

# **Building a website, a Digital Publishing capability and a reputation**

**Laura Dewis**

**Chief Publishing Officer**

**Office for National Statistics, UK**

Digital Publishing of Statistics

# Digital Publishing 2013-2015

---

- Establishing a Digital Publishing Division and changing the operating model
- Improving the website
- Understanding our users
- Developing digital first content

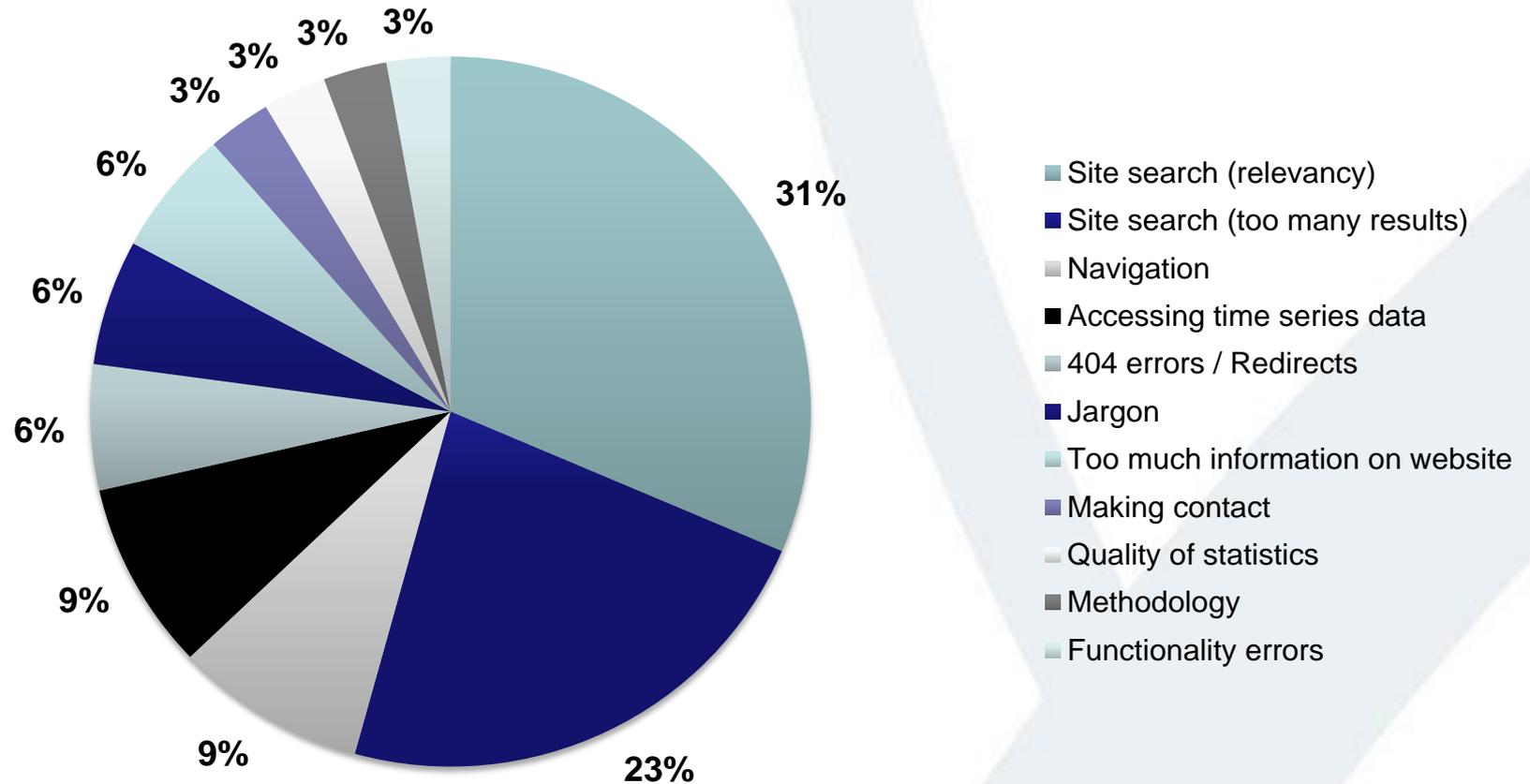
# Independent report

---

*“To bring the ONS website up to current good practice and at least match the performance of the websites of the G10 group of countries **may well take until 2017** (half-way through the period of the current ten year business strategy) to achieve. **This is a very substantial change management exercise.**”*

# User research

Do you experience any issues using the website?



# Discovery

---

- Analysis of all user testing since 2012
- Survey of 400 users and 50 follow-up interviews
- Development of personas
- Publishing model
- Developing a pattern library
- Responsive design
- Procuring team for Alpha build



In December 2013, the **Price Index for Alcoholic Beverages - SPECIAL INDEX FOR USE IN NSO - Manu incl duty** was...

# 111.5

limited coverage provisional

previous month	next month
111.6 ↓ -0.1	111.4 ↓ -0.1
previous year	next year
110.9 ↑ 0.6	not available

<b>Product</b>	Alcoholic Beverages - SPECIAL INDEX FOR USE IN NSO - Manu incl duty
<b>Date</b>	December 2013
<b>Provisional</b>	true
<b>Seasonal Adjustment</b>	NSA
<b>Base Period</b>	-
<b>Price</b>	NONE
<b>Index Period</b>	2010

Producer Price Indices (PPIs) are a series of economic indicators that measure the price movement of goods bought and sold by UK manufacturers. It is a base weighted index working on the basket of goods concept. A wide range of representative products are selected and the prices of these goods collected each month. The movement in these prices are weighted to reflect the relative importance of the products in a chosen year (known as the base year) currently 2010. These are then aggregated for various sectors of industry to provide the published indices.

Download the full dataset

### Compare

- Change over time
- Other products

### Explore

- Other time periods
- Other products

### Subscribe

- Latest figure
- Email

JSON XML RDF

The output price index for goods produced by UK manufacturers (factory gate prices), rose 0.9% in the year to January 2014"



# Aidan

## The Expert Analyst

**Aidan works at as a statistician for HM Treasury. He has a PhD in statistics. He has a reasonable level of autonomy in his job. He knows ONS quite well and has contacts within the ONS with whom he can discuss problems or things he does not understand.**

*“Just give me the Excel data I need”*

### 🔑 Key goals

- Find a particular Excel spreadsheet to download, without being distracted by similar-sounding information
- Cut and paste data from spreadsheets into own statistical models and analyses
- Re-find datasets that he has previously found
- Find the latest latest report/dataset for a particular data series
- Create a bespoke dataset, tailored to exactly to support the statistical models he is creating
- Sometimes uses a reference code to search for datasets
- Viewing all versions of a particular dataset
- Find out when the next version of a dataset will be released

### 🚶 Behaviours

- Tends to know exactly what he wants, but can be frustrated by not being able to find it quickly on the ONS website
- Phone the ONS for help in finding specific data or querying methodology
- Access ONS website from desktop PC in office
- May be critical about mistakes and shortcomings in the provision of statistics
- Tends to use Google to search the site as has little confidence in site search

### 💡 Motivators

- It's part of his job to analyse data
- Has a passion for data and needs reliable, high quality data so that he can feel confident in his analyses

