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Improving the Quality of Health Journalism: When Reliability meets Engagement

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Abstract

Health journalism has a bad reputation. One day something is good for you and, the next day, it is bad for you. This research paper reports on how to escape this confusing circle and offer your reader reliable but still engaging health information. The approach is called contextualization.

Freelance journalist Heini Maksimainen interviewed internationally recognized journalists and other health journalism experts about better ways of doing health journalism. They all offered the same advice: stop reporting the latest research findings and focus on building a bigger picture.

A good health story not only delivers the facts but also puts them into context. It looks at the evidence and helps the reader to understand the significance of the new information. It questions the arguments used and evaluates their scientific validity. In other words, good health journalism takes a rigorous look at the existing research.

Despite the use of an evidence-based approach, health journalism does not have to be boring. This paper explains how to catch your readers' attention on social media, convince them to read your story till the end and, finally, encourage them to share it with their friends. One does not need to issue confusing "this food causes cancer" headlines in order to attract people's attention. A mixture of good storytelling and evidence-based reporting works too.

1. Introduction

In October 2013, the British Medical Journal published two articles criticizing the widespread use of statins, which are medication used to treat high cholesterol. The contradictory articles claimed that, for some patients, the harms outweigh the benefits. (Abrahamson & al 2013; Malhotra 2013). This topic hit the headlines, and something called “the statin war” began.

The great statins divide: As go-ahead's given for one in four adults to be offered heart drug, one doctor says this mass pill-popping is folly... (The Daily Mail 13 February 2014)

Health chief slams statins: Millions face terrible side effects as prescription escalates (Express.co.uk 2 March 2014)

Why I've ditched statins for good (23 March 2014)

When the loud media war was over, a group of researchers wanted to see if the discussion had affected people's behaviour. They checked possible changes in UK medical records between October 2013 and March 2014. The statistical analysis revealed an association: compared to an average six month period, approximately 200,000 more people stopped taking their statins. (Matthews & al 2016).

The statin story shows why health journalism matters. It does impact on people's behaviour and it does impact on people's health. In the worst cases, health journalism is a matter of life and death.

However, this research paper adopts a slightly different approach to health journalism.

Health journalists bear a heavy responsibility on their shoulders, and that is why it is understandable that a vast amount of the previous health journalism research focuses on scientific accuracy – or in many cases, on its absence. The underlying belief is that evidence-based information allows the audience to make informed decisions, and that is why the audience should be given advice that is backed up by years of study.

Unfortunately, I do not think that this is enough.

When it comes to journalism, accuracy is an essential requirement. However, it is not the only requirement. Focusing merely on medical facts ignores what’s today’s news organizations are all about: audience engagement.

According to the survey of Digital News Report 2017 covering 36 countries, 54 percent of the population uses social media weekly as a source of news (Digital News Report 2017). If a news organization wants to survive, it must develop a strategy to go viral. This requires a new paradigm for speaking about the quality of journalism. Facts do matter, but only when someone receives them. That is why we must also understand how and why people consume news.

Fortunately, talking about audience engagement does not have to mean abandoning one's journalistic principles. That is why the aim of this study is to combine two approaches: how to create reliable *and* engaging health journalism.

Based on the research on news sharing, I assume that listening to the audience's preferences does not mean having to reduce the quality of health journalism. Even though the results are contradictory, it seems that the traditional news values still rank highly in terms of the audience's preferences (Picone & al 2016 & Bednarek 2016) and that people want to share information that they find useful (Bobkowski 2015). Sharing is also a way of reflecting one's personality (Picone & al 2016) and, when one wants to build a favourable image, quality matters.

When reliability and audience engagement meet: the research questions

This study aims to find out how journalists could create health stories that are both reliable and engaging. It is based on 11 semi-structured interviews with old and new media journalists and other experts. The interviews cover the whole journalistic process from choosing the topic to finishing the presentation. The research ends with a small case study of the news coverage of the sugar tax debate in the UK and US. The purpose of the qualitative content analysis is to show how the principles are being applied in action.

The research questions are:

Question 1: What practices can journalists use to ensure the reliability and accuracy of health information?

-What kind of practices do journalists use to ensure the reliability and accuracy of a story when selecting topics, choosing experts, gathering information and eventually creating a story?

Question 2: What practices can journalists use to enhance audience engagement with health journalism?

-How is audience engagement taken into account when choosing the topic, selecting the angle, framing the issue and forming the presentation?

Question 3. How are these ideas put into practice in new and legacy media?

Based on an analysis of the interviews and a qualitative content analysis of sugar tax news, how are these principles put into practice in the legacy and new media?

With the help of these questions, I will end my research with recommendations for creating health journalism that is both reliable and engaging.

2. Towards reliable health journalism

2.1. What is health journalism?

Health journalism is typically defined as a subsection of science journalism. Science news, in turn, is often divided into two main categories: news that popularises scientific findings and news that discusses scientific issues within a broader societal context (Summ & Volpers 2016, 778). In the case of health journalism, the first type of news typically covers new research findings and the second type broader societal issues, such as antibiotic resistance or obesity.

Especially in the case of online journalism, these divisions do not apply as such. Wellbeing has been one of the megatrends of the 2010s (see for example Singh 2012), and it is reflected in the media. Some news outlets have divided their health coverage into two groups: science and wellbeing. The science section usually covers research findings and medicine, whereas the wellbeing section offers magazine-style features and tips that explain how to eat healthily, how to treat common diseases and how to get rid of bad habits. Good examples would be stories such as “The case for guilt-free holiday feasting” (Vox 23 December 2016) or “In exam season, a look at the best brain-boosting foods” (The Washington Post 22 May 2017).

As I am looking at health journalism as a subcategory of science journalism, I define a story as a health article if it fulfills the following conditions:

a) It includes at least one health claim whose validity could be tested by using health sciences methods.

b) The topic is at the centre of attention mainly because of its health impact.

With this definition, the topic itself can be anything from a political decision to a new trend, if it is just covered for its health impact. The definition leaves out health care stories that focus mainly on political decision-making, such as the monetisation or organization of healthcare.

2.2. Improving quality

Previous research provides a depressing picture of health journalism: the media share health claims that lack sufficient scientific evidence (Wilson & al 2009; Cooper & al 2012, 669) or fail to report studies accurately (Brunner & al 2010). In addition to providing misinformation, a huge number of stories fail to inform the audience properly about the risks, benefits and costs of particular drugs and treatments (Moynihan & al 2000; Schwitzer 2008 & 2014).

To understand scholars' disappointment, one needs first to define good health journalism. There have been several attempts to define and measure the quality of health journalism (see Oxman et al 1993; LaFountain 2004; Moynihan & al 2000). A good overview of the widely-shared understanding of quality is offered by HealthJournalismReview.org, a website that monitors and rates health stories. According to HealthNewsReview.org, a good health story should:

-discuss the cost of the intervention
-quantify the benefits
-quantify or explain the harm
-evaluate the quality of the evidence
-avoid disease-mongering
-use independent sources and identify conflicts of interest
-compare the new approach with existing alternatives
-establish the availability of the covered procedure/product
-establish the true novelty of the approach
-rely on other sources than merely a news release.
(HealthJournalismReview.org 2016).

Despite the discussion, journalists still need to make further improvements. When Gary Schwitzer, founder of HealthJournalismReview.org, analyzed all of the 1,889 articles rated by the site, he found out that most of the stories failed to meet five of his ten criteria (Schwitzer 2014).

If quality has been discussed widely since the 1990's, why do journalists still fail?

2.3. The never-ending problem of reliability

A journalist opens his/her mail box and sees a press release. A research institute is promoting its groundbreaking results, and the journalist wants to find out whether they are worth covering. In just a few seconds, the journalist has reached one of the most critical phases of reporting.

Being able to decide whether to cover a study or not means being able to evaluate the quality of the paper: the methods used, sample size, strength of the evidence, significance of the results and so on. Unfortunately, a lack of scientific knowledge seems to be among the biggest problems associated with covering scientific stories (Schwitzer 2010; Ashe 23, 2013).

Journalists are particularly criticized for ignoring the quality of the evidence (Schwitzer 2010). In evidence-based medicine, a study is evaluated by its ranking on the pyramid of evidence. At the top of the pyramid stand systematic reviews of randomized controlled trials. The second place is held by well-designed randomized controlled trials, which are followed by observational studies. At the bottom lie case and bench studies, like animal and in vitro studies (Greenhalgh 18, 2010).

However, journalists seem to have little respect for the pyramid. Wang and al (2015) wanted to see whether there was any difference between the media coverage of randomized clinical trials and observational studies. There was not (Wang & al, 2015). The media tend also to cover animal studies as if they could be applied to people and place too much emphasis on studies that only report surrogate-markers (Schwitzer 2010, 11 & 24).

Even if a journalist manages to choose the covered studies wisely, other problems might occur. Journalists should be particularly careful before drawing conclusions based on research findings. Firstly, one study does not necessarily mean very much on a large scale and, secondly, most study designs leave a lot of space for uncertainty. If a study has revealed an association between a and b, this does not necessarily mean that a causes b. Another criticized practice is talking about relative risks rather than absolute risks, which can create a completely misleading picture of the results (Schwitzer 2010, 17, 23, 30-32).

Despite the aforementioned problems, some experts believe that, since the 1990s, the quality of reporting has improved. There is more awareness, more educated journalists and more health professionals writing for laypeople (Picard & Yeo 2011, 5).

The experts interviewed for this study share this view. Professor Sir Muir Grey, founder of the Behind the Headlines website, and Fiona Lethbridge, senior press officer of The Science Media Centre, think that specialized health correspondents in the UK generally report health issues responsibly. However, health stories are sometimes covered by general news journalists who lack expertise in the field. Also, headlines might be written by someone who does not specialize in science.

