

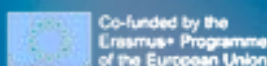
SCHOOL OF JOURNALISM AND MASS
COMMUNICATIONS

REPORTING PRODUCING NEWS STORIES FOR SCIENTIFIC ISSUES



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OF THESSALONIKI

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Module: Reporting/Producing news stories for scientific issues

1.1 Introduction

The Covid-19 pandemic increased demand for people who can explain science to a wider audience. The purpose of the particular module is to focus on how to write a good story about science, as well as choose sources and develop the most suitable format for narrating the story. Alongside ethical issues are being discussed.

1.2 Objectives

After attending the module, the students should be able:

- To report and produce news stories about scientific issues
- To know what kind of topics are relevant for science journalism
- To learn how to build up a good feature, based on various sources
- To critically assess the credibility and reliability of sources and data
- To learn how to present science news in different formats
- To be able to clarify and explain scientific information for a general audience
- To understand the various ethical aspects that arise when covering a science story
- To adapt the most appropriate communication means for a given context
- To take a sharper and more alert scrutiny of the world around us
- To develop skills to select digital tools and technologies

1.3 Focus areas

The module focuses on:

- Writing a news story
- Understanding the different media formats
- Picking up the tools
- Dealing with sources



1.4 Theoretical background

1.4.1 Science Journalism (definitions) - From cheerleaders to watchdogs

Science journalists report news and other information about science to the general public. This involves writing informative and often entertaining summaries of relevant findings, consulting with expert scientists and researchers and conveying the information in ways that a non-specialist audience can understand. The writer must be able to simplify complex ideas and jargon without losing accuracy.

In her classic book, Dorothy Nelkin argued that science journalism should provide three things to non-specialists: it should help people keep apprised of scientific advancements, assess the appropriateness of scientific research and make choices related to perceived personal risks (Nelkin, 1995).

But how did the relationship between journalists and science evolve?

"In the 1950s, science journalists wrote often of their belief that the facts of scientific discovery — the joy of science for its own sake — should be emphasized over the practical and social implications" Rensberger wrote in 2009 (p.1055). Their role was to increase appreciation of the science in the wider public, rather than being a better watchdog of the field.

According to Rensberger, "the 1970s offered increasing evidence of technology's potentially adverse effects, in part owing to controversies and crises such as the reactor meltdown at the Three Mile Island nuclear power plant near Harrisburg, Pennsylvania. By this time there was no way science journalists could ignore the social and political implications of their topic. And so, the next great age of science journalism began — the 'Watchdog Age' — as science reporters became much more like their colleagues in other parts of the newsroom" (2009:1056).

In February 2020, after the outburst of the Covid-19 pandemic, science stories almost monopolized the media agenda. On the one hand science journalism gained relevance,



while on the other it faced -and still faces- the challenge of the "infodemic". A critical question that arose during the time is should science communication create agreement toward a preferred outcome or promote personal autonomy to make choices? Are social benefits large enough to outweigh individual choice?



Image 1. "Loeb Reflects On Atomic Bomb Area," an article from Mr. Loeb in The Atlanta Daily World of Oct. 6, 1945, discussed how deadly rays from the Hiroshima bomb had sickened and killed.

1.4.2 How is science journalism practiced today? Current trends

If science journalists are to regain relevance to society, not only must they master the new media, but they must also learn enough science to analyze and interpret the findings — including the motives of the funders. And, as if that were not enough, they must also anticipate the social impacts of potential new technologies while there is still time to make a difference (Rensberger, 2009).



The availability of the internet as an information channel has profoundly affected audiences' patterns of information-seeking regarding science (Dunwoody). In many countries, traditional media channels are in decline and the audience gets an enormous amount of information electronically.

Science journalism tends to be episodic in nature, as journalists following the routines that are present in almost all news beats are more likely to produce shorter stories about concrete happenings than longer, thematic stories about issues (Dunwoody). Timeliness, conflict and novelty are criteria for science journalism as well.