### ✓ We must...

- Make it simple and straightforward to find and re-find specific datasets

### ✗ We must not...

- Give the impression of dumbing-down the statistics provided on the ONS site



# Imogen The Information Forager

**Imogen is the Head of Human Resources for a medium-sized company with offices across the UK. She is a business graduate and a real 'people person'. She's dynamic and ambitious and sees real value in the data that the ONS offers for anticipating how changes in workforce and wellbeing will affect her company in the future.**

*"I just need enough data to help me make the right decision"*

## 🔑 Key goals

- Looking for data that can be used to make practical, strategic decisions for her business
- Wants to see high level summaries, narratives and key charts that provide context for deeper understanding
- Occasionally downloads datasets for simple analysis if necessary
- Wants to keep up to date with latest economic and population data
- Usually looking for time series and comparison data (e.g. local v national) in order to be able to predict future opportunities
- Produce charts and statistics to support arguments in funding applications and strategy reports

## 🚶 Behaviours

- Proactive - seeking knowledge to affect change
- Don't know exactly what to search for, but aware of general area
- Basic working knowledge of statistics and Excel, but by no means an expert
- Signed up for ONS alerts - find these useful for keeping up to date
- Tend to take ONS statistics at face value
- Usually time pressured

## 💡 Motivators

- She is intrinsically motivated, and appreciates that sector knowledge can help her and her company to be a success
- Although not officially part of her job, using ONS data provides added value or advantage to her over her colleagues or competitor companies

## ✓ We must...

- Surface key economic and business data so that it is in 'line of sight' rather than relying on search
- Provide related (and cumulative) data in one place to reduce need for piecemeal research

## ✗ We must not...

- Provide too much information exclusively in PDFs as this is difficult to access and copy/paste
- Make the language on the site too complex for her



# Christine

## The Inquiring Citizen

**Christine works part-time as a librarian. She has two grown-up children, both at University. She is well-read and had a degree in History. She has a natural interest in politics and current affairs, but is concerned about the mis-use of data for political means. She has a public sector pension as a result of her job.**

*"I need the ONS to help me to find the truth"*

### 🔑 Key goals

- Finding out the unbiased 'truth' about information presented by the media and political parties
- Finding out about economic indicators such as RPI in order to be able to make informed decisions about pensions and investments
- Finding out about newsworthy topics such as immigration, house prices, inflation, the cost of living, economic growth
- Wants to find simply worded, high level summaries and narratives of newsworthy issues
- See charts and infographics to get visually engaging overview of key data and trends

### 🚶 Behaviours

- Tends to be reactive to current events
- Doesn't download datasets
- Engaged with social media; follows the ONS on Twitter
- May take part in discussions around issues on newspaper websites
- Occasional visitor to ONS website
- May browse the site with her smartphone or tablet sometimes

### 💡 Motivators

- Personal/political interest
- Financial implications of the economy (e.g. for pensions & investments)
- Has an enquiring mind; looking to make sense of the world
- Distrust of big business and government; looking for a trustworthy source of information

### ✓ We must...

- Provide content that both engages and educates her
- Provide timely content that is relevant to key issues in the news

### ✗ We must not...

- Use language that is too complex
- Give the impression of having any political agenda whatsoever

# Discovery prototype

---

- All aspects of the dataset need to be documented (Be better than Excel)
- Give everything a unique URL down to individual observations
- Enable dynamic generation of charts (users and producers)
- Make charts embeddable

# Build to adapt

---

## As-is

- Waterfall – optimise by role
- I-shaped roles
- Testing at the end
- Manual operations
- Handoffs
- Incongruent environments

## Future model

- Agile – optimise the whole
- T-shaped/ E-shaped roles
- Test driven development
- Automated operations
- Dev-Ops
- Environment Congruency

# Design principles

---

- User focused
- Data Driven
- Google is our homepage
- IE7 is dead / IE8 is on life support
- Do not reinvent the wheel.
- Build for sustainability
- Bake in accessibility from day one
- agile *not* AGILE
- Machines have needs too
- WWGDSD \*

\* what would GDS do?

# Alpha

**EXPERIMENTAL PROTOTYPE**

 Office for National Statistics [Release calendar](#) [Methodology](#) [About](#)

[Home](#) [Business, Industry and Trade](#) [Economy](#) [Employment and Labour Market](#) [People, Population and Community](#) [Taking part in a survey?](#)

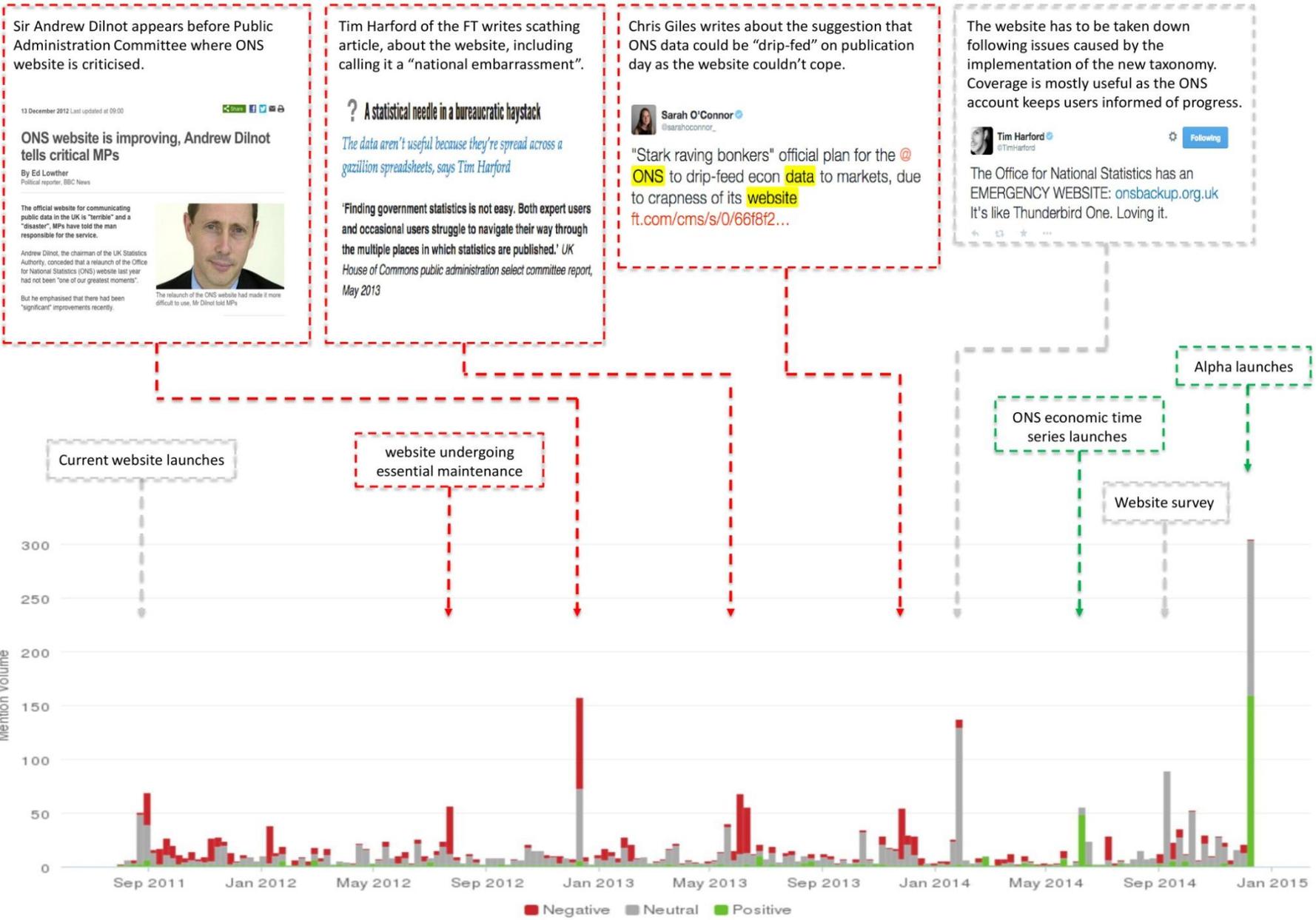
[Q](#)