2.4. The problem of the different cultures of science and the media

The word ‘news’ reveals the core of the problem. News is supposed to be something new but, in science, newness is a warning sign. If something is unexpected, it is also more likely to be wrong (Bower 2011, 158). The media and science do not follow the same logic, which partly explains why scientists are often unhappy with science journalism. Clive (2003) calls this phenomenon the “two cultures explanation”. If something is scientifically worthy, it does not mean that it is newsworthy (Clive 2003, 52).

Another potential source of conflict is the journalistic style. Whereas scientists want to be exact, journalists want to be interesting, comprehensible and entertaining. Many journalists feel that they should not burden their audience with unnecessary details (Wormer 182, 2011). When a complex scientific debate is squeezed into two sentences, the outcome does not necessarily please those who know the whole story. As LaFountain (2004), in discussing health risk reporting, says:

Highly technical information puts most people to sleep. However, such information is vital to understanding risk. (LaFountain 2004, 50.)

Some problems originate from other journalistic practices, such as building up drama or making a story seem balanced. For example, health stories are sometimes presented as battles between opposing powers (Wormer 183, 2011) or are “balanced” by giving the opposing sides of the argument an equal amount of space and time (Boyce 2006). This leads to the so-called false balance: a situation in which giving opposing views an equal amount of space makes the issue appear contradictory even though most scientists would agree on the matter (Murcott & Williams 2013, 156-157).

2.5. Defining Quality: Evidence-based reporting for mainstream audiences

The previous research tends to evaluate health journalism from a scientific point of view. This is a problem for various reasons.

Firstly, journalists are not just a voice for scientists or the authorities. Instead, science journalism should facilitate scientifically-informed debate about policy options (Ashe 2013, 22) and hold the authorities and researchers accountable for their use of power and money (Wormer 175, 2011). Secondly, journalism cannot be judged by the facts it delivers alone. What matters too is *how* they are delivered. A story written in a strict academic style could fulfill all of the criteria listed in section 2.2., but it would fail to reach the people for whom it is intended.

Many health journalism studies seem to assume that information can be simply transferred to people, which would lead them to change their behaviour. This perception implies that people would evaluate the information rationally and then simply choose an appropriate lifestyle. (Ashe 10 & 21, 2013; Clive 2003, 5-10.) These studies forget that a person needs first a) to come across the story and b) be motivated to read/watch/listen to it. Even if this happens, nobody knows how the person will interpret the information.

My understanding of quality recalls the approach of Wormer (2011). He believes that a good investigation should lead to evidence-based journalism, but the stories should also be presented so that they maximize their reception and increase the audience's comprehension. (Wormer, 2011, 171.) In the current media environment, this means creating reliable health journalism that reaches people when they scroll through their social media newsfeeds at the bus stop and in bed.

What is reliability?

This study focuses particularly on one aspect of quality: reliability. On the surface, reliability means using the correct facts and interpreting scientific information accurately. However, accuracy is just the surface level of reliability. A more complex question is how the facts are chosen, used and presented.

One solution to the problem is an approach called *evidence-based journalism*. This means evaluating the used facts and arguments under the light of the existing data and research. Evidence should guide both the process of identifying the facts and the process of forming an unbiased presentation of them (Sambrook 2012, 5, 39).

In this context, reliability means providing the audience with unbiased, evidence-based information that has been put into a context, which allows the audience to evaluate its significance. It requires factual correctness, such as the correct use of numbers and expressions.

3. Health Journalism and Audience Engagement

3.1. What does audience engagement mean?

Despite the overuse of this term, there does not seem to exist an agreed definition of audience engagement. In this research, it means an active two-way relationship between a media outlet and its audience. Ideally, the media understand their audience's needs and the audience responds with an action.

In newsrooms, audience engagement is measured typically as shares, engaged time and comments (Parsely.com 2016). The use of analytics tools has put journalism into constant motion. When the media see that their audience prefers a certain type of content, the information develops into new practices. Slowly, the new formats, styles and habits become the new normal (Sheller 2015, 19-20). Good examples of these new data-informed practices are BuzzFeed's famous listicles or Quartz's V curve, which means that readers are offered articles shorter than 500 words or longer than 800 words. Texts falling between these two values are "too long to be shared, but not long enough to provide real benefit to the readers" (Küng 2015, 46).

As news distribution has moved towards social media, audience engagement studies have particularly focused on news sharing.

What do we know about news sharing?

Sharing serves a universal human need to connect, claims Jonah Peretti, founder of BuzzFeed. Peretti believes that people share stories for three reasons: the shared piece transfers useful information, it gives the recipient "an emotional gift" or it boosts the sharer's identity or membership of a certain community. (Küng 2015, 62.) Peretti's thoughts have transformed into a news site that is based on news sharing, but they are also backed up by an emerging area of research.

Lee and Ma (2012) found that news sharing is mostly motivated by socializing and status seeking. Sharing makes people feel connected to their community and is also used to impress others. Picone and al (2016) noticed the same phenomenon: the most active sharers could be categorized either as "social" or "reflective". Social sharers want to exchange ideas and stay in touch with others, whereas reflective sharers are motivated by a desire to make a good impression (Picone & al 2016, 926-927). In that context, it is understandable that people want to share information that they find useful (Bobkowski 2015).

News is shared more often when it evokes high-arousal emotions, such as awe or anger (Berger & Milkman, 2012). Thus, it is unsurprising that a subjective writing style and polar sentiments expressed in the title are positively associated with sharing (Khuntia & al, 2016). These results were backed up by Vasantola (2015), who noticed that opinion pieces, features and stories with an individual angle were shared more often than neutral news. The shared stories seemed to awaken either amusement or amazement, and the audience liked positive angles (Vasantola 2015). Also, it seems that the use of multimedia pays off. The most frequently shared stories often include videos, external links, images and charts (Vasantola 2015; Khuntia & al 2016).

These observations seem to apply also to health journalism. Kim (2015) analyzed the reading and sharing patterns related to health news and found that readers favoured stories that contained useful information. He found also a positivity bias: a story was more likely to go viral if the headline or teaser did not mention diseases or negative conditions.

Some of the findings of the sharing studies are more contradictory. For example, Bastos (2015) examined how the most shared news of the Guardian and the New York Times differed from the rest of their stories. He found that social media users' agenda showed a stronger tendency to favor hard news. This finding differs from Vasantola's (2016), who noticed that people tended to favour everyday life topics over hard news.

Also, the positivity bias had been challenged by some studies. When Bednarek (2016) analyzed the news values of the most shared news stories on Facebook, she found that negativity seemed to be a more important news value than positivity. Nevertheless, this outcome might be explained by the original news values of the outlets. If most of the news stories are negative, then that is what people end up sharing.

Generally, the findings of the sharing studies should be interpreted carefully. The phenomenon is new, and so are the findings. The results also vary between different types of media and platforms. For example, Facebook seems to favour more soft news compared to Twitter (Bastos & Zago 2013; Almgren and Olsson 2016, 4). So far, it is too early to draw undisputed conclusions.

3.2. Matching audience engagement with good health journalism

Avery and Holton (2016) surveyed American journalists to study their relationship with their audience. They found that journalists who held a traditional public service role interacted less with their audience on social media, whereas journalists who were categorized as entertainers wanted to engage their audience (Avery and Holton 2016). This finding is revealing: it is common to think that pleasing the audience means risking one's journalistic principles.

However, the previous literature on news sharing does not imply that audience engagement should challenge the quality principles. It is true that the features that enhance the likelihood of sharing are different from those that define good journalism but, after all, they do not contradict each other. There is no reason to believe that reliability would *reduce* the likelihood of sharing.

The old principles remain; they should just be packaged in a new way. Whereas the criteria for good health journalism define what the audience *should be told* (for example, risks and benefits), the knowledge about audience engagement affects *how* this content should be passed on (for example, in a solution-oriented way).

In the next sections, we will discover how this is done.

4. Analysis of the interviews: towards contextualized health journalism

We all know the story: one day, red wine is good for you and, the next day, it is not. Luckily, health journalists have an antidote to this confusion. It is called contextualisation.

All of the journalists interviewed for this study emphasised that a good health story puts the covered topic in context. It paints a larger picture, that helps the reader to see where the latest piece of the puzzle belongs.

One study can seem to contradict another study, but what good health journalism provides is context, showing how each study is part of building a more complete picture.

–Frances Sellers, senior writer at the Washington Post.

A contextualized piece not only reports what someone has said or what a piece of research has shown. In addition, it evaluates the significance of the topic in light of the evidence. It looks at the previous research and uses independent experts to help the reader to understand the meaning of the new information. In addition, good health journalism explains how the topic impacts on the reader's life and wider society.

This requires a reevaluation of several journalistic practices, such as dramatisation, simplification and impartiality, when it is understood as treating opposing views equally at all times. Instead, good health journalism combines certain journalistic virtues, such as rigorous investigation and good story-telling, with the principles of evidence-based medicine.

In the following sections, I will explain in detail what journalists mean by 'reliable contextualized journalism' and how their organizations achieve this. The chapter follows the order of the journalistic work process: choosing a topic, collecting information, writing the piece and finally packaging it into an engaging form.

The presented thoughts are based on 11 semi-structured interviews that were conducted between November 2016 and May 2017. All of the interviewees had expertise in health journalism, and many of them had held management positions. Eight interviews covered reliability and audience engagement in health journalism, and one journalist was interviewed only about audience engagement in long-form science journalism. In addition, two other experts were interviewed about reliability in health journalism.

The interviewees represented the following institutions in the UK and US:
- Legacy Media: The BBC, The Financial Times and The Washington Post. One of the journalists was a freelancer who had been writing recently for The Times, The Sunday Times, The Telegraph, The Daily Mail and The Mail on Sunday.
- New Media: The Quartz, Buzzfeed, Vox, The Huffington Post and Mosaic Science (only about long-form and audience engagement).

- Other institutions: The Science Media Centre and NHS Choices.

The list of interviews and broad areas of the questioning can be found in the Appendix.