The norm of objectivity, which has been for many years celebrated as the cornerstone of journalism, holds a particular place in science journalism. Along with balance, objectivity becomes a "weapon" for science journalist when credible scientists make contradictory claims about a particular issue. The default response is to adopt a stance of objectivity and balance (Dunwoody, 1999). Focusing on accuracy rather than veracity and representing as many truth claims as possible rather than determining what the truth is, a science journalist tries to overcome his/her limitations to provide only valid and adequate claims, risking at the same time giving equal space to invalid claims.

The dynamics of the relationship between journalists and scientists are influenced by tension and suspicion coming from both sides, the role of the press offices of research institutions in shaping the agenda and the increased sophistication of scientists (Dunwoody, 1999).



11.5 Story writing criteria for science journalism

Secko et al. came in 2013 with the following writing criteria for science journalism:

Purpose: This criterion recognizes traditional values (e.g. informing, accuracy, fairness, balance, and objectivity) as driving principles behind journalistic story-writing.

Focus: This criterion asks journalists to use traditional news values to identify a news story's focal point.

Style: This criterion asks journalists to translate research into simple language that avoids jargon and explains complex scientific concepts by using analogies and metaphors.

Sourcing: The sourcing criterion asks journalists to consider what information and which voices are included in the story.

Audience: This criterion asks journalists to consider who the story is written for and what role audiences play in the story.

Science: This criterion asks journalists to consider how science should be portrayed in the story.

Hands On! (1)

Read the article below and tell how many of the above criteria it meets

This article is coming from the Guardian and has been written by Natalie Grover, Science correspondent, accessed at 20/7/2021.

Lockdowns do not harm health more than Covid, say researchers

Little evidence that social restrictions during the pandemic have added to rates of death and ill-health

Since early in the coronavirus pandemic, critics of unprecedented lockdown measures seen worldwide have argued that these interventions cause more harm than the disease itself. But an analysis of global health data suggests there is little evidence to support the idea that the cure is worse than the disease.



The analysis, published in the journal BMJ Global Health, considered claims that lockdowns cause more health harms than Covid-19 by examining their impacts on measures including death rates, routine health services and mental health.

As part of their study, researchers examined existing evidence, including on countries which imposed heavy restrictions with few Covid cases to assess whether the intervention was triggering excess mortality, said author Prof Gavin Yamey, from the Duke Global Health Institute at Duke University.

One key study they examined is called the World Mortality Dataset, an international dataset of all-cause mortality from 94 countries, the researchers found that countries such as New Zealand and Australia experienced no excess mortality last year. In contrast, places with few Covid restrictions such as Brazil, Sweden, Russia and at times parts of the US had large numbers of excess deaths over the course of the pandemic.

"It is ... one of the most compelling pieces of evidence to support the notion that the cure was not worse than the disease," said Yamey. "It does seem that countries that acted quickly and aggressively often had fewer deaths than in previous years. The study showed that lockdown may have reduced annual mortality by up to 6% from eliminating flu transmission alone."

The excess-mortality data could not rule out harms caused by lockdown or conclude whether lockdowns have a net benefit, however, especially given very high excess mortality in many nations that did pursue such strategies such as the UK, the researchers wrote.

Another avenue of inquiry was healthcare services. Although data suggests a clear reduction in attendance for vital non-Covid health services during lockdowns, overwhelmed health services or a high perceived risk of infection at health facilities would also disincentivise people from accessing care, the researchers suggested. "With current evidence, it is simply not possible to support either causal assertion adequately," they concluded.



The relationship between mental health and lockdowns is often highlighted but the link between large-scale Covid outbreaks and depression and anxiety is often overlooked, the researchers noted. "Missing school clearly affects children's mental health, but so does losing a loved one to Covid-19."

Yes, lockdown was bad for mental health. Not to do it would have been worse

The paper, which does not include economic considerations, argues that it is likely that lockdowns have negative effects. However, "the fact that there are no locations anywhere in the world where a lockdown without large numbers of Covid cases was associated with large numbers of excess deaths shows quite convincingly that the interventions themselves cannot be worse than large Covid outbreaks, at least in the short term".