## Welcome to the Office for National Statistics

The UK's largest independent producer of official statistics and the recognised national statistical institute of the UK.

<p><b>CPI: Consumer Prices Index</b></p> <p><b>1.2%</b> September 2014</p>  <p><a href="#">Explore Economy</a> &gt;</p>	<p><b>GDP Quarter on Quarter growth (CVM)</b></p> <p><b>0.9%</b> Q2 2014</p>  <p><a href="#">Explore Economy</a> &gt;</p>	<p><b>Trade in goods and services deficit (or surplus)</b></p> <p><b>£ -6.5 bn</b> Q2 2014</p>  <p><a href="#">Explore Business, Industry and Trade</a> &gt;</p>	<p><b>Employment rate (aged 16-64)</b></p> <p><b>71.5%</b> July 2014</p>  <p><a href="#">Explore Employment and Labour Market</a> &gt;</p>	<p><b>UK population</b></p> <p><b>64.1 m</b> Mid-2013</p>  <p><a href="#">Explore People, Population and Community</a> &gt;</p>
---	---	---	--	---

**Some good examples across government**



Sir Andrew Dilnot appears before Public Administration Committee where ONS website is criticised.

13 December 2012. Last updated at 09:00

**ONS website is improving, Andrew Dilnot tells critical MPs**

By Ed Lowther  
Political reporter, BBC News

The official website for communicating public data in the UK is "terrible" and a "disaster", MPs have told the man responsible for the service.

Andrew Dilnot, the chairman of the UK Statistics Authority, conceded that a relaunch of the Office for National Statistics (ONS) website last year had not been "one of our greatest moments".

But he emphasised that there had been "significant" improvements recently.



The relaunch of the ONS website had made it more difficult to use, Mr Dilnot told MPs

Tim Harford of the FT writes scathing article, about the website, including calling it a "national embarrassment".

**? A statistical needle in a bureaucratic haystack**

*The data aren't useful because they're spread across a gazillion spreadsheets, says Tim Harford*

"Finding government statistics is not easy. Both expert users and occasional users struggle to navigate their way through the multiple places in which statistics are published." *UK House of Commons public administration select committee report, May 2013*

Chris Giles writes about the suggestion that ONS data could be "drip-fed" on publication day as the website couldn't cope.

Sarah O'Connor  
@sarahocconnor\_

"Stark raving bonkers" official plan for the @ONS to drip-feed econ data to markets, due to crapness of its website  
[ft.com/cms/s/0/66f8f2...](http://ft.com/cms/s/0/66f8f2...)

The website has to be taken down following issues caused by the implementation of the new taxonomy. Coverage is mostly useful as the ONS account keeps users informed of progress.

Tim Harford  
@TimHarford

The Office for National Statistics has an EMERGENCY WEBSITE: [onsbackup.org.uk](http://onsbackup.org.uk)  
It's like Thunderbird One. Loving it.

■ Negative ■ Neutral ■ Positive

# AND...

---

“Well done... Can you now take the old ONS website out into the car park, douse it in petrol and set it alight”

# Beta development

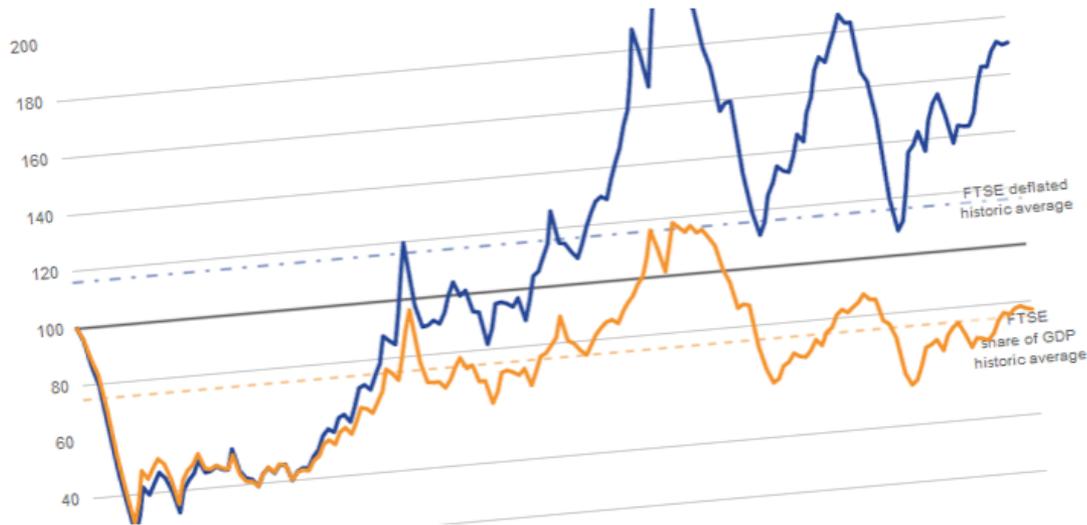
---

- As a publisher I want to create publish dates so that a release calendar can be populated
- As a publisher I want to add a chart to my bulletin so that I can publish it in context
- As a publisher I want to add an equation to my article so I can publish it in context
- As a publisher I want to add metadata to my content type so that it can be published in context and become easy to find
- As a publisher I want to create a corrections notice on any content type so it can be published in context

# Meeting the needs of the citizen

## The UK stock market: is it really at an all-time high?

March 25, 2015 By ONS Digital



The Financial Times Stock Exchange (FTSE) 100 share price index broke the 7,000 points threshold for the first time on 20 March 2015, increasing its post-financial crisis gains and

