Public Health England

National Cardiovascular Health Intelligence Network:

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

February 2018

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What is the NCVIN?

NHS HEALTH CHECK
Helping you prevent
diabetes
heart disease
kidney disease
stroke & dementia

Royal College of Physicians

Sentinel Stroke National Audit Programme (SSNAP)

NHS RightCare

DIABETES UK

RENAL ASSOCIATION
UK RENAL REGISTRY

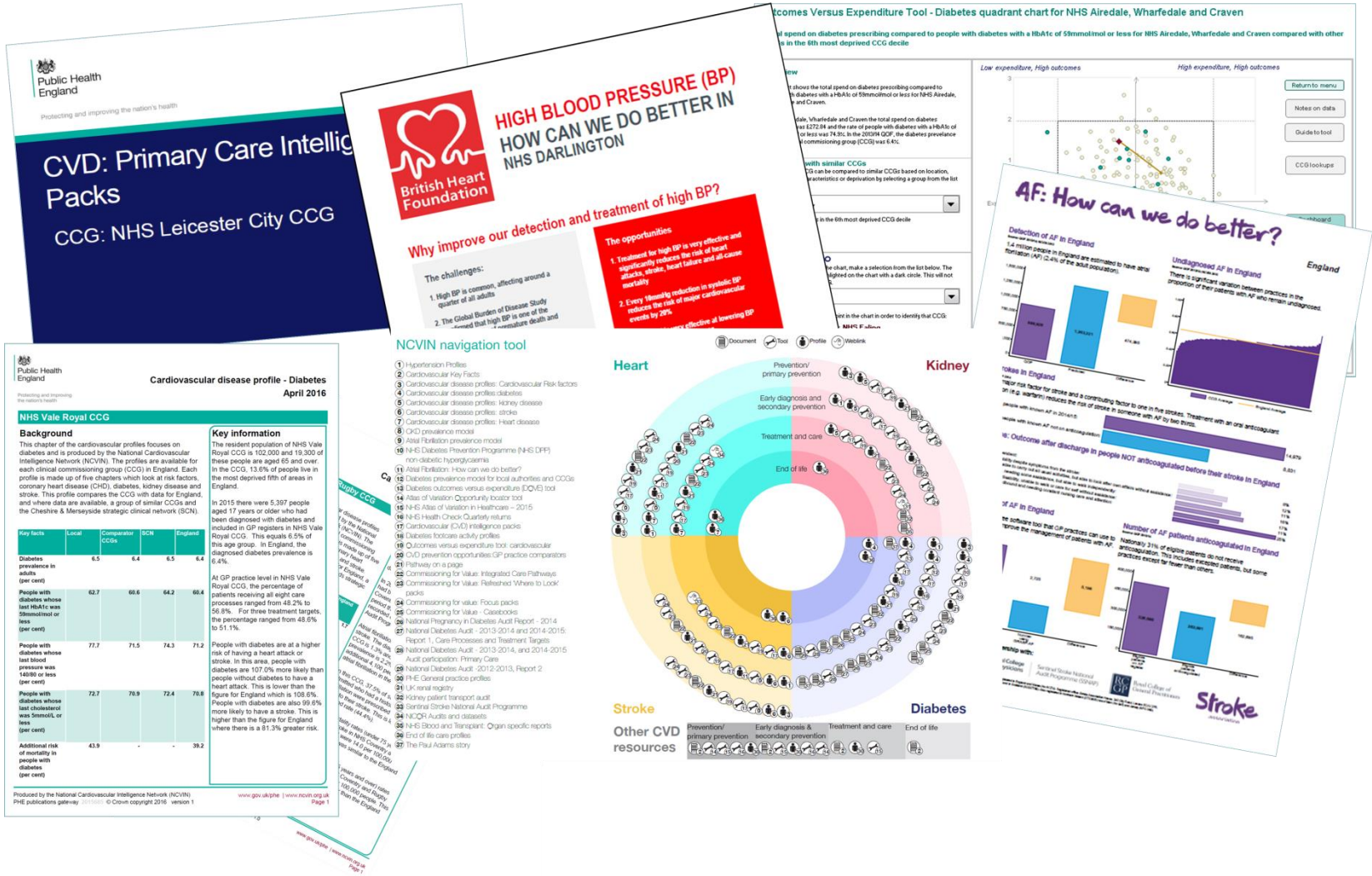
HQIP
Healthcare Quality Improvement Partnership

NHS Digital

NICOR

Public Health England

Tools and resources



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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?

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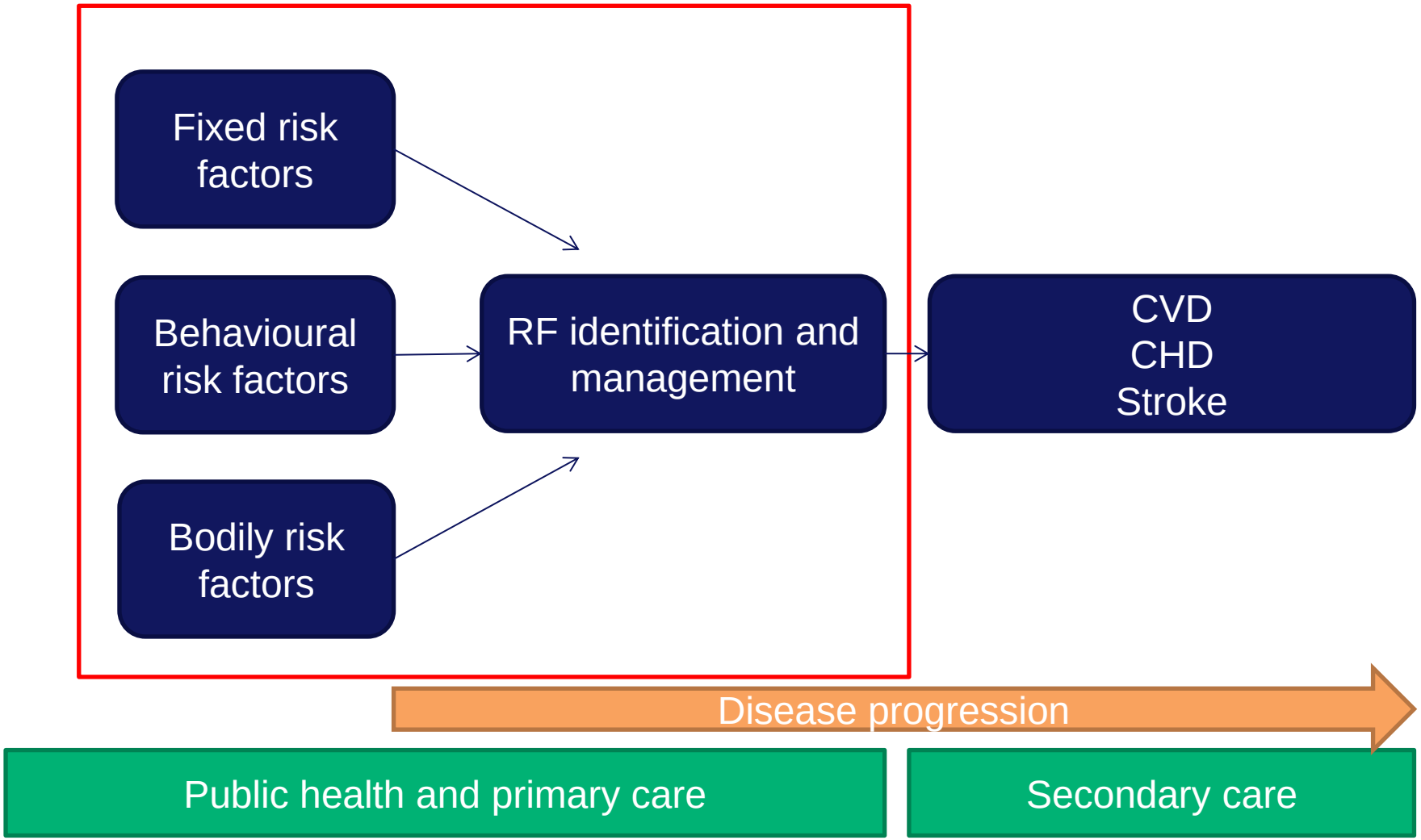
CVD pathway



