



Making digital services more accessible

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Patient Experience Awards, Birmingham, 18 March 2020

Coronavirus (COVID-19)

Read our pages on [coronavirus](#) for health information and advice. See the [government response to coronavirus on GOV.UK](#).

Last updated on: 05/03/2020 at 16:15:24



We're here for you

Helping you take control of your health and wellbeing.

Health A to Z

Your complete guide to conditions, symptoms and treatments, including what to do and when to get help.

Medicines A to Z

Find out how your medicine works, how and when to take it, possible side effects and answers to your common questions.

Design and build digital services for the NHS

Use the service manual to build consistent, usable services that put people first. Learn from the research and experience of other NHS teams.

[What's new](#)

In February 2020 we talked about our work in a [public show and tell on YouTube](#).

[NHS service standard](#)

Check you're working to best practice from the start.

[Design system](#)

Build consistent, accessible user interfaces.

[Content style guide](#)

How to write for digital NHS services.

[Accessibility](#)

Make NHS services accessible for everyone.

[Design principles](#)

These principles guide all of our design.

[Community](#)

Help grow and improve the service manual.

NHS services are for everyone

Make sure everyone can use the service

Make sure people with different physical, mental health, social, cultural or learning needs can use your service, whether it's for the public or staff.

And people who do not have access to the internet or lack the skills or confidence to use it.

NHS services are for everyone

- **accessibility**
- **health literacy**
- **writing content that's easy to understand**
- **inclusive language**

**“The power of the Web is in its universality.
Access by everyone regardless of disability is
an essential aspect.”**

Tim Berners-Lee, W3C Director and inventor of the World Wide Web

What we mean by digital accessibility

Services that people with a disability can use as easily as people without.

What we mean by digital accessibility

This includes people who have auditory, cognitive, neurological, physical, speech and visual impairments.

What we mean by digital accessibility

**Accessible services are easier
for everyone**

What we mean by digital accessibility

**We also have legal and
policy obligations**

Our legal obligations

Equality Act 2010

“provision of a service to the public or a section of the public (for payment or not) must not discriminate against a person requiring the service by not providing the person with the service.”

The Public Sector Bodies (Websites and mobile applications) (No.2) Accessibility Regulations 2018

Digital access needs are many and varied

1 in 5 people in the UK have some form of disability

Everyone is impaired at some time

Touch



one arm



arm injury



new parent

See



blind



cataracts



distracted driver

Hear



deaf



ear infection



bartender

In 2019, we did an accessibility review of the NHS website



Key issues

- Basic issues on core NHS website pages
- Insufficient accessibility knowledge across our teams
- No accessibility testing included in quality assurance
- The NHS website will have to publish an accessibility statement soon which would currently be a long list of issues.

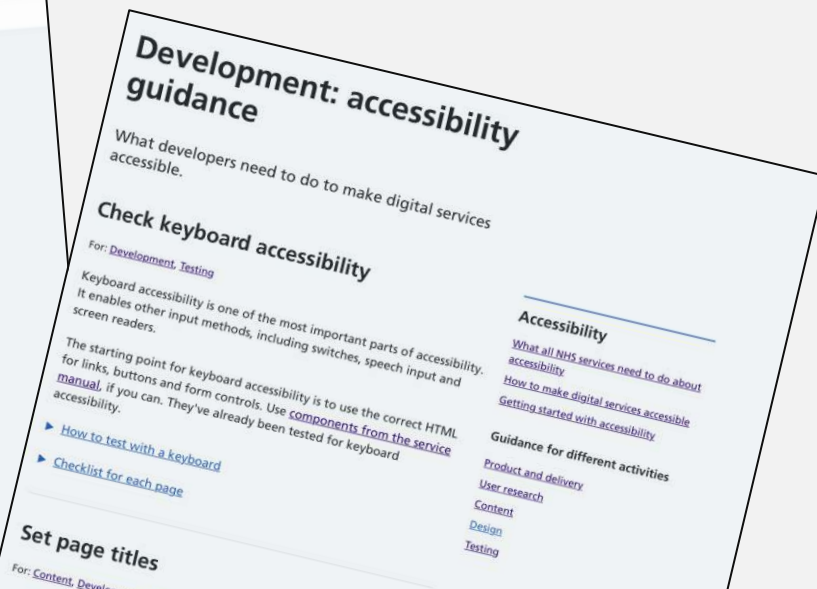
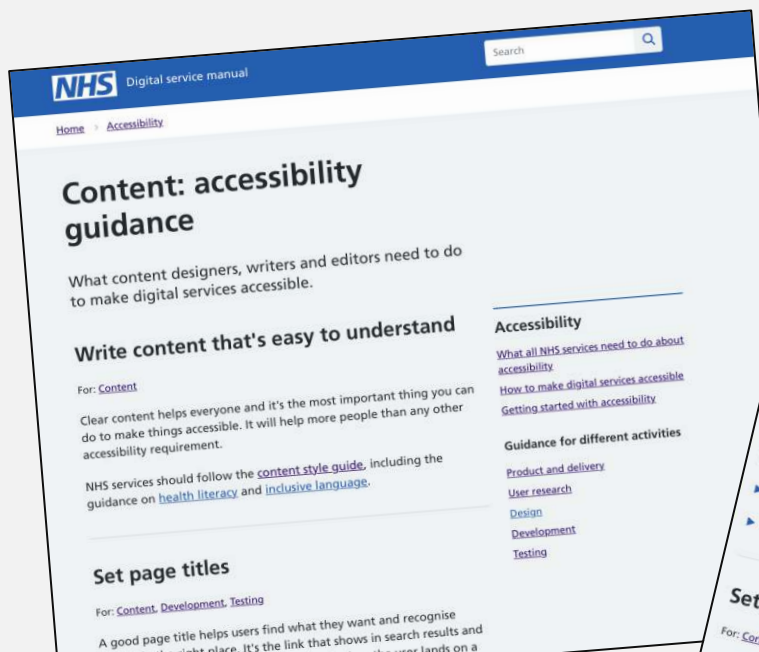
What we did first