Posted in

Business, Industry and Trade

Economy

Analysis



# What have we learnt?

---



**SurfSwan**  
@SurfSwan

Follow

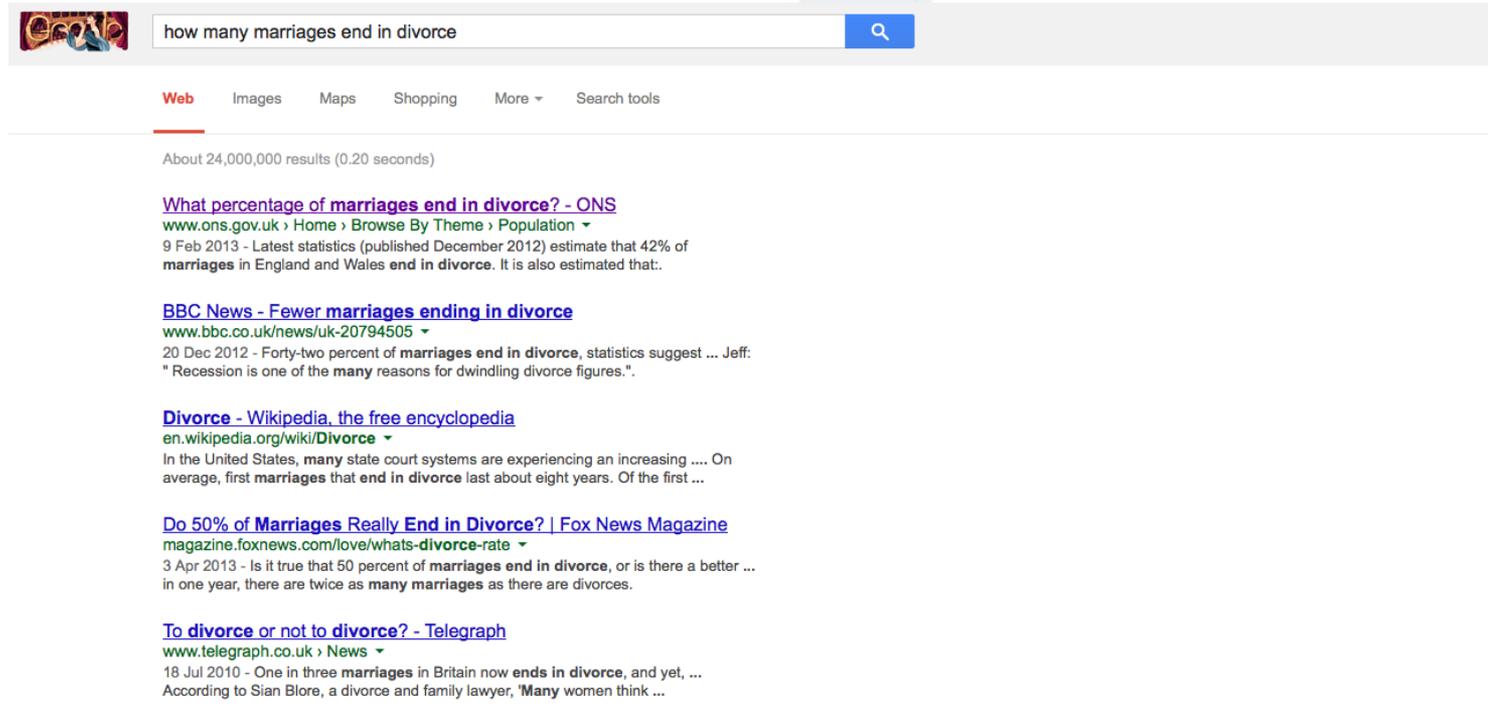
Official data, new light - Visual.ONS  
[wp.me/p3vXlv-bm](https://wp.me/p3vXlv-bm) via [@ONSDigital](#) -  
probably the most impressive thing ONS  
has ever done. Magic.

# Why does it work?

---

- No preannouncement
- Engaging exploratory content for control
- Personalisation for ‘share-ability’
- Search friendly titles
- Short content for ‘on-the-go’ reads
- Explainers for technical language
- Tags to easily find related content
- Modern design

# Search friendly titles



The screenshot shows a Google search interface with the query "how many marriages end in divorce" entered in the search bar. Below the search bar, there are navigation options: Web, Images, Maps, Shopping, More, and Search tools. The search results are displayed below, showing approximately 24,000,000 results in 0.20 seconds. The first result is from the Office for National Statistics (ONS) website, titled "What percentage of marriages end in divorce? - ONS". The second result is from BBC News, titled "BBC News - Fewer marriages ending in divorce". The third result is from Wikipedia, titled "Divorce - Wikipedia, the free encyclopedia". The fourth result is from Fox News Magazine, titled "Do 50% of Marriages Really End in Divorce? | Fox News Magazine". The fifth result is from The Telegraph, titled "To divorce or not to divorce? - Telegraph".

how many marriages end in divorce

Web Images Maps Shopping More Search tools

About 24,000,000 results (0.20 seconds)

[What percentage of marriages end in divorce? - ONS](#)  
[www.ons.gov.uk](http://www.ons.gov.uk) > Home > Browse By Theme > Population  
9 Feb 2013 - Latest statistics (published December 2012) estimate that 42% of marriages in England and Wales end in divorce. It is also estimated that:

[BBC News - Fewer marriages ending in divorce](#)  
[www.bbc.co.uk/news/uk-20794505](http://www.bbc.co.uk/news/uk-20794505)  
20 Dec 2012 - Forty-two percent of marriages end in divorce, statistics suggest ... Jeff: "Recession is one of the many reasons for dwindling divorce figures."

[Divorce - Wikipedia, the free encyclopedia](#)  
[en.wikipedia.org/wiki/Divorce](http://en.wikipedia.org/wiki/Divorce)  
In the United States, many state court systems are experiencing an increasing .... On average, first marriages that end in divorce last about eight years. Of the first ...

[Do 50% of Marriages Really End in Divorce? | Fox News Magazine](#)  
[magazine.foxnews.com/love/whats-divorce-rate](http://magazine.foxnews.com/love/whats-divorce-rate)  
3 Apr 2013 - Is it true that 50 percent of marriages end in divorce, or is there a better ... in one year, there are twice as many marriages as there are divorces.

[To divorce or not to divorce? - Telegraph](#)  
[www.telegraph.co.uk](http://www.telegraph.co.uk) > News  
18 Jul 2010 - One in three marriages in Britain now ends in divorce, and yet, ... According to Sian Blore, a divorce and family lawyer, "Many women think ...

