

Behind the headlines

Do UK newspapers “spin” health research?

EUFEP
2020

Rob Cook,
Clinical Director,
Bazian

16th January, 2020

Scary or false hope

- We are fed a constant diet of medical scare stories that often seem to contradict each other
- Which ones should we believe?
- What are the sources of exaggeration or “spin”?

About the service
Impact
Thoughts on sources of spin?



About the Behind the Headlines service on NHS.uk

- Bazian was founded in 1999 as a small research and public health consultancy. It was acquired by the Economist Group in 2011.
- A team of ~ five analysts/ freelance writers and two clinical editors have completed just over 5000 summaries of single research papers since 2007.
- Selected by editors at NHS.UK who look at the major daily newspapers' front pages and online news sources.
- Written, checked, edited and published on the main NHS website before the end of working day.
- Approx. 35,000 visits per month (a single story can get 20k views - 100-400 seconds average viewing time)



Templated

Headline/s

Summary (in Plain English, under 200 words)

- Introductory paragraph max 2 sentences (ideally one) 30 words
- Body para max 100 words
- Bottom line Single sentence (max 25 words)

Where did the story come from?

- The study was carried out by researchers from such and such a place and was funded by xyz.
- The study was published in the peer-reviewed medical journal: xyz.

What kind of research was this?

- Two paragraphs max
- Answer needs to be direct and give indication of aims and methodological strengths weaknesses.

What did the research involve?

- Structure should be three paragraphs

What were the basic results?

- What were the results of the study avoiding too many figures / numbers

How did the researchers interpret the results?

- What were the researchers' conclusions? Feel free to use quotes here

Conclusion

- A final verdict not the researchers own conclusions

What do established information sources contain on this finding?

Appropriate Selection

The stories are selected based on the level or significance of news coverage they receive, and the availability of the source material behind it. Editorial discretion is used to select stories that are judged to be of public interest.

News stories tend to fall into one of the following categories:

- health alerts or scares, where risks of a health condition are raised in the media
- explanation of a scientific advance, such as lab research, genetic studies, or the development of a new drug or procedure
- promotion of lifestyle change, where claims are made about the benefits of a particular diet or activity
- changes to evidence or official guidelines, such as new [NICE](#) guidelines, [Department of Health and Social Care](#) recommendations, or alerts from the [MHRA](#)

Research/analysis/writing

Researching the sources

- The Bazian team searches for the scientific paper and background source material that relates to the news story, press releases, science media centre comment.
- Occasionally based on media reports of conference proceedings, press releases or other material.

Writing and clinical sign off by Bazian

- Media links and scientific research and other background or source articles are sent to us
- Bazian's clinical specialists and scientists analyse the research and produce an impartial, evidence-based appraisal.
- The article is then clinically signed off and returned to NHS website team.

Editing Behind the Headlines

The NHS website team edits the article

- for readability and house style, and checks that the analysis covers all the main points. The article is then returned to Bazian for a final clinical sign off.

Final editorial checks and publishing

- take place and the article is published on the site the same day.

Behind the Headlines content is correct at the date of publication and is not subject to review.

Several articles on measles and MMR

[MMR vaccine 'does not cause autism'](#)

Tuesday 5 February 2008

There is no evidence for a link between the MMR jab and autism based on a study that is the “biggest review conducted to date”, analysing “the blood from 250 children and concluded that the vaccine could not be responsible”

['Surge' in measles Q&A](#)

Friday 28 November 2008

The BBC has reported that measles cases have “reached a 13-year high” with 1,049 cases in January to October 2008

[MMR catch-up campaign targets a million children](#)

Thursday 25 April 2013

In the first quarter of 2013, there were a record 587 cases in England and, worryingly, a number of outbreaks in schools.