- removed barriers, like carousels of moving content
- over 90 hours of research with 272 people
- spoke with national charities and support groups
- tested our changes with people with a range of disabilities
- developed accessible designs and added them to the NHS digital service manual







Three stages of work

- testing, using automated, manual and usability testing methods
- analysis and training workshop
- writing up recommendations and guidance for the service manual

We've published accessibility guidance in the service manual



We've made some posters...

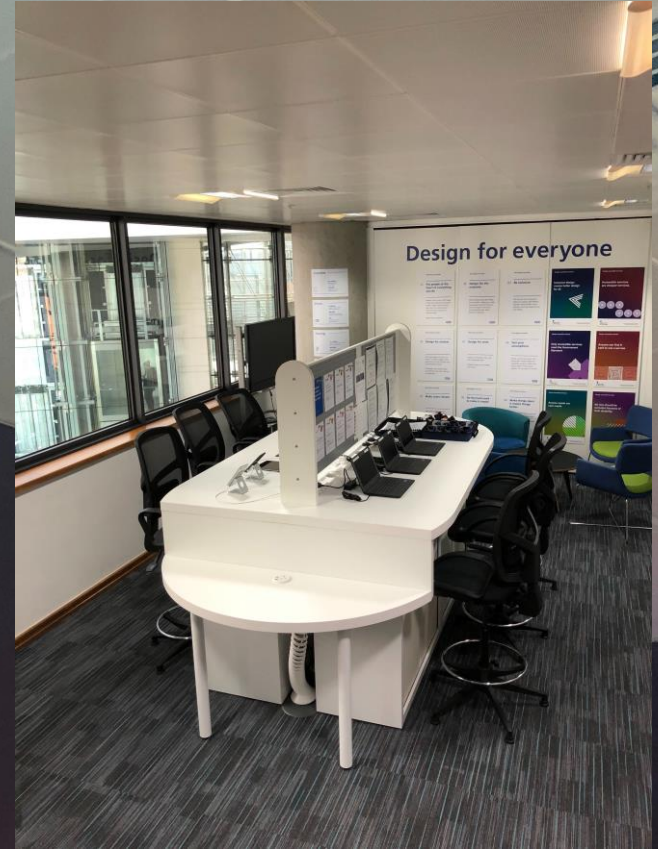
<p>NHS</p> <h2>Product and delivery</h2> <hr/> <p>Make sure everyone knows their responsibilities.</p> <p>If a team member doesn't have a basic understanding already, help them get started with accessibility.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>	<p>NHS</p> <h2>User research</h2> <hr/> <p>Involve people with access needs at every stage.</p> <p>Understand participants' needs beforehand and make your sessions accessible on the day.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>	<p>NHS</p> <h2>Content</h2> <hr/> <p>Write content that's inclusive and easy to understand.</p> <p>Use alternative text for images in content – and use captions to complement alt-text.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>	<p>NHS</p> <h2>Development</h2> <hr/> <p>Check keyboard accessibility – start with the correct HTML for links, buttons and form controls.</p> <p>Use ARIA patterns to let people who use assistive tech know what's going on.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>	<p>NHS</p> <h2>Design</h2> <hr/> <p>Use headings correctly, define focus styles, and build with tested, accessible components.</p> <p>Check colour contrast meets at least level AA and aim for AAA where possible.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>	<p>NHS</p> <h2>Testing</h2> <hr/> <p>Learn about accessibility before you start.</p> <p>Do 3 kinds of tests: test with people with access needs, do automated tests, and manual testing with guidelines.</p>  <p>beta.nhs.uk/service-manual/accessibility</p>
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Available soon to download