What percentage of marriages end in divorce? 27,326 visits

Summary of Internet Access 533 visits

Fall in Crime 843 visits

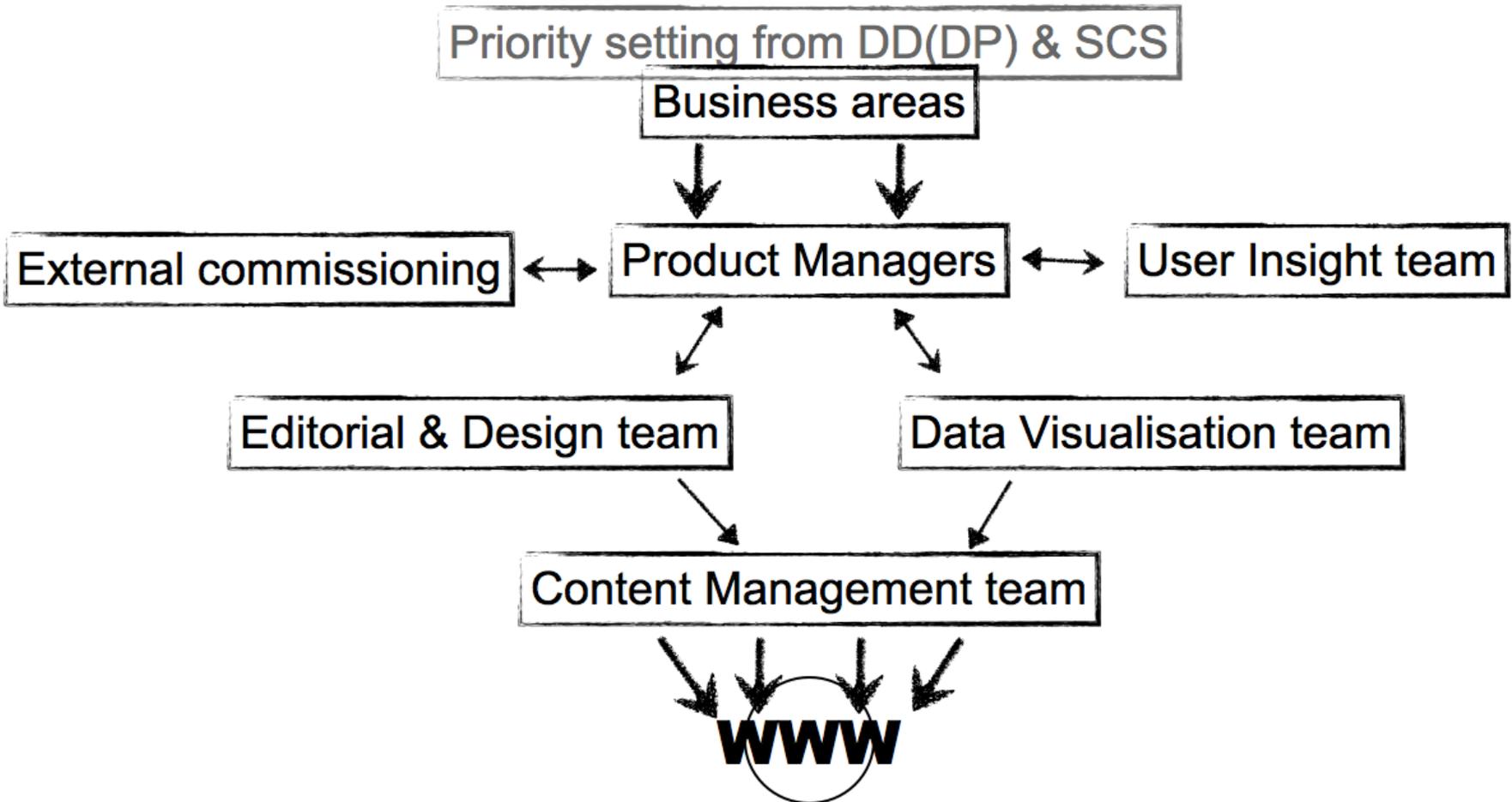
# Growing editorial capability

---

“Since 1980, there has been considerable fluctuation in the UK housing market. Overall, there has been growing demand and relatively limited supply growth. House prices have been increasing, and first time buyers are finding it more difficult to get on the property ladder – while home ownership among younger age groups generally has declined.”

# Commissioning and production

---



# It's not just a technology problem

The screenshot shows a Windows Internet Explorer browser window titled "Search Results - cneuss 2001". The address bar contains the URL: <http://wdpdevapp2:7103/solr.htm?criteria=cneuss+2001&date=2&title=3&bulletins=0.75&releases=0&proximity=2&minmatch=2%3C75%25>. The search bar contains the text "cn". Below the search bar, there are several filters: Date: 7, Title: 3, Bulletins: 5, Proximity: 2, and Require: All if 2, then 75%. A "Show scores" checkbox is also present. The search results are displayed in a table with the following columns: Release Date, Title, and Type. The results show two entries: one for "General" on 31 Jan 11 and one for "Fees" on 12 Jan 11, both categorized as "Guidance and methodology". The page also shows "No of results = 2" and "Time taken = 0.067 sec".

**ONS Search Prototype**

Search:  Date: 7 Title: 3 Bulletins: 5 Proximity: 2 Require: All if 2, then 75% Show scores:

[Reports]

[Releases](#)

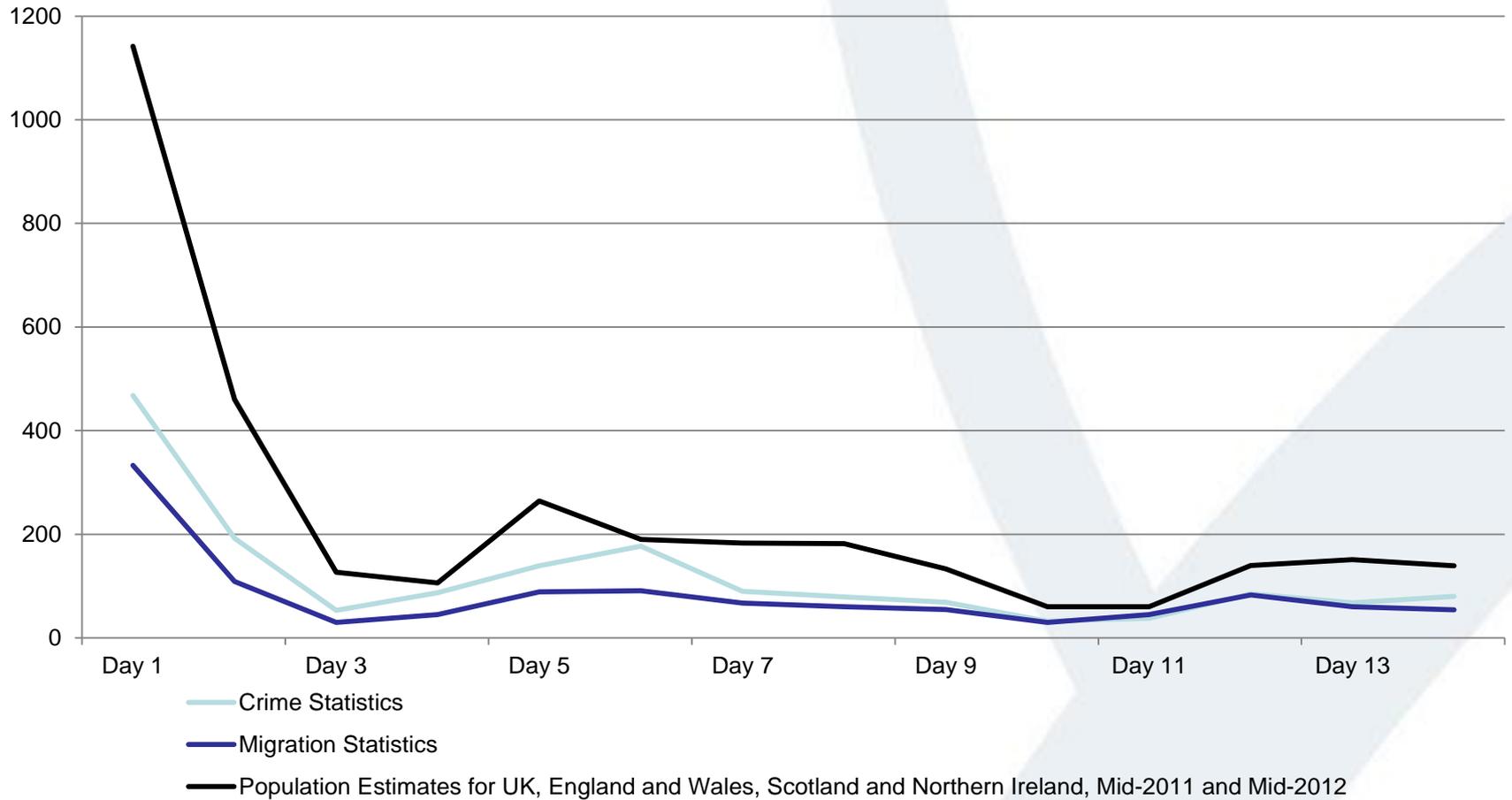
Related searches: [advisory groups](#), [approved suppliers](#)