Dr Dean Burnett, honorary research associate at Cardiff University, who was not involved in the analysis, said the study suggests many problems attributed to lockdowns cannot be easily distinguished from those caused by the pandemic itself.

"The main takeaway is that 'deciding' between lockdown or pandemic is a very flawed premise," he said. "The pandemic exists, whether there's a lockdown or not. While lockdown may have a number of negative consequences for mental health, there's little or no evidence to say that these consequences are any worse than what we'd see in the same situation in the absence of lockdown. It's far more likely that the opposite would be true."

This article was amended on 21 July 2021 to clarify that the researchers analysed existing evidence; a reference to the World Mortality Dataset, which was one of the studies they used, was also added.



1.6 Finding the story

One of the first questions that arise when covering science issues is where do I find a story? Usually our stories are on:

Climate science

Ecoclimate science

Ecological threats

Epidemics

Vaccines

Artificial Intelligence

Emerging technologies

Those can be found in:

Science Journals/ Websites of institutes and universities/ Social media, e.g., LinkedIn/PubMed / Web of science/ Scopus/ Science Direct/ JSTOR/ PsycINFO/ Google scholar/ IEEEExplore / DOAJ/ ClinicalTrials.gov

Or unpublished reprints:

Arxiv/ Medrxiv/ Biorxiv/ Psyarxiv

The second step is to turn your initial thoughts into a specific question your story can answer. This helps you decide what constitutes proof, and what evidence is relevant, find your sources and allocate resources more accurately.

An example:



Source Twitter



A thick, slimy layer of so-called 'sea snout' is spreading in Turkey's Sea of Marmara to the south of Istanbul, posing a threat to marine life and the fishing industry
<https://reut.rs/3fGg8Vv>

You can come with a hypothesis from the above tweet:

H. 1. The situation in the Marmara Sea is the result of human actions such as discharge of urban, industrial, household wastewater poorly treated.

H. 2. The increasing amount of sea mucus is due to rising sea temperatures and climate change.

Once you have a clearly defined hypothesis, you need to create a research plan, including

- > finding sources
- > developing criteria of proof
- > deciding on methodology
- > creating a timeline and
- > developing a budget.

1.7 Sources

| Type of source | Useful for | Strengths | Possible problems |
|----------------|--|---|--|
| Human | Giving life and authenticity to a story | Interviewing someone face-to-face usually does not require high-tech resources First-hand experience make a story more convincing | People have biases, prejudices and may lie May only provide anecdotal evidence – need to ensure interviewees are representative People may be victimised for talking to the press – how will you protect them? |
| Paper | Providing hard evidence Providing history and context | Secondary sources broaden background research beyond what you can tackle yourself Primary documentary sources (e.g. bank records) are 'on-the-record' and reliable | May be protected by privacy laws, censorship etc. Hard or slow to access May need specialist knowledge to understand e.g. financial documents Can produce a 'dead' or over-academic story with no live voices |
| Digital | Can do all of the above, depending on what is retrieved | Can be done from your computer, including accessing sound and video Information is posted quickly and from a huge range of national and international sources | May end up with a dead story Security threats of the Internet Verifying 'facts' on the Internet can be arduous |

Source: www.investigative-manual.org



- > Create a list of sources with their contact details and keep this information secure); update it when you have contacted them and note down who you still have to contact
- > Make a list of key documents, indicating those you have and those you need access to
- > Highlight facts that have been firmly established

The sources for the story of the "sea snail" can be:

Primary sources: Environmental Engineering Scientists, Sea scientists, biologists etc.

Secondary sources: all kinds of published material and second-hand accounts.

