

Joint Strategic Needs Assessment

Greenwich Hypertension (High Blood Pressure) Profile

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Summary

Hypertension is blood pressure that is persistently raised above a designated threshold of 140/90 mm Hg. Age, sex, family history, ethnicity and level of deprivation can affect the risk of hypertension but certain lifestyle changes can be made to reduce the risk.



Excess Weight

Obesity multiplies the risk of developing high blood pressure about threefold in men and fourfold in women.



Physical Inactivity

Habitual aerobic physical inactivity is linked with high blood pressure.



Salt

Consuming salt causes the kidney to store more water which raises blood pressure.



Alcohol

Heavy habitual consumption of alcohol links to raised blood pressure, especially binge drinking.



Stress

Blood pressure naturally rises in stressful situations through the release of stress hormones (adrenaline and cortisol).

Improvement is needed with regards to detection and control of hypertension in Greenwich and England when compared internationally. One effective way to improve detection is through health checks. Yet the uptake in Greenwich is low.

N ppl

In Greenwich total eligible population for health checks in the year 2015/16

62841

N ppl

Number offered a NHS health check in 2015/16

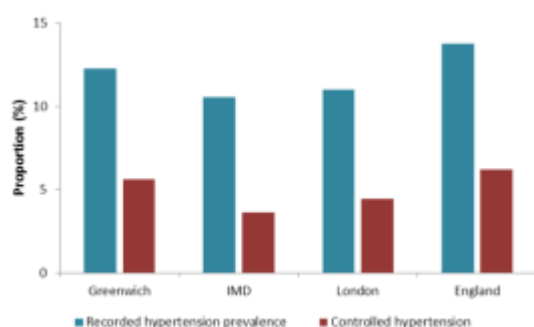
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% ppl

The percentage of the eligible population that receive a health check in 2015/16

6.9%

There is a significant gap between recorded and controlled hypertension. Hypertension is a major risk factor for stroke, heart attack, chronic kidney disease and dementia.



In Greenwich it is estimated that 23% of the population is living with hypertension however of those only 58% are diagnosed and 46% controlled. This is comparable to London and England but below international standards like Canada with 83% diagnosed and 66% controlled.

Due to the high prevalence of hypertension and severe consequences of uncontrolled hypertension it is important to improve detection and management. This can be done by educating professionals and patients about hypertension; increasing the frequency that blood pressure is measured and continue additional methods of detection such as through NHS health checks.

Background

Definition

Hypertension is blood pressure that is persistently raised above a designated threshold (140/90 mm Hg). Blood pressure measures how strongly blood pushes through the arteries (large blood vessels) and is necessary for maintaining circulation. If the pressure is too high it puts a strain on the arteries and heart. If left untreated, high blood pressure increases a person's risk of a heart attack, heart failure, stroke, chronic kidney disease, dementia and premature death (1).

Diagnosis

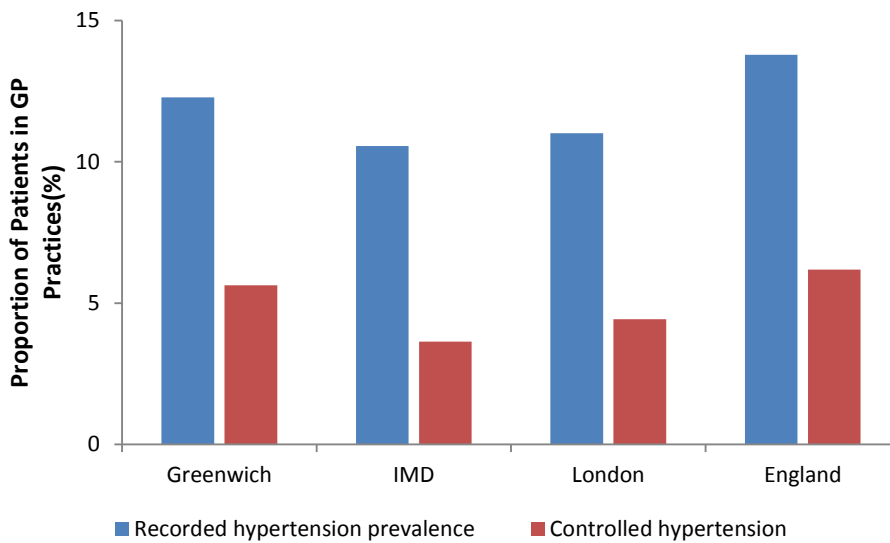
In August 2011, the National Institute of Health and Clinical Excellence (NICE) issued clinical guidance and updated guidelines 34 (published in 2006). The next review of guidelines is due October 2016. This sets out the treatment and management of hypertension.

A diagnosis of hypertension is most commonly made at the GP practice. If in clinic multiple blood pressure readings are equal or greater than 140/90 then ambulatory blood pressure monitoring or home blood pressure monitoring is offered to confirm the diagnosis (2). Blood pressure is very variable and a diagnosis of hypertension cannot be made on a single clinic appointment. However if severe hypertension is measured (blood pressure greater and equal to 180/110) then treatment needs to be started immediately (2).

Trends in England

Hypertension is the most common long term condition (affects more than one in four adults in England) and is the second biggest risk factor (after smoking) for premature death and disability in this country (3). Over the past decade there has been some positive change including a moderate drop in the average blood pressure of the population (systolic down 3 mmHg), identification of around two million people with existing hypertension and 10% more people on treatment for hypertension achieving good control (3).