No of results = 2

Release Date	Title	Type
31 Jan 11	General Papers detailing general topics, including international census efforts and the Advisory Groups' Terms of Reference	Guidance and methodology
12 Jan 11	Fees Information about the cost of joining the Approved Suppliers Scheme	Guidance and methodology

Time taken = 0.067 sec

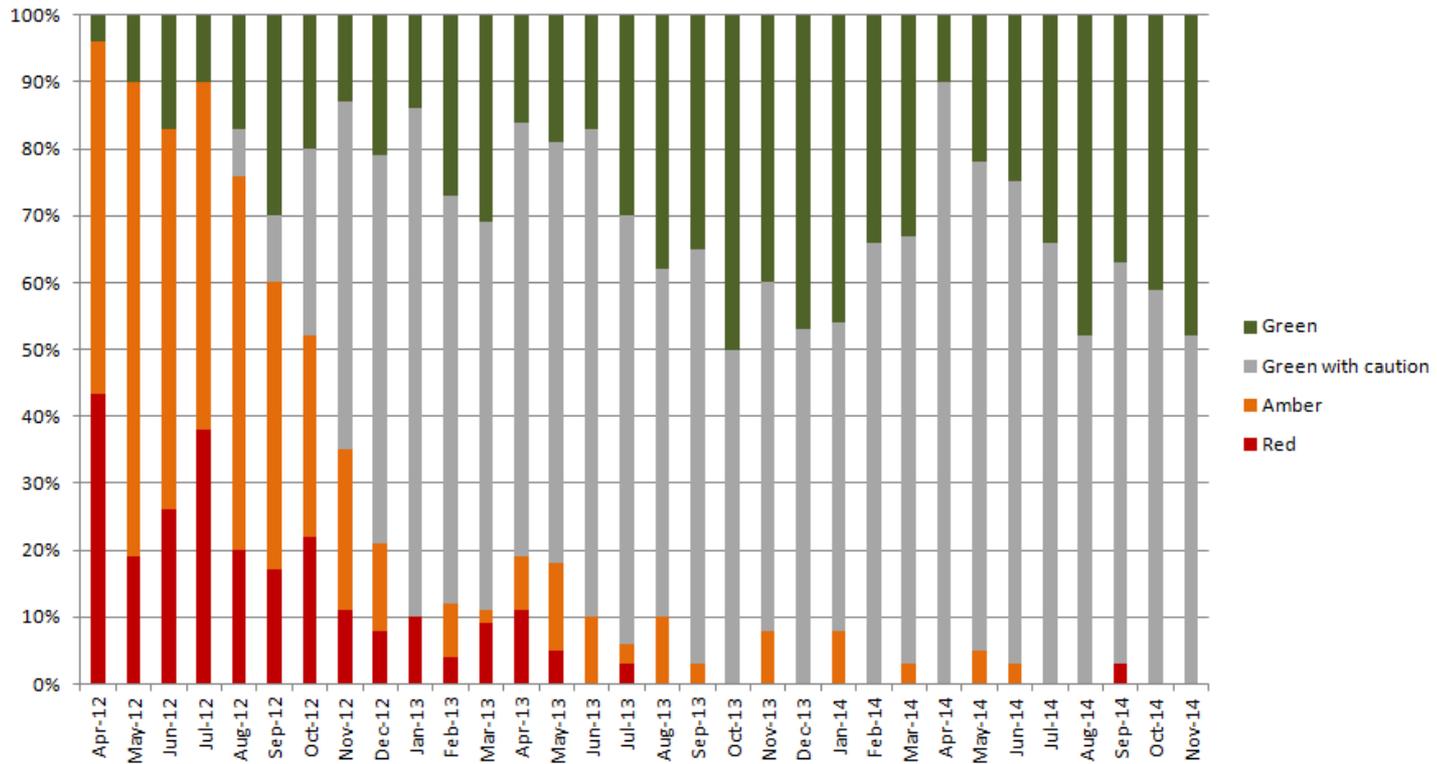
# Post-publication healthchecks



# Quality issues

## Health check ratings as a percentage of monthly total

Percentage of monthly release total



# Lack of consistency

Title ↕

FOI: Time series for disposable income

FOI requests: Employment estimates

FOI 1740 (Legal Fees) - 2008-13 (Excel sheet 22Kb)

FOI request: Business Investment Q4 2010 Provisional Results

FOI request: Number of mixed race children growing up in single-parent homes

Crime in England and Wales, Year Ending March 2013

FOI request: Unemployment by local authority 2004 to 2012

FOI request: UK mortality by cause

FOI Request: Contract to provide new orders in construction

FOI disclosure log: Travel and Transport

FOI Request: Imputed rent figures methodology

FOI request: Annual number of divorces nationally from 1940 to 2013

FOI request: Proportion of the UK population officially classed as an ethnic minority

FOI request: Facilities Projects

Divorces FOI divorce rates (Excel sheet 31Kb)

FOI Request: Statistics on the number of claimants of Jobseeker's Allowance (JSA) (Excel sheet 27Kb)

