CORONAVIRUS, STATISTICAL CHAOS AND THE NEWS: PRELIMINARY REFLECTIONS FROM JOURNALISTS AND SCHOLARS

A Joint Symposium of Bournemouth University, Royal Statistical Society and Association of British Science Writers
9.00 am – 5.30 pm, 4 December, 2020

Synopsis

Data and statistics have been a staple of modern society since at least the latter half of the 20th century, but have never taken such a central place in daily life as they do during the Covid-19 pandemic, when everything we do at individual, organisational and societal levels depends on what the numbers tell us.

As they become so crucial, however, Covid-19 statistics have been subject to a rather fierce battle between different frames and narratives, in which science has to compete – not always successfully – with religion, culture and, most importantly, politics. Amidst much public confusion, anxiety and fear, numerical misinformation and disinformation seem to be everywhere on both mainstream and social media. At the same time, the pandemic has seen many excellent, cutting-edge and breath-taking data journalism and communication projects around the world.

This joint symposium gathers journalists, scientists, statisticians and media scholars to reflect on how the news media have performed in handling and communicating Covid-19 data to the public as well as to discuss some preliminary lessons for the near and far future.

Fifteen senior science, health and data journalists working for major British news organisations will be reflecting on the many challenges of reporting pandemic numbers and figures as well as the diverse approaches and innovations that they have been employing to face those challenges. Ten leading scientists, statisticians and science communication scholars will share their research and exchange ideas with journalists and the audiences. The day will cover the following questions:

1. What are the major challenges to news reporting of the constantly changing flow of Covid-19 data and statistics?

2. To what extent does news reporting of Covid-19 data and statistics change hearts, alter minds and/or mobilise people into proper pandemic actions?

3. What methods, techniques and platforms do journalists use to obtain, unpack, portray and deliver Covid-19 data and statistics to help people make sense of the pandemic?

4. How well have journalists performed in questioning, scrutinising and communicating Covid-19 data and statistics to debunk statistical "lies and damn lies" spread by vested interests?

5. How effectively have scientists, science institutions and other sources of Covid-19 statistics collaborated with journalists in conveying them to the public – and vice versa?

Keynote Speaker:

- Kevin McConway, Emeritus Professor of Applied Statistics, Open University & former Vice-President for Academic Affairs, Royal Statistical Society

Other Speakers

- Stuart Allan, Professor & Head, School of Journalism, Media and Culture, Cardiff University
- Caelainn Barr, Editor, Data Projects, *Guardian News & Media*
- Paul Bradshaw, Pioneer Data Journalist & Scholar, BBC Shared Data Unit and Birmingham City University
- Tom Chivers, RSS Award-Winning Science Writer
- Andy Extance, Chair, ABSW
- Anna Feigenbaum, Associate Professor of Communication and Digital Media, Bournemouth University
- James Fransham, Data Correspondent, *The Economist*
- Timandra Harkness, Science Presenter and Writer & RSS Fellow
- Ann Hemingway, Professor of Public Health and Wellbeing, Bournemouth University
- Helen Kennedy, Professor of Digital Society, Sheffield University
- Jane Kirby, Health Editor, PA Media
- Fiona Lethbridge, Senior Press Officer, Science Media Centre
- Ross Lydall, Health Editor & City Hall Editor, *Evening Standard*
- Claire Miller, Head of Data Journalism, Reach PLC
- Lawrence McGinty, Chair, Medical Journalists' Association & former Science and Medical Editor, ITV
- Jon Roozenbeek, Postdoctoral Research By-Fellow in Psychology, Cambridge University

- Philip Schlesinger FRSE, FAcSS, FRSA, Professor in Cultural Theory, University of Glasgow
- Sondre Solstad, Senior Data Journalist, *The Economist*
- David Spiegelhalter, Chair, Winton Centre for Risk and Evidence Communication, Cambridge University & Co-chair, RSS Covid-19 Taskforce
- Einar Thorsen, Professor of Journalism and Communication & Executive Dean, Faculty of Media and Communication, Bournemouth University
- James Tozer, Data Journalist, *The Economist*
- Tom Whipple, Science Editor, *The Times*

Conference Convenor

- An Nguyen, Associate Professor of Journalism, Bournemouth University
  Email: anguyen@bournemouth.ac.uk

CONFERENCE PROGRAMME AND SCHEDULE

Coronavirus, Statistical Chaos and the News
9.00 am – 5.30 pm, 4 December, 2020

WELCOME/OPENING REMARKS

9.00 am - 9.15 am
Speakers: Einar Thorsen & An Nguyen

Welcome from the Executive Dean, Faculty of Media and Communication, Bournemouth University (Einar Thorsen)

Introductory notes/plan for the day (An Nguyen)

SESSION 1 (KEYNOTE SPEECH): WILL THE NEW CORONAVIRUS LEAD TO NEW WAYS OF REPORTING ON STATISTICS?