Figure 1: Comparing the prevalence and control of hypertension (%) in Greenwich, IMD, London and England in 2014/15

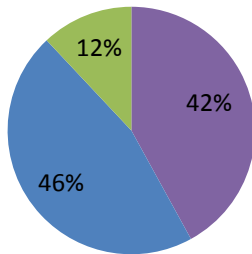


Source: Public Health England-Healthier Lives: High Blood Pressure; 2014/15

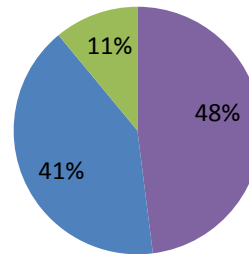
Although there has been some improvement in detection and blood pressure control, England's performance is far from international standards such as those set in Canada and the US. Since the late 1990s Canada has achieved dramatic improvement in blood pressure diagnosis and control secondary to the formation of Hypertension Canada, a volunteer-based, not-for-profit organization whose mission is to advance health through prevention and control of high blood pressure and its complications (4). It is now a world leader- 7 in 10 patients are both diagnosed and controlled compared to 4 in 10 in England and about 5 in 10 in Greenwich (5). Public Health England has built on learning from the Canadian model by developing the Tackling high blood pressure: from evidence into action programme (3).

Figure 2 Comparing diagnosis and control of hypertension in Greenwich, London, England and Canada

Greenwich



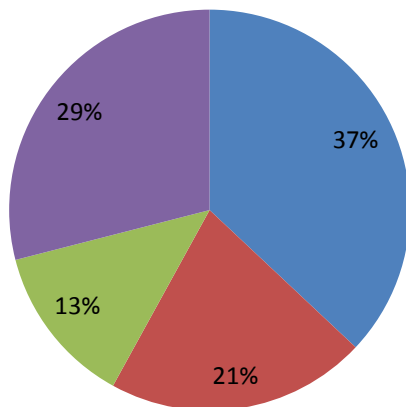
London



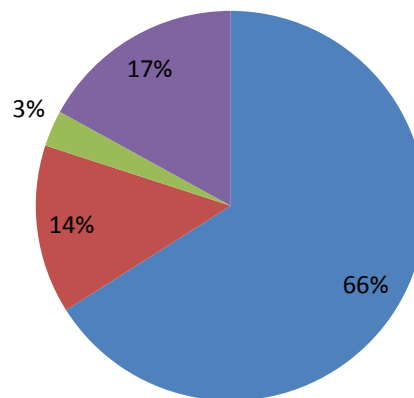
- Unaware
- Aware and controlled
- Aware and not controlled

Source: Public Health England-Healthier Lives: High Blood Pressure; 2014/15

England



Canada



- Treated and controlled
- Treated and not controlled
- Aware, not treated, not controlled
- Unaware

Source: Data from Health Survey for England and The Canadian Health Measures Survey. Comparison methodology as per Joffres M, et al, 2013

Cost to NHS:

Disease caused by high blood pressure cost the NHS over £2billion every year (6). If the blood pressure of the nation was reduced as a whole, £850million of NHS and social care costs could be avoided over ten years (6). Local analysis found that if hypertension control reached the same levels as in Canada the cost savings in Greenwich would be £3,330,585. This was calculated based on savings of strokes and heart attacks that would be prevented with better hypertension control.

Greenwich:

It is estimated that 59,500 of those registered at GP practices in Greenwich are living with hypertension (6). However only 34,600 (58.2%) are diagnosed with hypertension and of

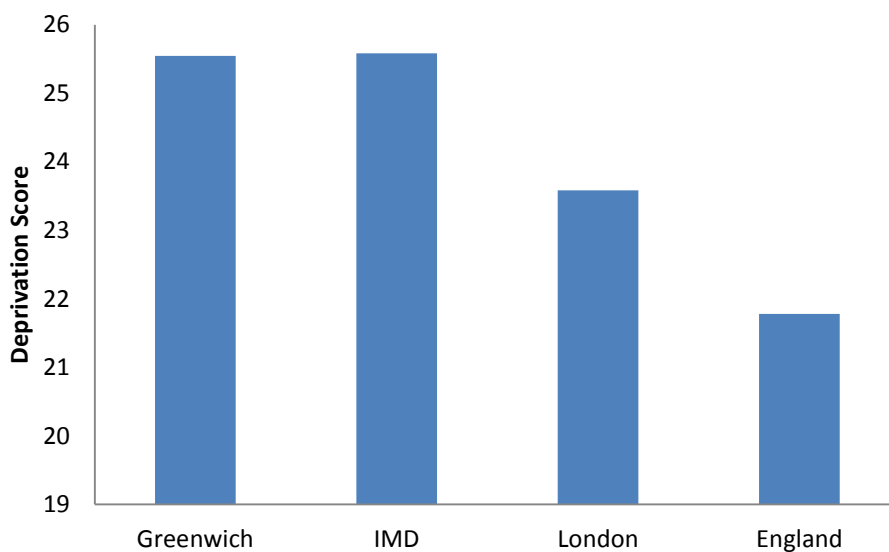
these 27,300 (45.9%) are controlled (6). In order to meet the achievements of Canada a further 12,000 people would need treatment and have blood pressure controlled (6).

Prevention

High blood pressure is often preventable and it has been found that individual's within the 'normal range' of blood pressure could reduce their future risk of cardiovascular disease by lowering down their blood pressure to a lower threshold of 115/75mmHg (3).

The burden of high blood pressure is felt most among individuals from low income families and those living in deprived areas (3). The prevalence is also higher in these areas. Those individuals living in the most deprived areas are 30% more likely to develop hypertension than the least-deprived areas (6). In 2015, 22.9% of the population of NHS Greenwich CCG live within the most deprived 30% of all areas in England (6). The deprivation score in Greenwich is higher than the London and England average as noted in Figure 3 making the population at higher risk of hypertension. The IMD comparative group comprises six London boroughs whose deprivation score is most similar.