5. Results: Choosing topics

Almost all of the journalists mentioned that one of the problems associated with health journalism is covering single studies.

This habit focuses an undeserved amount of publicity on a study that lacks wider relevance and implies that science changes every time a new issue of Nature comes out. Some of the journalists also thought that something more important might be missed when the media compete to be the fastest to publish new findings.

Many of the journalists stated that their organization is trying to move away from covering the latest results obtained from journals. Instead, they want to write about things that people talk about: questions that arise from political debates, worries that people have in their daily lives, and topics that are trending on Twitter. The research is used as a source of evidence, not as a source of news.

However, all of the studied publications still cover new study results, either when a study has significant findings or it has become too big not to be covered. Many of the interviewees mentioned that, if a study is reported by the tabloids, they feel responsible for providing people with accurate information.

5.1. Debunk myths (but only when they get big)

When one scrolls down some popular wellbeing blogs, it takes only a few minutes to find something dubious. One blogger recommends detox drinks, the next one believes in the miraculous powers of enzymes.

Just ignore it, goes the advice of journalists. It is better not to waste time trying to debunk every nonsensical internet claim. The same applies to poorly-designed research. Just bin the press release.

However, in some cases, something dubious gets too big not to cover. When people start to waste their money on detox products, journalists feel responsible for stopping the game.

It study results are not robust, we shouldn't be reporting them in the first place, unless they've been brought to the wider political debate. If the government is using poor quality science as the basis for their decision-making, then we should look at it.

–Andrew Jack, head of curated content at the Financial Times.

Meredith Melnick, executive editor for health and science at the Huffington Post, states that her team debunks especially bad celebrity health advice. "It sounds a little petty but it's important because people take health advice from celebrities", she says.

Melnick refers to the so-called ‘Angelina Jolie effect’. In 2013, actress Angelina Jolie announced that she had decided to have a mastectomy because her genes increase her risk of breast cancer significantly. After Jolie’s announcement, there was a peak in breast cancer gene tests (Kmietowicz 2016). The Angelina Jolie effect started a discussion about whether the raised awareness helped women at risk or only benefited the companies offering gene tests.

Sometimes, the source of inaccurate or exaggerated health claims is other media. Many of the journalists mentioned feeling frustrated by the coverage of some newspapers, especially tabloids.

On a fairly regular basis, you see stories that are not technically inaccurate, but whose significance is exaggerated. We think that it's part of our role to write stories that act as a corrective to something has been overwritten or exaggerated elsewhere.

–Richard Warry, assistant editor of the BBC News website.

BuzzFeed’s science editor Kelly Oakes reminds us that debunking is not just a duty, but it can also engage readers. People are already talking about the topic, and a new story with a different angle lets them participate in the conversation.

If someone sees that their friend is sharing an inaccurate story and we debunk it, it gives that person something to send back to their friends.

–Kelly Oakes, science editor of BuzzFeed, UK.

6. Results: Choosing sources and experts

There is an extraordinary volume of what purports to be medical research. An awful lot of what is published has little or no value.

–Lois Roger, freelance health reporter.

Journalists constantly see examples of bad science, which is why filtering out reliable sources is a fundamental part of a health journalist's skill set.

The journalists shared similar principles regarding evaluating the reliability of sources. They emphasized the need for a careful scrutiny of scientific papers and the use of independent experts. In other words, they followed general guidelines on health journalism that are stated, for example, in "The MJA Guide to Clinical Trials" (the Medical Journalists' Association, UK) and in "Covering Medical Research" (the Association of Health Care Journalists, US).

All of the journalists emphasized that a journal will not be covered unless it is peer-reviewed. However, that is just a starting point: in 2010, there were approximately 24,000 peer-reviewed scientific journals (Larsen & von Ins 2010, 29). The diamonds must be filtered out, and the journalists had different strategies for that.

The most commonly-used criterion was the reputation of the journal. Some of the journalists said that they rely almost solely on the most prestigious, high-impact academic journals, such as Nature, Science, The Lancet, JAMA and the BMJ. However, one interviewee said that she does not automatically ignore "unlikely sources", by which she meant less well-known, peer-reviewed journals. Instead, she would read the paper to see whether it fulfills her criteria and check the academic record of the writers. One journalist said that she tends to use mainly "better-quality systematic reviews".

A good reputation does not mean skipping the homework. A journalist should always evaluate the quality of the used studies: the sample size, the used method and so on. (The two previously mentioned guidebooks offer useful checklists.) These checks should reveal any obvious shortcomings in the study design.

One should also check the source of funding. Many of the journalists mentioned seeing unreliable studies funded by the food industry.

We know that, in areas like nutrition, many of the studies have been funded by food companies and done with a very particular design to get a certain result that will benefit the companies.

–Julia Bellux, senior health correspondent at Vox.

After the paper has passed the first phase of evaluation, the journalists move to the second one: comparing the results with previous research and speaking to the authors and outside experts. The journalists will feel wary if the paper contradicts commonly-held beliefs.

I put the paper in context by trying to understand the broader literature. Is the study consistent or radically different to the other thinking in the field before? Is there an independent voice to quote about it?

–Andrew Jack, head of curated content at The Financial Times.

A common practice is to send the study to an independent expert and ask for their opinion. All of the journalists said that they would use at least one third-party expert. The more radical the findings, the more important it is to use multiple sources.

6.1. Find reliable experts

When the journalists were asked how they choose their experts, they referred to their own connections and previous knowledge of the topic. In many cases, they would already know the right person to talk to.

We've spoken with many experts in any given field and we know which one to talk to in order to get a reliable opinion on a topic.

–Richard Warry, assistant editor of the BBC News website.

Generally, experts must fulfill at least two criteria: they must have a credible academic record and cannot have any commercial or personal interests that could risk their impartiality.

In the UK, journalists can ask for help from The Science Media Centre. The organization connects journalists with third-party experts and organizes press conferences where experts have they say on heated scientific debates.

“Just as we hear from campaigners and politicians, we need to also hear from scientists who look things from the evidence point of view, not from an ideological point of view”, says senior press officer Fiona Lethbridge.

To help the audience to differentiate experts from other commentators, Lethbridge recommends paying attention to how people are presented in the story.

"It's crucial to label if someone is a professor who has 30 years of research experience in the field or someone who might sound like an expert, like a campaigner or doctor, but who hasn't done any research in that field."

7. Results: writing a contextualized story

In this chapter, the journalists talk about writing contextualized, evidence-based health stories. Some of the discussed issues are practical, and some of them are linked with the core journalistic values, such as impartiality and objectivity.

7.1. Re-evaluate impartiality with regard to controversial topics

Is sugar the evil behind the obesity problem? Should we eat or avoid margarine?

Some areas of health are more polarized and politicized than others. In areas where the answers vary depending on who you are asking, a rigorous scrutiny of the evidence becomes crucial. The reader does not become informed simply by knowing that opposing views exist. The reader needs to know how credible the evidence behind those views is. This requires two things: firstly, the journalist should know where the evidence lies and, secondly, he or she should be able to evaluate the used arguments against that background.

As Akshat Rathi of Quatz puts it:

It's not about reporting 'he said or she said' or simply translating what the academic paper says. Instead, it's about putting it in the context of wider research, our daily troubles and the problems we are trying to solve.

Even though none of the journalists mentioned the expression, many of them referred to a concept that reminds us of the due impartiality approach of the BBC. As the BBC states in its guidelines:

The term 'due' means that the impartiality must be adequate and appropriate to the output, taking account of the subject and nature of the content, the likely audience expectation and any signposting that may influence that expectation. Due impartiality is often more than a simple matter of 'balance' between opposing viewpoints.
*(*www.bbc.co.uk/editorialguidelines/guidelines/impartiality)

The avoidance of bias should not mean treating all of the parties equally but evaluating the opinions against the evidence and treating them accordingly. As Murcott and Williams (2013) stated, "a major journalistic role involves testing, critiquing and contextualizing the claims of scientists" (2013, 157). This should diminish the risk of false balance. However, an evidence-based evaluation of the arguments should not mean ignoring alternative views, but the views should be presented so that the reader can assess their prominence.

Frances Sellers from The Washington Post gives an example. She had edited a story that covered recent development in aids treatment, and an aids denialist wrote to the newsroom to complain that his opinion had been omitted. One of the editors was wondering if his view should be taken into account. Sellers' answer was no: an opinion like that did not belong in that 25-inch news story. However, it could have been worth a feature exploring why some people hold beliefs that run counter to the scientific evidence.

"There are lots of areas where people's beliefs are interesting but not scientifically upheld and it can be worth examining why they continue to hold those views", Sellers says.

As Sellers' example shows, the more research there is, the easier it becomes to fight false prophets. Unfortunately, there are some topics where relying on the evidence in less simple. Some diseases have an unknown etiology, some topics have attracted insufficient academic interest, and some fields are heavily funded by the industry.

One such area is nutrition. There is a lot of industry funding and also some evidence of its impact. Bias has been seen at least in studies related to the health impact of sugary drinks and artificial sweeteners (Mozaffarian 2017). Systematic reviews funded by the food industry have been more likely to conclude that insufficient evidence exists to demonstrate a positive association between weight gain and the consumption of sugary drinks (Bes-Rastrollo & al 2013).

Journalists offered several strategies for writing about problematic areas. Firstly, a journalist should be aware of the lack of evidence or its possibly biased nature. This requires homework: reading previous studies and speaking to independent experts. Secondly, this state of affairs should be communicated to the reader. The audience has a right to know also what they *cannot* know and why the information is missing.

Meredith Melnick, executive editor for health and science at The Huffington Post, provides an example from another controversial field of health research. When e-cigarettes started to gain popularity, there was little research about whether they are safer than other tobacco products.

"Studies show different things, and that's the story for us", Melnick says.

By this, Melnick means that, if a journalist cannot provide a definitive answer, he or she can explain why the answer cannot be given. A journalist can show what kind of studies exist, how they have been funded, what their limitations are and how their results should be interpreted.

