

NHS Health Check



Key messages

- Assess vascular risk for all eligible people aged 40-74 years.
- Prioritise the assessment of people with 10yr CVD risk \geq 20%.
- Assess risk of developing diabetes.
- Provide healthy lifestyle advice for all people attending the NHS Health Check to improve and maintain a healthy diet and physical activity. Refer those requiring support.
- Advise smokers to quit and attend cessation support services.
- Manage \geq 20% CVD risk and co-morbidities, including high diabetes risk.
- Check pulse regularity age \geq 65 years
- Increase awareness of dementia in people age \geq 65 years
- Remember to record invites for NHS Health Checks.

Aim of the guideline

The aim is to improve attendance at NHS Health Checks and manage CVD and diabetes risk to reduce heart attacks, strokes, chronic kidney disease and diabetes and improve quality of life.

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About the guidance

This is a guide to best practice and does not override delivery requirements set out in local service specifications in each CCG which may differ slightly. For example pulse regularity checks are not done in all CCGs and the CVD risk threshold for testing cholesterol may differ.

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NHS Health Check

Explain the reasons for the NHS Health Check – prevention of heart attacks strokes and diabetes



Conduct risk assessment

- + age
- + gender
- + ethnicity
- + family history IHD (mother, father, brother or sister)
- + physical activity
- + GP practice questionnaire (eg GPPAQ)
- + alcohol screening AUDIT C
- + smoking status
- + BMI – Body Mass Index

- + Blood pressure above 140/90mmHg Repeat 3 times – record last result If above 180/110 seek immediate advice from Practice Nurse or GP
- + Over 65 Pulse check record regular or irregular Dementia awareness – inform about dementia services

Assess risk score

Calculate the risk score: the score relates to a person's risk of having a cardiovascular event during the ten years following the health check. Provide clear written and verbal information about risk score and what it means.

Discuss risk score

Discuss CVD risk and healthy lifestyles. Signpost or refer to lifestyle programmes (record on template and written information for the person)

Cardiovascular Disease (CVD) Risk:

Below 10%

with no other risk factors – no blood test required.

10-19%

Blood tests

ALL: Total and HDL Cholesterol
Those with obesity levels BMI ≥ 30 (27.5 South Asian) to include: HbA1c, eGFR
Results to be checked by PN or GP

Results

Blood test confirms CVD risk is < 10%.
Advice by HCA
Record written information for the individual

Results

Blood test confirms CVD risk is 10-19%.
Advice by GP/PN
Record written information for the individual

Above 20%

Blood tests

Total and HDL cholesterol
HbA1c, eGFR
ALT-Alanine aminotransferase NOT full LFT array
Results to be checked by PN or GP

Results

Blood test confirms CVD risk is ≥20%
Or abnormal BP/eGFR/HbA1c
Advice by GP/PN
On management options

To be seen again in 5 years

Annual Review

Annual Review

1. Introduction

The NHS Health Check programme is a mandatory public health service which is overseen by the Local Authority. It is a national vascular risk assessment and management programme for people aged 40-74 years, to reduce cardiovascular disease (CVD). It does not include people with pre-existing CVD, diabetes or those already on statins.

The aim of the NHS Health Check is to improve health outcomes and the quality of life amongst local residents. It identifies people at an early stage of vascular change and provides opportunities to help them reduce their future risk of CVD and premature mortality.

The NHS Health Check is a face to face consultation which is offered every 5 years to those who are eligible. In addition to referral for medical management of identified risks and co-morbidities, the NHS Check includes advice on lifestyle, referral to local lifestyle interventions and in people over 65 years, information to promote dementia awareness.

This local guidance should be considered together with the national guidance on NHS Health Checks which is available at <http://www.nhshealthcheck.nhs.uk/> Service specifications may differ between localities and this guidance may need to be adapted to local policies.

NICE also recommends statin treatment in people with 10 year CVD risk of 10% or more as statins reduce CVD events at this level of risk. (In fact there is good evidence of benefit even lower at 5-7.5% 10 year CVD risk (American ACC/AHA Guidance 2013).

About 8% of the population is at 20% or more CVD risk and 30% of the population is at 10% or more CVD risk.