The screenshot shows the NHS website interface. At the top, there is a search bar and navigation links for 'Health A-Z', 'Live Well', 'Care and support', 'Health news', and 'Services near you'. Below the navigation, there are breadcrumb links: 'Home > Behind the Headlines > Pregnancy and child'. The main article title is 'MMR vaccine 'does not cause autism'' with a sub-headline 'Tuesday 5 February 2008'. The article text begins with: 'There is no evidence for a link between the MMR jab and autism, say The Guardian and other news sources. The reports are based on a study that is the "biggest review conducted to date", analysing "the blood from 250 children and concluded that the vaccine could not be responsible".' It continues: 'The jab has been linked to autism since 1998, when a study of 12 children published in The Lancet linked the measles, mumps and rubella (MMR) jab to the development of autism. That research has since been discredited and two major studies have been published subsequently which also failed to show any link.' The final paragraph states: 'In this latest UK study, researchers investigated whether the MMR vaccine contributes to the development of autistic spectrum. This study investigates some of the specific suggestions that have been put

[Measles vaccination and antibody response in autism spectrum disorders](#)

Baird et al. *Arch Dis Child* 2008; **93** 832 Published Online First: 05 Feb 2008.



Impact of spin: How to measure it?

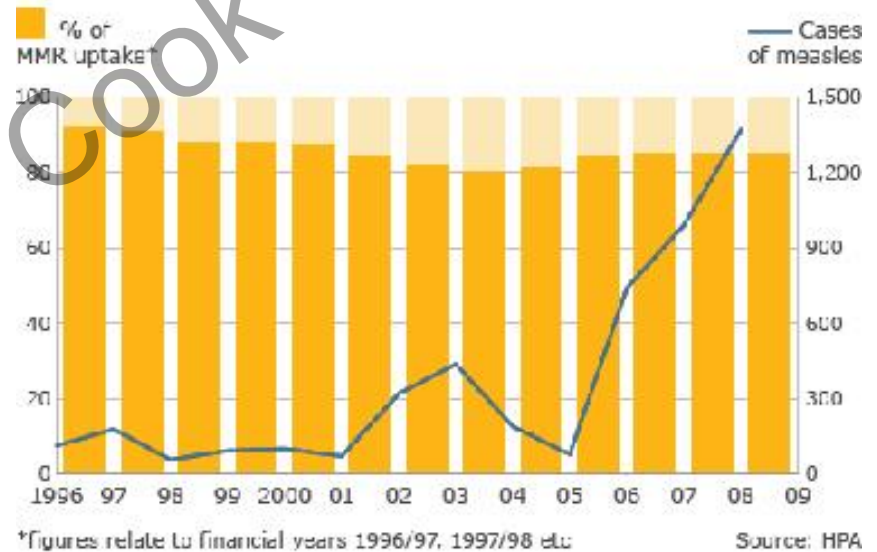
Measles as an example

- The MMR jab was linked to autism since 1998, when a study of 12 children published in The Lancet linked the measles, mumps and rubella jab to the development of autism.
- That research has since been discredited and two major studies have been published subsequently which also failed to show any link.
- It is estimated that over **90%** of children need to be vaccinated in order to stop the spread of measles.
- By 2008 only about **84%** of children in the UK have had the first dose of the MMR vaccine and only 76% have had both doses.
- **87%** fully immunised in 2019

Annual measles reached
2030 annual cases in
England and Wales in 2012



MMR and measles



Feb 8th 2013

Measles cases hit 18-year high in England and Wales

Health officials say there were 2,016 cases of potentially fatal disease last year



▲ A child is vaccinated against measles with an MMR injection. Photograph: Alamy

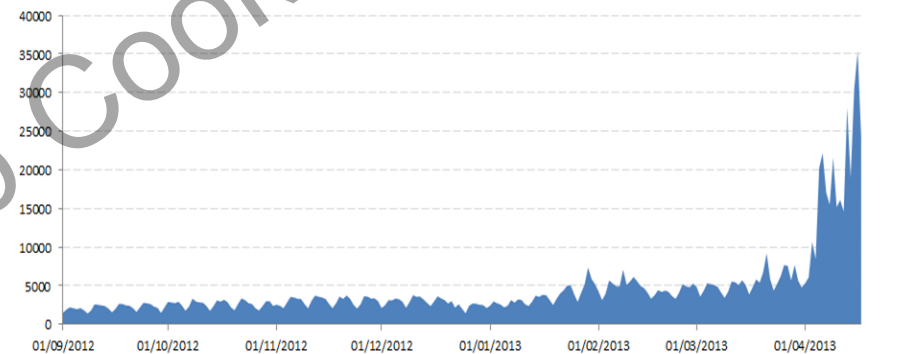
Measles outbreak Easter 2013 (visits to NHS.uk)