Paper sources: documents, environmental legislation

Hands On (2) Write down more sources you can think of

1.7 Writing the lead for a science story

Science journalism differs from most of the other forms of writing in that the take-home message is always presented at the beginning of the article rather than at its end. That is, the article begins by summarizing what follows. By the end of the first or second short paragraph, for example, one typically finds sentences like these:

Scientists have now found that lobsters use an internal magnetic compass to navigate during their annual mass migrations into deeper waters.

In a recent report published in the journal Nature, Professors Tia-Lynn Ashman and Daniel J. Schoen present the remarkable finding that plants time their production of flowers in much the same way that people run efficient businesses. According to Professors Graziano Fiorito and Pietro Scotto, working at their laboratories in Italy, the common octopus can not only be trained to distinguish between objects of different colors, but can in fact learn to make these distinctions more quickly from each other than from human trainers.

Source: <https://ase.tufts.edu/biology/labs/pechenik/documents/scienceJournalism.pdf>



The opening sentences for any article are known as the “lead.” Leads in science stories tend to follow one of 4 major formats: the simple statement, the bullet lead, the narrative lead, and the surprise or paradox lead.

A simple statement consists of a dramatic statement of the major finding, e.g.:

Researchers at the Dr. Seuss School of Medicine and the Mt. Auburn Hospital have discovered an inherited molecular defect that makes some people naturally resistant to malaria, a disease affecting over 300 million people in tropical areas around the world.

A bullet lead consists of bullets followed by a summary statement, e.g.:

*We all know people who have trained their dogs to fetch the daily newspaper without tearing it. Similarly, we all know that horses can be trained to respond to the slightest movement of their riders. And we all know that goldfish can be trained to come to the front of the fish bowl at the sound of a bell. Now it turns out that even octopi (*Octopus vulgaris*) can be trained to perform certain simple tasks, and that they learn those tasks more quickly from each other than from a human trainer.*

A narrative lead tells a story and is followed by a summary statement, e.g.:

Sitting at the bottom of a large glass tank is a 2-pound octopus. The octopus has been trained for several weeks to avoid balls of one color and to pick up balls of a different color. Every day for 6 hours he has been rewarded with food for choosing the right balls and punished with mild electric shocks for choosing the wrong ones. Now, he sits idly in the tank, his eyes apparently following every movement of the researchers as they prepare to set up the next experiment, his mantle cavity filling and emptying in a consistent respiratory rhythm.



The researchers bring over a tank containing another octopus, one that was freshly collected that morning from the warm and inviting waters just outside the marine laboratory. The 2 octopi quickly crawl toward each other in their respective tanks, peering through the glass with apparent interest. "Now watch this," one of the researchers says to the newcomer, as she puts the trained octopus through his morning paces. The newly collected octopus watches and seems genuinely interested in what the other octopus is doing. Now the researchers offer the same choices to the new octopus. Remarkably, after watching only 4 trials, the observing octopus chooses the correct ball over the other one in every one of the trials.

The surprising finding that octopi can learn from watching each other was recently published in the research journal Science by 2 biologists working at laboratories on the Italian coast, Professors Graziano Fiorito and Pietro Scotto.

and the surprise or paradox lead consists of a paradoxical statement, e.g.:

Biologists have for years spent many tedious hours training animals to perform simple tasks, by rewarding the desired behavior and punishing the undesired behavior. Now it seems that at least some animals may learn far more quickly by simply watching each other than by being trained by humans.

Two Italian scientists, Professor Graziano Fiorito and Professor Pietro Scotto, announced in a recent issue of the research journal Science, that the common octopus can not only be trained to distinguish between objects of different colors, but can in fact learn to make these distinctions even more quickly by simply watching each other.



Hands on (3) What kind of lead is that?

It's been used to detect eye diseases, make medical diagnoses, and spot early signs of oesophageal cancer. Now it has been claimed artificial intelligence may be able to diagnose dementia from just one brain scan, with researchers starting a trial to test the approach. (Nicola Davis, Artificial intelligence could be used to diagnose dementia, The Guardian, 10.8.2021).