7.2. Express insecurity

Busy roads can cause dementia, claimed the headline of the Daily Express on 5 January 2017. BuzzFeed's science editor Kelly Oakes felt compelled to write an article debunking the story. Her headline went: Here's What You Need to Know about that "Busy Roads Cause Dementia" Story.

In her story, she explains why the study could not tell that living near a busy road causes dementia. Certainly, the study found an increased risk, but the finding could also be explained by other factors.

Oakes' story is a good example of one of the contextualizing strategies recommended by the interviewees: expressing insecurity, limitations and caveats. It is not enough to relate what a research project shows. The reader should also know what the research did not show. For example, sometimes, a diet looks beneficial within a short-term intervention, but nobody knows its long-term impact. Sometimes, an intervention works in a controlled research setting but, in real life, people revert to their old habits.

The need to express insecurity and limitations applies to any type of health news, but the most frequently-repeated example was the coverage of new studies. The interviewees stated that a study does not have to be a flawless, if its limitations are expressed clearly within the story.

If it's a good study with some limitations, I just mention that. I try to do it pretty high up in the story. I have a paragraph saying that, hey, keep in mind, that this type of study can only tell us about x. If it's a single study, I look at what the systematic review says to get more context.

–Julia Bellux, senior health editor at Vox.

For example, the reader should know if the sample size is small or if the study can only show an association. As the busy roads and dementia story shows, it makes a difference.

7.3. Be transparent

It is unsurprising that the journalists talked a lot about transparency. Transparency is essentially linked to trust, without which any efforts to create reliable information lose their value. Being transparent about one's sources and methods does not prove that the used facts are correct, but it helps the audience to see when they are not.

Transparency is usually understood as openness regarding the used sources, techniques, affiliations and so on. *Disclosure transparency* means being open about how news is produced, *participatory transparency* means allowing the audience to be involved with the news-making process (Karlsson 2010, 537-538). The journalists used the term transparency when they referred to their attempts to make their position and actions visible.

The interviewed journalists produced transparency by:

-interacting with their audience
-giving the audience access to the original sources
-revealing factors that can reduce the credibility of the used sources or arguments.

These actions help the reader to trust the media but, at the same time, they reduce the need for mere trust. For example, when readers are given access to the original source, they do not need to trust alone: readers can go and check the source material themselves.

For some of the journalists, transparency meant direct communication with the audience. Now that journalists and their audience have a more direct relationship, the audience can more easily hold journalists accountable. If a journalist makes a mistake or writes a biased article, Twitter will reveal this. The direct relationship with the audience works as an extra corrective layer.

Transparency meant also openness about the used sources. Many of the interviewees mentioned that it is important to link to the original research paper which allows the reader to check the quality of the used study. If linking becomes the only accepted norm, the audience will not settle for unspecified claims like "studies have shown that diet x helps to lower blood pressure". Journalists must show their evidence.

Transparency was also mentioned when the journalists talked about their interviewees. Sometimes, the only available expert is somehow affiliated with the topic. If the situation cannot be avoided, the next best solution is to make the affiliation visible.

Everyone has an agenda and, especially in specialist areas, there's no large group of people you can turn to. They might have their own biases, whether it's professional rivalries or competition for funding or they simply have a different point of view. At least one can try to clarify and identify who these people are and what are their connections.

–Andrew Jack, head of curated content at The Financial Times.

7.4. Give it space

If it's an interesting topic but difficult to explain, don't write a short article. Go in-depth, write a long article, and give the necessary context.

–Akshat Rathi, science reporter at Quartz.

Quartz has a principle that the stories are usually shorter than 500 or longer than 800 words. Theoretically – if the time constraints allow – an online journalist can apply the same rule to any given article. The interviewees saw this freedom as one of the biggest advantages of online journalism.

The new media journalists remembered a time when their stories had to be finished by 5pm and forced into the few reserved newspaper columns. They were delighted at being able to give their articles the amount of space they deserve.

One of the positive things that we have on the internet is unlimited space. Not that a story has to be 500 words long if it only needs to be 300 words, but if you want to add in extra explanation or context, you have room to do that.

–Kelly Oakes, science editor at Buzzfeed.

The use of mobile phones has a raised a concern about whether people will bother to read long articles on a small screen. The answer seems to be yes.

When the Pew Research Center compared for how long mobile users of 30 news media read their short and long-form articles, the average engagement period rose steadily with the word count. Short news stories (101-250 words) were read on average for 43 seconds, whereas stories longer than 5,000 words had an average engagement period of four and half minutes (Pew Research Center 2016). The same phenomenon was noticed by the interviewees. Extra effort was usually rewarded as longer engaged time.

I think it reflects the time we're living in. There's so much thin uncontextualized information out there, and people are getting mixed messages about health, like coffee is good for you one day and bad the next. When you have something that puts the news in context, people really appreciate that.

–Julia Bellux, senior health correspondent at Vox.

The journalists offered examples of successful long health articles. For example, The Washington Post publishes a monthly series called Medical Mysteries. The stories present a person with weird undiagnosed symptoms. Slowly, through one doctor's appointment after another, the mystery starts to unfold. Medical Mysteries are among the most popular content of the Washington Post’s health coverage, and they can contain over 1,500 words.

Vox’s popular long-form series is called “Show Me the Evidence”. The stories explain health issues by examining as many as 50 to 60 studies. According to Julia Bellux, these stories were among her most widely-read pieces.

Some of the journalists stated that long stories may not become the biggest hits of the day, but they generate the right kind of traffic: people who appreciate quality journalism and are thus more likely to become loyal readers.

The Big Reads, which we do daily, are 1,500 to 2,000 words long. Those get a substantial number of reads and people spend a lot of time going through them. And even if not, it’s highly valuable traffic: a smaller subset that values analytical, deeply-reported journalism.

–Andrew Jack, head of curated content at The Financial Times.

8. Results: Creating an engaging package

In the studied organizations, audience engagement is measured primarily in terms of shares, page views, engaged time, recirculation, reactions and audience loyalty. This information is used for example for:

-Packaging stories so that people click on them.
-Packaging stories so that people share them.
-Eliminating features that disturb the user experience.
-Targeting the right kind of audience.
-Optimising the use of third-party platforms (for example, deciding which topics work on Twitter, and which ones on Facebook).
-Engaging in search engine optimisation.
-Assessing whether producing certain content is worth the time and effort.

This chapter concentrates mainly on the first three aspects: packaging contextualised, reliable health stories so that they engage people. As the word packaging suggests, understanding good journalism has not changed; only the way that it is offered to people. All of the journalists emphasised that the editorial decision-making is based on journalistic judgement, not on analytics. Quality comes first and, combined with some data-informed tricks, clicks and shares will hopefully follow.

Some of the journalists also reminded us that reaching as big an audience as possible does not necessarily work to their benefit. For example, The Financial Times has a subscription model and it targets a more specialized audience than general newspapers. For the FT, it is more important to fulfill the needs of the loyal readers than create hits for people who only click once.

We have a certain understanding of what we should do, what we should be about and who our readers are. We aren't going to start providing clickbait simply to attract readers. Most of those readers wouldn't become paying subscribers.

–Andrew Jack, head of curated content at The Financial Times.

In the following sections, I will summarise what the interviewed journalists have learnt about their online audience and how this information can be used to improve audience engagement with health journalism.

8.1. The art of headline making

A headline can make or break a story, and so it is unsurprising that the journalists talked a lot about headlines. They devote a lot of effort to creating sentences that are as appealing as possible but still 100% accurate.

If it's a story that's only 300 words-long, I have on occasion spent more time talking about the headline than actually writing the story.

–Akshat Rathi, science reporter at Quartz.

A good headline teases the reader and reflects the content. It can prove challenging to come up with one, and that is why headline-making is often a shared responsibility. In some outlets, the headline is created together with a special editor. At the Washington Post, journalists can use a chat program called Slack to brainstorm headlines with other journalists.

One journalist described headline-making as a sparring match: an editor makes a suggestion, and the journalist responds with a competing idea. This goes on until they have created a sentence that pleases them both. Usually, the challenges stem from the inexcusable nature of science. The message should be summarised without using obscure scientific words or compromising accuracy. One journalist mentioned that their outlet has sometimes called the interviewee to ask whether it is correct to use certain lay terms in a headline.

Some of the journalists mentioned that creating a good headline has become easier now that headlines tend to be longer than before. Without print's space limitations, even headlines can be contextualised.

Despite the effort devoted to creating headlines, the journalists gave few practical tips about this. The most common one was: add popular key words. Adding common search terms and trending topics helps people to find the story on Google.

8.2. Bang, bang, bang

Thanks to online metrics, journalists know that their readers can become bored within seconds. Especially on social media, the story should catch the reader's eye immediately.

That is why the first words of the story must convince readers that they will learn something interesting or important. As Richard Warry from the BBC states, the story must start with a “bang, bang, bang”. The reader will not persevere to see if there is a reward for the extra effort.

Nevertheless, as freelance health journalist Lois Rogers reminds us, this might not be very different from print, where journalists simply cannot see where readers lose interest and stop reading. For Rogers, the same rule applies to print and online news: the first five words must engage the reader. There is no space for empty words or obscure expressions.

You‘re trying to communicate information, that might be complex, in as simple and easily digestible a form as you can.

–Lois Roger, freelance health journalist.

Unfortunately, there is no simple recipe for creating a “bang, bang, bang” start. Many of the journalists referred vaguely to showing the reader why they must read the story and why the topic is important. Some of them mentioned choosing an angle that is relevant to the biggest number of people reading the story or related to people’s personal life.

8.3. A picture is worth a thousand shares

Many of the journalists mentioned that pictures and charts help to attract more attention on social media. Some studies have also noted that the use of pictures and charts was associated with increased shares (see chapter 3.1).

People are looking at their smart phones and they have small screens. Something visual seems to be very compelling as a way into a story.