- On 3rd April it was reported that confirmed cases had risen by 25%, in Swansea linked to an increase in visits to over 10,000 per day.
- 7 days since the 1st April 2013 over 310,000 visits to measles and MMR related pages on NHS.uk
- News on Weds 18th April reported there 808 confirmed cases of measles in the Swansea area.
- 98.4% of the current traffic is to the Health A-Z section,
- **1.3% to Behind the Headlines and 0.3% to the Videos Library.**

Webtrends

NHS choices

Visits to measles and mmr related pages



Sept
2012

Jan
2013

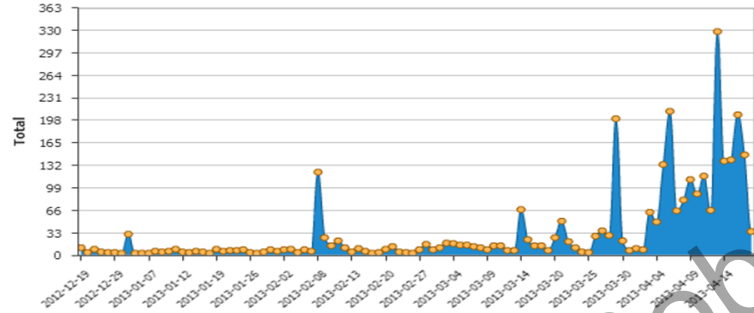
April
2013

Response of news/social media: citations of NHS.uk

MeaningMine

NHS choices

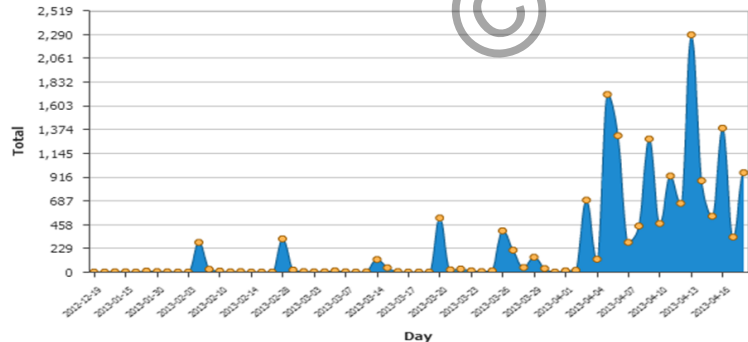
Measles related citations over the last 120 days - News



