Telling stories with data

Martin Nicholls
Head of Strategic Communication
ONS, UK
@WordUpMarty
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About me

- Head of Strategic Communication at the UK’s National Statistics Institute

- Background working in: crisis communication, content strategy, media management and strategic communication

- Education: BA (Hons) & MA in English Literature and an Executive MBA (+ other communication-related things)

- Worked with:
In this session we will

- Explore whether you can tell a story with or about data
- Examine what makes great data journalism and its three ingredients
- Share the principles around communicating uncertainty, trends, contexts, international comparisons, accessibility etc
- Learn how to make use of the experts and their support
Have you heard?

“There are lies, damned lies, and statistics...”

Benjamin Disraeli (according to Mark Twain)
Here’s a better one

“He uses statistics as a drunken man uses lamp posts—for support rather than illumination”

Andrew Lang
Talking of lamps...

Florence Nightingale
‘The lady with the lamp’
Is it possible to tell stories about data?

Britain has a new headline measure of inflation

Yet it will remain an imperfect gauge of changes to living standards

In 1946 the government convened a committee to assess the official cost-of-living index, which had been introduced in 1914. The conclusion was damning. The “alterations in consumption habits since 1914 have made the official index out-of-date”, it noted, recommending that it be “terminated”. The measure was hardly in touch with how ordinary folk spent their money; beer was excluded from the calculations.

Statisticians have been grasping towards a better measure of inflation ever since. In March the Office for National Statistics (ONS) introduced a new headline measure, “consumer-prices index including owner-occupiers’ housing costs” (CPIH). On July 31st the
The are only three ingredients

1. Data

2. Narrative (the story to tell)

3. Visuals to support narrative
Ideas for data journalism

- Work with the experts to answer the questions that others cannot
- Set the record straight and bust myths
Women more often work part time than men

In EU-28 Member States gender differences are even greater as regards full time employment and part time employment (in Slovenia 35 hours per week or less). The share of women in part time employment is higher than the share of men in all EU-28 Member States.

In 2014, the share of women aged 40-64 in part time employment in Slovenia was 10%, while the share for men was 6%. With these share Slovenia was among the countries with low shares of part time employment. The share for women working part time was in 2014 the lowest in Bulgaria (1%) and Slovakia (6%) and the highest in the Netherlands (79%), Germany (52%) and Austria (50%). At the same time these three countries recorded the largest differences between the shares of women and men in part time employment.

Men work at unusual hours more often than women. In 2014, two out of three men and over a half of women worked on Saturdays, while almost one in three men and two out of five men worked on Sundays. Almost half of men and two out of five women worked in the evenings and one in four men and one in seven women at night.

Adults (30-64 years) in employment working at unusual hours, Slovenia, 2014

<table>
<thead>
<tr>
<th>Days</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>on Saturdays</td>
<td>70</td>
</tr>
<tr>
<td>on Sundays</td>
<td>50</td>
</tr>
<tr>
<td>in the evening</td>
<td>40</td>
</tr>
<tr>
<td>at night</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: SURS
Ideas for data journalism

- Work with the experts to answer the questions that others cannot

- Set the record straight and bust myths

- Highlight change over time

- Show global comparisons and geographic disparities

- Everyone loves a list and rankings
Ideas for data journalism

- Work with the experts to answer the questions that others cannot
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- Correlations can be interesting (where there is causation!)
Ideas for data journalism

- Work with the experts to answer the questions that others cannot
- Set the record straight and bust myths
- Highlight change over time
- Show global comparisons and geographic disparities
- Everyone loves a list and rankings
- Correlations can be interesting (where there is causation!)
- Mine the data and find something hidden in its depths
- Learn from others
- Have fun!
Introducing: Tim Harford

“Good statistical journalism, is just good journalism”
Tim’s rules

1. Observe your feelings
Something to watch out for

If it is incredibly interesting or unbelievable, it may be wrong...
Something to watch out for

If it is incredibly interesting or unbelievable, it may be wrong...

Or at least misinterpreted

Or based on poor data

Or correct – but always check first!
Tim’s rules

1. Observe your feelings

2. Understand the claim
   - what does it mean?
   - is it a causal relationship?
   - what is being left out?
Data is vulnerable to fake news and alternative facts
Anger over Donald Trump's UK crime tweet

The U.K. agency that compiled the data in Trump's terrorism tweet disagrees with his assessment

By Phillip Bump October 20, 2017 Email the author

Donald Trump has been accused of fuelling hate crime with a tweet

Donald Trump claims increased UK crime is due to Islamic terror

The US president said a reported rise in British crime is due to Islamic extremism. UK statisticians haven't said anything like that.

Updated on October 13, 2017 at 5:31 p.m.

By Ben Waterman

BuzzFeed UK Political Writer
Tim’s rules

1. Observe your feelings
2. Understand the claim
   - what does it mean?
   - is it a causal relationship?
   - what is being left out?
3. Get the backstory
4. Put things into perspective
   - is that a big number?
   - what is the historical trend?
   - beware of ‘statistical significance’
5. Embrace imprecision
How do we project the future size of the UK population when people’s behaviour is uncertain?

2012-based National Population Projections

Births, deaths and migration all contribute to population change. We are able to measure past trends in all of these components and use these to make predictions about how the population might change in the future. People’s behaviour is hard to predict however, so we reflect this by also making some alternative, but still realistic, assumptions about future fertility, mortality and migration.

**FERTILITY**

There is evidence that fertility in the UK has recently increased. The principal projection takes this trend into account but the variants show what might happen if it keeps rising or starts to fall again instead.

**LIFE EXPECTANCY**

Mortality in the UK varies slightly year on year, but life expectancy has been rising steadily for many years and this trend is expected to continue. The variants show what might happen if life expectancy improves more or less than forecast.

**MIGRATION**

Net migration to the UK has varied in the past and so we have to predict how it might change in the future. It is possible that migration will return to previous levels or fall again so the variants reflect this.

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**ESTIMATED POPULATION**

Number of people (millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>1987</th>
<th>2012</th>
<th>2027</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>67.0</td>
<td>72.0</td>
<td>76.0</td>
</tr>
<tr>
<td>Low</td>
<td>60.0</td>
<td>66.0</td>
<td>69.0</td>
</tr>
</tbody>
</table>

The effects that different levels of future fertility, mortality and migration might have on the future population can be seen in this chart.

**PROJECTED POPULATION**

Starting population at 63.7 million

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>74.5</td>
<td>78.5</td>
</tr>
<tr>
<td>Low</td>
<td>67.0</td>
<td>70.0</td>
</tr>
</tbody>
</table>

The principal projection is the red line. This is based around what we consider to be our best estimates of future fertility, mortality and migration.

**VARIANTS**

For example, the High Population variant assumes High fertility, High Life Expectancy and High Migration; the Low Population variant assumes High fertility, Low Life Expectancy and Low Migration.

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**ASSUMPTIONS USED**

www.ons.gov.uk


Office for National Statistics
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   - is that a big number?
   - what is the historical trend?
   - beware of ‘statistical significance’
5. Embrace imprecision
6. Be curious and go another click
The most powerful one word question you can ask

Why?
Recap

- Data is a journalist’s best friend

- This is an emerging industry and one that you can make a real impact in

- Statisticians can help you make national news by giving you amazing quotes and insights that nobody else can

- Let statistics inform your stories; don’t let the stories drive the statistics

- Remember: You don’t have to be a statistician but you can make friends with one!

(Please be careful with them so that they don’t mislead your readers)
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