



# Common Sense of Web Performance

Shane Hudson





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**Performance is for the whole team to think about. Even if they never write a line of code in their life.**



**If you're the one that cares about  
performance, foster it within your team**



**ABOUT THE AUTHOR**

Vitaly Friedman loves beautiful content and doesn't like to give in easily. When he is not writing or speaking at a conference, he's most probably running ... [More about Vitaly...](#)

JANUARY 3, 2018 • [18 COMMENTS](#)

# Front-End Performance Checklist 2018 [PDF, Apple Pages]

# [Performance](#) <sup>74</sup> # [Service Workers](#) <sup>5</sup> # [Checklists](#) <sup>8</sup>

**Performance matters —**

we all know it. However, do we actually always know what our performance bottlenecks exactly are? Is

it expensive JavaScript, slow web font delivery, heavy images, or sluggish rendering? Is it worth exploring tree-shaking, scope hoisting, code-



**You don't need to learn  
everything all at once**



**Web development is both easier  
than ever and harder than ever.**



**No one knows what they  
don't know**

# 1. The web is fast



**Our job is to make the web slower,  
and fix it before anyone notices**

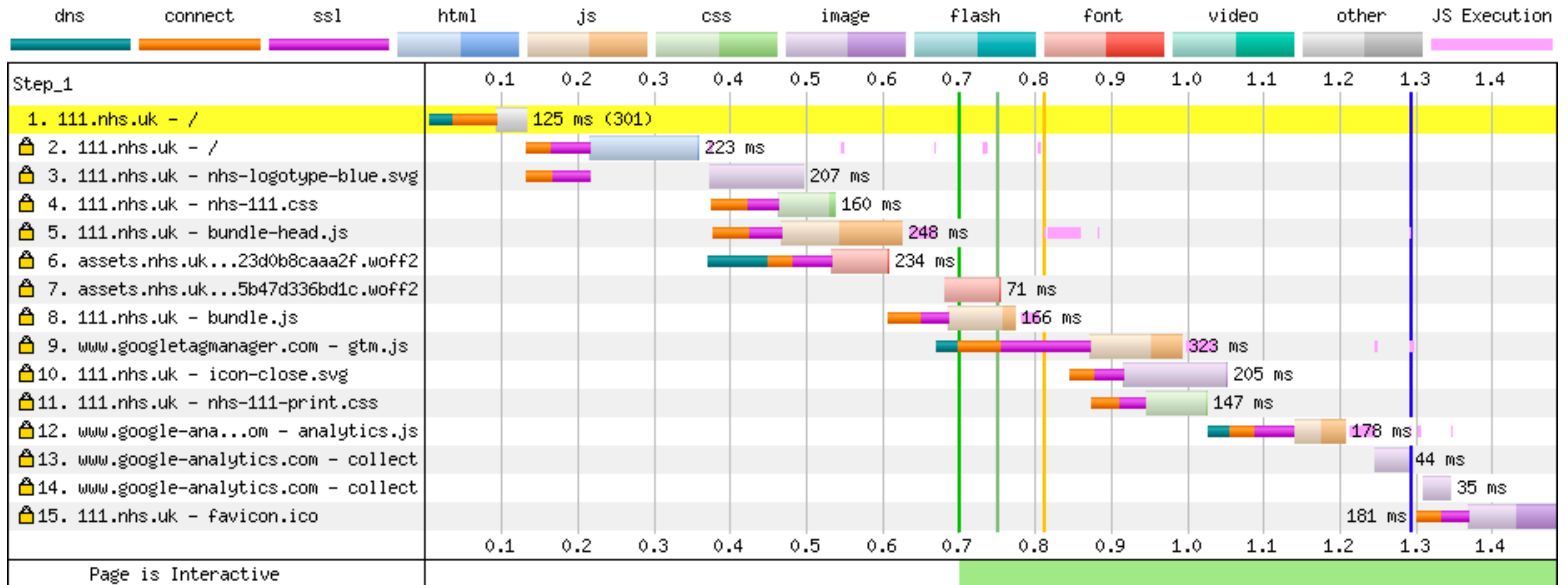
**Use the way the web works,  
instead of workarounds**



**2. “performance” can mean  
so many things**

# Network





# Page performance






# Speed of journey



## Pardon the interruption.

We've seen you here before. Let's make things official.