Figure 3: Deprivation score (IMD 2015)



Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

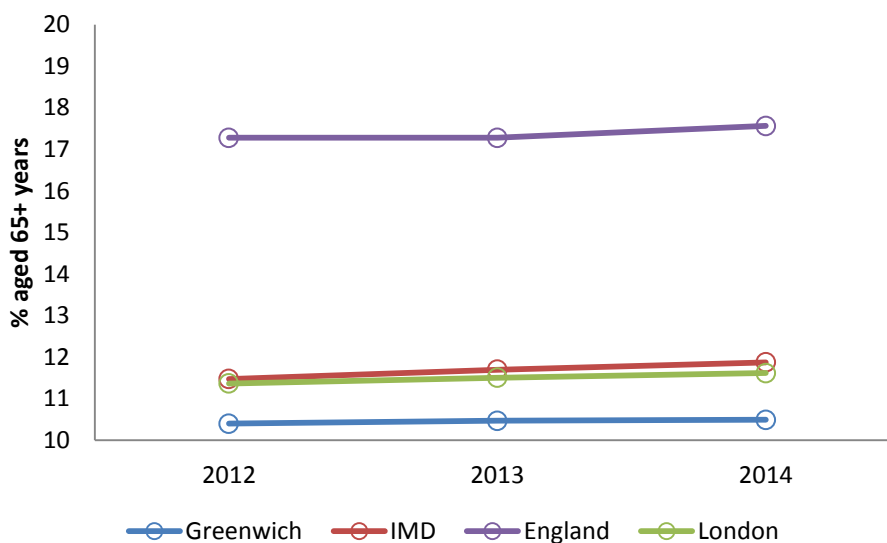
There are both non-modifiable and modifiable risk factors for hypertension which are listed below.

Non-Modifiable Risk Factors

Older Age:

Increasing age is associated with increasing systolic blood pressure therefore those aged 65 and over are at higher risk (3). As seen in the [Greenwich population profile](#) about 10% of the population is over 65 years old as compared to 17.6% in England. The population of Greenwich is also expected to increase over the next ten years with the largest increase expected in the 65+ age group (around 30%).

Figure 4: % of Population over 65 years old



Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

Family History:

Having a first degree relative with hypertension increases your risk. Research on twins has shown that up to 40% of variability in blood pressure may be explained by genetic factors (3).

Ethnicity:

High blood pressure is more common among: black Caribbean men and women; black African men and women; Chinese women; Irish men; Indian men and women and Pakistani women (3). In Greenwich an estimated 37.5% of the population are from black, Asian, mixed or other groups, compared to 14.6% across England (6). More information available in the [Greenwich population profile chapter](#).

Gender:

Men have an increased risk of hypertension overall. Women have a lower blood pressure at a younger age but after 65 years they tend to have a higher systolic blood pressure than men (3).

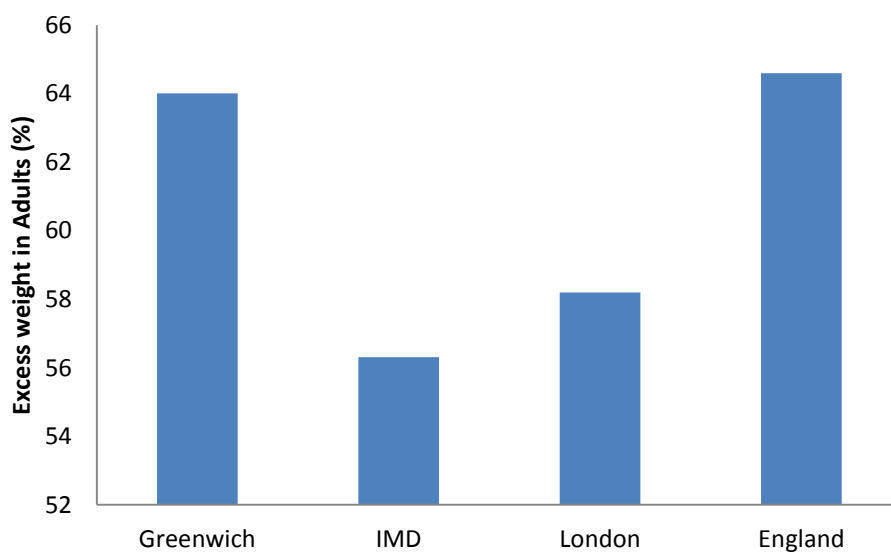
Modifiable Risk Factors

Cigarette smoking causes an acute rise in blood pressure but in the long term it is not known to be an independent risk factor for hypertension (3). However smoking and hypertension have been shown to exert a synergistic adverse effect for the development of coronary heart disease and therefore those patients with hypertension should be advised to quit smoking (7).

Excess Weight:

There is a strong and direct relationship between excess weight and high blood pressure. Obesity multiplies the risk of developing high blood pressure about threefold in men and fourfold in women (3). With increased body weight, an increased blood flow is required to supply the necessary oxygen and nutrients the body requires. As the volume of blood in the vessels increases, the pressure in the arteries rises (8). In Greenwich 64% of the population are overweight or obese and is ranked 29th out of the 33 London boroughs. However this is about the national average. More information can be found on the [Greenwich JSNA Obesity chapter](#).

Figure 5: Excess weight in Adults (%)



Source: Public Health England-Healthier Lives: High Blood Pressure; 2012-2014

Excess Dietary Salt:

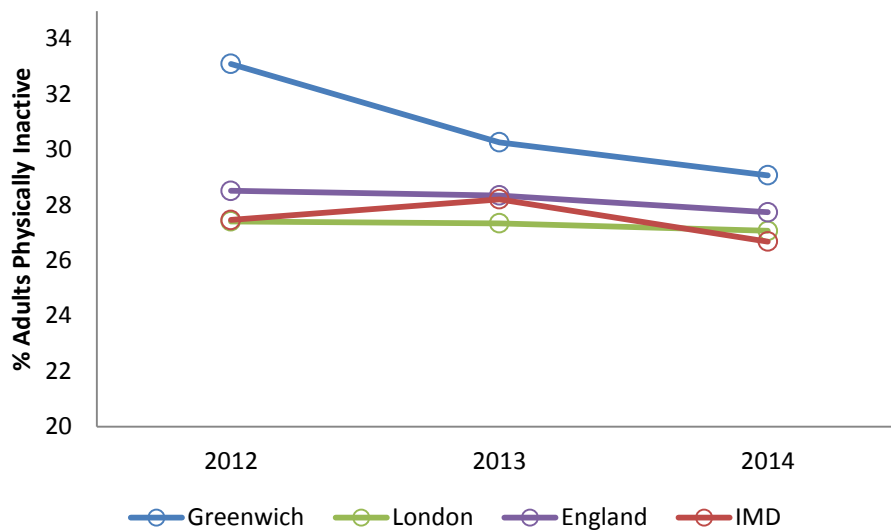
Consuming salt causes the kidney to store more water which raises blood pressure (9). Levels of salt consumption, relative to guidelines, are higher among younger people, ethnic minorities and lower-socio economic groups (3). As explained above, this is important in Greenwich due to the population profile.