–Andrew Jack, head of curated content at The Financial Times.

The photos should load quickly and be easy to interpret at a small size and, of course, they should look good. A classic way to attract attention is to use pictures of people. A photo of an NHS hospital does not make you click but a friendly face might do.

BuzzFeed seemed to differ from the other outlets regarding the approach to images. According to Kelly Oakes, BuzzFeed’s audience can feel alienated by unrealistic stock photos. Instead, the photos should be something that the readers can relate to, and that’s why BuzzFeed prefers real life photos that are picked, for example, from social media. They are not necessarily pretty but they look as unorganized as life often does.

8.4. Choose a format that serves the story

Thanks to the internet, journalists no longer have to force their stories to fit a certain format. If a health story needs a map showing the most obese cities in the country, a journalist can add one.

Despite the possibilities, the most common format is still text. Compared, for example, to videos or interactive graphics, text delivers information efficiently. It allows the reader to glance through the text and skip the parts that feel irrelevant.

All of the outlets had experimented with different formats and platforms, like Facebook live, live Twitter panels, Snapchat stories, podcasts and videos. Some of them worked better than others, but most of the outlets seemed to rely mainly on text, with a few graphics and images. It takes time to produce multimedia, and sometimes it irritates rather than engages the audience.

We don't typically do a lot with formats just because we've found that a heavy lift didn't really lead to more engagement. Occasionally, we experiment, like we have a mini series of podcasts coming that is a bigger lift and I'm excited to see how it does. But we don't do it for its own sake. We'll only do that if we think it serves the story better.

–Meredith Melnick, executive editor for health and science at The Huffington Post US.

From the studied outlets, BuzzFeed seems to be the most eager to use different formats, mostly their famous lists and quizzes. They are shared well on social media and are among the most popular health content of Buzzfeed. Still, according to Kelly Oakes, they are used only if they seem to be the best format for the story. Oakes gave the following example. In July 2016, Public Health England published its new recommendations for vitamin D intake. Oakes decided to scatter the information within a test, asking "do you need to take vitamin D supplements?" The test brings official recommendations to a personal level and appeals to people's need to know if they are ok.

Even though most of the stories are in the form of text, this does not mean that online stories should look like print stories. In print, text and pictures are often seen almost as separate entities, since there is no way of controlling whether a reader looks at the text or the images first. When a reader scrolls down the story on a smart phone, the charts and pictures should form a logical part of the storyline.

A quick look at the outlets reveals that small screens have changed the way in which the stories are told. Bullet points and infographics are added in the middle of the story, and the most important sentences are highlighted. If something is demonstrated best by a gif or a screenshot, it will be added in the middle of the piece.

8.5. Make it relatable

Many of the interviewees mentioned that an engaging story has something called “a human element”.

The buzzword is to make stories to as human and as shareable as possible. We try to move away from writing too many policy stories that are important but lack a human element, into a situation where we write more about people's experiences, for example of the health service or new treatments.

–Richard Warry, assistant editor of the BBC News website.

Adding the human element can be done in many ways: by interviewing ordinary people, focusing on individuals behind innovations or taking a more practical angle; for example, by explaining what happens in your body if you are too sedentary. Sometimes, a small change in the angle helps:

Sometimes, we try to appeal to the reader by saying something like ‘you know what it feels like when you can’t sleep’. Even if it’s just that quick demonstration, it’s a human element and that’s really important.

–Meredith Melnick, executive editor for health and science at The Huffington Post US.

8.6. Be positive

If your newsfeed is full of terrorism, war and unemployment, would you want a spark of hope? Very likely, believe the representatives of an approach called *solutions journalism*. This means journalism that tries to increase interest in depressing or complex topics by focusing on possible solutions. (solutionsjournalism.org 2016; The BBC Academy Blog 2016.)

In a study conducted by the Engaging News Project, the approach seemed to improve audience engagement. The study compared the test audience’s reactions to two different versions of the same article. Half of the people were shown a story that focused only on a societal problem, and half a version covering possible solutions also. The solutions group reported being more likely to share the story and read more articles from the same newspaper. (engagingnewsproject.org 2016.)

Some of the interviewees believed that focusing on solutions could improve audience engagement with health journalism too.

One thing we do with a few different topics is to try to focus on solutions rather than the problems. I've done that with air pollution, and we did it with cancer as well.

–Kelly Oakes, science editor at BuzzFeed.

The journalists interpreted the demand for a more constructive approach in different ways. Some of them shared the view of the Solutions Journalism Network, which emphasizes looking at the evidence for tested solutions.

Some of the journalists had a perception that could be described as the avoidance of unnecessary negativity. They tried to engage their readers by choosing more positive angles for topics that were generally seen as depressing. A couple of journalists used cancer as an example. Instead of just scaring people, journalists could also discuss the development of new treatments.

There were also journalists who did not share this enthusiasm. They had not noticed that positivity would lead to greater engagement. Also, some of the interviewees seemed slightly cautious about the approach and reminded us that solutions journalism should not be misunderstood as escapism or the avoidance of important but negative topics.

Generally, health can be a rewarding area for solutions journalism. The topics are often as depressing as diabetes or Alzheimer's, but there usually exists a lot of research and public health campaigns that are focused on solutions.

A good example would be a story published in the science magazine Mosaic: "Iceland knows how to stop teen substance abuse but the rest of the world isn't listening" (17 January 2017). The story, covering Iceland's successful anti-alcohol and anti-drug policy, received nearly two million page views within a month and became the most popular story in the outlet's history.

8.7. Appeal to people's sharing motivations

People like to demonstrate that they are informed, so they are more likely to share a story that's serious.

–Meredith Melnick, executive editor for health and science at The Huffington Post US.

Many of the journalists were aware of people's sharing motivations (see chapter 3.1) and repeated the same observations as seen in the studies: people want to impress their social media audience, voice their identity and express their emotions.

In many cases, the journalists saw this as an advantage. Even if someone's guilty pleasure is to read Kim Kardashian stories, the person will probably not share their love for gossip in Twitter. The desire to maintain a civilized facade counterbalances clickbait.

"When we do stories about the intersection between celebrities and health, it's the only time that people think that sharing celebrity stories is ok", Meredith Melnick stated.

Even though some aspects of sharing benefit quality journalism, some scholars have been worried about how people's tendency to share emotional and opinionated stories affects journalism (Khuntia & al 2016). However, the interviewees seemed to talk about the power of the emotions from a positive perspective. Shareability is not about the topic but the angle on it, and that is why even complex, unsexy topics can go viral. All you need is a good story that evokes emotions.

8.8. Write a story with characters and a plot

An average mobile user spends less than a minute on a news story (Pew Research Center 2016). Despite the shortness of people's attention span, long health stories – even very long ones – do stand a chance. Mosaic, a digital-born science magazine, publishes health stories that achieve an average time on page of more than 8 minutes. For some stories, the average engagement period is even longer.

Mosaic is not exactly comparable with the other outlets covered in this study. It is funded by a charitable foundation and it publishes only one long-form story a week. However, its articles, that usually contain 4,000 to 5,000 words, prove that contextualisation pays off and that people do read long articles that they come across while scrolling down their Facebook feed. Stories just must be written in the right way.

According to Mun-Keat Looi, commissioning editor for the magazine, the secret lies in good story-telling. Having an interesting subject is not enough; it must be told in the form of a story. Mosaic relies on the classic principles of narrative journalism, such as having a main character, plot and scenes (see, for example, Hart 2011).

"In a standard science feature article, you can get away without having scenes and characters and talk just about the subject. But we're trying to get people to read sometimes more than 6,000 words. You're not going to stick around if it's a long essay."

When writers pitch stories, the editors look especially at two things: what the story is about and what the story is *really* about. By this, Looi means that a good story has a compelling plot and an interesting hero but also a deeper message.

“That’s what my editor calls the take home message: the news you can use, the message the reader can take for themselves.”

8.9. Appreciate unpredictability

People would be surprised by what does get shared.

–Kelly Oakes, science editor at BuzzFeed.

It can be unexpected and esoteric things that don’t get reported elsewhere, and they can do very well.

–Andrew Jack, head of curated content at The Financial Times.

No algorithm can calculate perfectly what people want to read and share. Almost all of the journalists stated that success is still a slight mystery. When the journalists were asked about popular health topics, their answers varied from menstrual periods to cancer and personality types. Sometimes, a journalist is concerned that a topic may be too boring, abstract or depressing, and it hits a nerve.

Julia Bellux gives an example from Vox. She wrote a story with a headline as depressing as “We visited one of America's sickest counties. We're afraid it's about to get worse” (Vox 6 December 2016). Even though people are thought to want more positivity, the story became a hit.

Other journalists seemed to share Bellux’s experience. Analytics reveal rough patterns of features that increase audience engagement but, in the end, people want to read good stories, and there is no simple recipe for writing one. It involves a mix of rigorous reporting, good storytelling, a compelling topic and a bit of *that something*. Journalists must still rely on their gut feeling. As one journalist said: if he thinks that something is interesting and important, it is likely that others will feel the same.

That is why the interviewees were wary about drawing overly-dramatic conclusions based on figures. One journalist reminded us that, often, it is impossible to know why some topics attract big audiences. The story can be a well-written masterpiece or simply topical.

Also, people do not always behave as the metrics would suggest. Meredith Melnick from The Huffington Post reminds us that trends change quickly and that repeating the same, once-trendy patterns can annoy the audience.

“People who read news online are savvy. They can tell when we’re writing a story just because we think they’ll like it and then they don’t like it.”

Against this background, it is unsurprising that the journalists had mixed feelings about the use of metrics. While they were keen to use the information, they relied mainly on their own understanding of good journalism.

9. Content analysis: The sugar tax explained

Sugar tax in the UK and USA

On 16 March 2016, the UK government published its annual spring budget. Part of the proposal heated up the political discussion: a new soft drink levy. The idea of the tax was to increase the price of sugary drinks as part of the government's plan to tackle childhood obesity.