 Sign up with Google

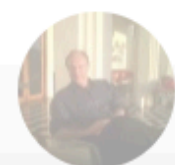
 Sign up with Facebook

Already have an account? [Sign in.](#)

[Terms of Service](#)



today!



Never miss a story from **Tim Berners-Lee**, when you sign up for Medium. [Learn more](#)

GET UPDATES

**3. A website is useless if you  
cannot use it**



**A performant web is a more  
accessible web**

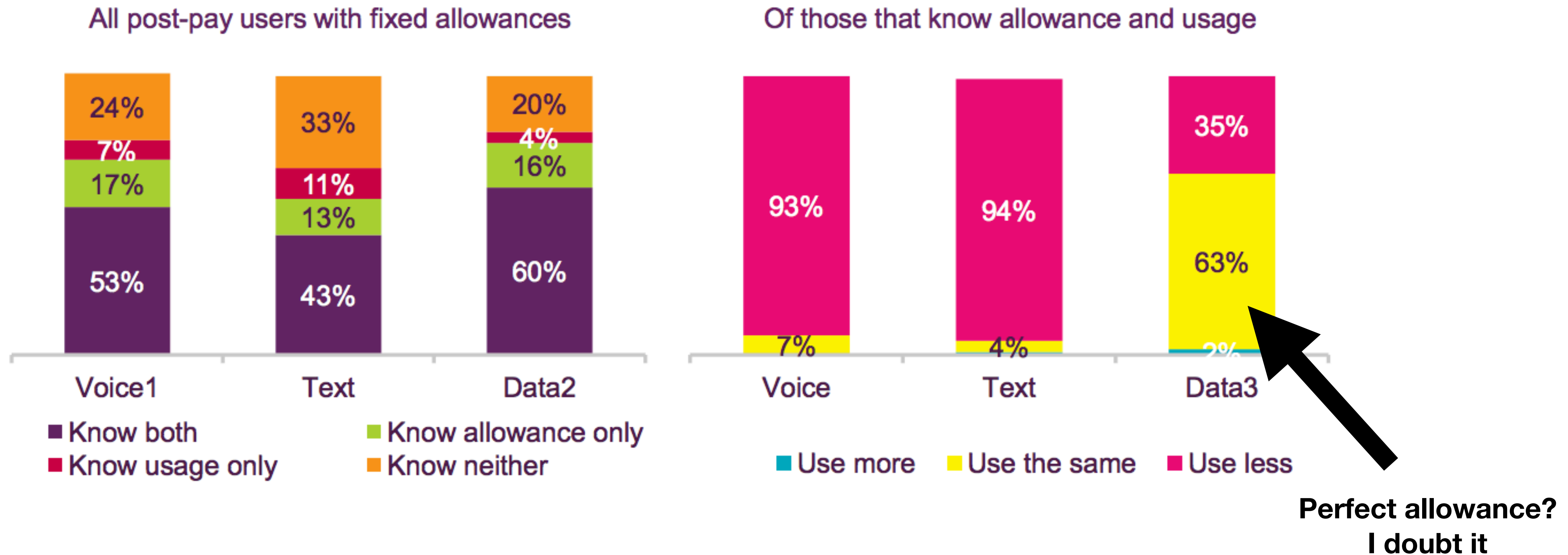
“Things that hit general performance will have an impact on accessibility performance. For example, re-writing large sections of the DOM is likely to be poor performance both visually and on a screen reader.”

Léonie Watson

**If a website is hard to use on an  
developer's laptop with fast internet,  
what chance does anyone else have?**

# 63% of people use their monthly allowance

Figure 1.14 Knowledge and use of fixed allowances included in mobile contracts





**When we make websites, we must  
remember there is a cost to view**

**Progressive enhancement and  
performance go hand in hand.  
It's all about the **baselines**.**





HYDE PARK CORNER

HYDE PARK CORNER





**What happens if your assets  
don't load fully?**





[Journal](#) [Links](#) [Articles](#) [Notes](#) [About](#)

offline

## Jeremy Keith

Making [websites](#). Writing [books](#). Speaking at [events](#). Living in [Brighton](#).  
Working at [Clearleft](#). Playing [music](#). Taking [photos](#). Answering [email](#).