Lack of Physical Activity:

Large studies have shown a link between habitual aerobic physical inactivity and high blood pressure (3). Exercise increases blood flow through all arteries of the body, which leads to

release of natural hormones and cytokines that relax blood vessels, which in turn lowers blood pressure (8). In the Greenwich population 29.1% are physically inactive which is 2% higher than London and England (3). Although in recent years the number of inactive individuals has been down trending (6). More information available in the [Greenwich JSNA Physical inactivity chapter](#).

Figure 6: Physical inactivity in Adults (%)

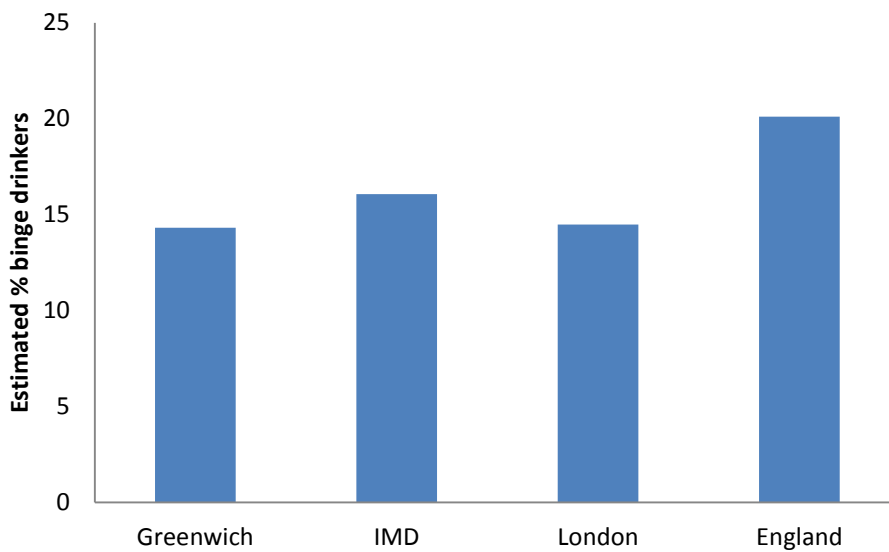


Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

Excessive Alcohol:

Heavy habitual consumption of alcohol links to raised blood pressure, especially binge drinking (3). Studies have found biphasic effects of alcohol consumption, with acute vasodilation effects immediately after consumption followed by increases in blood pressure in a dose dependent manner (10). In Greenwich 14.3% of the population are in the increasing and high risk drinking category (6). This is better than compared to England (20.1%) and comparator CCGs. More information available in the [Greenwich JSNA Alcohol chapter](#).

Figure 7: Estimated percentage binge drinkers in the resident population aged 16 years and over



Source: Public Health England-Healthier Lives: High Blood Pressure; 2007/08

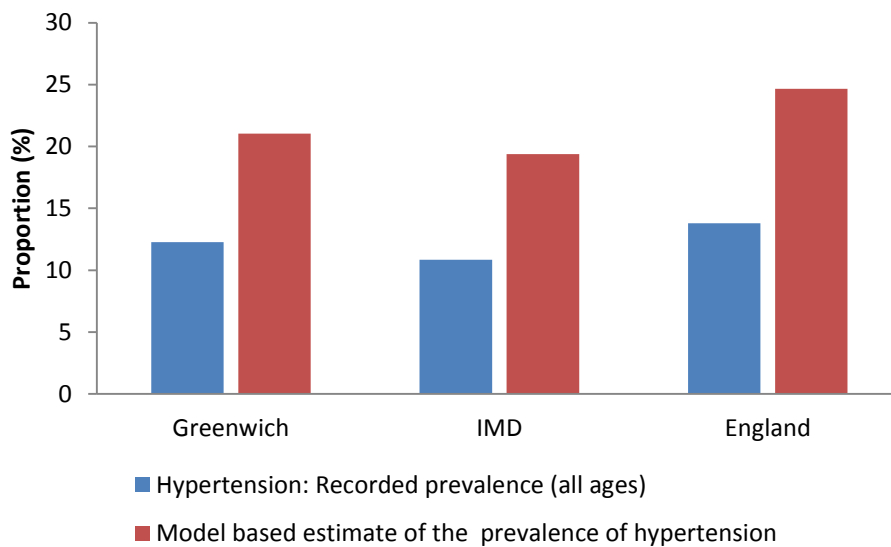
Psychosocial Stress:

Blood pressure naturally rises in stressful situations as part of the 'fight or flight' response. This is through the release of stress hormones (adrenaline and cortisol) that cause blood vessel constriction and an increase in heart rate. Although findings from individual studies vary, there is an indication that persistent activation of the 'fight or flight' mechanism influences the development of negative cardiovascular outcomes, increasing the risk of hypertension (11).