9.15 am - 10.00 am
Speaker: Kevin McConway
Respondent & Chair: Andy Extance

My academic area, statistics, has often been rather heavily covered in the media, because numbers do make a nice persuasive story. But, in my lifetime at least, numbers have never dominated the news agenda, or public and private thought, in the way they have during the coronavirus pandemic. Things haven't always gone well, especially when public statistical debates move to involve politicians and political correspondents rather than researchers and specialist science and health correspondents, and/or when they involve scientists whose experience of working in those circles may be limited. While there are admirable exceptions, many non-specialist journalists don't have a good understanding of statistical concepts, particularly those in biomedical science and epidemiology. The same could be said for quite a few politicians. There were particular problems early in the crisis when empirical information about the virus and its consequences was in short supply – politicians wanted to be guided by the science but the science couldn't possibly be a perfect guide. With this background, I shall try to characterise how Covid-19 has changed media coverage of statistics in particular and science in general, and make some tentative suggestions about its long-term effects on how numbers are seen and understood.

SESSION 2 (PANEL DISCUSSION) – REPORTING FROM A "STATISTICAL CHAOS": THE CHALLENGES OF COMMUNICATING COVID-19 RISKS

10.15 am - 11.45 am
Panel members: Stuart Allan, Caelainn Barr, Paul Bradshaw, Tom Chivers, Jane Kirby and David Spiegelhalter (Lead)

As the pandemic unfolds, it brings into everyday life an influx of statistical concepts and numbers that would normally stay within the domain of specialist expertise. R-number, infection rates, transmission rates, basic reproductive numbers, death rates, logarithmic scales, fatality rates, excess deaths, false positives, relative risks, absolute risks, random sampling, statistical modelling, normal distribution, bell curves, and so on. What are the key challenges to journalists in their efforts to engage lay audiences with this labyrinth of data and statistics? Are newsrooms adequately equipped and resourced to face the challenges, given the declining investment in science journalism in recent times? What can be learnt so far? Sir David Spiegelhalter leads this panel with a leading science journalism scholar and five senior science, health and data journalists.

SESSION 3: PANDEMIC JOURNALISM: TIGHTROPE WALKING BETWEEN SCIENCE AND POLITICS?

12.00 pm - 13.10 pm
Chair: Lawrence McGinty
Respondent: Philip Schlesinger

Weaponising Statistics (Timandra Harkness)

Covid-19 propelled statistics from a dry and opaque field to an arena of urgent public interest and debate. If it leaves us with wider understanding of how to read and use numerical data, that would be a positive legacy. That numbers are often deployed to win arguments over policy is to be expected, but we are also seeing statistics used to invoke emotions of fear or anger, to influence public behaviour. This risks eroding the usefulness of data as information, and public trust in statistics as a reliable tool for understanding.

Political opinion vs. expert opinion: do we need to always make clear the difference to audiences? (Ann Hemingway)

As someone who has been interviewed by the press on COVID-19 and other issues, I will focus on arguments, facts and figures given within interviews, whether listeners and viewers are always aware of who they are listening to and why. By trying to give both sides of an argument, can we tend to give more credence to political opinion than to scientific expertise, and does it matter?

Bringing scientists and journalists together in an unprecedented crisis: The Science Media Centre's experience (Fiona Lethbridge)

The appetite for experts in the media has been huge since COVID-19 arrived, and scientists have stepped up to the plate in their number. COVID-19 has also illustrated how lucky we

are to have specialist science and health correspondents at all the mainstream news outlets in the UK. The Science Media Centre has tried to ensure journalists have had access to good scientists during COVID-19 to have their questions answered and to help them report things accurately, and to help scientists have their say alongside everyone else on various aspects of the pandemic and its response. When all else is being politicised – how do we ensure journalists get access to the best science?