### Journal

2457



### Links

7313



### Articles

68



### Notes

3701



Sunday, April 8th, 2018

#### About this site

[Adactio](#) is the online home of [Jeremy Keith](#), a web developer and author living and working in Brighton, England.

[Get in touch](#)

#### Customise

Choose a theme...

default ▾ ?

This is the plain vanilla look.

#### Search

Find

Within  ▾

- Peruse the [archive](#)
- Browse the [tags](#)

#### Subscribe

I have some feeds that you can subscribe to in your RSS reader:

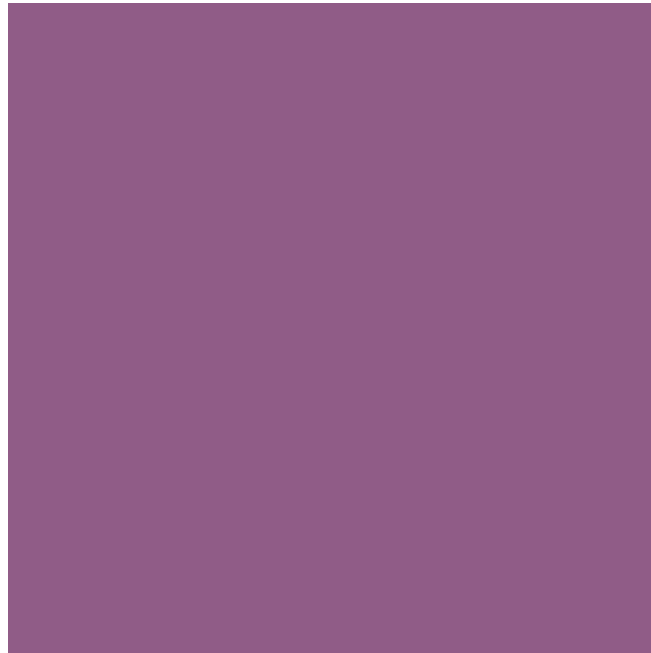
- [My journal](#)
- [My links](#)







# 4. Less is more





```
<?xml version="1.0" encoding="UTF-8"?>
<svg width="244px" height="244px" viewBox="0 0 244 244" version="1.1"
xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink">
  <!-- Generator: Sketch 49.3 (51167) - http://www.bohemiancoding.com/sketch -->
  <title>Rectangle</title>
  <desc>Created with Sketch.</desc>
  <defs></defs>
  <g id="Page-1" stroke="none" stroke-width="1" fill="none" fill-rule="evenodd">
    <rect id="Rectangle" fill="#905C87" x="0" y="0" width="244" height="244"></rect>
  </g>
</svg>
```



<https://jakearchibald.github.io/svgomg/>

337 bytes → 137 bytes 40.65%

### Global settings

- ☐ Show original
- ☒ Compare gzipped
- ☐ Prettify markup
- ☐ Multipass

### Precision



### Features

- ☒ Remove doctype
- ☒ Remove XML instructions
- ☒ Remove comments
- ☒ Remove <metadata>
- ☐ Remove xmlns

```
<svg xmlns="http://www.w3.org/2000/svg" width="244" height="244"><path fill="#905C87" fill-  
rule="evenodd" d="M0 0h244v244H0z" /></svg>
```

# **Optimise all assets**



Showing **43 changed files** ▼ with **3 additions** and **2717 deletions**

“It’s only slow the first time,  
then it gets cached”

Said pretty much everyone—including me—at some point  
they are wrong.

**Take responsibility, don't rely  
on technology**

**You can't fix performance by  
chucking money at it**



@chrispeppstein  
@chrispeppstein



Q: How can we make Ruby slower?

A:

Ruby on WebAssembly! 🎉 Will have a writeup soon.



@chrispeppstein @chrispeppstein · 2m



Replying to @chrispeppstein

^ This is a troll but I'm serious too. Web Assembly scares me. We're going to a whole lot of things we shouldn't with it. It can make the web faster but it can also make the web slower.