Detection

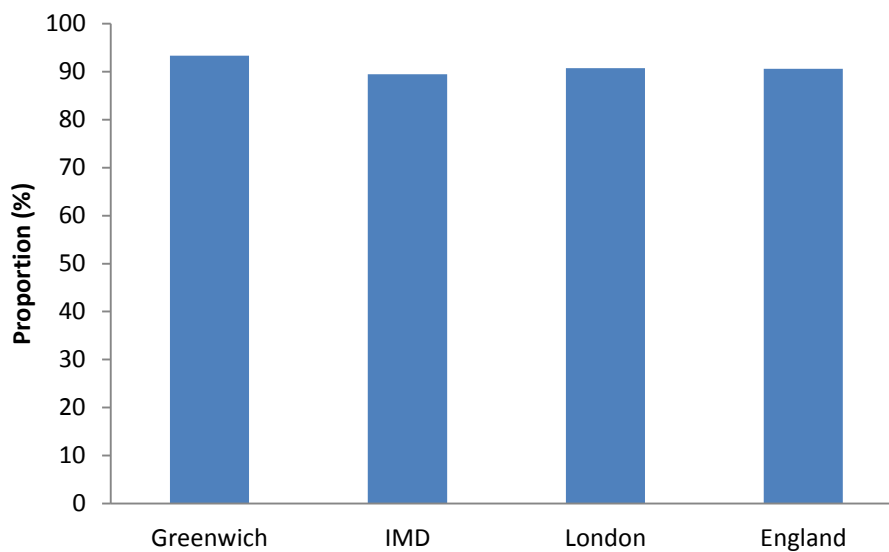
Adults should have their blood pressure tested at least every five years. Once tested, NICE recommends that adults are re-measured within five years and more frequently if they have high-normal findings (2). In Canadian guidelines it is recommended that all adults have their blood pressure assessed at all appropriate clinical visits (12). The majority of diagnoses occur in General practice. Other venues that detect possible hypertension include NHS Health checks, pharmacy, voluntary sector and home and are potentially areas that can be further developed to increase detection (6).

Figure 8: Comparing Model Based Estimates of Hypertension and Recorded Prevalence



Source: Public Health England, 2011, 2014/15

Figure 9: Patients, aged 45+, who have a recorded blood pressure (last 5 years)



Source: Public Health England, 2014/15

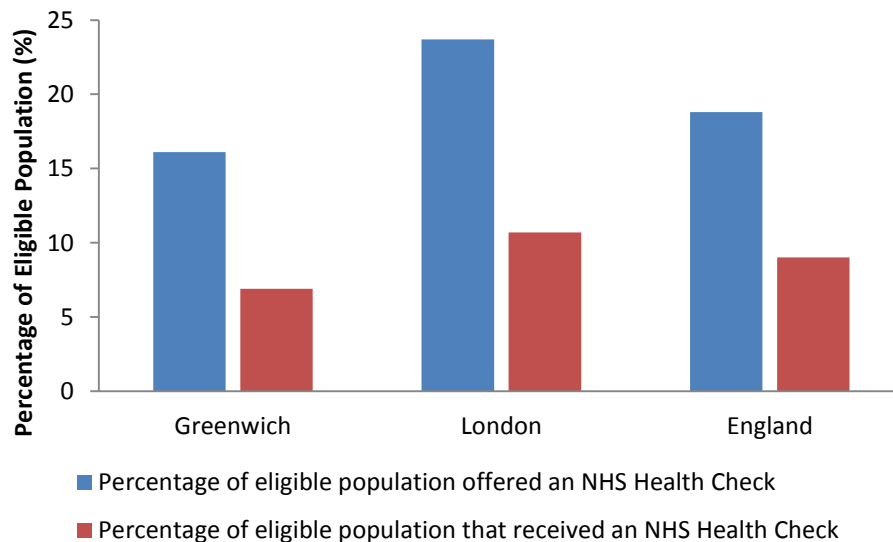
In Greenwich about 93% of patients had their blood pressure checked in the last 5 years which is better than in England, London and boroughs of similar IMD. Local calculations found a significant association between the proportion of patients age 45+ in a GP practice who had a record of blood pressure in the past 5 years and the likelihood of the estimated hypertension prevalence being close to predicted prevalence.

NHS Health Checks

The NHS Health Check programme was launched in 2010 to assess the risk of heart disease, stroke, chronic kidney disease and diabetes every 5 years in those aged 40-74 (13). The aim

is to reduce health inequality and preventable disease (13). As hypertension is an important risk factor for cardiovascular disease it is included in the check. Also included in the health check is support and advice with regards to modifiable risk factors.

Figure 10: Comparing NHS Health Checks offered and received in Greenwich, London and England



Source: NHS Health Checks, 2015/16

The take up of NHS Health Checks in Greenwich has been below the London and England average over the past year with 41.9% of those offered a health check received one compared to 45.2% in London in 2015-2016 (14). However Greenwich is expected to make that up over the next few years as the 5 year cumulative prediction (2013-2018) is expected to be 52.5% (14).

Management

Life Style Modifications and Medications

In August 2011, the National Institute of Health and Clinical Excellence (NICE) issued clinical guidance and updated guidelines 34 (published in 2006). The next review of guidelines is due October 2016. This sets out the treatment and management of hypertension. NICE recommends lifestyle advice to be offered initially and then periodically to people undergoing assessment or treatment for hypertension. Treatment should be initiated in those patients less than 80 years old with Stage 1 hypertension (blood pressure greater than 140/90) with one or more of the following: target organ damage, established cardiovascular disease, renal disease, diabetes and/or a 10 year cardiovascular risk equivalent to 20% or greater (2). Anti-hypertensive therapy should be offered to everyone with stage 2 hypertension (blood pressure greater than 160/100) (2). Anti-hypertensive treatment of choice is dependent on age of diagnosis, ethnicity and drug tolerance. There are four main classes of drugs used: ACE inhibitors, angiotensin II receptor blockers, calcium channel

blockers; and thiazide-like diuretics (2). The NICE treatment pathway is available in the appendix. Around 80% of people require two or more anti-hypertensive agents to achieve blood pressure control and some need up to four agents (6).