SESSION 4 – RESPONSES TO CHALLENGES: INNOVATIONS & LIMITATIONS (PART 1)

13.15 pm - 14.25 pm
Chair: An Nguyen
Respondent: Paul Bradshaw

Numbers in the newsroom: how COVID-19 statistics have led the news at *The Times* and how we have coped (Tom Whipple)

How do we at *The Times* all get our heads around R, herd immunity and so on? How do we learn how to do (and not to do) international comparisons? How do we communicate uncertainty in statistics and deal with crazy talking points about false positives?

Covid-19 reporting at PA Media: What have we learned so far? (Jane Kirby)

What are the key challenges to journalists at PA Media when interpreting and reporting coronavirus data? How has our knowledge of the statistical landscape changed since the start of the pandemic? How can journalists help the public make sense of what's going on?

Tomorrow's news today at the *Evening Standard*: How to get it right (or wrong) when trying to break COVID news (Ross Lydall)

What happens when the latest ONS statistics are published at 9.30 am – and your deadline is 30 minutes away? How do you make the right call when deciding which announcement merits the front page – and which should be ignored? Which statistics matter – and which have the potential to mislead?

SESSION 5 – RESPONSES TO CHALLENGES: INNOVATIONS & LIMITATIONS (PART 2)

14.30 pm - 15.40 pm
Chair: An Nguyen
Respondent: Helen Kennedy

How *The Economist* has collected and analysed Covid-19 data (James Tozer, James Fransham & Sondre Solstad)

From the very start of the pandemic, some of the most important questions about covid-19 have been the hardest to answer. How many people have caught the virus? How many people have died? And how are people responding to policy decisions? *The Economist* was the first publication to analyse Google mobility data; to compare international excess mortality; and to estimate global infection rates from seroprevalence surveys. In our talk,

we will explain what we learned from these tasks, and what limitations we have encountered.

Reach PLC's localised response to Covid-19 data (Claire Miller)

This presentation discusses how our local newsrooms have kept regional audiences up to date on how the coronavirus pandemic is affecting where they live. That data was available, but what were the limitations and what was needed to better help people's understanding?

Humanising COVID-19 data through data comics and graphic medicine (Anna Feigenbaum)

In recent years data visualisation scholars and practitioners have drawn attention to the need for data to be more humanised. In addition to making complex information more coherent, visualisations can work to incorporate empathy and help audiences connect to information. Addressing this call for humanising data visualisation, this presentation introduces journalists to the emergent area of 'data comics', looking at how the new fields of graphic medicine and data comics deal with numeric data and what these approaches might have to teach us about improving data visualisation practices in journalism and related fields. These initial observations will draw on a pilot sample of 100 data comics on COVID-19 that underpinned a larger funded research project to run in 2021.

SESSION 6 – COVID-19 DATA AND NEWS AUDIENCES

15.45 pm - 16.55 pm
Chair: Andy Extance
Respondent: Lawrence McGinty

Communicating data visually? (Helen Kennedy)

Simple data visualisations are key to communicating information about the Covid-19 pandemic, but what do we know about how people engage with them and whether they have effects? This talk pulls together a range of possible answers to this question, drawing on existing research.

Citizen science's synergies for improving science reporting during the Covid-19 pandemic (Stuart Allan)

In exploring how journalism is evolving as the COVID-19 crisis unfolds, this presentation examines the contributions of citizen science to improving the quality of science reporting, paying particular attention to the crowdsourcing of big datasets.

Susceptibility to COVID-19 misinformation: inoculation gaming as a potential way to reduce the effect of low numeracy skills and analytical thinking (Jon Roozenbeek)

This presentation discusses the factors that predict belief in misinformation about COVID-19, especially numeracy skills and analytical thinking, and how this belief can affect key health behaviours. In an effort to promote analytical and critical thinking in the context of COVID-19, we created *Go Viral!*, a five-minute online browser game that serves as a psychological "vaccine" against coronavirus misinformation. Our data from a multinational

large-scale randomised controlled trial show how “inoculation” interventions can be used to reduce susceptibility to misinformation at the individual level.

WRAP-UP/NEXT STEP

17.00 pm - 17.15 pm
Speakers: Kevin McConway & An Nguyen

Wrapping up key issues of the day and what they mean for future news reporting of data and science in general and epidemics/pandemics in particular

Discussing the possibility of a retrospective event once the pandemic is over

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