The publication marked a victory for celebrity chef Jamie Oliver, who had been a loud advocate of the tax. News outlets published videos of a dancing and cheering Jamie Oliver, while the beverage industry claimed that the levy would cut jobs without helping to tackle obesity.

The debate continued throughout the year. In August, the government published its strategy for cutting childhood obesity and provided more details of the tax plan. Around the same time, the British Soft Drinks Association published its own report, claiming that the tax could lead to a loss of more than 4,000 jobs. The opposition of the beverage industry did not change the government's plans and, on 5 December, the government published a legislation draft for the tax. The levy is scheduled to take effect from April 2018.

At the same time, a similar debate was taking place in the US. The citizens of four cities were about to vote on whether a 1 or 2 penny per ounce tax should be imposed on sugary beverages.

The media were particularly interested in the million-dollar campaigns. While the beverage industry was spending tens of millions of dollars to promote its views, millionaire-philanthropists Michael Bloomberg, Laura Arnold and John Arnold fought back by donating millions to the pro-tax side.

The 8th of November of 2016 is remembered as the day when Donald Trump was elected US president, but it was also the day when four US cities voted and accepted the tax. A couple of days later, a similar tax proposal was passed also in Illinois.

The second part of the study consists of a qualitative content analysis of the sugar tax news coverage in 2016. This case was chosen for various reasons. Firstly, the tax was covered extensively in both the UK and US media. Secondly, the prevention of obesity is a highly politicised, complex question, where the perceptions of the government, industry and individuals' responsibilities collide. Sugary drinks are consumed especially by vulnerable groups, such as teenagers and children but, at the same time, conservatives often label government intervention as 'nanny state-ism'. This case presents an opportunity to examine how the media produce evidence-based information in a situation where the debate is highly opinionated and, in the case of the US, also controlled by million-dollar campaigners.

The aim of the content analysis was to answer the last research question: how are the ideas in sections 5-8 put into practice?

9.1. What is qualitative content analysis?

Qualitative content analysis is a technique used for the systematic description of qualitative data. It aims to find regularities and patterns in the analyzed content. The method shares a lot in common with its better-known cousin - quantitative content analysis: both methods include the use of a coding frame, the generation of categories and the segmentation of material into coding units. The most obvious difference lies in the presentation: the analysed content is described in words rather than numbers. Also, the purpose of the coding differs. Whereas in quantitative content analysis, coding is used to collect data for later analysis, in qualitative analysis, the process ends with the formation of the coding frame. This frame eventually becomes a summary of the key elements within the material. The researcher interprets this summary and presents it usually in a narrative form (Schreier 2014, 170-173, 176; Drisko & Mashi 2015, 86, 109-110.)

The reason for choosing a qualitative rather than quantitative approach is the last research question: how are the ideas of the previous chapters put into practice in the legacy and new media? To find out *how* something is done, it is more relevant to produce verbal depictions of the procedures than to measure how often these occur.

9.2. Forming the sample: explaining your way to better health journalism

To summarise the results of the previous chapter, contextualised health journalism fulfills the following criteria:

-It looks at the evidence and explains the significance of the new information within the context of previous knowledge.
-It is based on evidence drawn from well-conducted, peer-reviewed studies.
-It uses independent experts.
-If the topic is controversial or politicised, the weight of the arguments employed is evaluated in light of the evidence.
-It helps the reader to understand the meaning of the new information at both the individual and societal level.

Unfortunately, a closer look at the sugar tax stories published in 2016 revealed that these are not average news. The problem lies in the format of hard news.

Hard news has two distinctive features: the form of an inverted pyramid and a style that Thomson and al call “authorial neutrality”. These features indicate that the story delivers “just facts”. (Thomson & al 2008, 212.) Even though approaches such as framing theory and critical discourse analysis have shown that the “neutrality” of facts is questionable, the convention still implies a lack of bias.

The neutral news format is less problematic for events that do not include obvious conflicts of interests and whose factuality is easy to verify: a car hit a tree or a new shopping centre was opened. Political questions, like whether sugar should be taxed more heavily, challenge this format. The answer varies depending on whether you ask the Coca-Cola company, a politician or a health advocate.

Most of the stories solved the problem by presenting views from all of the parties or at least the two major actors: the beverage industry and health advocacy groups. The industry warned of job losses, and health campaigners reminded everyone of the importance of fighting obesity. The practice makes the stories appear impartial but does not help the reader to evaluate the credibility of the arguments employed.

There were some exceptions: articles that could be labeled as explanatory journalism. Explanatory journalism has been traditionally defined as "a truthful, comprehensive and intelligent account of the day's events in a context which gives them meaning" (the Commission on Freedom of the Press 1949, 20, in Parisi 1999, 47). Explanatory journalism has struggled to find its place between news and opinion, due to “its fundamental reliance on an epistemology based on the split between subject and object and, thereby, between opinion and fact” (Parisi 1999, 49). Typically, explanatory journalism has been accepted in the news section under the label “analysis” (Parisi 1999, 50). This labeling is a warning sign that indicates the existence of a subjective voice.

However, in the sugar tax example, the explanatory pieces were not typically marked as analysis. Instead, the existence of a subjective analyzer was made visible by abandoning the two basic features of hard news: the inverted triangle structure and authorial neutrality. The stories do not follow the classic “fact after fact” model and use unformal vocabulary and expressions. Even grammatical rules are interpreted more loosely.

By abandoning the conventions of hard news, the writer discloses his or her subjectivity. This frees the writer from being a neutral deliverer of facts, which creates space for explanation and interpretation. When the existence of a subjective writer is made visible by the level of language, the reader knows that the given explanations, conclusions and interpretations are not “neutral” but filtered through the lens of the journalist.

The freedom from the news format also allows a different type of engagement between the writer and the reader. Whereas hard news hides the personality of the writer behind the conventions of the format, in explanatory news, the writer reveals him or herself through a personal voice. In some cases, the writer even uses the personal pronoun “I”. The personal voice connects the reader with another human being, not with a distant news organization.

It is important to distinguish explanatory journalism from opinion pieces, however. Whereas in columns or editorials, the evidence is used to support a certain view, in explanatory pieces, the aim is not to campaign for or against something, but to offer an informed insight which allows the readers to draw their own conclusions.

Based on these observations, I decided to shrink the sample to cover only stories that could be classified as explanatory in nature.

9.3. Conduction of the analysis

The method used in this research is based on the work of Schreier (2014) and Drisko & Mashi (2015). The coding process included several phases:

-forming the sample
-immersion into the material and creating the initial categories
-the test coding of articles presenting roughly 50 percent of the final sample and developing the coding frame
-revision of the coding frame
-coding the rest of the material
-interpreting and presenting the main categories.

Forming the sample

The sugar tax news was gathered in January 2017 using Google and the search functions of the news outlets' own websites. News were gathered from eight outlets: the BBC, The Financial Times, The Washington Post, The Times, The Quartz, Vox, BuzzFeed and The Huffington Post US.

On the first round, a story was included if it was published in 2016 and it contained the words *sugar* and *tax*. Blogposts and opinion-pieces were excluded, as were the Huffington Post stories that were either commercial co-operations or published originally by other outlets. On the second round, all of the stories that did not cover the sugar tax as their main topic were discarded.

The final sample was formed by reading all of the remaining stories and accepting only those pieces that could be classified as explanatory journalism. A story was categorised as explanatory when:
-it contained at least 500 words (with a logical presumption that contextualisation requires space)
-it covered a news event (which excluded, for example, an interview with Jamie Oliver)

-it put the information in the context of evidence (by referring to studies, statistics and independent experts)
-it had a personal voice rather than authorial neutrality (which is characterised, for example, by the use of informal language, evaluative adjectives and unconventional sentence structures).

After the process ended, the sample consisted only of 17 articles drawn from five media. It is possible that some, even many, articles are missing because some of the new media outlets, for example Quartz, have very limited search functions available on their site.

In some outlets, the lack of explanatory pieces might be explained by the concept of the media. For example, The Times clearly separated opinion from news. Either the stories followed the traditional news format or were clearly marked as opinion pieces or columns that adopted a strong stance on the topic.

Conduction of the analysis

The coding began by "immersing into the material", which means reading the articles carefully. After the first round, I chose eight articles for the test coding and started a close reading of them. I looked both at the factual content (for example, the use of evidence) and the ways in which the information was presented (for example, the use of language) and marked all of the parts that seemed to illustrate the ideas that arose during the interviews. This formed the basis for the first categories. On the second reading of the test sample, some of the categories were discarded, others combined, and others specified.

After finishing the coding, I analysed and interpreted the contents of the coding sheet. The most relevant findings of the analysis are presented in the following sections.

9.4. Findings of the Analysis

How to write a reliable story when little evidence exists

One thing within this debate is clear: sugar is bad for your health.

This is where the consensus ends. Does this mean that sugar should be taxed more heavily? Would a tax make people reduce their sugar consumption? And which is more important: keeping people healthy or keeping businesses running?

These are the questions the sugar tax articles seek to answer. There is just one problem: a lack of evidence. Most of the articles cite only one study, a paper published in the BMJ on Mexico's sugar tax. Later that year, another research paper was published, this time focusing on Berkeley's sugar tax.

What is a journalist to do, when there is a cacophony of voices but a limited possibility to evaluate their validity?

Striving to find evidence

The idea of contextualised journalism is to analyse an event in the light of the evidence, which is what the majority of articles aim to do. Unfortunately, little evidence exists, and almost all of the articles cite the same study that was published in the BMJ.

However, not all of the journalists stop there. Some of them found statistics from other countries:

When France introduced a 3 per cent soft drinks tax, sales fell 3 per cent in the first year and 2 per cent in the second. In Mexico, which imposed a tax equivalent to a 10 per cent rate in 2014, sales dropped 6 per cent in the first year, according to the country's National Institute of Public Health. (The Financial Times, 16 March 2016)

Some of the journalists have widened their horizon and looked at other so-called 'sin taxes' to see whether taxation can really change people's behaviour.