MeaningMine

NHS choices

Measles related citations over the last 120 days - Social Media



Sept
2012

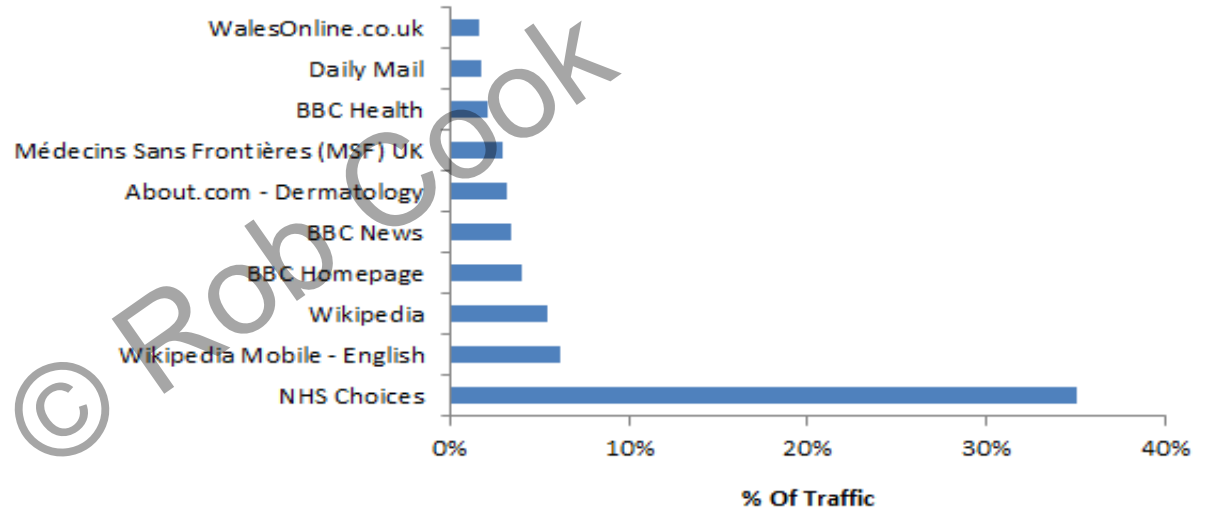
April
2013

- **Newspaper citations** :18 year high in the number of cases in England and Wales 8th Feb 2018 (122 citations)
- 29th March parents are urged to get their children vaccinated as cases more than double in just 3 weeks. Health Protection Agency (200 citations)
- By 13th April the majority of stories focused on the outbreak spreading to other parts of the UK. (328 citations)
- **Social Media**: The peak of social media activity around measles also occurred on 13th April, twitter was the main source with many quoting that 40,000 children in Wales are still unvaccinated.
- **Geographical spread of searches on NHS.uk**: Newport went from having 0 searches to 917 in a week whereas Swansea saw a 2284% increase to 2765 second only to London in terms of volume.

Traffic from measles related searches

- Choices have received over 35% of all search terms clicks from measles related searches over 4 weeks (based on a search term portfolio of over 200 words/phrases)
- This is more than the other 9 sites in the top 10 combined.

Websites receiving traffic from measles related searches



[Link](#)

NIHR Signal Dealing with a measles outbreak cost 20 times that of increasing vaccination cover

Published on 7 June 2016

doi: [10.3310/signal-000248](https://doi.org/10.3310/signal-000248)

New research show that the total cost of the 2012-13 measles outbreak in Merseyside (£4.4 million) was more than twenty times the cost of the vaccinations that could have prevented it (£182,909).

The cost incorporated for the first time estimates of lost employment from having measles or looking after someone with it, and accounted for 44% (£2 million) of the total.

Other costs included treatment of patients and public health costs, such as tracing and vaccinating people in contact with measles cases.

Measles vaccinations work, but need to reach 95% or more of a group to prevent measles outbreaks in the population. If the proportion of vaccinated people in an area falls below this level, immunity falls and an outbreak may occur.

This study supports investment in measles vaccination and targeting areas that are under vaccinated as a good use of resources.

[Signal](#)[Published Abstract](#)[Definitions](#)[Comments](#)

Why was this study needed?

14

Measles is a highly infectious viral disease that mainly affects children under five. Most people recover in

Expert commentary

The introduction of MMR in the UK was dogged by controversy leading to difficulties reaching the 95% levels of vaccination in the population required to prevent outbreaks.

This study demonstrates the value of MMR vaccination using the modelled total costs of a large outbreak of measles in Merseyside, England in 2012-13. The model uses a total cost model that includes societal costs due to productivity losses and compares this to the costs of achieving herd immunity. Importantly, the study uses a methodology that could be applied to other vaccination programmes to quantify total societal costs of outbreaks of vaccine preventable infections.