Windbreaks may sound like a counterintuitive idea for boosting the performance of a wind turbine. But physicists report that low walls that block wind could actually help wind farms produce more power (Emily Conover, Windbreaks, surprisingly, could help wind farms boost power output, Science News, 10.8.2021).



1.8 The 5 W's

For the article to be effective for a general audience, you must be careful to explain to the reader what was done, who has done that, why it was done, what happened, and why the result is interesting, avoiding big words whenever possible and carefully explaining any terms that are essential to the story.

Hands On (4)

Which of the W's does the following story answer?

Windbreaks may sound like a counterintuitive idea for boosting the performance of a wind turbine. But physicists report that low walls that block wind could actually help wind farms produce more power.

Scientists already knew that the output of a single wind turbine could be improved with a windbreak. While windbreaks slow wind speed close to the ground, above the height of the windbreak, wind speeds actually increase as air rushes over the top. But for large wind farms, there's a drawback. A windbreak's wake slows the flow of air as it travels farther through the rows of turbines. That could suggest that windbreaks would be a wash for wind farms with many turbines.

*But by striking a balance between these competing effects, windbreaks placed in front of each turbine can increase power output, new computer simulations suggest. It comes down to the windbreaks' dimensions. Squat, wide barriers are the way to go, according to a simulated wind farm with six rows of turbines. To optimize performance, windbreaks should be a tenth the height of the turbine and at least five times the width of the blades, physicists report July 30 in *Physical Review Fluids*. Such an arrangement could increase the total power by about 10 percent, the researchers found. That's the equivalent of adding an additional turbine, on average, for every 10 in a wind farm.*



In the simulations, the wind always came from the same direction, suggesting the technique might be useful in locations where wind tends to blow one way, such as coastal regions. Future studies could investigate how this technique might apply in places where wind direction varies.

CITATIONS

*L. Liu and R.J.A.M. Stevens. Enhanced wind-farm performance using windbreaks. *Physical Review Fluids*. Vol. 6, July 30, 2021, p. 074611. doi: 10.1103/PhysRevFluids.6.074611.*

(Emily Conover, Windbreaks, surprisingly, could help wind farms boost power output, Science News, 10.8.2021).

1.8 Interview based science journalism

The success of your interview depends mightily on how hard you work to understand your source. Here are some examples:

What basic question are you asking in your research?

How did you start doing research in this area?

What do you enjoy most about doing research?

What is the most surprising thing you have found out so far?

How did you find that out?



1.9 Producing a multimedia story

A multimedia story is some combination of text, still photographs, video clips, audio, graphics and interactivity presented on a Web site in a nonlinear format in which the information in each medium is complementary, not redundant.

Nonlinear means that rather than reading a rigidly structured single narrative, the user chooses how to navigate through the elements of a story (<https://multimedia.journalism.berkeley.edu/tutorials/starttofinish/>).

Context and continuity are two important characteristics of multimedia stories. In a multimedia story video, text, still photos, audio and graphics should be integrated into the same story. Other sources include everything from databases, timelines and info-boxes to lists of related stories, links to other resources and online forums.

Interactivity means giving the reader both input and control in a story. By making the story nonlinear, you've introduced an element of interactivity, because the user can choose which elements of a story to read or view and in which order.

Not all stories make good multimedia stories. Multimedia stories should be:

- Multi-dimensional
- Include action
- Require that the reporter goes into the field

1.9.1 Storyboarding

A storyboard is a sketch of how to organize a story and a list of its contents.

A storyboard helps you:

Define the parameters of a story within available resources and time

Organize and focus a story

Figure out what medium to use for each part of the story. The thing you have to do next is to divide the contents of the story among the media — video, still photos, audio, graphics and text.



Decide what pieces of the story work best in video. Video is the best medium to depict action, to take a reader to a place central to the story, or to hear and see a person central to the story.

Decide what pieces of the story work best in still photos. Still photos are the best medium for emphasizing a strong emotion, for staying with an important point in a story, or to create a particular mood. They're often more dramatic and don't go by as quickly as video. Still photos used in combination with audio also highlight emotions. Panorama or 360-degree photos, especially combined with audio, also immerse a reader in the location of the story.