For example, the BBC reminds readers of "the impact of the 5p plastic bag charge" and mentions a "junk food tax" that was implemented in Hungary. The most commonly used example is tobacco. Smoking is used both as an encouraging and threatening example, depending on the viewpoint. The industry fears "befalling a similar fate to tobacco" but smoking is also used as an example to illustrate the effectiveness of tax policies.

Increasing the price of cigarettes through taxation was one of the biggest contributors to driving down the smoking rates. (Vox 17 March 2016)

Some media also give examples where people's dietary choices have been guided successfully *without* taxation. For example, The Financial Times recalls the UK's salt reduction programme, that led to the food industry changing their recipes voluntarily and helped people to cut salt consumption.

Surprisingly, most of the articles fail to provide detailed information about the aforementioned policies, possibly because it is difficult and time-consuming to find and interpret statistics from foreign countries. This would have given the stories a lot more weight, especially in situations where the beverage industry claims that the tax would not effective.

Despite the superficiality of the majority of the examples, they still help the reader to assess the arguments employed. A comparison with other taxes shows that guiding people's behaviour through taxation is not just an untested policy with unpredictable consequences. The examples give some idea of how the tax would impact on people’s behaviour.

“This research is very preliminary” – expressing shortcomings and caveats

In health and science journalism, expressing the caveats and insecurity related to a study or data helps readers to assess how convinced they should be by the evidence. In the case of a sugar tax, where the evidence is limited, explaining the shortcomings of the existing data is particularly important:

*Before we get into the findings, let’s be clear that this research is very preliminary. Most taxes haven’t been around long enough to get a clear sense of how they impact on purchases and, importantly, health in the long term. (*Vox 24 August 2016)

Almost all of the stories mention the insufficient evidence about the impact of sugar taxes. Some of the stories also note that the success achieved in other countries may not necessarily be repeated in the UK or US. Some of them mention that, even though research has shown a reduction in fizzy drink consumption after the implementation of a sugar tax, this is just a correlation and not necessarily a causation:

It's also hard to disentangle the impact of taxes from the overall trend in the declining rates of soda consumption. In the US, for example, soda consumption has been dropping since the late 1990s. (Vox 9 November 2016)

“One in five children is obese” – going back to basics

An important aspect of contextualisation is to explain what the information means. It is not enough to relate what happens; one also needs to say why and how it happens. In the case of the sugar tax, the essential question is: why tax sugary drinks in the first place?

The studied media adopt varying approaches when answering this question. Some of the media refer to the high obesity rates:

One in five children is obese by the time they finish primary school. Include those classed as overweight and the figure jumps to one in three. (BBC, 25 January 2016)

The explanation is often accompanied by a chart. The infographics demonstrate the high obesity rates or alarmingly high soda consumption.

Some of the media take an economical approach to public health. They talk about burdened health care systems and the costs caused by diseases linked to obesity.
The economical and public health approaches do explain why governments try to tackle the obesity problem. Unfortunately, these explanations fail to clarify one essential

question: why tax sugar only in drinks and not, for example, in sweets? Interestingly, only a few articles in the sample explain the physiological impact of sugary drinks:

Health researchers have known for years that high-calorie, nutrient-poor beverages such as soda have been major contributors to the obesity epidemic. They give people big, quick doses of sugar with little accompanying nutritional benefit or satiety. (Vox, 9 September 2016)

Explaining the physiological mechanism would have been important, since the beverage industry claims to be being treated unfairly compared to other food producers. Explaining why sugar is particularly harmful in liquid form would have increased the public understanding of the issues. It would also have brought the topic to an individual level, which could have made the topic more relatable to readers.

"A very healthy change" – giving it a meaning

The traditional news format does not allow the writer to comment on the events or arguments used in the debate. The explanatory pieces, instead, are full of subjective comments, whose purpose is to create a context in which events, actions and comments become meaningful. The remarks help the reader, for example, to understand the rarity or exceptionality of an event. Sometimes, the writer reflects the tone of the debate or the qualities of the speaker.

The most common way of providing meaning seems to be the use of evaluative adjectives or adverbs, such as "a very healthy change", "a really urgent question", "the stiff opposition", "deep-pocketed friends", "a more ambitious undertaking" or "as early as August".

Despite their subjective nature, the purpose of these comments is not to reflect the author's personal opinions. The writer gives an informed insight that is based on evidence and facts, albeit filtered through the writer's individual lens.

In many cases, this practice helps the reader to understand the context but it has its risks. In some cases, an insight turns into an opinion. Some of the stories include expressions such as "ultra-processed foods" or a "megadose of sugar", which are closer to moral judgements than fair depictions.

"An unwelcome burden" – interpreting hidden motivations

In hard news, interpretation and speculation are allowed only in direct quotes. The explanatory format, however, allows journalists to explain things that are not explicitly announced. When a writer's subjectivity is apparent, he or she has more freedom to interpret issues and draw conclusions.

In the case of a sugar tax, journalists take the opportunity to interpret why the tax awakens such strong emotions, even though there is little evidence of the efficacy of the policy. The stories explain the symbolic meaning of the tax: how the health advocacy side sees the tax as a victory over the food industry and how the industry side fears that the tax pushes them closer to the destiny of cigarette producers.

While Philadelphia's tax alone will probably do little to harm the profits of companies such as Pepsi and Coca-Cola, the tax is an unwelcome burden amid a decade-long slump in the demand for carbonated drinks. (The Financial Times, 16 June 2016)

The sugar tax carries a symbolic message. That is to say obesity is now such a serious problem that it requires direct intervention. (The BBC, 17 March 2016)

Even if soda taxes don't immediately change health, they do have other benefits. First, they can raise awareness about the health harms of drinking what is essentially nutrient-bankrupt liquid sugar. (Vox, 9 September 2016)

These interpretations help the reader to understand what the battle is about: not just the sugar tax itself but how the food industry's responsibility within the modern health crisis is perceived.

9.5. Engagement in the stories

"Check out these data" – addressing the reader directly

Speaking directly to you, my reader, is an effective way of engaging you. It is a way of creating a relationship between us. Even though I do not know who you are, we can still pretend that I am talking you - and, yes, I mean *you*.

The practice of talking directly to the recipient is commonly used in advertising and the self-help literature, and there is a reason for this. It makes the reader feel more emotionally connected: somebody is noticing your existence, as if you are being heard or seen.

The same practice is used in some of the stories:

"Look at food promotions".
"Check out this data."
"Think Starbucks frappuccinos."
"Stand by for a prolonged debate and argument."

Acknowledging the reader makes the article sound more like a dialogue. It also emphasises the informality of the situation.

In some cases, the relationship between the writer and the audience is created by using the pronoun “we”.

*Our diets are simply not good enough. (*The BBC, 17 March 2016)

*This much is clear from the way we consume food. (*The BBC, 25 January 2016)

We don't feel the need to replace a coke, for example, with a donut or even a piece of fruit. (Vox, 30 April 2016)

Interestingly, “we” is used mostly on occasions where the writer refers to “our” bad habits, even though a health reporter is probably not surviving on a Coke-based diet. By being one of us, the writer avoids becoming a health preacher, who seeks to make his/her audience feel guilty about their sins. Instead, the writer steps onto the side of the public by talking about “our bulging waistlines” (The BBC, 17 March 2016).

In some stories, the writer refers to him or herself in the first person; for example, by saying “I asked nutrition researchers” (Vox, 17 March 2016). This acknowledges the subjectivity of the writer but also adds credibility to the article. It proves that the writer has carried out some original research, not just copied and pasted comments from other media.

“Going sweet” – relaxing and using humour

Giving up the news format allows the writer to play with the language more. Even the BBC relaxes and uses expressions such as “NHS bosses” or calls healthy food “the good stuff”. Vox and Quartz speak to the reader as if to a friend. The findings of the research are “pretty striking” and the consumption of sugary beverages is described as “guzzling”.

Some writers entertain their reader with allegories and wordplay.

It’s not Philadelphia’s first tango with these taxes. (The Washington Post, 16 June 2016)

*If Mountain Dew is falling under the heavy hammer of big government, after all, it seems fair that the likes of Twix and birthday cake should join it. (*Vox, 30 April 2016)

Also, of course, many articles see a sweet opportunity to play with the word “sweet”:

*The outlook is less sweet for soft drinks companies. (*The Financial Times, 17 June 2016)

Why the government is going sweet on a sugar tax? (The BBC, 25 January 2016)

The articles prove that being scientifically rigorous does not have to mean being serious or boring. A writer can cite a study using terms that people speak, understand and even laugh at.

9.5. Discussion: Lessons to be Learnt from the Battle of the Big Soda and Innocent Consumers

A high number of the studied articles portrayed the sugar tax case as a battle between good and evil: the innocent consumers and the Big Soda. The stories followed the classic narrative whereby good individuals such as Jamie Oliver rise up to fight the faceless big evil. The battle framework might be entertaining but it blurs the heart of the debate: are fizzy drinks really a big contributor to the obesity crisis and would we drink fewer of them if they were more expensive?

However, some of the articles managed to look behind the battle and ask relevant questions that nobody else seemed to ponder. For example, Vox published an article that focused only on one question: why is the tax imposed on drinks and not on *all* added sugar? Interestingly, this question was not discussed in most of the stories, even though it lies at the heart of the debate. Vox also published another article that brought up some thoughts that tended to be ignored in the debate: “Fruit juice isn't much better for you than soda. Let's stop pretending otherwise” (25 March 2016). The article discusses a problem with the tax: will it make people consume more fruit juice, that is sugary too, or artificially sweetened fizzy drinks, that are also associated with weight gain?

Answering research question 3

The idea behind analysing the explanatory sugar tax news was to discover how the studied outlets put the principles outlined in sections 5-8 into practice.

