impact of better management? the size of the prize

The Size of the Prize in Cardiovascular Disease (CVD) Prevention
Cheshire and Merseyside

1. The diagnosis and treatment gap, 2015/16
   - Estimated adult population with hypertension: 647,700
   - Estimated adult population with undiagnosed hypertension: 261,600
   - Hypertension: GP registered hypertensives not treated to 150/90 mmHg target: 76,100
   - Attributable to stroke: Estimated GP registered population: 52,800
   - Attributable to coronary heart disease: Estimated GP registered population with undiagnosed AF: 14,000
   - Attributable to heart failure: GP registered high risk AF patients (CHA2DS2-Vasc≥2) not anticoagulated: 9,500
   - CVD risk: Estimated adult population: 30 to 85 years with 10 year CVD risk ≥ 20%: 180,400
   - Estimated percentage of people with CVD risk ≥ 20% treated with statins: 49%

2. The burden: first ever CVD events, 2015/16
   - Coronary Heart Disease: 6,900
   - Stroke: 3,250
   - Heart Failure: 2,350

3. The opportunity: potential events averted and savings over 3 years by optimising treatment in AF and hypertension, 2015/16
   - Optimal anti-hypertensive treatment of diagnosed hypertension averts between 3 years: 460 heart attacks Up to £3.30 million saved
   - Optimal anti-hypertensive treatment of diagnosed hypertension averts between 3 years: 680 strokes Up to £9.60 million saved
   - Optimal anti-hypertensive treatment of diagnosed hypertension averts between 3 years: 760 strokes Up to £12.70 million saved

What the evidence tells us
- Reducing blood pressure in all adults with diagnosed and undiagnosed hypertension by 5 mmHg: reduces risk of CVD events by 10%
- Statin therapy to reduce cholesterol by 1 mmol in people with a 10 year risk of CVD risk greater than 10%: reduces risk of CVD events by 20-24%
- Anti-coagulation of high risk AF patients: averts one stroke in every 25 treated

CVD: high risk conditions
- High risk conditions like high blood pressure, atrial fibrillation and high cholesterol are major causes of heart attack and stroke (CVD events). In the high risk conditions, preventive treatment is very effective, but late diagnosis and under-treatment is common.

Improving outcomes in CVD: case study
- In Bradford Districts Clinical Commissioning Group: Over 24 months, more than 27,000 people had an intervention in lipid management, anti-coagulation or antihypertensive treatment to improve their health. Resulting in 1.37 fewer heart attacks and 44 fewer strokes compared to baseline.

http://www.healthcheck.nhs.uk/commissioners_and_providers/data/size_of_the_prize_reducing_heart_attacks_and_strokes/
Making the case for improved primary care management

Blood pressure and atrial fibrillation how can we do better?

https://www.bhf.org.uk/healthcare-professionals/bp-how-can-we-do-better

https://www.stroke.org.uk/professionals/af-how-can-we-do-better
Where can you find NCVIN tools?

NCVIN resource pages


PHE profiles webpages

https://fingertips.phe.org.uk/
To subscribe to the NCVIN quarterly newsletter or to contact the NCVIN team please email: ncvin@phe.gov.uk

NCVIN tools and resources can be accessed on the links below:


• **PHE profiles pages** [https://fingertips.phe.org.uk](https://fingertips.phe.org.uk)


• **NCVIN CVD profiles** [https://fingertips.phe.org.uk/profile/cardiovascular](https://fingertips.phe.org.uk/profile/cardiovascular)