Figure 11 Lifestyle modifications in managing hypertension (15)

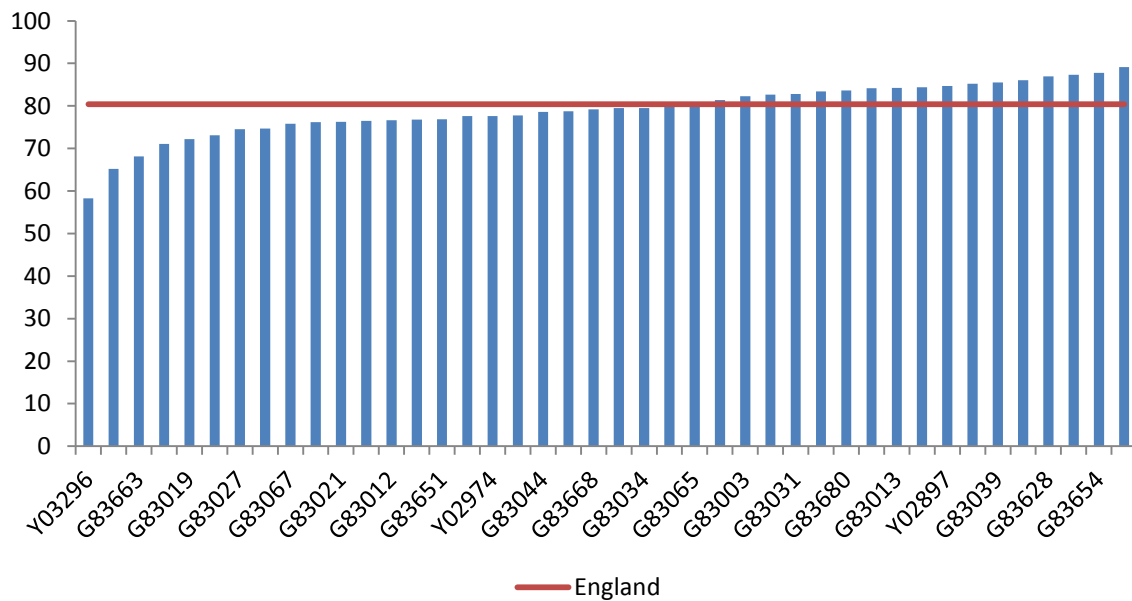
Modification	Recommendation	Approximate systolic BP reduction, range
Weight reduction	Maintain normal body weight (BMI, 18.5 to 24.9 kg/m ²)	5 to 20 mmHg per 10 kg weight loss
Adopt DASH (Dietary Approaches to Stop Hypertension) eating plan	Consume a diet rich in fruits, vegetables, and low-fat dairy products with a reduced content of saturated and total fat	8 to 14 mmHg
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 meq/day (2.4 g sodium or 6 g sodium chloride)	2 to 8 mmHg
Physical activity	Engage in regular aerobic physical activity such as brisk walking (at least 30 mins per day, most days of the week)	4 to 9 mmHg
Moderation of alcohol consumption	Limit consumption to no more than 2 drinks per day in most men and no more than 1 drink per day in women and lighter-weight persons	2 to 4 mmHg

Source: The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of high blood pressure, 2004

QoF Target for Blood Pressure

The QoF target for blood pressure is 150/90 mmHg or less while the NICE treatment target is 140/90 mmHg. In Greenwich the QoF target value for blood pressure varies from 58.3% and 89.1% (6). England's QoF target value is 80.4. In 2014/15 there were 17 out of 42 practices in Greenwich that exceeded England's target however about 7,400 people with hypertension were not controlled to 150/90 (25 out of 42 practices are below the target value) (6). There has not been much change from the previous year data 2013/14 where 19 out of 42 practices in Greenwich exceeded England's target.

Figure 12: Variation at practice level for the QoF target for hypertension ($\leq 150/90$ mmHg) compared to England's QoF target



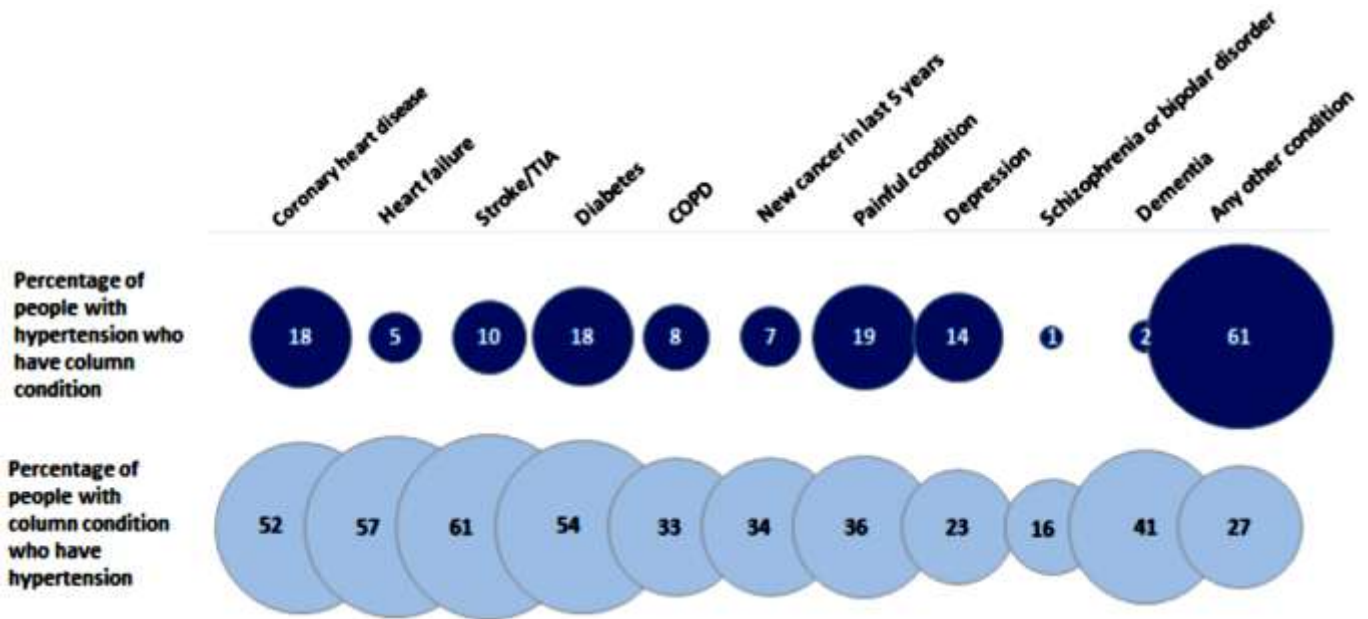
Source Public Health England, 2014/15

Comorbidities with High Blood Pressure

As the population is aging, more people are living with multiple comorbidities. A Scottish study found that although the prevalence of multiple comorbidities increased substantially with age, the absolute number of people with multimorbidity was higher in those less than 65 who were from the least affluent areas (16). Multimorbidity is associated with high mortality, reduced functional status and increased use of both inpatient and ambulatory health services (16).