# 5. Performance is designed

**Every content update**

**Every new feature**

**Every design tweak and bug fix**

**Every blog post**

**Everything** affects performance

**A page can load quickly but  
the journey can be awful**



# **Case study - NHS 111 online**

**BETA** This is a new service, your [feedback](#) will help improve it.

## Have you fainted or blacked out in the last 24 hours?

- ☐ Yes
- ☐ I'm not sure or it was more than 24 hours ago
- ☐ No

**Next question**

[Change my previous answer](#)

# What makes this page fast?

- Hierarchy
- **One context**
- Really simple, one image
- Call to action

The screenshot shows the NHS 111 online interface. At the top, the NHS logo is followed by '111 online'. Below this is a blue horizontal line. Under the line, there is a yellow 'BETA' label and a message: 'This is a new service, your [feedback](#) will help improve it.' The main question is 'Have you fainted or blacked out in the last 24 hours?'. There are three radio button options: 'Yes', 'I'm not sure or it was more than 24 hours ago', and 'No'. Below the options is a green button labeled 'Next question'. At the bottom, there is a blue link that says 'Change my previous answer'.

NHS 111 online

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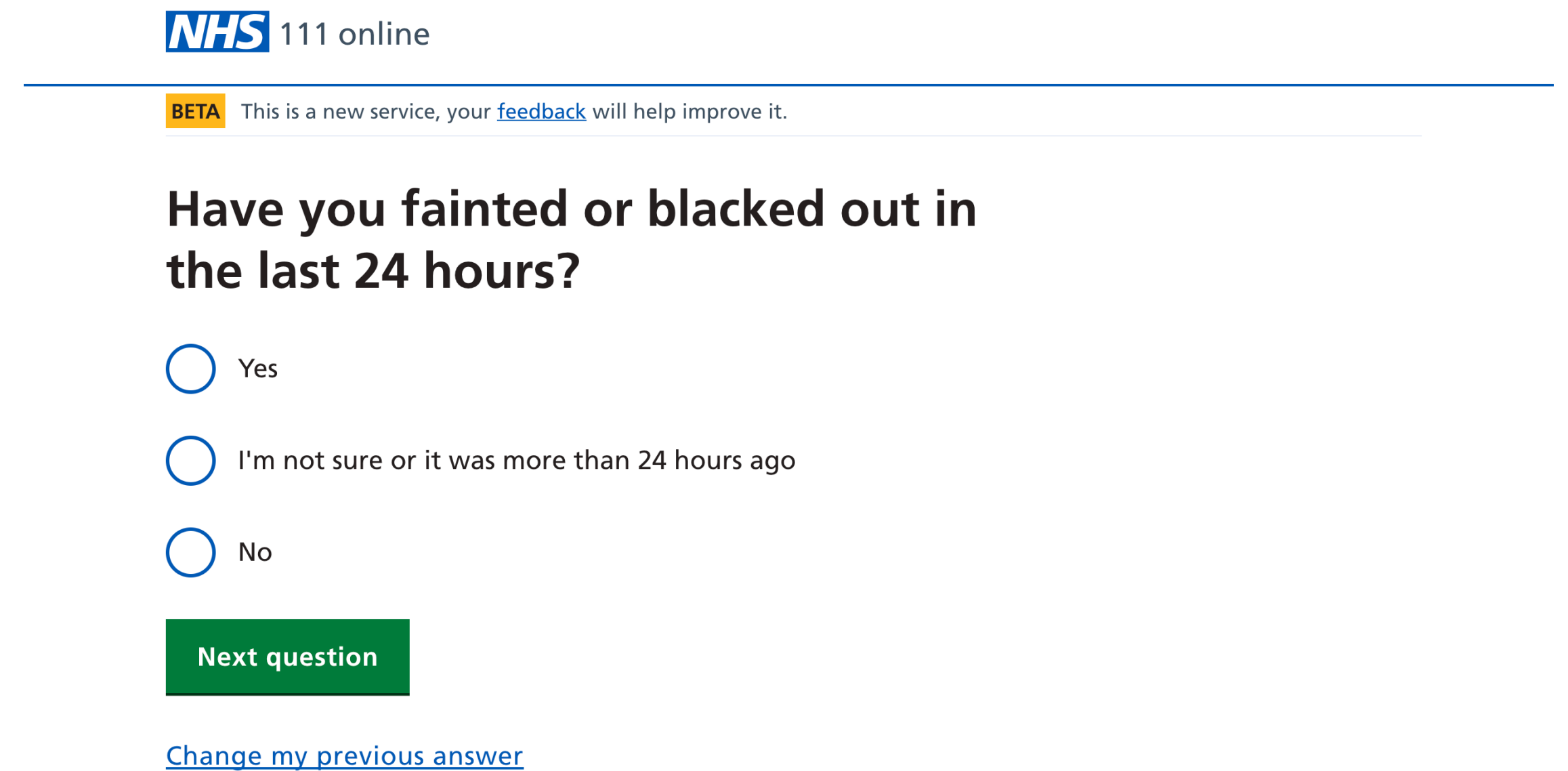
Next question