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How many people have hypertension and AF?

Number of people diagnosed with AF and Hypertension East Mids

Register	Year							2016/17 prev (%)	Change number
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17		
Hypertension	631,774	644,363	652,658	662,372	669,727	681,216	693,869	14.6	62,095
Atrial Fibrillation	66,132	69,800	72,388	75,926	79,405	84,245	92,191	1.9	26,059

Source: NHS Digital Quality and Outcomes framework

PHE Disease and Risk Factor Prevalence:
https://fingertips.phe.org.uk/profile/prevalence

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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 = 3/5 = 0.6 = 60%

NCVIN have developed several prevalence models with other partners
https://www.gov.uk/guidance/cardiovascular-disease-data-and-analysis-a-guide-for-health-professionals#estimates-of-cvd-prevalence

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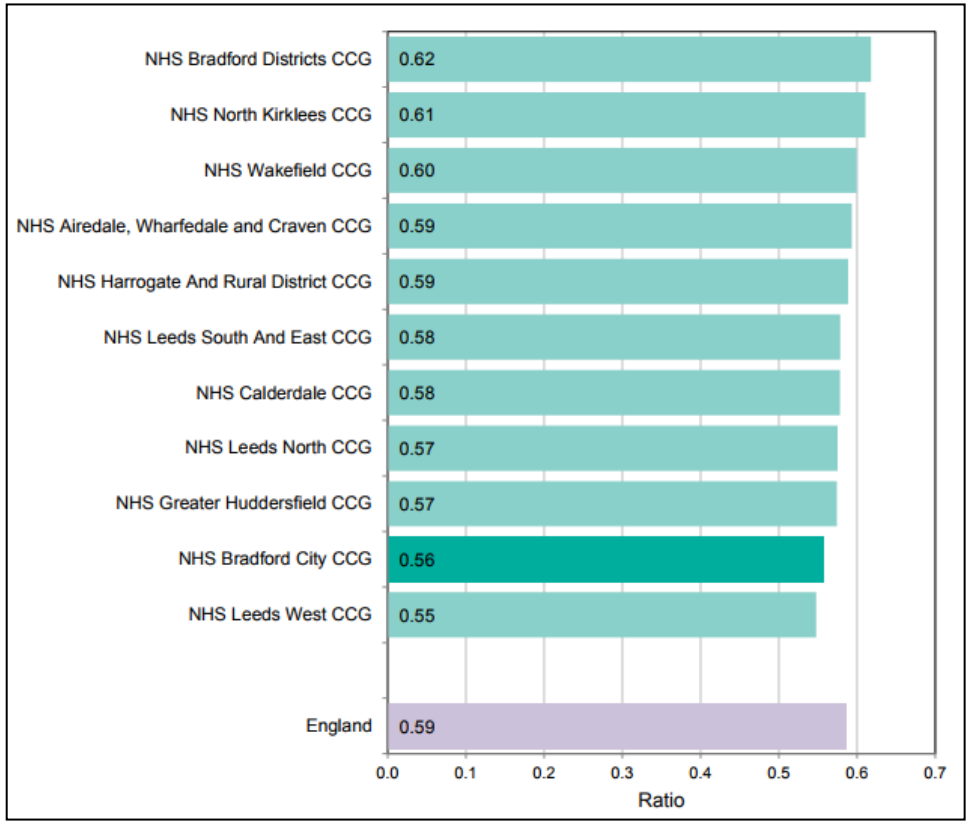
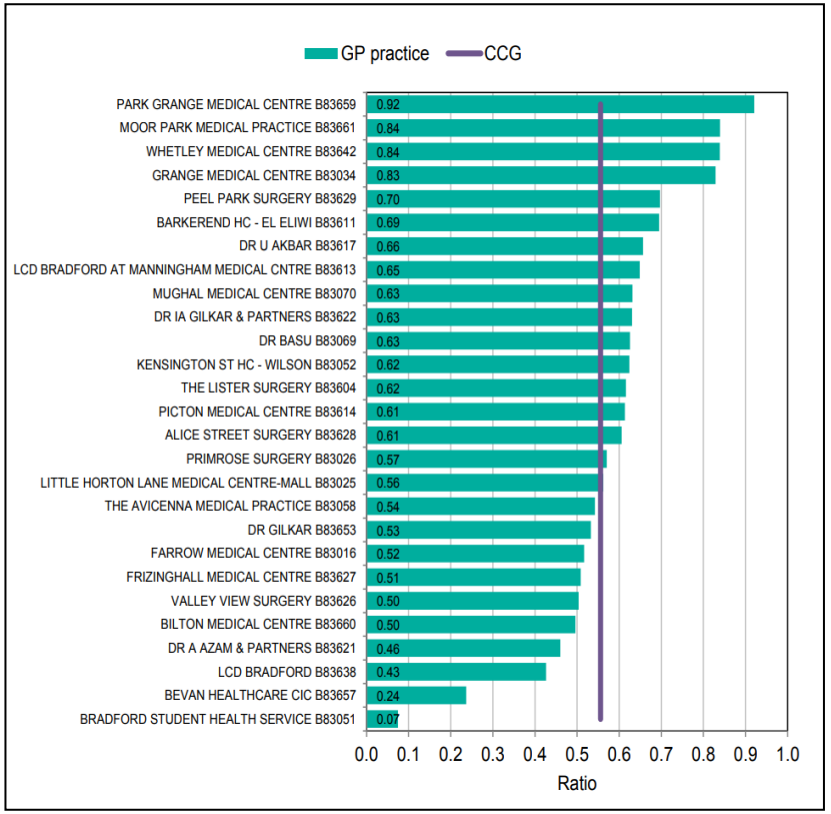
How many people have a condition but are not yet diagnosed