Welcome to the NHS.UK
accessibility working group

Accessibility lab →



Everyone needs to know

[What all NHS services need to do about accessibility](#)

[How to make digital services accessible](#)

[Getting started with accessibility](#)

Accessibility guidance for:

[Product and delivery](#)

[User research](#)

[Content](#)

[Design](#)

[Development](#)

[Testing](#)

Accessibility

How to make digital services in the NHS work for everyone.

Your service must be accessible to everyone who needs it. If it is not, you may be breaking the law.

Everyone who works on NHS digital services has a role to play in making them accessible and inclusive.

NHS services are for everyone

- **accessibility**
- **health literacy**
- **writing content that's easy to understand**
- **inclusive language**

40%

Struggle with typical
health information

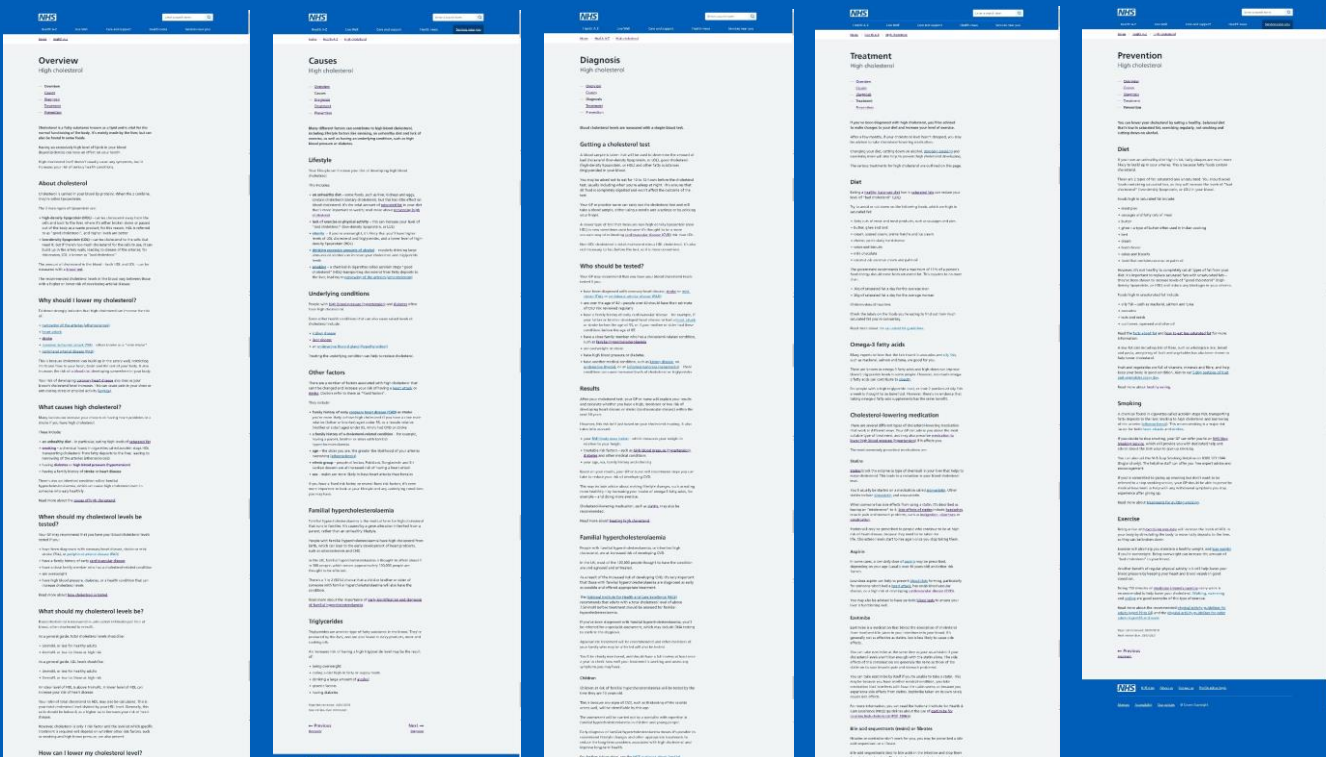
60%

Struggle with typical
numerical health
information

People with low health literacy are:

- more likely to have unhealthy lifestyles
- at higher risk of sickness and premature death
- less likely to use preventive services
- more likely to attend A&E

Old content High cholesterol



Words
3,717

Reading age
16.5

Overview

High cholesterol

Overview
Symptoms
Causes
Diagnosis
Treatment
Prevention

About cholesterol
Cholesterol is a waxy substance found in every cell in the body. It is essential for the production of hormones, vitamins and bile. It is also used to produce cell membranes and is a major component of the brain and nervous system. Cholesterol is transported in the blood by lipoproteins. There are two main types: low-density lipoprotein (LDL) and high-density lipoprotein (HDL). LDL is often referred to as 'bad cholesterol' because it can build up in the arteries, leading to heart disease. HDL is often referred to as 'good cholesterol' because it helps to remove LDL from the arteries.

Why should I lower my cholesterol?
High cholesterol is a major risk factor for heart disease and stroke. It can also lead to other health problems such as gallstones and pancreatitis. Lowering your cholesterol can reduce your risk of these conditions and improve your overall health.

What causes high cholesterol?
High cholesterol can be caused by a number of factors, including a diet high in saturated fats and cholesterol, a lack of exercise, being overweight or obese, smoking, and drinking alcohol. Some people also have a genetic condition called familial hypercholesterolemia, which causes high cholesterol from a young age.

When should my cholesterol levels be tested?
Your doctor should test your cholesterol levels if you are over 40 years old, or if you have a family history of heart disease or stroke. You should also be tested if you have other risk factors for heart disease, such as high blood pressure, diabetes, or smoking.

What should my cholesterol levels be?
The target cholesterol levels for most people are: total cholesterol less than 5 mmol/L, LDL cholesterol less than 3 mmol/L, and HDL cholesterol more than 1 mmol/L. Your doctor will advise you on your target levels based on your individual risk of heart disease.

How can I lower my cholesterol level?
You can lower your cholesterol level by making changes to your diet and lifestyle. This includes eating a diet low in saturated fats and cholesterol, increasing your intake of fruits, vegetables, and whole grains, and exercising regularly. You may also need to take medication if your cholesterol levels are not responding to lifestyle changes.

Causes

High cholesterol

Overview
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Lifestyle
Your diet and lifestyle can have a significant impact on your cholesterol levels. Eating a diet high in saturated fats and cholesterol, and being sedentary, can lead to high cholesterol. Conversely, a diet rich in fruits, vegetables, and whole grains, along with regular exercise, can help to lower cholesterol levels.

Underlying conditions
Several medical conditions can cause high cholesterol, including hypothyroidism, kidney disease, liver disease, and certain types of diabetes. These conditions can affect the way your body processes cholesterol, leading to higher levels in the blood.

Other factors
There are several other factors that can contribute to high cholesterol, such as being overweight or obese, smoking, and drinking alcohol. These factors can increase the production of LDL cholesterol and decrease the production of HDL cholesterol.

Familial hypercholesterolemia
Familial hypercholesterolemia is a genetic condition that causes high cholesterol from a young age. It is caused by a mutation in a gene that is responsible for the production of LDL receptors. People with this condition have significantly higher levels of LDL cholesterol than most people.

Hypertension
High blood pressure (hypertension) is often associated with high cholesterol. The two conditions can worsen each other, increasing the risk of heart disease and stroke. Managing your blood pressure can help to improve your cholesterol levels.

Medication
Some medications can affect cholesterol levels. For example, corticosteroids and certain diuretics can increase cholesterol levels, while statins and fibrates can lower them. Always discuss any changes to your medication with your doctor.

Diagnosis

High cholesterol

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Getting a cholesterol test
A cholesterol test is a simple blood test that measures the levels of total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides in your blood. The test is usually performed in a laboratory or a community health center. You may need to fast for 12 hours before the test to get an accurate reading of your triglyceride levels.

Who should be tested?
Your doctor should test your cholesterol levels if you are over 40 years old, or if you have a family history of heart disease or stroke. You should also be tested if you have other risk factors for heart disease, such as high blood pressure, diabetes, or smoking.

Results
The results of a cholesterol test will show your total cholesterol, LDL cholesterol, HDL cholesterol, and triglyceride levels. Your doctor will compare these results to the target levels for your age and risk factors. If your cholesterol levels are high, your doctor will discuss ways to lower them.

Familial hypercholesterolemia
If you have a family history of heart disease or stroke, and your cholesterol levels are high, your doctor may suspect you have familial hypercholesterolemia. This is a genetic condition that causes high cholesterol from a young age. A genetic test can confirm the diagnosis.