Hypertension is most associated with coronary heart disease, heart failure, stroke/TIA, diabetes, COPD, depression, dementia and painful conditions (3). If hypertension is diagnosed and controlled the progression of many of these conditions can be slowed.

Figure 13: Comorbidities with high blood pressure



Source: Public Health England- Tackling High Blood Pressure, 2014

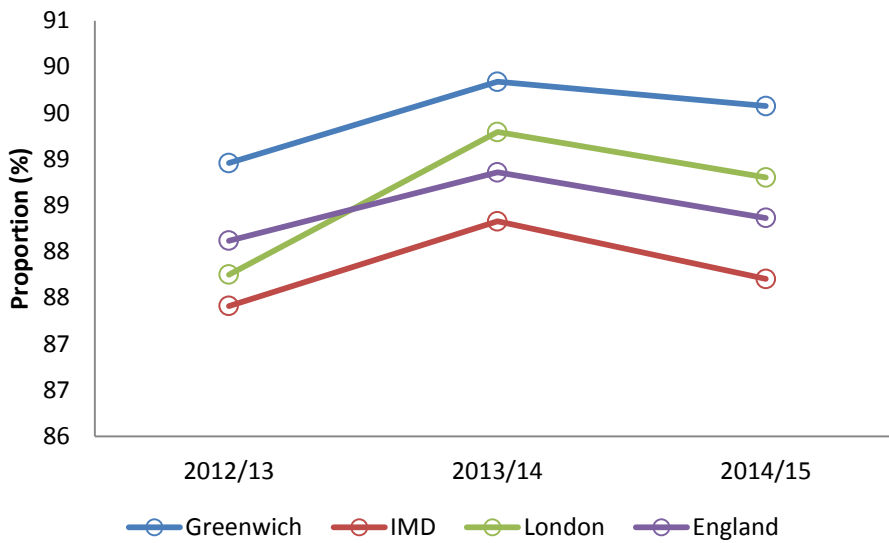
QoF guidelines for BP targets change depending on comorbidities. For example in diabetes the recommended control target is $\leq 140/80$ mmHg although NICE recommends a target of $\leq 130/80$ mmHg if other comorbidities are present (2).

Figure 14: Blood pressure control to $\leq 140/80$ in people with diabetes



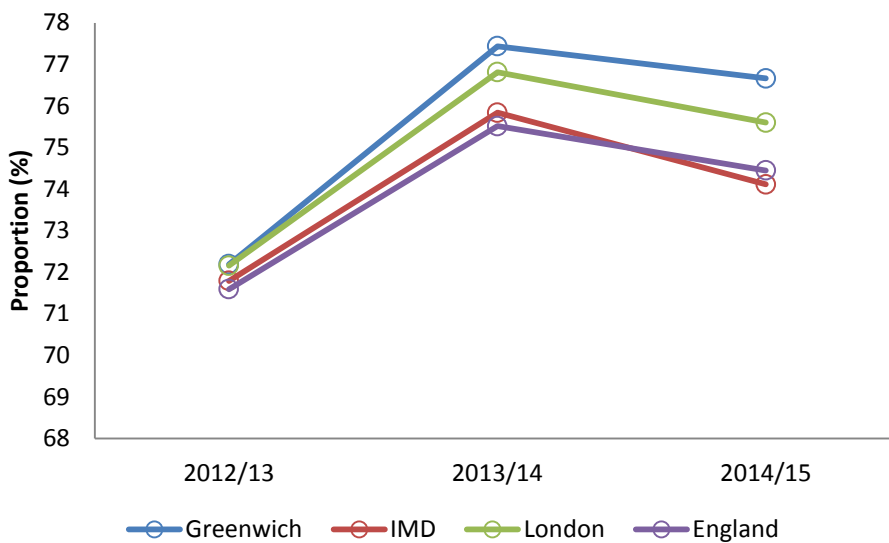
Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

Figure 15: Blood pressure control to $\leq 150/90$ in people with coronary heart disease



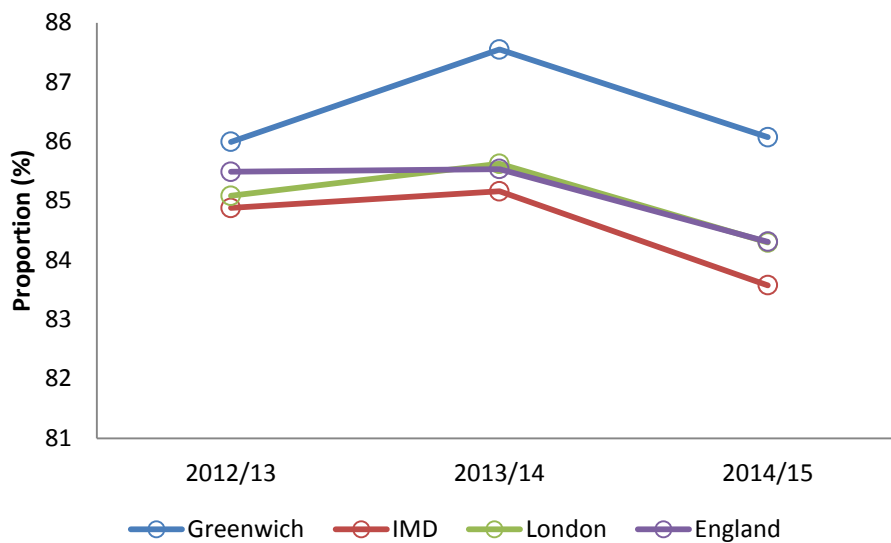
Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

Figure 16: Blood pressure control to $\leq 140/85$ in people with chronic kidney disease



Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

Figure 17: Blood pressure control to $\leq 150/90$ in people with a history of stroke or TIA



Source: Public Health England-Healthier Lives: High Blood Pressure; 2015

In the above four co-morbidity blood pressure QoF targets, Greenwich CCG is reaching or exceeding the national and local area targets but there is still room for improvement especially with blood pressure control in diabetes.