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





CVD primary care intelligence packs

https://www.gov.uk/government/collections/cardiovascular-disease-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

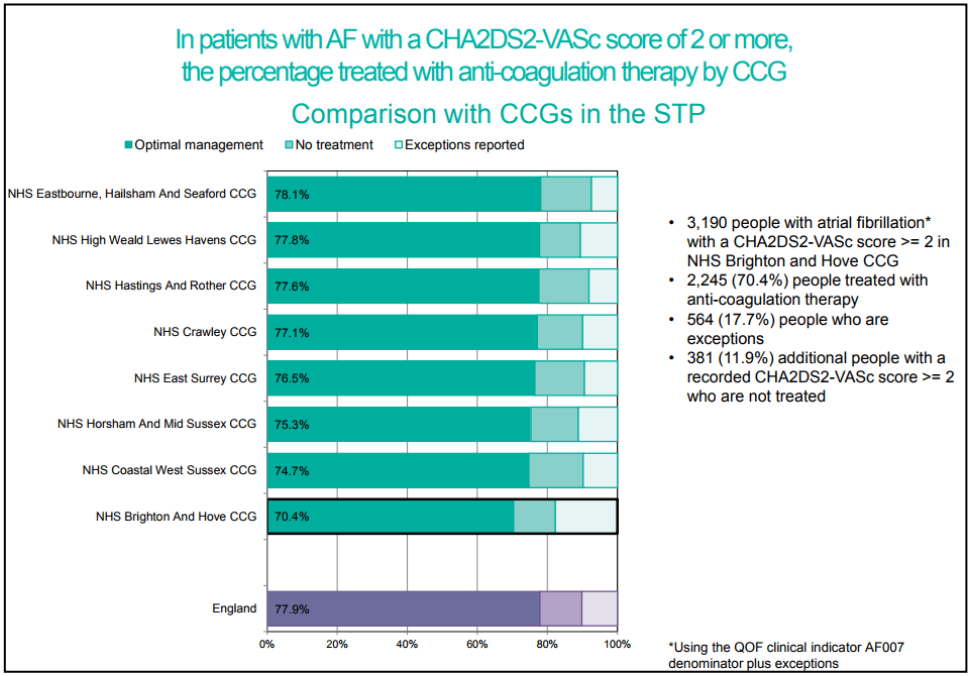
Diabetes prevalence estimates for local populations

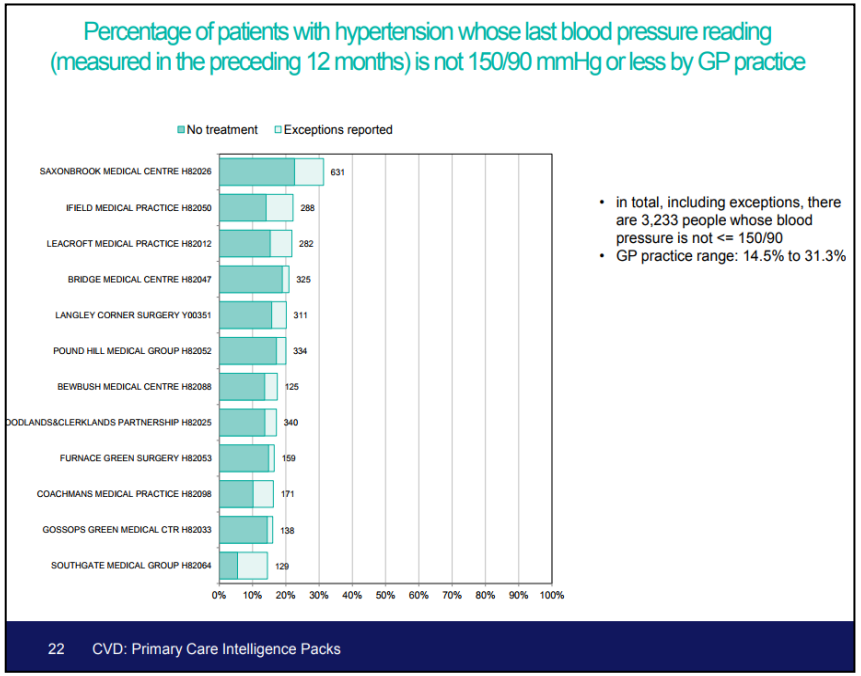
Hypertension prevalence estimates for local populations

Non-diabetic hyperglycaemia prevalence in England

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

CVD primary care intelligence packs





CVD primary care intelligence packs
https://www.gov.uk/government/collections/cardiovascular-disease-primary-care-intelligence-packs