Diagnosis
Your doctor will take a medical history and perform a physical examination. They will also order a cholesterol test. If you have other risk factors for heart disease, your doctor may also order tests for blood pressure, blood sugar, and kidney function.

Next steps
If your cholesterol levels are high, your doctor will discuss ways to lower them. This may include changes to your diet and lifestyle, and possibly medication. Your doctor will monitor your cholesterol levels regularly to ensure they are under control.

Treatment

High cholesterol

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Diet
Your diet plays a crucial role in managing your cholesterol levels. A diet low in saturated fats and cholesterol, and high in fruits, vegetables, and whole grains, can help to lower cholesterol levels. You should also limit your intake of alcohol and avoid smoking.

Drugs to lower cholesterol
There are several types of drugs that can be used to lower cholesterol levels. Statins are the most commonly used and are effective at lowering LDL cholesterol. Other types of drugs include fibrates, niacin, and PCSK9 inhibitors. Your doctor will recommend the most appropriate drug for you based on your cholesterol levels and other health conditions.

Cholesterol-lowering medication
If your cholesterol levels are not responding to lifestyle changes, your doctor may recommend medication. Statins are the first-line treatment for high cholesterol. They work by blocking the production of cholesterol in the liver. Other types of medication include fibrates, niacin, and PCSK9 inhibitors.

Medicine
Your doctor will discuss the benefits and risks of different types of medication. Statins are generally well-tolerated and have been shown to reduce the risk of heart disease and stroke. However, they can cause side effects such as muscle pain and liver problems. Your doctor will monitor you for any side effects.

Exercise
Regular exercise can help to lower cholesterol levels and improve your overall health. Aim for at least 150 minutes of moderate-intensity exercise per week. This can include activities such as walking, swimming, or cycling. Exercise also helps to increase HDL cholesterol levels.

Weight management
If you are overweight or obese, losing weight can help to lower your cholesterol levels. A diet low in saturated fats and cholesterol, and high in fruits, vegetables, and whole grains, can help you to lose weight. Regular exercise is also important for weight management.

Prevention

High cholesterol

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Diet
Your diet is one of the most important factors in preventing high cholesterol. A diet low in saturated fats and cholesterol, and high in fruits, vegetables, and whole grains, can help to prevent high cholesterol. You should also limit your intake of alcohol and avoid smoking.

Exercise
Regular exercise is essential for preventing high cholesterol and improving your overall health. Aim for at least 150 minutes of moderate-intensity exercise per week. This can include activities such as walking, swimming, or cycling. Exercise also helps to increase HDL cholesterol levels.

Weight management
If you are overweight or obese, losing weight can help to prevent high cholesterol. A diet low in saturated fats and cholesterol, and high in fruits, vegetables, and whole grains, can help you to lose weight. Regular exercise is also important for weight management.

Medication
If you have a family history of heart disease or stroke, your doctor may recommend medication to prevent high cholesterol. Statins are the most commonly used and are effective at lowering LDL cholesterol. Your doctor will monitor you for any side effects.

Regular check-ups
Your doctor should test your cholesterol levels regularly to ensure they are under control. This is especially important if you have other risk factors for heart disease, such as high blood pressure, diabetes, or smoking. Your doctor will discuss the best way to manage your cholesterol levels.

Next steps
If you are concerned about your cholesterol levels, talk to your doctor. They will discuss ways to lower them and monitor your progress. Making changes to your diet and lifestyle, and taking medication if necessary, can help to prevent heart disease and stroke.

Reduce reading age High cholesterol

Overview
high cholesterol 1

Overview
Causes
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High cholesterol is a condition where there is an excess of certain fats in the blood. It is a common condition and is often not noticed until it is diagnosed. High cholesterol can lead to heart disease and stroke. It is often treated with medication and lifestyle changes.

About cholesterol

Cholesterol is a waxy substance that is found in all cells. It is used to make hormones, vitamin D, and bile acids. It is also used to make cell membranes. There are two types of cholesterol: 'good' cholesterol (HDL) and 'bad' cholesterol (LDL). HDL is good because it helps remove 'bad' cholesterol from the arteries. LDL is bad because it can build up in the arteries and cause heart disease.

Why should I lower my cholesterol?

High cholesterol can lead to heart disease and stroke. It is often not noticed until it is diagnosed. Lowering your cholesterol can reduce your risk of heart disease and stroke.

What causes high cholesterol?

High cholesterol can be caused by diet, lifestyle, and genetics. It is often not noticed until it is diagnosed.

When should my cholesterol levels be tested?