[Change my previous answer](#)



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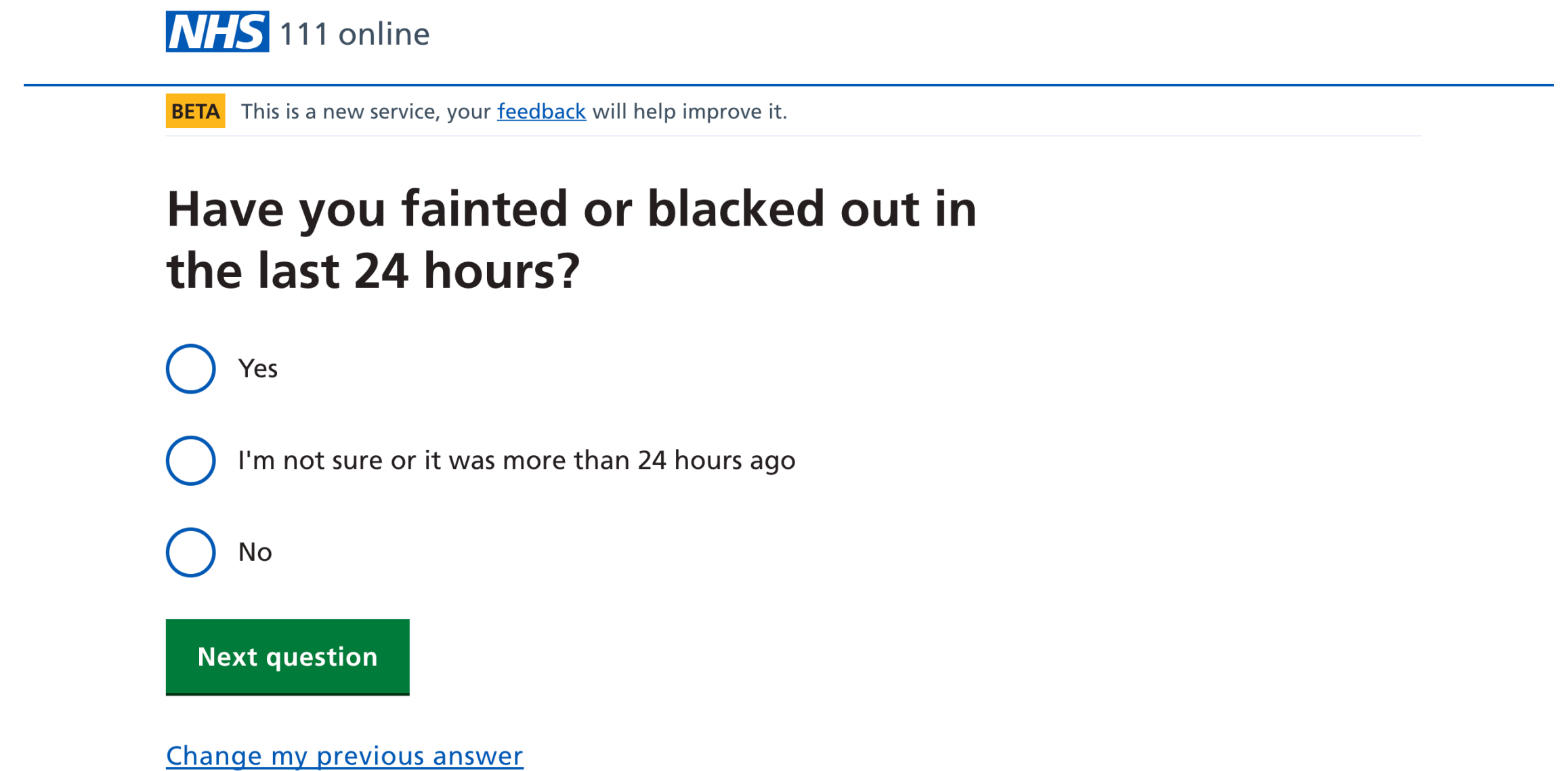
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Next question

[Change my previous answer](#)

**How do you make a journey  
quicker/easier? Repetition**



“When you are tired,  
distracted or confused,  
you can’t use new or novel  
interactions. You go back to  
the stuff you know.”