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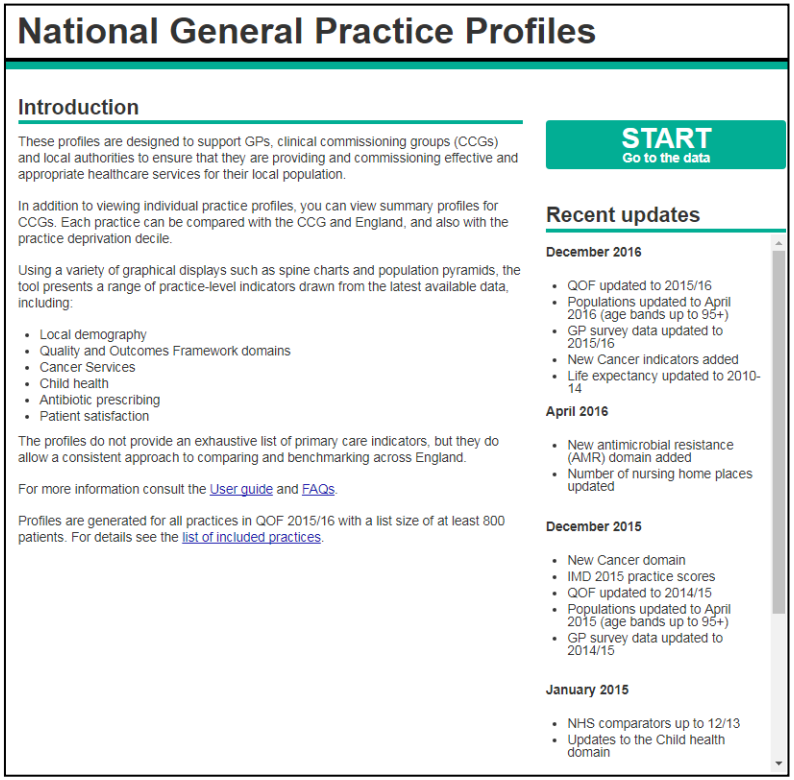
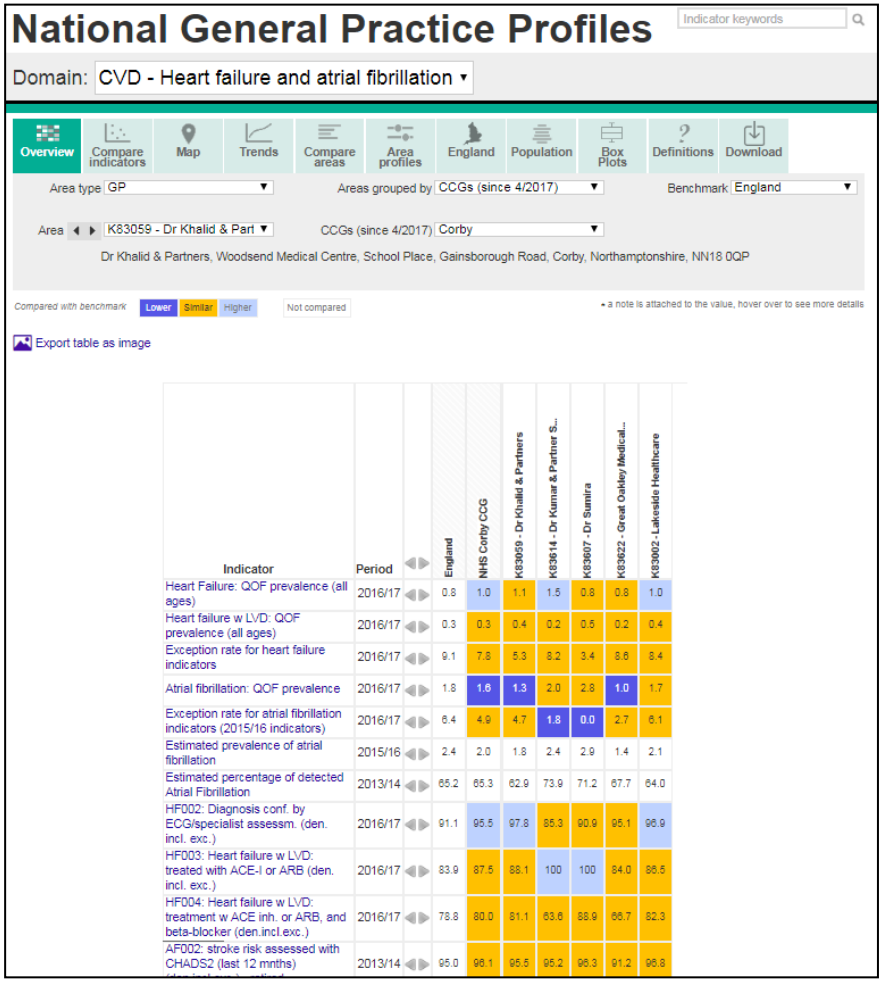
How well are AF and hypertension managed? Management in primary care





Indicator	Period	England	NHS Corby CCG	K83059 - Dr Khalid & Partners	K83614 - Dr Kumar & Partner S...	K83607 - Dr Sumira	K83622 - Great Oakley Medical...	K83002 - Lakeside Healthcare
Heart Failure: QOF prevalence (all ages)	2016/17	0.8	1.0	1.1	1.5	0.8	0.8	1.0
Heart failure w LVD: QOF prevalence (all ages)	2016/17	0.3	0.3	0.4	0.2	0.5	0.2	0.4
Exception rate for heart failure indicators	2016/17	9.1	7.6	5.3	8.2	3.4	8.6	8.4
Atrial fibrillation: QOF prevalence	2016/17	1.8	1.6	1.3	2.0	2.8	1.0	1.7
Exception rate for atrial fibrillation indicators (2015/16 indicators)	2016/17	6.4	4.9	4.7	1.8	0.0	2.7	6.1
Estimated prevalence of atrial fibrillation	2015/16	2.4	2.0	1.8	2.4	2.9	1.4	2.1
Estimated percentage of detected Atrial Fibrillation	2013/14	65.2	65.3	62.9	73.9	71.2	67.7	64.0
HF002: Diagnosis conf. by ECG/specialist assessm. (den. incl. exc.)	2016/17	91.1	95.5	97.8	85.3	90.9	95.1	96.9
HF003: Heart failure w LVD: treated with ACE-I or ARB (den. incl. exc.)	2016/17	83.9	87.5	88.1	100	100	84.0	96.5
HF004: Heart failure w LVD: treatment w ACE inh. or ARB, and beta-blocker (den.incl.exc.)	2016/17	78.8	80.0	81.1	63.6	88.9	66.7	82.3
AF002: stroke risk assessed with CHADS2 (last 12 mnths)	2013/14	95.0	96.1	95.5	95.2	96.3	91.2	96.8

PHE General practice profiles:
https://fingertips.phe.org.uk/profile/general-practice