Conclusions/Recommendations

Overall Greenwich CCG is doing relatively well in many criteria with regards to hypertension when compared to the local and national data. However, especially when it comes to good blood pressure control in those with hypertension, the statistics remain inferior to international ones such as those in Canada. The profile of the Greenwich population is at high risk of developing hypertension due to a high deprivation score, large population of high risk ethnic groups and multiple comorbidities. The modifiable risk factors that compare worse to local and national figures include excess weight and physically inactivity. However, these numbers have been improving in recent years.

In Greenwich CCGs 27 out of 42 practices are not attaining the QoF targets for blood pressure control in patients with hypertension. The QoF target blood pressure is $\leq 150/90$ mmHg which is higher than the NICE recommended target of $\leq 140/90$ mmHg. It is difficult to know why these targets are not being met as there are many factors involved.

Public Health England has in 2014 set out a national action plan with an aim to improve England's performance in hypertension prevention, detection and management. As this strategy was set out for the nation as a whole, Greenwich may benefit from having a specific action plan in place to tackle specific issues and areas of improvement.

Detection in Greenwich could potentially be improved through the NHS Health Check program as the attendance is expected to increase over the next few years. This program

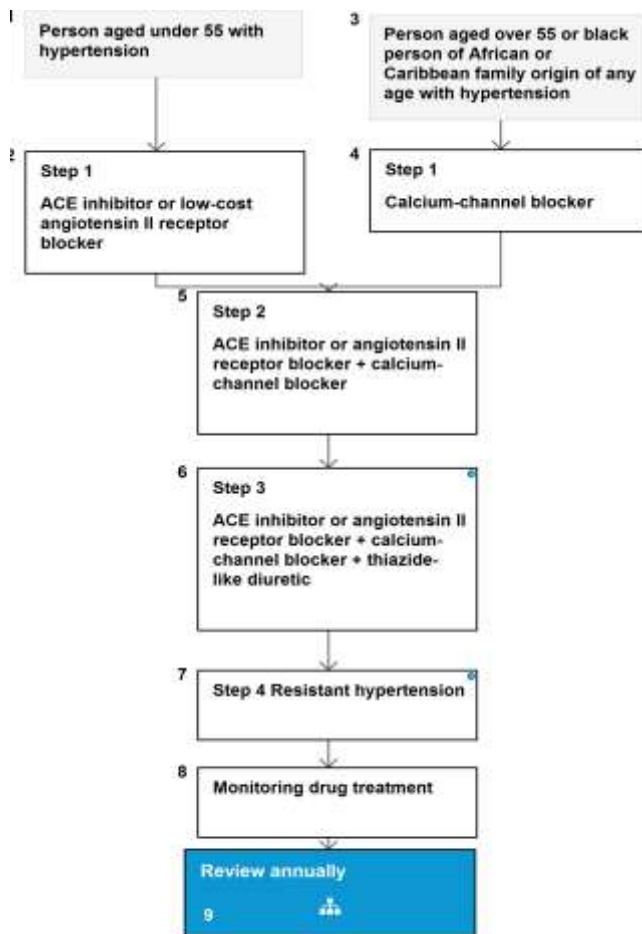
targets individuals who otherwise might not be diagnosed. Community programs may also be beneficial as the data shows that 93% of patients in Greenwich have had their blood pressure recorded in the last 5 years. However, as the blood pressure is only being recorded every 5 years perhaps individuals develop hypertension during this time and their diagnosis is delayed. Therefore, Greenwich may benefit to increase the frequency of blood pressure recording such as what is recommended in Canadian guidelines, at every appropriate clinical visit, to improve detection.

A more vigorous approach to blood pressure management and patient education may also improve the amount of patients with controlled hypertension. If patients understand the severe consequences to their health that are caused by uncontrolled hypertension they may be more compliant with treatment. The increased availability of home/ambulatory blood pressure monitoring may also have a positive effect on hypertension control as patients are able to monitor their progress at home.

Hopefully with guidance outlined in the action plan and education, Greenwich and England will be able to achieve hypertension control that is competitive on an international level.

Appendix

Figure 18: NICE Guidelines for Treatment of Hypertension



Source: NICE Guidelines, 2011

Figure 19: Corresponding Codes for Greenwich GP Practices

Practice Name	Code
Clover Health Centre	Y03296
Royal Arsenal Medical Centre	G83016
Briset Corner Surgery	G83663
Tewson Road Pms	G83007
Plumstead H/C Pms	G83019
Henley Cross Medical Practice	G83017
Sherard Road Medical Centre	G83027
Conway Pms	G83633
Valentine Health Partnership	G83067
Dr Bpc Peiris' Practice	G83063
Vanbrugh Group Practce	G83021
Primecare Pms (South Street)	G83058
Gallions Reach Health Centre	G83012
Eltham Palace Pms	G83015

Woodlands Surgery	G83651
Primecare Pms (Coldharbour)	G83673
At Medics	Y02974
Waverley Pms	G83635
Fairfield Pms	G83044
Mostafa Pms	G83647
The Slade Surgery	G83668
Greenwich Peninsula	Y03755
Eltham Park Surgery	G83034
Manor Brook Pms	G83001
Burney Street Pms	G83065
All Saints Medical Centre Pms	G83030
Coldharbour Hill Pms	G83003
Plumbridge Medical Centre	G83641
Abbey Wood Surgery	G83031
Glyndon Pms	G83060
Eltham Medical Practice	G83680
Abbeyslade Pms (Dr Chand)	G83631
Blackheath Standard Pms	G83013
Triveni Pms	G83026
Shooters Hill Medical Centre	Y02897
Dr V Agarwal's Practice	G83655
St Marks Pms	G83039
The Trinity Medical Centre	Y02222
Dr J Lal's Practice	G83628
Dr V Sandrasagra's Practice	G83022
Bannockburn Surgery	G83654
Dr Ns Guram's Practice	G83068

Source: [Public Health England, 2015](#)

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