Dr Allison Duggal, Consultant in Public Health at Enfield Council

[Send me new Signals](#)

Related Signals

Public health interventions may offer society a return on investment of £14 for each £1 spent
Published 18 July 2017

Fluoride-based treatments alone are not enough to stop tooth decay in young children
Published 22 November 2016

Weight loss surgery is value for money in selected people with severe obesity
Published 23 August 2016

Where does “spin” in headlines arise

Boutron et al. [Three randomized controlled trials evaluating the impact of “spin” in health news stories](#)
BMC Medicine (2019) 17:105

- Many news stories do not accurately represent research results and could mislead readers with “spin,”
 - defined as “the presentation of information in a particular way, a slant, especially a favourable one”.
 - 88% of news stories are distorted (i.e., reported with spin).
 - Stakeholders involved, researchers, peer-reviewers, editors, funders, institutions.
1. misleading reporting such as not reporting adverse events,
 2. misleading interpretation such as claiming a causal effect despite the non-randomized study design,
 3. overgeneralisation of the results such as extrapolating a beneficial effect from an animal study to humans,
 4. highlighting a single-patient experience for the success of a new treatment instead of focusing on the group results.

Warning over tinned tuna and other canned goods due to worrying zinc levels - misleading reporting (research study itself)

- Tinned tuna contains up to 100 times more zinc than is safe, which could wreck havoc on people's guts. The mineral is used to line cans due to its anti-microbial qualities (**Mail online**) - 171 comments and still available online
- **It's difficult to form any conclusions from this study because it was based on zinc levels that were vastly higher than would normally be consumed in tinned food. (BtH)** - research subsequently retracted



Moreno_Olivias et al., ZnO nanoparticles affect intestinal function in an in vitro model *Food Funct.*, 2018,9, 1475
Retracted April 20th

Two diet drinks a day could increase risk of early death by more than a quarter, WHO warns – misleading interpretation

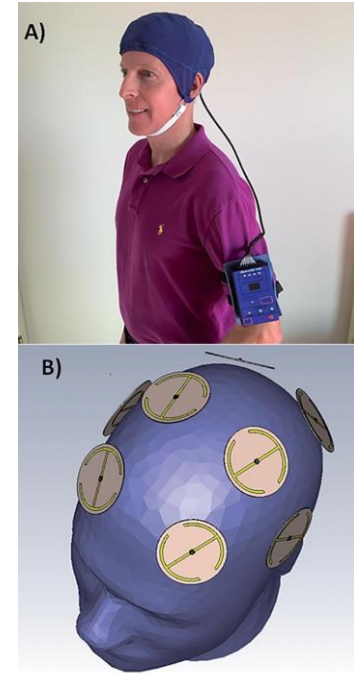
- The global study of more than 450,000 adults in 10 countries found that daily consumption of all types of soft drinks was linked with a higher chance of dying young. But the rates for those drinking artificially-sweetened beverages were significantly higher than those consuming full sugar versions, the WHO research found.” (The Daily Telegraph)
- **While the link between sugar consumption and health problems is well established, it is unclear why artificially sweetened drinks could have an adverse effect on health.... As a cohort study, the researchers were unable to prove that soft drinks are directly to blame for the small increased risk of death. (BtH)**



Mullee A, et al. Association Between Soft Drink Consumption and Mortality in 10 European Countries
JAMA Internal Medicine. Published online 3 September 2019

Alzheimer's breakthrough as pioneering head device 'can REVERSE memory loss' using electromagnetic waves to break up clumps of toxic proteins, experts claim – overgeneralisation and small study

- "Alzheimer's breakthrough as pioneering head device 'can reverse memory loss' using electromagnetic waves," (**Mail Online**)
- **The study involved 8 people with what was described as mild to moderate Alzheimer's. The device appeared safe, with no complications and no evidence that it might cause bleeds or tumour development in the brain. This is an experimental, early-stage study that looked primarily at safety, so it cannot tell us for sure if the treatment works. (BtH)**



Arendash G, et al., A Clinical Trial of Transcranial Electromagnetic Treatment in Alzheimer's Disease: Cognitive Enhancement and Associated Changes in Cerebrospinal Fluid, Blood, and Brain Imaging J Alz Dis, 2019..71,(1) 57-82

Thank you

Contact: Rob Cook



0207 576 8356



rob.cook@eiu.com