FOI request: 2012 Pink Book

Breakdown of land usage per type / category for each county in England & Wales

Number of persons employed NOT in a training, apprentice or work programme

FOI disclosure log: Social and Welfare

FOI request: Mental health of children from separated parents

FOI request: Sale of personal data

FOI request: Insurance claims to ONS

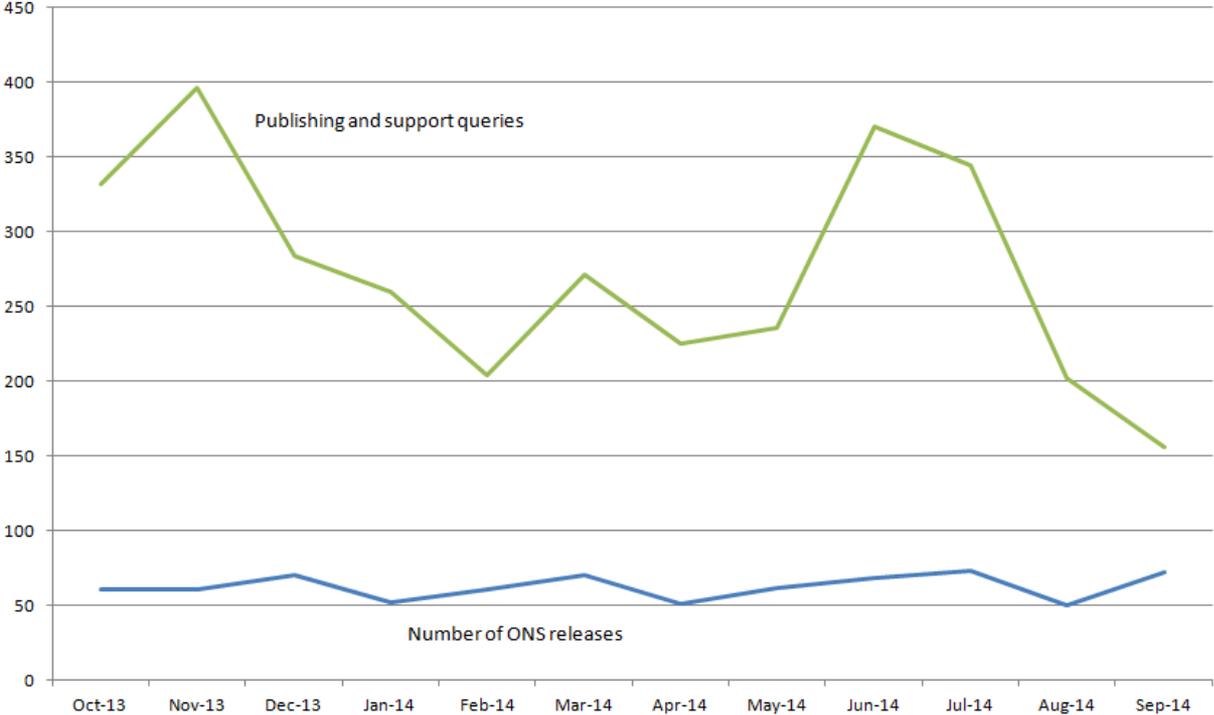
FOI request: Death rates for UK, North East, Tyne and Wear and Newcastle upon Tyne

FOI Request: The cost of running ONS

FOI request: Over 65s in Christchurch

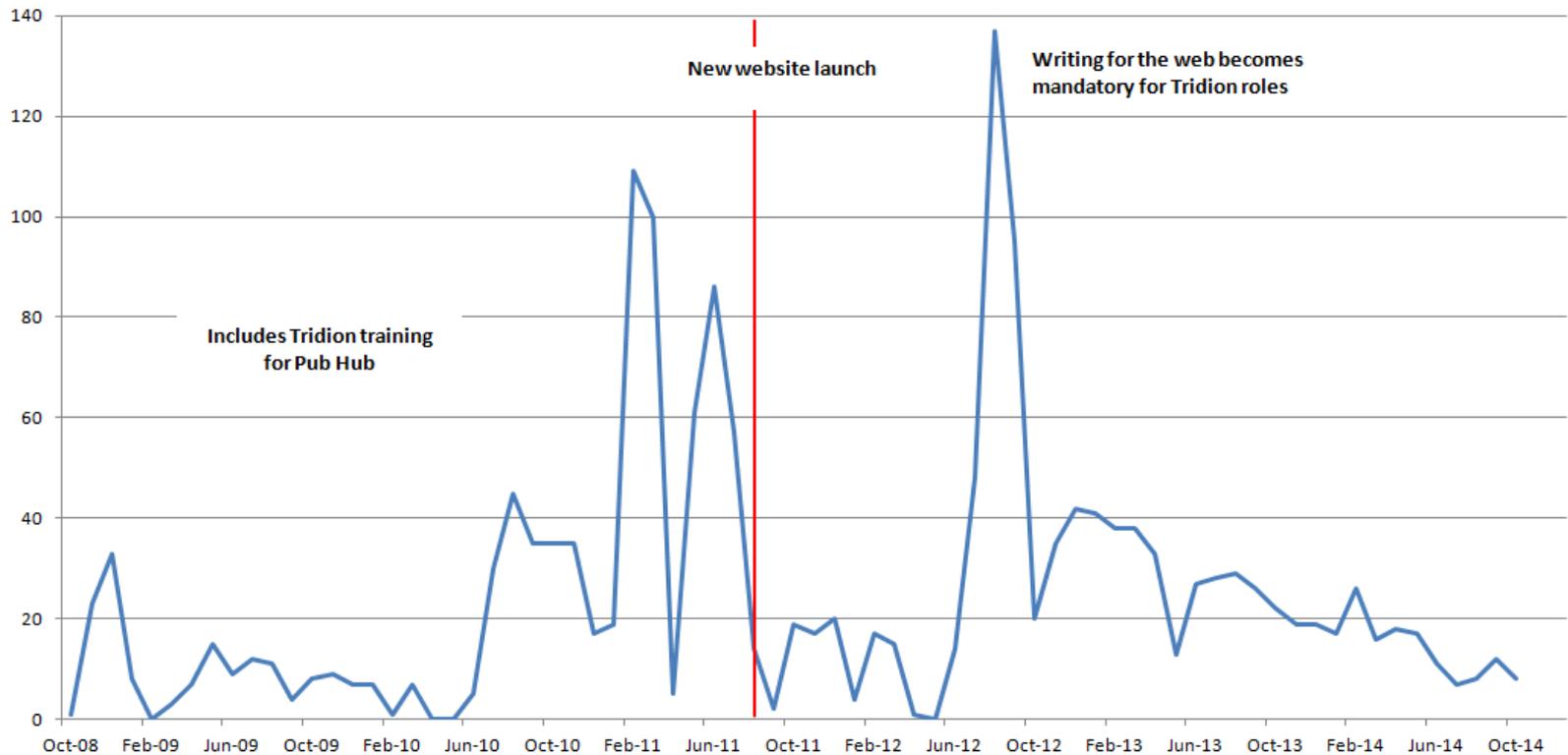
# Support overhead

Number of publishing and support queries to PST October 2014 - September 2014



# Training overhead

Number of ONS staff trained on courses required for Tridion permissions



# What are the consequences of not fixing the problems?

---

- Breaches of publishing standards
- Code of Practice breaches
- Legal non-compliance
- Unauthorised publishing onto third parties
- Inconsistent user experience
- High training costs
- Difficulty maintaining site over time
- Duplicated content

# How does it work elsewhere?

---

Author/Publisher, Journalist/ Editor, Historian / Curator,  
Scriptwriter /Producer, Academic /Learning designer

AUTHORS	EDITORIAL TEAM
Analyse data, write and fact-check content	Proof-read and correct basic errors eg spelling
Ensure appropriate context and flow	Ensure appropriate digital product design
Supply content	Upload content
Provide specialist keyword metadata	Provide user research keyword metadata
Sign off statistical accuracy	Sign-off compliance with web standards eg accessibility

# Deep dive: NSI Survey

---

- Visited two NSIs – Germany and Netherlands
- Sent our survey to 56 NSIs
- 23 responses
- Analysis
- Reviewing findings

# Survey findings

---

- 30% had fewer than 10 people using their content management system
- 1-20% of releases are not published on time due to human and technical failure
- Majority of NSIs have an editorial team who check content 1-3 days prior to publication
- Majority of NSIs can change content up to 1 hour before publication

# Survey findings: Netherlands

---

- Netherlands authors trained by journalists
- Reducing content types from 3 to 1
- Very concise text
- Use multidisciplinary 'clusters' of statisticians and publishing experts
- Publishing staff involved from beginning

# Survey findings: Germany

---

- Central Editorial Team (CET)
- Editor in Chief
- Authority to make changes and stop publication
- CET author some stories, but always with statistical sign-off
- Publishing standards have equal importance to statistical standards