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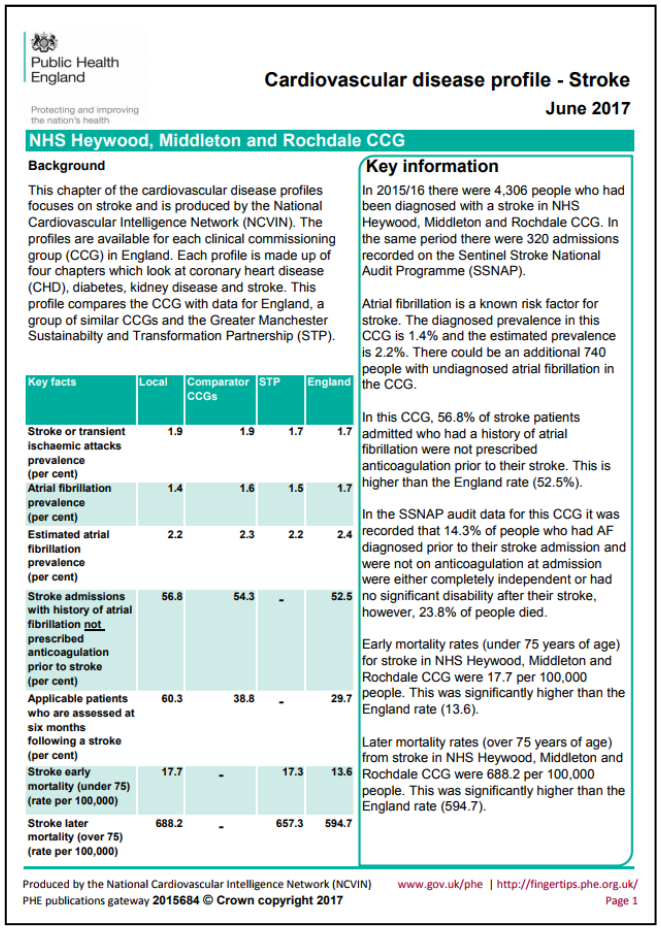
The complications of AF and hypertension - CVD profiles



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Protecting and improving the nation's health

Cardiovascular disease profile - Stroke

June 2017

NHS Heywood, Middleton and Rochdale CCG

Background

This chapter of the cardiovascular disease profiles focuses on stroke and is produced by the National Cardiovascular Intelligence Network (NCVIN). The profiles are available for each clinical commissioning group (CCG) in England. Each profile is made up of four chapters which look at coronary heart disease (CHD), diabetes, kidney disease and stroke. This profile compares the CCG with data for England, a group of similar CCGs and the Greater Manchester Sustainabilty and Transformation Partnership (STP).

Key facts	Local	Comparator CCGs	STP	England
Stroke or transient ischaemic attacks prevalence (per cent)	1.9	1.9	1.7	1.7
Atrial fibrillation prevalence (per cent)	1.4	1.6	1.5	1.7
Estimated atrial fibrillation prevalence (per cent)	2.2	2.3	2.2	2.4
Stroke admissions with history of atrial fibrillation not prescribed anticoagulation prior to stroke (per cent)	56.8	54.3	-	52.5
Applicable patients who are assessed at six months following a stroke (per cent)	60.3	38.8	-	29.7
Stroke early mortality (under 75) (rate per 100,000)	17.7	-	17.3	13.6
Stroke later mortality (over 75) (rate per 100,000)	688.2	-	657.3	594.7

Key information

In 2015/16 there were 4,306 people who had been diagnosed with a stroke in NHS Heywood, Middleton and Rochdale CCG. In the same period there were 320 admissions recorded on the Sentinel Stroke National Audit Programme (SSNAP).

Atrial fibrillation is a known risk factor for stroke. The diagnosed prevalence in this CCG is 1.4% and the estimated prevalence is 2.2%. There could be an additional 740 people with undiagnosed atrial fibrillation in the CCG.

In this CCG, 56.8% of stroke patients admitted who had a history of atrial fibrillation were not prescribed anticoagulation prior to their stroke. This is higher than the England rate (52.5%).

In the SSNAP audit data for this CCG it was recorded that 14.3% of people who had AF diagnosed prior to their stroke admission and were not on anticoagulation at admission were either completely independent or had no significant disability after their stroke, however, 23.8% of people died.

Early mortality rates (under 75 years of age) for stroke in NHS Heywood, Middleton and Rochdale CCG were 17.7 per 100,000 people. This was significantly higher than the England rate (13.6).

Later mortality rates (over 75 years of age) from stroke in NHS Heywood, Middleton and Rochdale CCG were 688.2 per 100,000 people. This was significantly higher than the England rate (594.7).

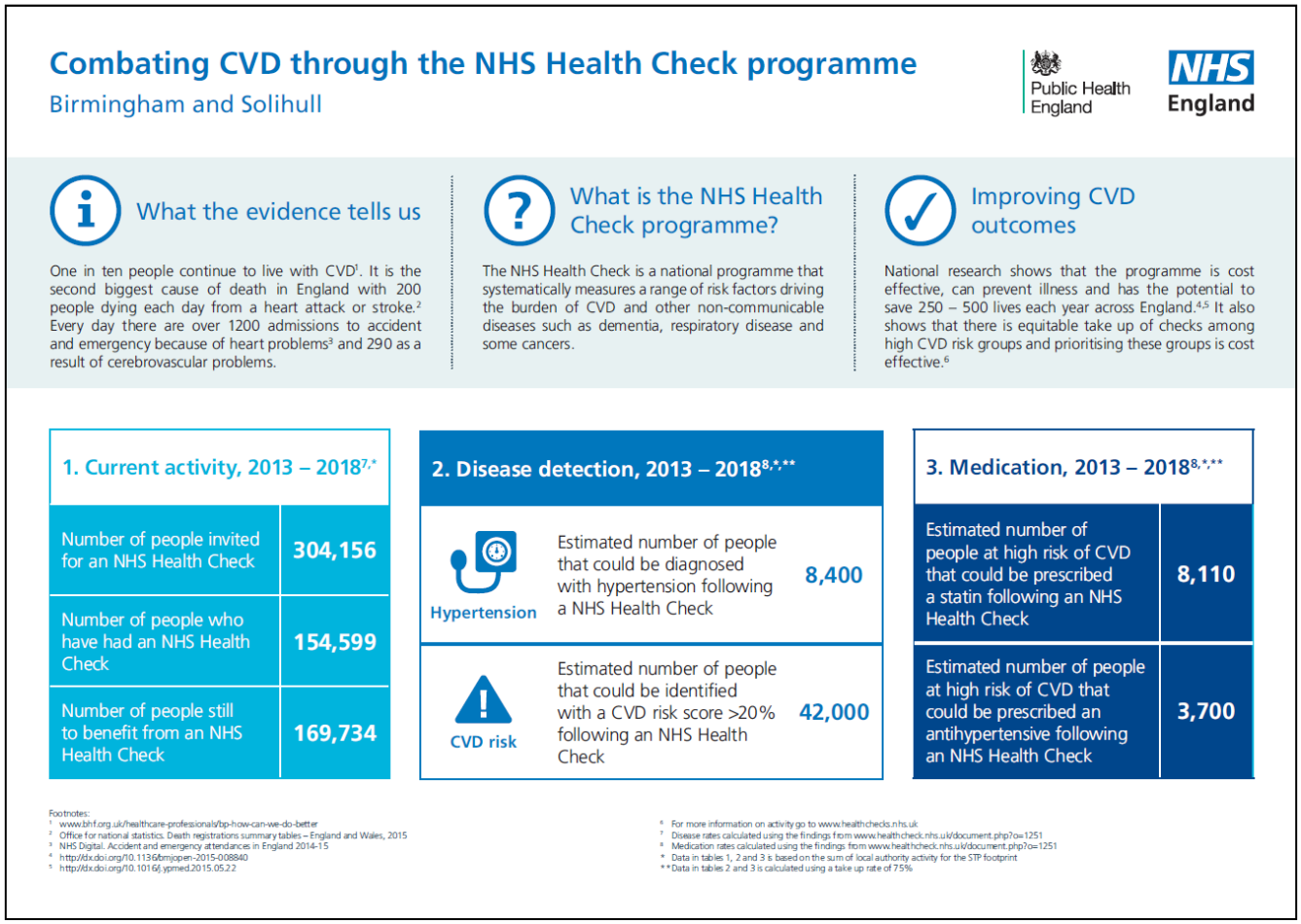
Produced by the National Cardiovascular Intelligence Network (NCVIN) www.gov.uk/phe | http://fingertips.phe.org.uk/