It is doubtful that given current resources, primary care can systematically deal with everyone at 10% or more risk and a more feasible strategy is to maintain the current treatment priority at 20% but include those at 10% or more risk who have obvious major additional risks including

- **extreme obesity BMI 40 or more**
- **positive FH of MI in 1st degree relatives under 60 yrs**
- **pre-diabetes**

Decisions to recommend statins in this group at intermediate risk should be made on an individual basis. Patients who do wish to take statins at a 10% threshold should be supported to do so. Some CCGs are actively supporting annual review for this group of patients who have a 10-19% CVD risk.

BACKGROUND

This guidance uses primary care as the main setting to deliver the NHS Health Check programme. Other approaches - social marketing, pharmacies, occupational or community initiatives - may be complementary.

It is recommended to prioritise people aged 40–74 years who are at highest CVD risk (20% or more CVD risk). However, this does not preclude opportunistic assessment and it is expected that over the 5 yearly cycle all eligible people at all risks, will be invited to participate.

NICE guidance 2014 recommends risk assessment using QRisk2. This can be used for ages 30-84 years but is relevant to the 40-74 year age group for the NHS Health Check.

Treatment at high CVD risk

CVD risk 20% or more: lifestyle advice and recommend atorvastatin 20mg (and anti-hypertensives where appropriate).

CVD risk 10% or more: BMI >40, positive FH or pre-diabetes: treat as above

CVD risk 10% or more without other major risk factors: support patient preference for above treatment

Atorvastatin 20mg is recommended for new patients at high CVD risk. People already on simvastatin 40mg can remain on this if preferred.

See CEG guidance on statins on website (end of document).

Co-morbidity

Obesity, raised blood pressure, renal disease, diabetes, pre-diabetes and familial hypercholesterolaemia will also be identified by vascular assessment requiring appropriate management. Guidance for the treatment of these conditions is available from NICE (See bibliography at the end of this document).

Alcohol is an important risk factor for cardiovascular disease and is covered in the Alcohol Local Service contracts.

Case finding for atrial fibrillation using pulse regularity checks in people 65 years and over is being included in local CCGs.

Older ages - 75 years or more

Although outside the age range for the NHS Health Check, almost everyone aged 75 years is at high risk, with a CVD risk of 20% or more. Those people not already on statins should be recommended to start them.

NICE recommends consideration of statin treatment in older people. All people age 75 years or more should be considered for treatment with atorvastatin 20mg (except those with contraindications). Treating these older people would have considerably more impact than extending the age range to younger people under 40 years. Recommending treatment with statins ensures that older people also have access to this effective medical treatment and avoids discrimination.

Dementia

Dementia awareness is included for people aged 65 years or over. This should include signposting to the memory clinic if appropriate.

NHS Health Check eligible population

People with the following conditions are excluded from the NHS Health Check programme because they are already managed as part of recognised treatment programmes.

People with IHD, CKD, TIA/ stroke, PAD, familial hypercholesterolaemia, diabetes, heart failure, atrial fibrillation, hypertension.

People already on statins,

People at 20% or more on the high CVD risk register.

People who have already had an NHS Check within 5 years.

QRisk assessment

The QRISK2 assessment is recommended because:

It is an accurate and equitable method to identify people who will benefit from treatment.

Where values are missing, QRISK2 uses estimated numerical values based on age-specific population averages for cholesterol, weight and blood pressure,

People estimated to be at $\geq 20\%$ risk or people who have no data at all, should be prioritised for an NHS Check.

All eligible people should be invited during the 5 year cycle.

QRISK website: <http://www.qrisk.org/>

NHS Health Check training

The NHS health Check is usually carried out by trained Health Care Assistants or health professionals based in general practice but may be carried out by trained staff in other settings.

Invitations: high risk priority

Prioritising risk is a more efficient way of getting the most high risk people assessed.

The easiest way to do this is to invite oldest people first and then work down the list to younger ages. Alternatively the highest risk patients can be called first using QRisk, again working down the list to lowest. To do this

- Use the EMIS batch processor to estimate CVD QRisk in everyone age 40-74 years.
- Rank people and invite highest risk first ie. $\geq 20\%$ risk
- Run batch processor annually to keep it up to date.