# “Devolved” publishing can work if...

---

- The process includes QA of publishing standards
- Central team have sign-off for web standards
- All publishing roles are full-time and standard
- Multi-disciplinary teams from start
- Recruitment and handover
- Holistic scheduling managed
- Project managers oversee dependencies/  
risks

# When it works

78% pages show increase in traffic since refresh

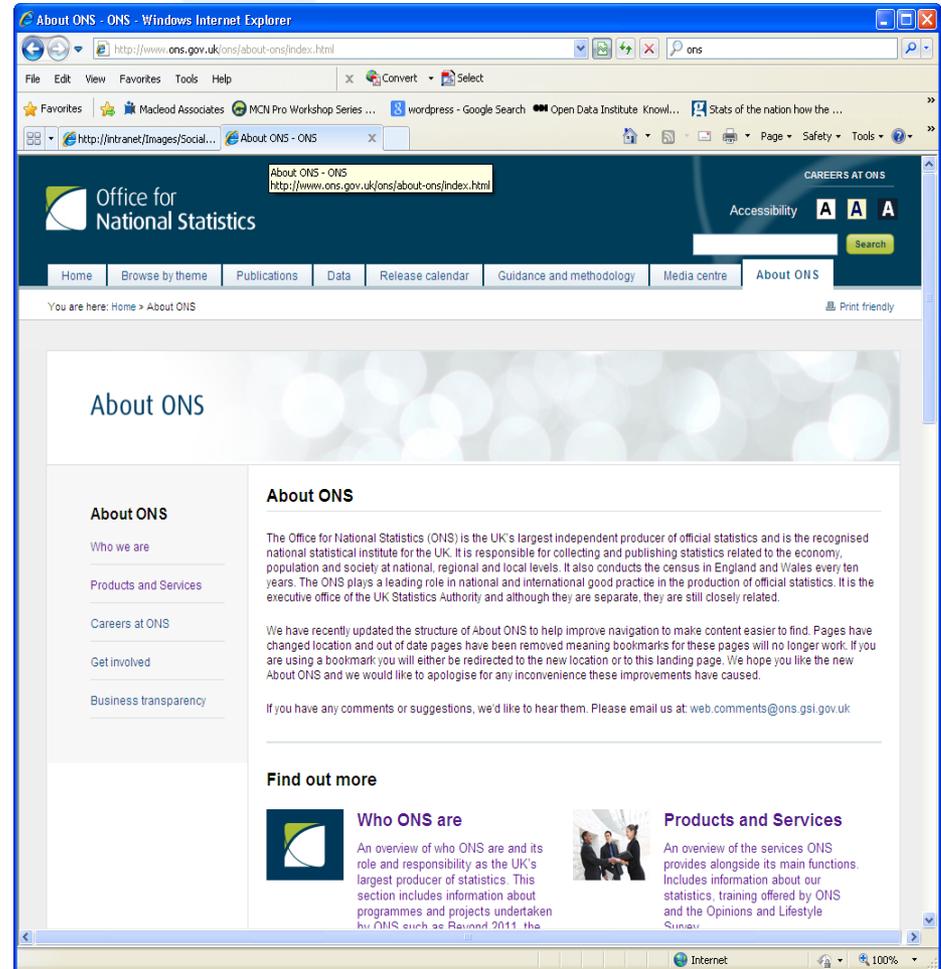
Average increase is 725%

Encouraged respondents

Helped recruitment

Increased transparency

Increased outreach.



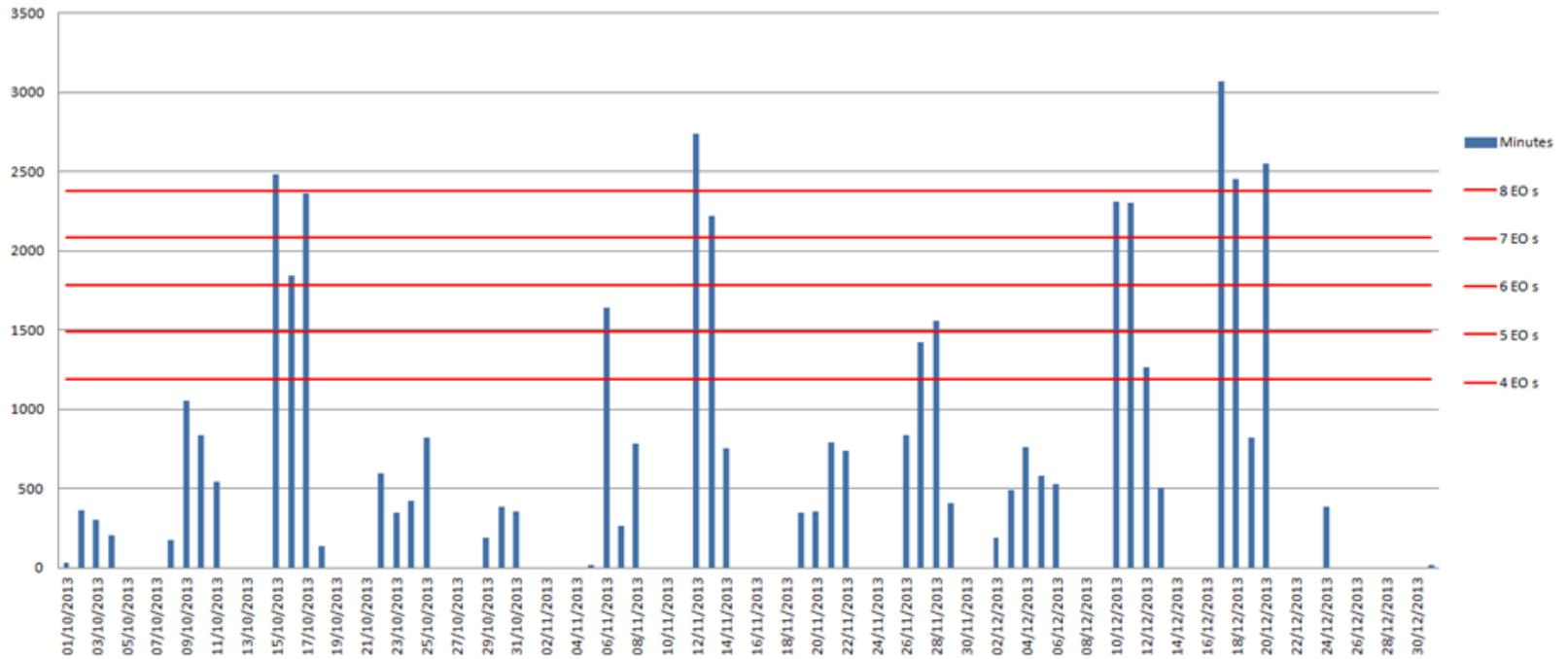
# Publishing pilots

---

- Test a “Hub and Spoke” model
- Automate some functions in site rebuild
- Reduce the amount of content/ types of output
- Empower editorial staff to improve quality
- Improve how scheduling is managed
- Use Lean principles to streamline processes

# Tackling scheduling

Estimate of minutes taken for the statistical publishing of all outputs on each day in Q4 2013



# High level publishing model (Beta)