Joe Leech

<https://mrjoe.uk/ux100/>

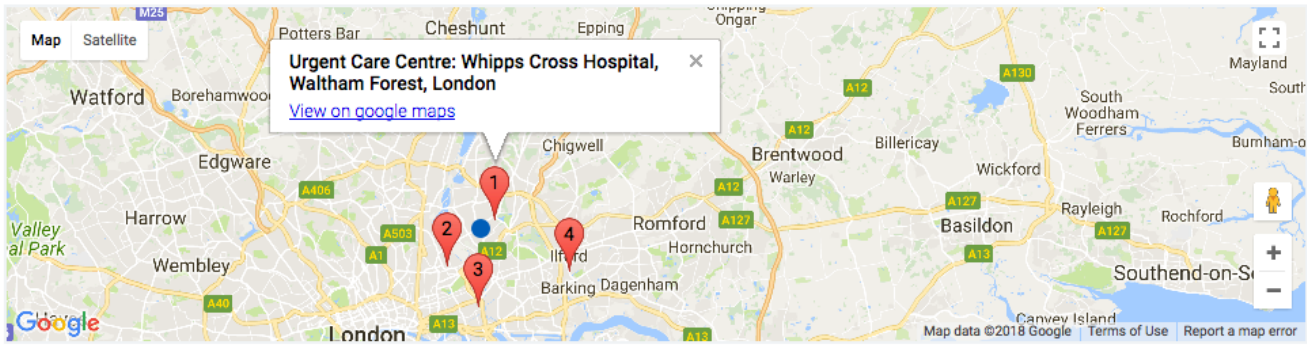
## Speak to your GP practice today or tomorrow

You should speak to your GP practice within the next 24 hours

### If you can't speak to your GP practice

▼ [Visit a service](#)

As you may not see your usual GP, let the service know which medicines you take.



1

**Urgent Care Centre: Whipps Cross Hospital, Waltham Forest, London**  
  
Whipps Cross Hospital  
Whipps Cross Road  
Leytonstone  
E11 1NR  
  
**Open today: 24 hours**  
  
This service doesn't require an appointment  
[Get directions](#)

2

**Urgent Care Centre: Homerton Hospital, City and Hackney, London**  
  
Homerton Row  
London  
E9 6SR  
  
**Open today: 07:00 until 23:59**  
  
This service doesn't require an appointment  
[Get directions](#)

3

**Walk-in-Centre: St Andrews Health, Tower Hamlets, London**  
  
St Andrews Health Centre  
2 Hannaford Walk  
London  
E3 3FF  
  
**Open today: 08:00 until 20:00**  
  
This service doesn't require an appointment  
[Get directions](#)

4

**Walk-in-Centre: Loxford Polyclinic, Redbridge, London**  
  
417 Ilford Lane  
Ilford  
IG1 2SN  
  
**Open today: 08:00 until 20:00**  
  
This service doesn't require an appointment  
[Get directions](#)

▼ [Arrange for someone to phone you](#)

They will check through the answers you have entered and give you advice on what to do next

#### Integrated Urgent Care - Clinical Hub Contact - East London - London

**Opens today:** 00:00 until 08:00  
18:30 until 23:59

[Book a call](#)

If you're not registered with a GP, read advice on [how to join an NHS GP practice](#)

### What you can do in the meantime

#### Fever

- Drink plenty of fluids - little and often is best.
- Wear lightweight clothes. Don't wrap up to try to sweat out the fever.
- Don't fan or sponge yourself down to cool off. Cooling down too quickly can cause shivering and will increase your temperature again.
- Call 999 if:
  - The person becomes very drowsy, isn't responding normally or is having a fit.
  - The person becomes severely ill with new marks under the skin which look like bruising or bleeding.

#### Medication, pain and/or fever

- Paracetamol or ibuprofen can be used to relieve pain or a fever. Don't take if you've been told not to, or you've already taken some. Read the instructions on the packet, or talk to a pharmacist.