Other priority groups may include

- Patients with QDiabetes score $>20\%$.
- Patients with a Serious Mental Illness (SMI) or Learning Disability
- People without records of blood pressure

Recording Invitations

Use a range of methods to contact individuals (phone/letter/email/opportunistic)

The invitation MUST be recorded on the NHS Health Check template.

Public Health England uses record of invitation for its uptake figures on which the Local Authority is assessed.

NHS Health Check

Explanation:

- Reasons for the NHS Health Check assessment, its benefits and consequences
 - Causes of and opportunities to prevent heart attacks, strokes and diabetes
- Opportunities for Healthy Lifestyle support
- Will usually take two visits in people with CVD risk greater than 10%, because they require a blood test.

Blood tests

- **FASTING** blood sample are **NOT** generally required.

NICE Guidance 2014 states that a fasting sample is **NOT** required for cholesterol, HDL cholesterol and HbA1c does not require fasting.

- **Full liver function tests LFTs are NOT required**

A single ALT test is all that is necessary if assessing before statin treatment and not again unless clinically indicated.

In patients known to have liver disease or who are known to be at high risk (eg. alcohol excess, Hepatitis B or C), full LFTs are necessary. In these people NICE advises testing before starting statins, within 6 months and at 12 months and not again unless clinically indicated.

- **People under 10% CVD risk with no other risk factors do not need a blood test and a single visit will usually suffice**

Assessing CVD and diabetes risk

Assessment

- Age, Gender, Ethnicity
- Smoking status
- Family history of ischaemic heart disease in a first degree relative (mother/father/brother or sister) under 60 years. **This should be recorded if either negative or positive**
- Body Mass Index
- Blood pressure measurement
If $\geq 140/90$ mmHg repeat 3 times and use last value
- Alcohol screening (AUDIT-C)
- Physical activity assessment: inactive, moderately inactive, moderately active or active (GPPAQ)
- Age ≥ 65 years. Pulse check - regular or irregular
- Age ≥ 65 years. Inform about dementia
- Cancer screening advice (breast, bowel and cervical)
- Random total cholesterol and HDL cholesterol blood test **(only useful in people over 10% CVD risk, positive FH or hyperglycaemic states. In people under 5% CVD risk cholesterol testing confers no advantage as it does not influence management). Note that PHE advises testing in everyone.**

Other blood tests will depend on risks found - see page 8.

Follow-up of CVD risk

- Those who are below QRisk 10% should be informed that their next NHS Health Check will be due in 5 years time.
- Those with CVD risk 20% or more or those with abnormal risk factors or co-morbidities should make an appointment to see a GP or PN for further management.
- Practices should make arrangements to annually review people at 10%-19% CVD risk in Local Authorities which support this review.

Lifestyle advice

The practice will provide healthy lifestyle advice to ALL patients after an NHS Health Check on how to maintain/improve their vascular health and direct patients to local services which support this.

The practice will provide a tailored package of interventions and referral where appropriate for patients with identified risk factors including arrangements for annual follow-up.

- CVD risk score $\geq 20\%$ (code as high CVD risk on template)
- high risk of diabetes

The practice should record on the template if the offer of a statin is declined or contraindicated.

- smoker
- physical inactivity
- BMI ≥ 30 or 27.5 in South Asians.
- Alcohol Audit C score ≥ 8

advice and referral onto the appropriate local service or care pathway

Local Authority services for healthy eating, weight management and physical activity include

- Smoking cessation service
- Alcohol support services
- Local advice services – (LA web site)
- Pre-diabetes services

Communication of risk

Staff delivering the NHS Health Check should be trained in communicating, capturing and recording the risk score and results, and understand the variables used by the risk engine to calculate the risk score.

Age is the main factor determining risk. Men are at higher risk than women. Of the factors we can do something about, smoking is the most important and doubles risk. Hypertension is the next most important risk factor.

In people with a positive family history in a first degree relative under age 60 years this equivalent to the risk of smoking. **People with positive family histories should be investigated and many more should be treated with statins.**

Being physically active protects people against CVD - even walking a moderate amount helps.

The results of the NHS Health Check should be explained to each patient. This should be face-to-face and tailored to each individual to maximise patient understanding.