Does the audio work best with video, or will it be combined with still photos? Good audio with video is critical. Bad audio makes video seem worse than it is and detracts from the drama of still photos. Good audio makes still photos and video seem more intense and real. Avoid using audio alone.

What part of the story works best in graphics? Animated graphics show how things work. Graphics go where cameras can't go, into human cells or millions of miles into space. Sometimes graphics can be a story's primary medium, with print, still photos and video in supporting roles.

Does the story need a map? Is the map a location map, or layered with other information? GIS (geographic information systems) and satellite imaging are important tools for reporters. Interactive GIS can personalize a story in a way impossible with text by letting readers pinpoint things in their own cities or neighborhoods – such as crime or meth labs or liquor stores or licensed gun dealers.

What part of the story belongs in text? Text can be used to describe the history of a story (sometimes in combination with photos); to describe a process (sometimes in combination with graphics), or to provide first-person accounts of an event. Often, text is what's left over when you can't convey the information with photos, video, audio or graphics.



Editing

Video — Keep videos short — three or four minutes, tops, and preferably around 1 or 2 minutes.

Audio — It's got to be high-quality. Unless it's the long-lost and only recording of the Abominable Snowman, there's no excuse for poor audio. (An exception is really old recordings, but then those have to be scratchy and tinny, by definition.)

Still photos — The Web is a VISUAL medium, so be sure to include photos. Use them to replace 1,000 words, not as accessories to words.

Graphics — Make them interactive and/or animated

Text — For headlines, captions, with photos in a pas de deux, for history, and for first-person descriptions.

Example: Firestorm (The Guardian)

The Guardian won universal praise for its groundbreaking multimedia experience telling the story of the bushfire which devastated the Tasmanian town of Dunalley. An ambitious blend of longform writing, video documentary and interactive elements, the success of Firestorm suggests an exciting new direction for journalism.

The story mushroomed from a single iconic image into a sprawling narrative exploring the costs, causes and context of the disaster.

<https://www.theguardian.com/world/interactive/2013/may/26/firestorm-bushfire-dunalley-holmes-family>



1.10 Narrating science stories

Narratives offer increased comprehension, interest, and engagement. Nonexperts get most of their science information from mass media content, which is itself already biased toward narrative formats. Narratives are also intrinsically persuasive, which offers science communicators tactics for persuading otherwise resistant audiences, although such use also raises ethical considerations.

Research has shown that narratives can be used to sway beliefs about numerous science topics, such as vaccines, proenvironmental beliefs and HIV/AIDS. Science communicators could leverage the influence of narratives to persuade otherwise resistant audiences about issues related to science (Dahlstrom, 2014).

Narratives represent a potentially useful format of communication for the communication of science to nonexpert audiences. Narratives are easier to process and generate more attention and engagement than traditional logical-scientific communication. Narratives already represent the format with which most nonexperts receive their information about science and narratives are intrinsically persuasive, which presents both benefits and challenges for science communication.

Narrative Persuasion and Ethical Considerations

The persuasiveness of narrative formats of communication can both benefit science communication and create challenges. They also raise ethical considerations. Is narration used for persuasion or comprehension? These two goals represent contrasting roles for science communication within society and generally align with one of two competing models. The first is the Public Understanding of Science model that considers controversies about science to be caused by a deficit of scientific understanding, and the role of communication is to rectify this deficit by educating the public and reducing the controversy toward a predetermined outcome. In contrast, the second model is the Public Engagement in Science and Technology model that considers controversies about science a necessary and beneficial process of aligning science with societal values.



Should science communication create agreement toward a preferred outcome or promote personal autonomy to make choices?

Example: The Covid-19 vaccines coverage.

Are social benefits large enough to outweigh individual choice?

1.10.2 Ethical aspects: Bioethical issues

Hands On (5) Can a non-ethical research still be a good science story?