PHE publications gateway 2015684 © Crown copyright 2017 Page 1

- 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 the impact of better diagnosis? Health checks STP fact sheets



Combating CVD through the NHS Health Check programme

Birmingham and Solihull

Public Health England

NHS England

What the evidence tells us

One in ten people continue to live with CVD[1]. It is the second biggest cause of death in England with 200 people dying each day from a heart attack or stroke.[2] Every day there are over 1200 admissions to accident and emergency because of heart problems[3] 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.[4,5] It also shows that there is equitable take up of checks among high CVD risk groups and prioritising these groups is cost effective.[6]

1. Current activity, 2013 – 2018[7,*]

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[8,*,]**

Hypertension	Estimated number of people that could be diagnosed with hypertension following a NHS Health Check	8,400
CVD risk	Estimated number of people that could be identified with a CVD risk score >20% following an NHS Health Check	42,000

3. Medication, 2013 – 2018[8,*,]**

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

Footnotes:

1 www.bhf.org.uk/healthcare-professionals/bp-how-can-we-do-better
2 Office for national statistics. Death registrations summary tables – England and Wales, 2015
3 NHS Digital. Accident and emergency attendances in England 2014-15
4 http://dx.doi.org/10.1136/bmjopen-2015-008840
5 http://dx.doi.org/10.1016/j.ypmed.2015.05.22
6 For more information on activity go to www.healthchecks.nhs.uk
7 Disease rates calculated using the findings from www.healthcheck.nhs.uk/document.php?o=1251
8 Medication rates calculated using the findings from www.healthcheck.nhs.uk/document.php?o=1251
* Data in tables 1, 2 and 3 is based on the sum of local authority activity for the STP footprint
** Data in tables 2 and 3 is calculated using a take up rate of 75%

http://www.healthcheck.nhs.uk/commissioners_and_providers/data/size_of_the_prize_reducing_heart_attacks_and_strokes/

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

Public Health England | NHS England

1. The diagnosis and treatment gap, 2015/16

Hypertension	Estimated adult population with hypertension	647,700
	Estimated adult population with undiagnosed hypertension	261,600
	GP registered hypertensives not treated to 150/90 mmHg target	76,100
Atrial Fibrillation (AF)	GP registered population with Atrial Fibrillation (AF)	52,800
	Estimated GP registered population with undiagnosed AF	14,000
	GP registered high risk AF patients (CHA2DS2VASc >=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 hypertensives averts within 3 years:	460 heart attacks	Up to £3.30 million saved[2]
	680 strokes	Up to £9.60 million saved[1]
Optimally treating high risk AF patients averts within 3 years:	760 strokes	Up to £12.70 million saved[1]

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 21,000 people had an intervention in lipid management, anti-coagulation or antihypertensive treatment to improve their health. Resulting in 137 fewer heart attacks and 74 fewer strokes compared to baseline.

Footnotes:
[1] Royal College of Physicians (2016). Sentinel Stroke National Audit Programme. Cost and Cost-effectiveness analysis. Technical report
[2] Kerr, M (2012). Chronic Kidney disease in England: The human and financial cost
Potential events calculated with NNT (theNNT.com). For blood pressure, anti-hypertensive medicines for five years to prevent death, heart attacks, and strokes: 1 in 100 for heart attack, 1 in 67 for stroke. For AF, warfarin over 1.5 years : 1 in 25 for stroke. Numbers may be lower, as some patients may be on prior treatment.

References:
Hypertension and AF populations and treatment estimates: QOF 2015/16.
CVD high risk estimate numbers: http://www.bmj.com/content/344/bmj.e4181.
CVD high risk statin treatment: http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002169

http://www.healthcheck.nhs.uk/commissioners_and_providers/data/size_of_the_prize_reducing_heart_attacks_and_strokes/