Communicating risk, staff should:

- communicate risk in everyday, jargon-free language so that individuals understand their level of risk and what changes they can make to reduce their risk
- use behaviour change techniques (such as motivational interviewing) to deliver appropriate lifestyle advice and how it can reduce their risk
- create a two-way dialogue to explore individual values and beliefs to facilitate a client-centred risk-reduction plan
- give people adequate time to ask questions and obtain further information about their risk and results
- Commissioners and providers should consider development of appropriate written information for attendees to take away with them from the NHS Health Check
- This written information should include personalised feedback explaining that...
- For smokers, stopping smoking is the single most important way to reduce CVD risk
- Information on their personal risks and what these mean: CVD risk score, BMI, cholesterol level, blood pressure, AUDIT C and any referrals onto lifestyle or clinical services
- The importance of changes in diet and physical activity and available support services

Abnormal risk factors

People found to have the abnormal risk factors listed below will usually require two visits. This is because serum total and HDL cholesterol results will often not be available until the second visit and also because the time available in a single visit is not always sufficient to allow a full explanation of identified risk factors and necessary advice, actions and referrals.

Additional blood tests include

If blood pressure \geq 140/90mmHg (3 readings)
or if CVD risk \geq 20%,

Bloods required: HbA1c, ALT, eGFR and referral to GP.

If QDscore \geq 20%
or if Obesity BMI \geq 30 (27.5 South Asian)

HbA1c

If Positive FH premature IHD

Fasting lipid profile

Smoking

Stop smoking advice and referral to local stop smoking service.

Obesity BMI \geq 30; 27.5 South Asians

Advise on diet and physical activity. Offer referral to support services. See last page of guideline for basic dietary advice.

CVD Risk 20% or more

Add patient to the high risk register for annual follow up and exit from the programme.

Offer atorvastatin 20mg (record if offer declined) and lifestyle advice.

CVD Risk 10-19%

Recommend treatment as above if BMI $>$ 40, positive FH, or pre-diabetes. If no major risk factors support treatment by patient choice. Annual follow-up if supported by CCG.

Hypertension assessment

Check blood pressure according to NICE guidance and local pathways.

Chronic Kidney Disease (CKD)

Where eGFR is below 60ml/min/1.73m², management and assessment for chronic kidney disease is required in line with the NICE guideline and local pathways.

Alcohol risk assessment

A full AUDIT assessment is indicated by an AUDIT C score \geq 5

If the individual meets or exceeds the AUDIT threshold of 8 brief advice should be given. Referral to local alcohol services should be considered for individuals scoring 20 or more. (see NICE public health guideline 2010 for further details)

Familial hypercholesterolemia

Patients who have BOTH a total cholesterol $>$ 7.5mmol/L AND a positive FH of IHD in a first degree relative under age 60 years, should be assessed for familial hypercholesterolemia with full fasting lipid profile, HbA1c and thyroid function test. If these tests are not informative, or in those with a cholesterol of $>$ 9mmol/L consider specialist referral.

Type 2 diabetes risk assessment

The NHS Check will also estimate the risk of developing diabetes (QDiabetes).

Check HbA1c to detect pre-diabetes or diabetes for patients with the following criteria:

- QDiabetes 20% or more or QRisk 20% or more
- BMI \geq 30 (or \geq 27.5 to trigger action in Indian, Pakistani, Bangladeshi, other Asian or Chinese).
- A blood pressure sustained above 140 mmHg systolic or 90 diastolic mmHg.

These patients should receive an HbA1c test which can be used for case finding of diabetes or pre-diabetes. In a few people it may be necessary to use Fasting Glucose.

There is no national consensus on testing and procedures differ in CCGs for people found to have abnormal HbA1c. Some CCGs confirm with further fasting blood glucose tests.