Cholesterol should be tested regularly, especially if you have a family history of heart disease or if you have other risk factors for heart disease.

What should my cholesterol levels be?

Cholesterol levels should be kept below 5 mmol/L. LDL cholesterol should be below 3 mmol/L. HDL cholesterol should be above 1 mmol/L.

How can I lower my cholesterol level?

Cholesterol can be lowered by eating a healthy diet, exercising regularly, and taking medication if necessary.

Causes
high cholesterol 1

Causes
Diagnosis
Treatment
Prevention

High cholesterol is caused by an excess of certain fats in the blood. It is often not noticed until it is diagnosed. High cholesterol can lead to heart disease and stroke. It is often treated with medication and lifestyle changes.

Lifestyle

High cholesterol can be caused by diet, lifestyle, and genetics. It is often not noticed until it is diagnosed.

Other health problems

High cholesterol can be caused by other health problems, such as diabetes, kidney disease, and liver disease.

Diagnosis
high cholesterol 1

Diagnosis
Causes
Treatment
Prevention

High cholesterol is diagnosed by a blood test. The test measures the amount of cholesterol in the blood. It is often not noticed until it is diagnosed.

Getting a cholesterol test

Cholesterol tests are usually done as part of a routine health check. They can also be done if you have symptoms of heart disease.

Who should be tested?

Cholesterol should be tested regularly, especially if you have a family history of heart disease or if you have other risk factors for heart disease.

Results

Cholesterol levels should be kept below 5 mmol/L. LDL cholesterol should be below 3 mmol/L. HDL cholesterol should be above 1 mmol/L.

Treatment
high cholesterol 1

Treatment
Causes
Diagnosis
Prevention

High cholesterol is treated with medication and lifestyle changes. Medication is usually prescribed if lifestyle changes are not enough to lower cholesterol levels.

Getting a cholesterol test

Cholesterol tests are usually done as part of a routine health check. They can also be done if you have symptoms of heart disease.

Who should be tested?

Cholesterol should be tested regularly, especially if you have a family history of heart disease or if you have other risk factors for heart disease.

Results

Cholesterol levels should be kept below 5 mmol/L. LDL cholesterol should be below 3 mmol/L. HDL cholesterol should be above 1 mmol/L.

Prevention
high cholesterol 1

Prevention
Causes
Diagnosis
Treatment

High cholesterol can be prevented by eating a healthy diet, exercising regularly, and taking medication if necessary.

Diet

High cholesterol can be prevented by eating a healthy diet. This includes eating more fruits and vegetables, and less saturated fat and cholesterol.

Smoking

High cholesterol can be prevented by not smoking. Smoking can raise cholesterol levels and damage the arteries.

Exercise

High cholesterol can be prevented by exercising regularly. Exercise can help lower cholesterol levels and improve heart health.

Words
1,764
↓ -1,953
Reading age
13.2
↓ -3.3

Start from scratch

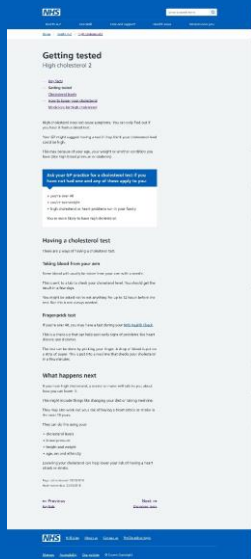
High cholesterol



Key facts
High cholesterol 2

Key facts
High cholesterol 2

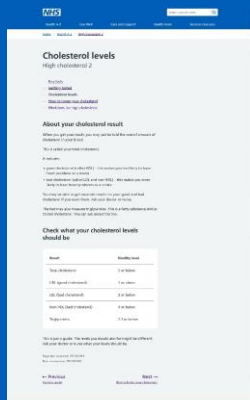
Key facts
High cholesterol 2



Getting tested
High cholesterol 2

Getting tested
High cholesterol 2

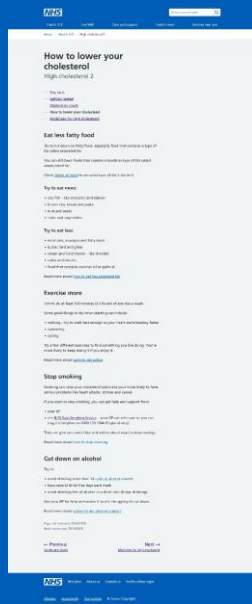
Getting tested
High cholesterol 2



Cholesterol levels
High cholesterol 2

Cholesterol levels
High cholesterol 2

Cholesterol levels
High cholesterol 2



How to lower your cholesterol
High cholesterol 2

How to lower your cholesterol
High cholesterol 2

How to lower your cholesterol
High cholesterol 2



Medicines for high cholesterol
High cholesterol 2

Medicines for high cholesterol
High cholesterol 2

Medicines for high cholesterol
High cholesterol 2

Words
1,072

↓ -2,645

Reading age
12.4

↓ -4.1

Reducing the reading age did make things easier to read but...