#### Headache

- Try gentle exercise, a neck and shoulder massage, a warm bath or a break from your daily routine to help with a headache.
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### Call 111 if your symptoms get worse

If there are any new symptoms, or if the condition gets worse, changes or you have any other concerns, call NHS 111 for advice. Calls to 111 are free.

► [Help us improve](#)

[Terms and conditions](#)  
[Privacy statement](#)  
[Cookies](#)



# What makes this page slower?

- Six different contexts

- Map

- Service lookup (backend)

- Call to action is not obvious, ordered by recommended priority

NHS 111 online

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NHS 111 uses cookies to make the site simpler. [Find out more about cookies](#)

NHS

111 online

BETA This is the first version of a new service.

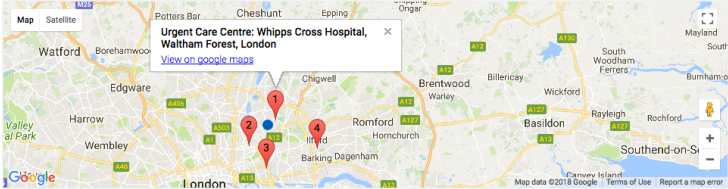
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Help us improve

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**Network**  
**Page performance**  
**Speed of journey**

# **6. There can be valid reasons for a slower website**

**Know your limitations**



# Limitation - Content

# Limitation - Requirement

# Limitation - Privacy

# Can a website be too fast?

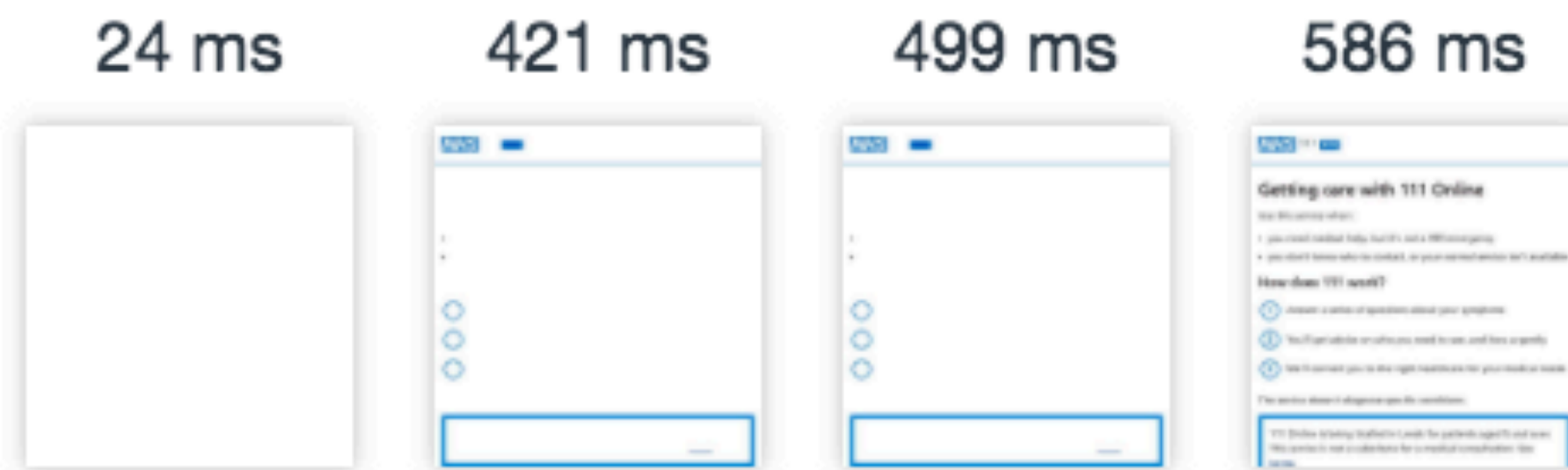


**No. But...**

# Flash of invisible Text




Slow but felt  
like it was loading



Fast but felt broken

**Wait, did something happen?**

**Too fast, add friction**

Your message has been sent. [Undo](#) [View message](#) 

Your message has been sent. [View message](#) 



Indeterminate



Determinate



## Summary

1. The web is fast
2. “performance” can mean so many things
3. A website is useless if you cannot use it
4. Less is more
5. Performance is designed
6. There can be valid reasons for a slower website

# Thank you!

Shane Hudson