See CEG Website: *Diagnosing Diabetes CEG 2013:*
<http://www.blizard.qmul.ac.uk/ceg-resource-library/clinical-guidance.html>

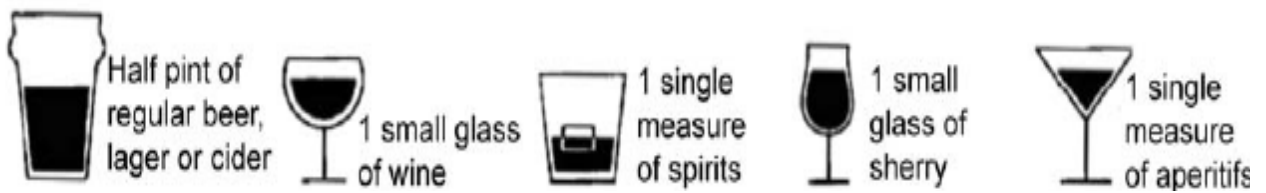
New co-morbidity

Newly diagnosed patients with diabetes, hypertension, chronic kidney disease or patients at high-risk of a CVD event will be placed on the respective register. These patients will exit the NHS Check programme

Further reference should be made to NHS Health Check Best Practice Guidance 2015 found on the following site <http://www.healthcheck.nhs.uk>.

Alcohol Units

This is one unit of alcohol...



...and each of these is more than one unit



Diagnostic criteria for diabetes mellitus and abnormal glucose tolerance

	Glycated haemoglobin mmol/mol (%)	Fasting plasma glucose (mmol/L)	2 hour plasma glucose (mmol/L)
Normal	< 42 <6.0%	<6.0 mmol/L	<7.8 mmol/L
Diabetes mellitus	≥ 48 ≥6.5%	≥ 7 mmol/L	≥ 11.1mmol/L
Pre-diabetes	42–47 6.0 – 6.4%		
Impaired glucose tolerance (IGT)		< 7.0 mmol/L	AND <7.8-11.0 mmol/L
Impaired fasting glucose (IFG)		6.1-6.9 mmol/L	AND <7.8 mmol/L

Dietary advice

1. FATS Reduce total fat and saturated in the diet - remove visible white fat in meat and chicken skin. Avoid processed meats such as sausage, kebabs, mincemeats and burgers which are VERY high in fats. Avoid take away fast foods like fried chicken, curry, chips, chinese and kebab meals that are very high in fat.

Use skimmed milk and low fat natural yoghurt.

Avoid cheese, butter or ghee which are solid fat.

Use sunflower, rapeseed, corn or olive oil spreads instead which contain polyunsaturated or monounsaturated fats.

Note: these spreads and oils are as high in calories as saturated fats, but not so bad for the heart - so for people wishing to lose weight, one has to reduce all fat intake including these.

Avoid 'vegetable oil' which doesn't say what it is - it often contains coconut oil or palm oil that are saturated fats, not good for the heart.

2. SUGARS Avoid sweet drinks including fruit juice even if 'freshly squeezed'. A large glass of fresh squeezed orange juice contains almost as many calories, (106 kcal) as half a bar of chocolate (115 kcal). A regular can of coke or lemonade is (140 kcal). Chocolate bars like Mars bars, Cadburys or KitKats are typically about (240 kcal).

Drink water or low calorie drinks.

Fruit juice or sweet drinks of any kind are a 'treat' like sweets. Sweet drinks and fruit juice are not an essential part of a meal and are not good for children as it also rots their teeth if drunk regularly and causes obesity. Smoothies are also often high in sugar and calories.

Foods with added sugars including sweetened breakfast cereals or granola type mixes often have almost as many calories as sweets. Biscuits and cakes are also very high in both fat and sugar.

3. ALCOHOL Excess alcohol is harmful to the liver and to the heart. It is a major source of calories and a cause of obesity. There are as many calories in a large glass of wine (230 kcal) as in a chocolate bar and a pint of beer is (180 kcal) which is 3/4 of a chocolate bar.

4. BETTER FOODS

- Eat more green vegetables and salads
- Eat fresh fruit - at least 2 portions a day.
- Eat more pulses like lentils, dhal and beans
- Eat more fish especially oily fish like herring, mackerel, sardines and salmon.

Physical activity

Physical activity is very important to protect against heart disease and stroke. It is a very underrated factor but even small changes in physical activity have a big effect on reducing the risk. Walking at least half an hour a day is a minimum. The more activity you do the better it is for your arteries, heart and brain. Walking part of the way to work, to the shops, up the stairs or doing more vigorous activity at every opportunity is beneficial to your heart.