Starting from scratch also:

- reduced reading time
- made it easier to pick out and recall information
- made calls to action clearer
- made it simpler to navigate ...
... for everyone

[How we write](#)[Voice and tone](#)[Inclusive language](#)[A to Z of NHS health writing](#)[Health literacy](#)[How to write good questions for forms](#)[Numbers, measurements, dates and time](#)[Formatting and punctuation](#)[PDFs](#)[Links](#)[Content style guide](#)

Health literacy

NHS services are for everyone. But many adults in the UK have low health literacy skills. This means they struggle to read and understand medical content intended for the public.

What is health literacy?

Health literacy is about a person's ability to understand and use information to make decisions about their health.

A user with low health literacy will generally struggle to:

- read and understand health information
- know how to act on this information
- know which health services to use and when to use them

Research shows that:

NHS services are for everyone

- **accessibility**
- **health literacy**
- **writing content that's easy to understand**
- **inclusive language**

[Home](#)[How we write](#)[Voice and tone](#)[Inclusive language](#)[A to Z of NHS health writing](#)[Health literacy](#)[How to write good questions for forms](#)[Numbers, measurements, dates and time](#)[Formatting and punctuation](#)[PDFs](#)[Links](#)

Content style guide

How to write for digital NHS services.

This style guide is for anyone creating content for the NHS, to help make things clear and consistent across all of our services.

It's meant as a guide, not a rulebook. You're welcome to adapt a style pattern if it does not meet your users' needs.

Check the [GOV.UK A to Z style guide](#) and [GOV.UK content design guide](#) for any points of style that you do not find here.

If it's not there, talk to colleagues on the [#content channel on the service manual public Slack](#) or [email the service manual team](#) to see if anyone has any experience of or research insight into the issue.

[How we write](#)[Voice and tone](#)[Inclusive language](#)[A to Z of NHS health writing](#)[Health literacy](#)[How to write good questions for forms](#)[Numbers, measurements, dates and time](#)[Formatting and punctuation](#)[PDFs](#)[Links](#)

Content style guide

A to Z of NHS health writing

Words and phrases we use to make our content about health and the NHS easy to understand.

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#)
[T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

A

A&E

We use "A&E". You don't need to spell out "accident and emergency".

P

pee

We use the nouns “pee” and “urine”. We know that everyone can understand “pee”, including people who find reading difficult. Most people also understand and search for “urine”, for example in phrases like “blood in urine”.

We don’t use “wee” because it can confuse people who use voice technologies or screen readers.

We use “pee” for the verb, not “urinate” or “pass urine”. We know that the people who use NHS digital services talk about and search for “peeing more often” and “peeing at night”.

persist

We use “carry on” or “keep going”.

NHS
Digital

NHS Digital > Blogs
> Transformation blog > 2019
> Pee and poo and the language of
health

**Pee and poo
and the
language of
health**

mary

NHS services are for everyone

- **accessibility**
- **health literacy**
- **writing content that's easy to understand**
- **inclusive language**

NHS services are for everyone

People are not likely to get the health information, care and treatment they need if they:

- don't understand that a service is for them
- don't feel respected and included

NHS services are for everyone

But some things are difficult to get right.

[How we write](#)[Voice and tone](#)[Inclusive language](#)[— Age](#)[— Disabilities and conditions](#)[— Mental health](#)[— Race, ethnicity, religion
and nationality](#)[— Sex, gender and sexuality](#)[A to Z of NHS health writing](#)[Health literacy](#)[How to write good questions
for forms](#)[Numbers, measurements,
dates and time](#)[Formatting and punctuation](#)[PDFs](#)[Links](#)[Content style guide](#)

Inclusive language

Writing for and about people in a way that is inclusive and respectful.

Age

Only include age if it's relevant, for example, with vaccination, screening or testing programmes for particular age groups. An example of this is chlamydia testing as tests are free for under-25s.

Here are some of the terms we use for different stages of life with some guidance about the ages they relate to.

When you need to be more specific, for example if you're writing about medicines dosage, give the actual age. For example, "teenagers aged 16 and over".

We use:

Sex, gender and sexuality

The language around sex, gender and sexuality changes all the time and it's an area that people hold strong and differing opinions about. We try to make sure that we are in touch with the communities we are writing for and we update this guidance regularly. This section should help you get started but the best thing is to test your content and services with the people who use them.