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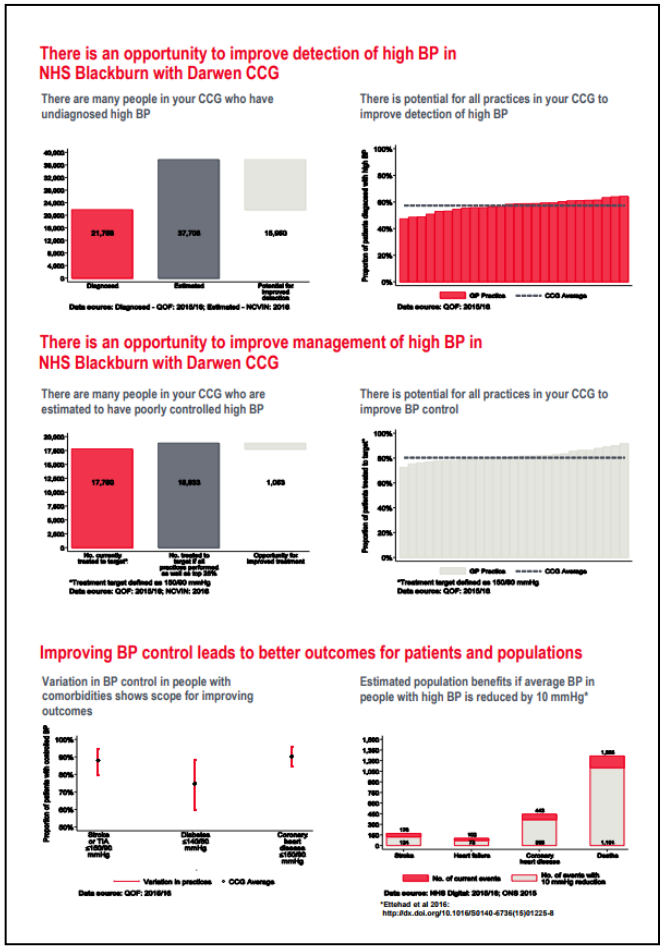
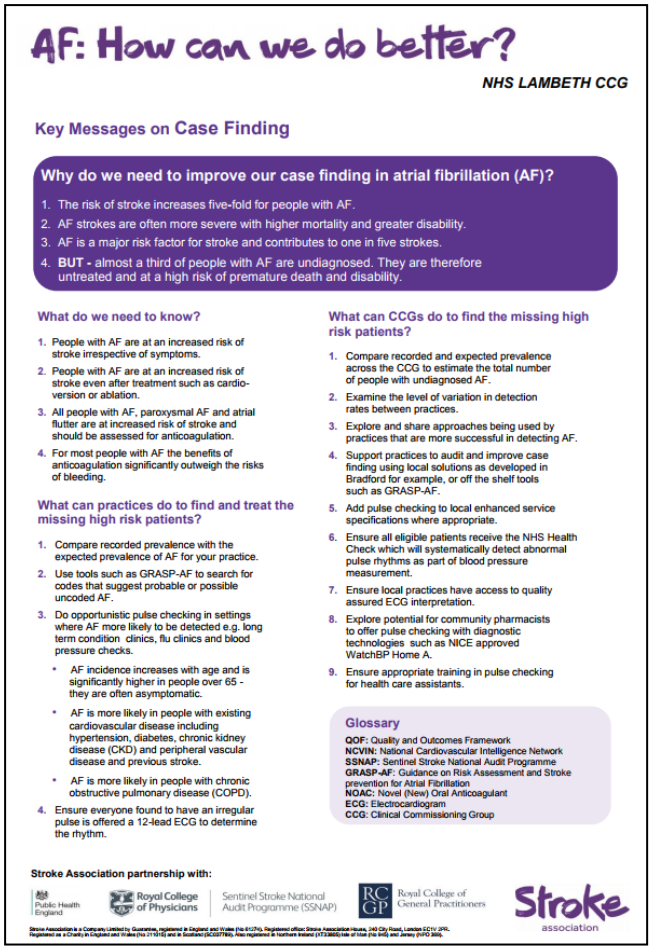
Making the case for improved primary care management

Blood pressure and atrial fibrillation how can we do better?



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



AF: How can we do better?

NHS LAMBETH CCG

Key Messages on Case Finding

Why do we need to improve our case finding in atrial fibrillation (AF)?

1. The risk of stroke increases five-fold for people with AF.
2. AF strokes are often more severe with higher mortality and greater disability.
3. AF is a major risk factor for stroke and contributes to one in five strokes.
4. **BUT -** almost a third of people with AF are undiagnosed. They are therefore untreated and at a high risk of premature death and disability.

What do we need to know?

1. People with AF are at an increased risk of stroke irrespective of symptoms.
2. People with AF are at an increased risk of stroke even after treatment such as cardio-version or ablation.
3. All people with AF, paroxysmal AF and atrial flutter are at increased risk of stroke and should be assessed for anticoagulation.
4. For most people with AF the benefits of anticoagulation significantly outweigh the risks of bleeding.

What can practices do to find and treat the missing high risk patients?

1. Compare recorded prevalence with the expected prevalence of AF for your practice.
2. Use tools such as GRASP-AF to search for codes that suggest probable or possible uncoded AF.
3. Do opportunistic pulse checking in settings where AF more likely to be detected e.g. long term condition clinics, flu clinics and blood pressure checks.
   - AF incidence increases with age and is significantly higher in people over 65 - they are often asymptomatic.
   - AF is more likely in people with existing cardiovascular disease including hypertension, diabetes, chronic kidney disease (CKD) and peripheral vascular disease and previous stroke.
   - AF is more likely in people with chronic obstructive pulmonary disease (COPD).
4. Ensure everyone found to have an irregular pulse is offered a 12-lead ECG to determine the rhythm.

What can CCGs do to find the missing high risk patients?

1. Compare recorded and expected prevalence across the CCG to estimate the total number of people with undiagnosed AF.
2. Examine the level of variation in detection rates between practices.
3. Explore and share approaches being used by practices that are more successful in detecting AF.
4. Support practices to audit and improve case finding using local solutions as developed in Bradford for example, or off the shelf tools such as GRASP-AF.
5. Add pulse checking to local enhanced service specifications where appropriate.
6. Ensure all eligible patients receive the NHS Health Check which will systematically detect abnormal pulse rhythms as part of blood pressure measurement.
7. Ensure local practices have access to quality assured ECG interpretation.
8. Explore potential for community pharmacists to offer pulse checking with diagnostic technologies such as NICE approved WatchBP Home A.
9. Ensure appropriate training in pulse checking for health care assistants.

Glossary

QOF: Quality and Outcomes Framework
NCVIN: National Cardiovascular Intelligence Network
SSNAP: Sentinel Stroke National Audit Programme
GRASP-AF: Guidance on Risk Assessment and Stroke prevention for Atrial Fibrillation
NOAC: Novel (New) Oral Anticoagulant
ECG: Electrocardiogram
CCG: Clinical Commissioning Group

Stroke Association partnership with:

Public Health England | Royal College of Physicians | Sentinel Stroke National Audit Programme (SSNAP) | RCGP Royal College of General Practitioners | Stroke association

https://www.stroke.org.uk/professionals/af-how-can-we-do-better

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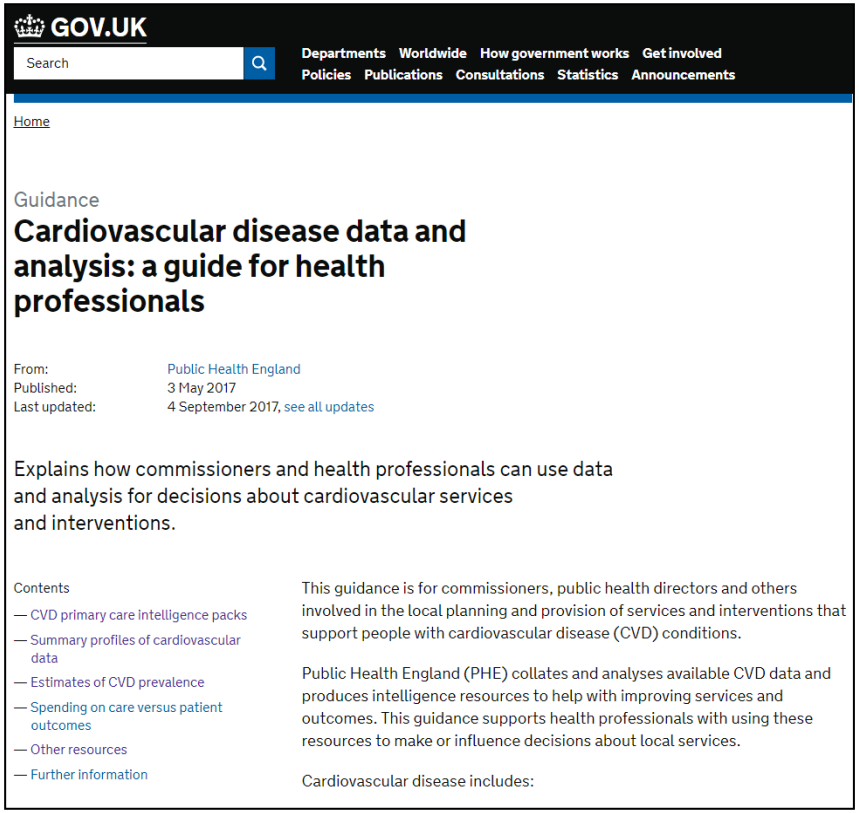
Where can you find NCVIN tools?

NCVIN resource pages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Guidance

Cardiovascular disease data and analysis: a guide for health professionals

From: Public Health England
Published: 3 May 2017
Last updated: 4 September 2017, see all updates

Explains how commissioners and health professionals can use data and analysis for decisions about cardiovascular services and interventions.

Contents

— CVD primary care intelligence packs
— Summary profiles of cardiovascular data
— Estimates of CVD prevalence
— Spending on care versus patient outcomes
— Other resources
— Further information

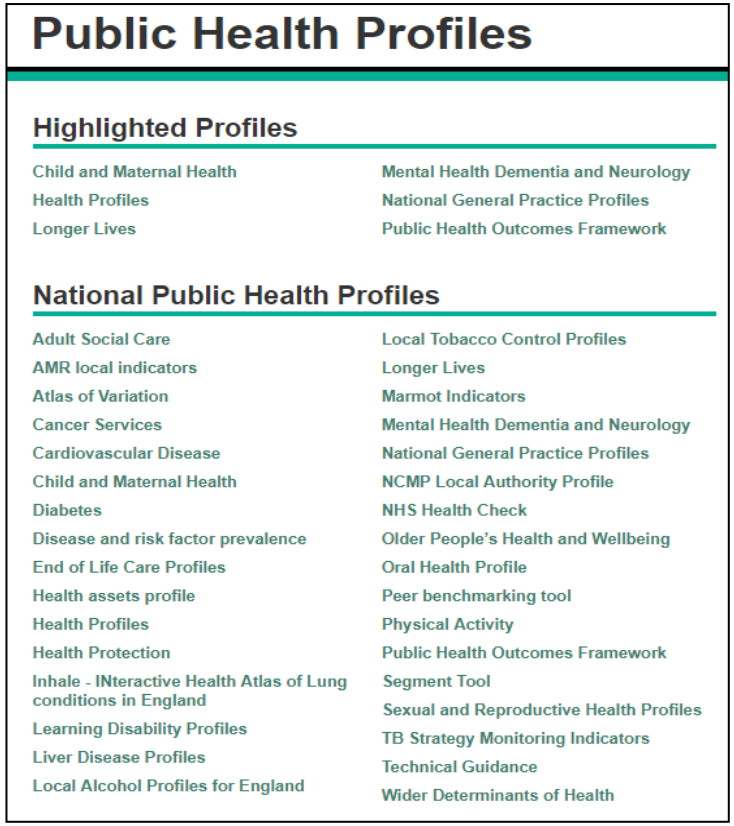
This guidance is for commissioners, public health directors and others involved in the local planning and provision of services and interventions that support people with cardiovascular disease (CVD) conditions.

Public Health England (PHE) collates and analyses available CVD data and produces intelligence resources to help with improving services and outcomes. This guidance supports health professionals with using these resources to make or influence decisions about local services.

Cardiovascular disease includes:

https://www.gov.uk/guidance/cardiovascular-disease-data-and-analysis-a-guide-for-health-professionals

PHE profiles webpages


Public Health Profiles

Highlighted Profiles

Child and Maternal Health
Health Profiles
Longer Lives
Mental Health Dementia and Neurology
National General Practice Profiles
Public Health Outcomes Framework

National Public Health Profiles

Adult Social Care
AMR local indicators
Atlas of Variation
Cancer Services
Cardiovascular Disease
Child and Maternal Health
Diabetes
Disease and risk factor prevalence
End of Life Care Profiles
Health assets profile
Health Profiles
Health Protection
Inhale - INteractive Health Atlas of Lung conditions in England
Learning Disability Profiles
Liver Disease Profiles
Local Alcohol Profiles for England
Local Tobacco Control Profiles
Longer Lives
Marmot Indicators
Mental Health Dementia and Neurology
National General Practice Profiles
NCMP Local Authority Profile
NHS Health Check
Older People's Health and Wellbeing
Oral Health Profile
Peer benchmarking tool
Physical Activity
Public Health Outcomes Framework
Segment Tool
Sexual and Reproductive Health Profiles
TB Strategy Monitoring Indicators
Technical Guidance
Wider Determinants of Health

https://fingertips.phe.org.uk/

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Any questions?

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:

- NCVIN resource page https://www.gov.uk/guidance/cardiovascular-disease-data-and-analysis-a-guide-for-health-professionals
- PHE profiles pages https://fingertips.phe.org.uk
- NCVIN CVD primary care intelligence packs https://www.gov.uk/government/collections/cardiovascular-disease-primary-care-intelligence-packs#midlands-and-east-of-england-commissioning-region
- NCVIN CVD profiles https://fingertips.phe.org.uk/profile/cardiovascular