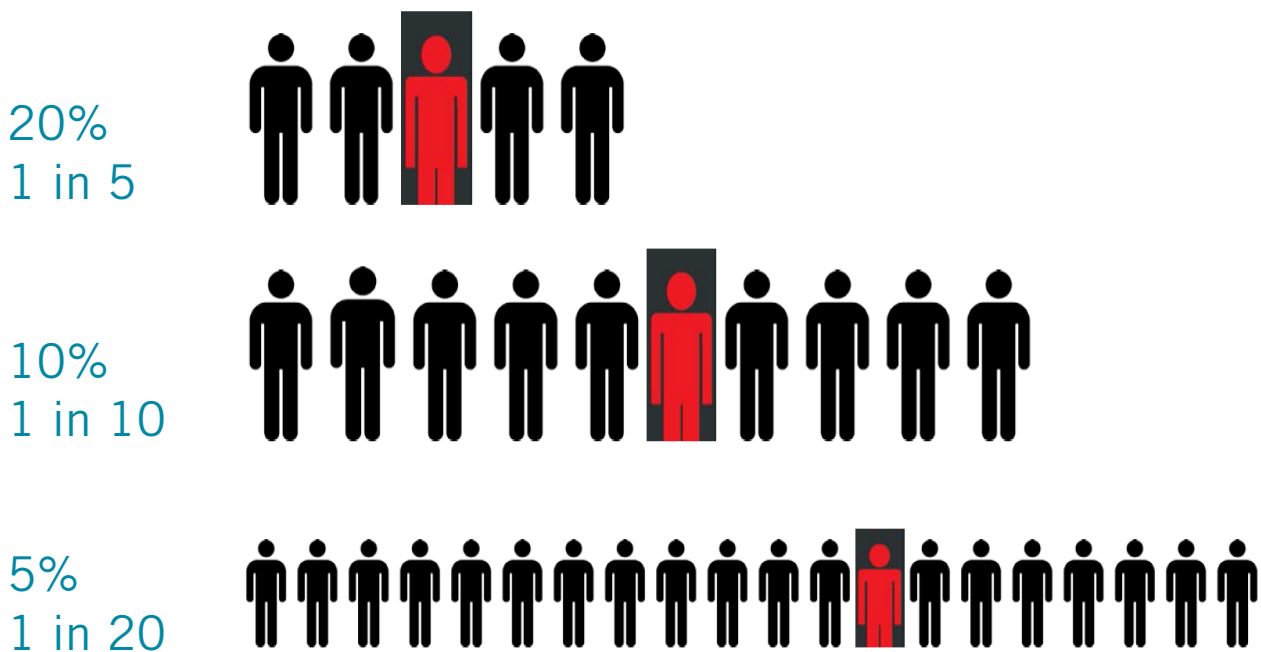
Explaining QRisk and QDiabetes risk.

A high risk is a 20% risk: a 1 in 5 chance of having the condition in 10 years.

A moderately high risk is a 10% risk: a 1 in 10 chance of having the condition in 10 years

A lower risk is less than 5%: less than 1 in 20 chance of having the condition in 10 years.

Risk of death from a motor vehicle accident is 1 in 3000 and for a cyclist 1 in 40,000 in 10 years



References

- Lipid modification and CVD risk <http://www.nice.org.uk/guidance/cg181>
- Type 2 diabetes <https://www.nice.org.uk/guidance/ng28>
- Obesity <http://www.nice.org.uk/guidance/cg189>
- Hypercholesterolaemia <https://www.nice.org.uk/guidance/cg71>
- Hypertension <http://www.nice.org.uk/guidance/cg127>
- CKD guidance <http://www.nice.org.uk/guidance/cg182>
- Blood pressure measurement <http://www.nice.org.uk/guidance/cg127>
- Diagnosing Diabetes CEG. <http://www.blizard.qmul.ac.uk/ceg-home.html>
- Statin guidance CEG <http://www.blizard.qmul.ac.uk/ceg-resource-library/clinical-guidance.html>
- NHS Health Checks PHE <http://www.nhshealthcheck.nhs.uk/>



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