The stories were contextualised by:

-Looking for evidence in unexpected places. There is scant research about sugar taxes, but some stories looked at the data relate to other so-called sin taxes, such as tobacco and junk food taxes.
-Explaining the need for a tax at both the level of society and the body. (How do sugary drinks contribute to the obesity crisis and why is sugar more harmful in liquid form?)
-Explaining the caveats and limitations of the evidence by stating that there is only scant research available and nobody knows how these taxes work in the long term.
-Abandoning authorial neutrality, which allows the writer to describe and interpret events, actions and arguments so that they become meaningful to the reader.

The stories attempted to engage the reader by:
-Building up a direct relationship between the writer and the reader.

-Using informal language and humour.

10. Conclusions and Recommendations: Towards Contextualised Health Journalism

This paper started with a war. The example of the so-called ‘statin war’ illustrated why health journalism matters and why it should be done differently. Now, it is time to talk about peace.

If the statin controversy had been covered as the interviewees involved in this research suggest, the outcome could have been very different. Perhaps it would not have been called a war at all. Perhaps the stories would have focused on the quality of the evidence, rather than on fearmongering and fighting; at least the headlines would have been less dramatic.

If my interviewees’ perception of good health journalism were to be summarised in one word, it would be contextualisation. A good health story not only delivers the facts but also puts them into a meaningful context. It looks at the evidence and helps the reader to understand the significance of the new piece of information in that context. It requires the rigorous examination of the existing research as well as the use of independent experts. For these reasons, the stories can be relatively long.

One could argue that evidence-based reporting sounds boring compared to wars and battles but, according to the journalists, good investigation is reflected in the metrics. As people are tired of confusing messages, they want someone to tell them where the evidence lies. Of course, tabloid journalists could tell another story, but at least the readers of the quality media do appreciate contextualisation.

Audience engagement with health journalism

Interestingly, the use of audience metrics has not changed health journalism dramatically. Decisions tend to be based on journalistic judgement. Certainly, distributing news via social media changes how stories are marketed to readers, and the stories should look good on a small screen. Analytics help also to adjust the language, angle, style or visual outlook of a story in order to appeal to the target group.

Besides these relatively small changes, the rules of good storytelling are largely the same for both print and online. People like relatable, well-written stories. Almost anything can be interesting, if it is told in a compelling way.

As the focus has shifted from clicks to other metrics such as shares, engaged time and recirculation, the future of health journalism looks, well, healthy. Since it seems that people read longer stories, journalists do not need to worry so much about burdening their readers with scientific details. The internet is a perfect platform for explaining science, since there are no space limitations, and a journalist can show the evidence by offering links to the original sources. The only concern is that evidence-based reporting takes time. News organizations should understand that quality journalism is slow journalism.

A little more explanation, a little less hard news

The analysis of the sugar tax stories revealed a typical issue related to news framing: the stories easily start to follow the same narrative. As the same arguments are repeated, they turn into myths and received wisdom. Contextualisation means reevaluating the narrative and asking stupid questions: why does x happen? How is it possible? Who says so? And most importantly: where's the evidence?

The ideals of contextualised health journalism were more frequently fulfilled in explanatory stories than hard news. This does not mean that there is no place for hard news, but simply shows that the format has its weaknesses. The classic news stories should be balanced with other formats that leave more space for analysis. The traditional news format should be questioned, especially the coverage of research news. The study results are not exactly breaking news but an outcome of a long process, and one should not rush to be the first to cover them.

Limitations of the study

Because the study is based on interviews, it can only show the interviewees' *perceptions* of things that improve the reliability and audience engagement. If the study used audience metrics data, the outcome might be very different. However, these perceptions reflect how media organizations interpret metrics and how this information is applied in journalistic work.

Another caveat is the selection of the media. None of the interviewees works for a tabloid newspaper. The perceptions of reliability or audience engagement might have been very different had I asked someone who works for The Sun or The Express.

10.1. Advice from journalists and experts

To conclude the study, I will summarise the insights gained from the interviews and qualitative content analysis in the form of fifteen recommendations.

Five ways to make you story more reliable

1. Use research as a primary source of evidence, not as a primary source of news. If you nevertheless end up covering a single study, scrutinise its quality, put it in the context of previous research and use independent experts.

2. If you are dealing with a complex topic, take your time and write a long article. Place the topic in the context of the evidence and wider societal discussion.
3. Check carefully the quality of the used evidence and explain its possible caveats and limitations.
4. Be transparent. Link to the original sources and explain any possible affiliations of the interviewees.
5. Be aware of the risk of false balance. Do not only present people's arguments but look at the evidence behind them.

Five ways to make your story more engaging

1. If you can, find a relatable human angle. Focus on people and put their experiences in context with the evidence.
2. Remember that people love good stories. If your story is a long one, rely on the principles of narrative journalism.
3. Use people's sharing motivations to your benefit: people want to help others, look intelligent and share their awe, joy and anger.
4. If the topic is a depressing one, consider looking at possible solutions to the problem.
5. Attract your audience's attention on social media by using an interesting headline, an appealing image and a catchy beginning. Remove possible obstacles like slow-loading photos or multimedia that require extra clicks.

Five lessons learnt from explanatory health articles

1. If the topic has been featured in the headlines before, try to become aware of the common narrative and see what remains uncovered.
2. Question the received wisdom and examine whether it is supported by statistics and research.
3. Ask stupid questions: how does x work? Why? Who says so?
4. If your media and the topic allow, use your personal voice and connect with the reader as a person, not a distant representative of a news organization.
5. Being accurate does not have to mean being boring.

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Appendix

1. List of interviewees

2.12 2016 Akshat Rathi, a London-based reporter for Quartz.

8.12.2017 Julia Bellux, a senior health correspondent at Vox. (Skype interview.)

12.12.2017 Richard Warry, an assistant editor, specialist journalism, at the BBC News website.

9.1.2017 Muir Grey, a doctor and a visiting professor in the Nuffield Department of Surgical Sciences at the University of Oxford. Founder of NHS Choices Behind the Headlines service that provides evidence-based analysis of health news.

19.1.2017 Fiona Lethbridge, a senior press officer at the Science Media Center.

17.1.2017 Kelly Oakes, a science editor at BuzzFeed UK.

7.2.2017 Andrew Jack, a head of curated content at the Financial Times, former pharmaceuticals correspondent.

8.2.2017 Meredith Melnick, an executive editor for health & science at Huffington Post US. (Skype interview.)

27.4.2017 Frances Stead Sellers, a senior writer at the Washington post and a visiting fellow at the Reuters Institute for the Study of Journalism. She had been running the health, science and environmental coverage.

2.5.2017. Lois Rogers, a freelance journalist specialising in healthcare, life sciences and public policy. She was previously health and social affairs editor at The Sunday Times. (Phone interview.)

30.5.2017 Mun-Keat Looi, a commissioning editor at Mosaic. (Skype interview.)

Additional email interview of audience engagement in health journalism

8.5.2017. Laura Helmut, Health, science & environment editor of the Washington Post.

2. Broad area of questioning

Broad areas of questioning for journalists

1. Ensuring reliability & accuracy during the journalistic process

How do you make sure that the used sources (studies, interviewees, webpages, literature etc.) are reliable and how do you select which ones to use? What kind of procedures do you have for fact-checking and balancing possible bias?

2. Ensuring reliability when presenting the story

When forming the story, do you have certain principles related to framing, language, headlines or giving medical advice that you use for improving the accuracy? How much in detail would you explain the quality of the used studies, the affiliations of the experts or other factors that impact the reliability of the information?

3. Audience engagement in health journalism

How do you use metrics in your media company and how does it affect your work? When creating health stories, how do take audience engagement into account in the long and short term? How does it impact your choice of a topic, angle, style, length, headline and format?

4. Bringing audience engagement and reliability together

What are your recommendations for a journalist willing to create engaging and accurate stories? What are your personal best practices, for example using certain formats, that seem to support both of these goals? Do have an example of a story where you succeeded?

Broad areas of questioning for other experts

1. Outsider perceptions of the accuracy of today's health journalism

Which online media could be used as an example of a reliable source of health information and why? Which practices could other media learn from them? When evaluating the reliability of online health journalism, which would be the key issues that should be improved?

2. Ensuring reliability & accuracy during the journalistic process

How could journalists improving reliability of their stories? What kind of procedures would you recommend for fact-checking, balancing possible bias and selecting experts and other sources? What kind of principles would you recommend related to framing, language, medical advice and headlines?

3. Stories used for the qualitative content analysis

Vox

Britain is fighting childhood obesity with a new soda tax. But will it work? (17.3.2016)

Fruit juice isn't much better for you than soda. Let's stop pretending otherwise. (25.3.2016)

Why a prominent public health advocate prefers taxing soda to taxing all sugar (30.4.2016)

Berkeley put a tiny tax on soda. Consumption plummeted by 21 percent. (24.8.2016)

In a devastating blow to the beverage industry, 4 cities passed soda taxes (9.11.2016)

BBC

Why the government is going sweet on a sugar tax (25.1.2016)

Sugar tax: How will it work? (16.3.2016)

Sugar tax: How bold is it? (17.3.2016)

Sugar tax - will the Chancellor have to change the recipe? (24.3.2016)

Quartz

The argument that only liberals would tax soda is about to be tested (16.3.2016)

This election day, three billionaires are going up against the US soda lobby (29.10.2016)

As voters back sugary drink taxes, Big Soda is desperate to avoid becoming the new tobacco (12.11.2016)

The Financial Times

Obesity surge drives debate on sugar and other sin taxes (14.1.2016)

Soft drinks groups digest UK sugar tax (17.3.2016)

Philadelphia introduces tax on sweet carbonated drinks (17.6.2016)

The Washington Post

The soda industry is on the verge of losing one of its biggest battles ever (14.6.2016)

The case for taxing sugar, not soda (13.12.2016)