Only mention sex, gender or sexuality if they're relevant, for example, to signpost people and help them get the health information and access to treatment they need.

When to use "sex" and when to use "gender"

Many people think that sex and gender are the same but they mean different things. It's important to be clear about the difference.

NHS services are for everyone

- **accessibility**
- **health literacy**
- **plain English**
- **inclusive language**

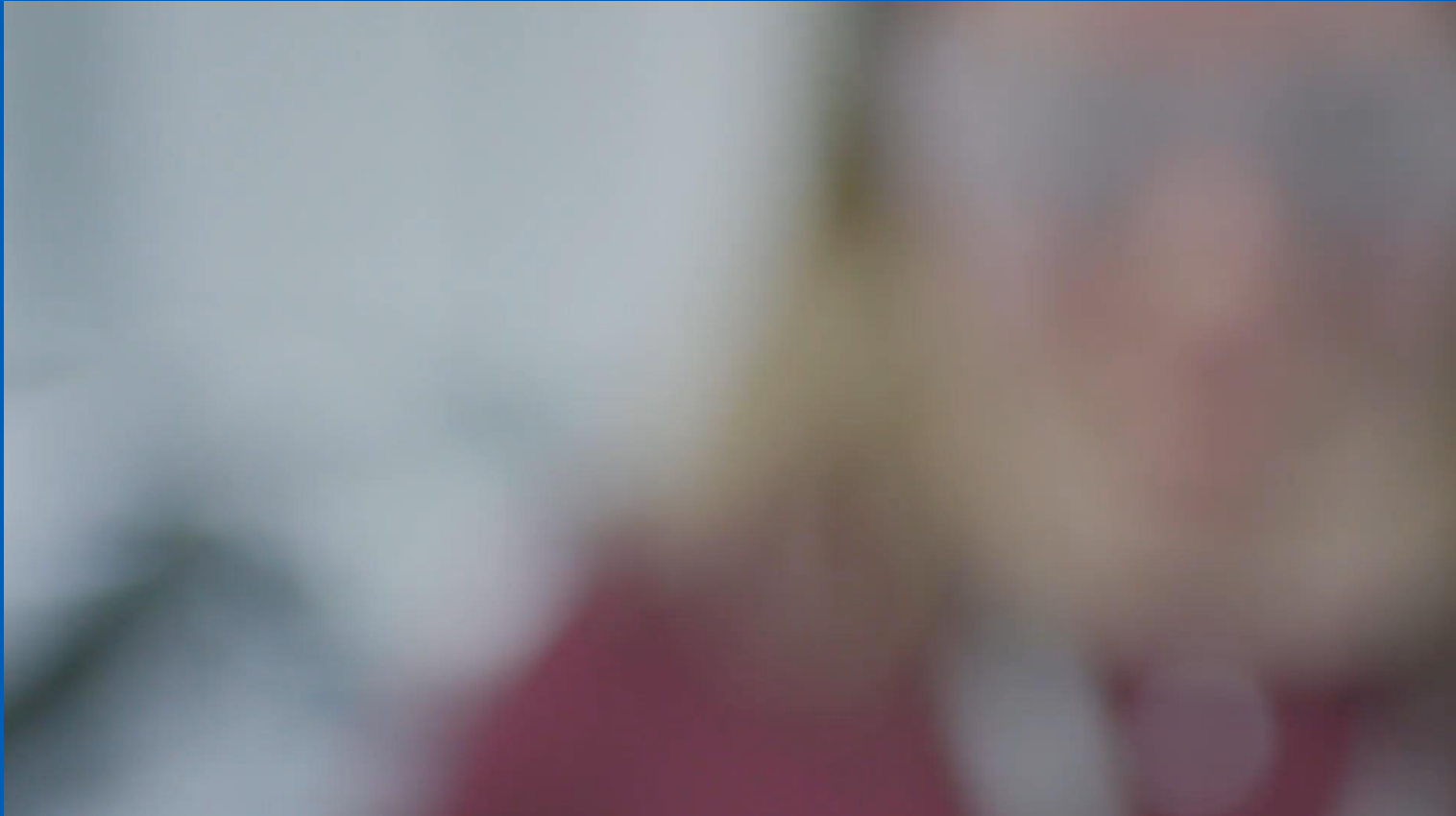
And we are continuing to develop our guidance

We are keen to:

- hear feedback
- learn from users
- encourage contributions

Find out more at service-manual.nhs.net

We have made a film to help raise awareness.





Thank you, any questions?

Presented by Leigh Mortimer, NHS Digital
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