Case study: Chinese scientist He Jiankui had been editing embryos' genetic codes for seven couples undergoing in-vitro fertilization. His groundbreaking move sparked significant ethical questions around gene editing and so-called designer babies.



Here is the report on CNN.com

Hong Kong (CNN)The Chinese government has ordered an "immediate investigation" into the alleged delivery of the world's first genetically edited babies, as experts worldwide voiced outrage at such use of the technology.

The pushback comes amid claims made online by Chinese scientist He Jiankui that twin girls had been born with DNA altered to make them resistant to HIV, a groundbreaking move that is likely to spark significant ethical questions around gene editing and so-called designer babies.

He, a professor at Southern University of Science and Technology in Shenzhen, claims that his lab had been editing embryos' genetic codes for seven couples undergoing in-vitro fertilization.

In a video posted to YouTube on Monday, the Chinese researcher said that one of the pregnancies had been successful and that ostensibly healthy twin girls Lulu and Nana had been born "a few weeks ago."

He claims that he used a tool known as CRISPR-cas9, which can insert or deactivate certain genes. In his YouTube video, He describes the procedure as having "removed the doorway through which HIV enters."

He's claims have neither been independently verified nor peer-reviewed. Editing the genes of embryos intended for pregnancy is banned in many counties, including the United States. In the UK, editing of embryos may be permitted for research purposes with strict regulatory approval. It is unknown whether the procedure is safe or, if used in pregnancy, whether it can have unintended consequences for the babies later in life or for future generations.

China has invested heavily in gene-editing technology, with the government bankrolling research into a number of world "firsts," including the first use of the gene-editing tool CRISPR-Cas9 in humans in 2016 and the first reported use of gene editing technology to modify nonviable human embryos in 2015.



More recently researchers in China claimed to have bred healthy mice from same-sex parents, using gene editing technology.

But in a statement posted Tuesday morning, China's National Health Commission said that it had "immediately requested the Guangdong Provincial Health Commission to seriously investigate and verify" the claims made by He Jiankui.

The statement follows moves by the Chinese hospital named in He's ethical approval documents, Shenzhen Harmonicare Women's and Children's Hospital, to distance itself from involvement in the procedures.

"We can ensure that the research wasn't conducted in our hospital nor were the babies born here," a hospital representative told CNN. The hospital confirmed that two of the doctors named in He's documents work at the hospital and suggested that an internal investigation was underway.

An initial investigation by the hospital said that signatures on He's ethics review form are suspected to be forged. The hospital has never convened an ethics committee meeting on it, according to a statement on its WeChat account, and the facility will ask police to intervene and investigate it and hold related people accountable by law.

The Shenzhen Health and Family Planning Commission denounced the legitimacy of the hospital ethics committee and the review process that approved the application. It confirmed that an investigation was launched Monday to "verify the authenticity of the ethical review of the research reported by media."

He's University, Southern University of Science and Technology, said in a statement that the researcher has been on leave since February 1.

"The research work was carried out outside the school by Associate Professor He Jiankui. He did not report to the school or the department of biology. The university and the biology department are not aware of it," the institution said, adding that "the Academic Committee of the Department of Biology believes that it seriously violates academic ethics and academic norms."



A 'huge blow' to Chinese research

A joint statement issued by more than 120 Chinese scientists on the Chinese social media site Weibo condemns the human genome-editing research.

"The medical ethics review exists in the name only. Directly experimenting on human is nothing but crazy ... as soon as a living human is produced, no one could predict what kind of impact it will bring, as the modified inheritable substance will inevitably blend into human genome pool," they wrote, adding that the trial is a "huge blow" to the reputation of Chinese biomedical research. "It's extremely unfair to Chinese scientist who are diligent, innovative and defending the bottom line of scientific ethics."

Julian Savulescu, director of the Oxford Uehiro Centre for Practical Ethics at the University of Oxford, described the alleged births as "genetic Russian Roulette."

"If true, this experiment is monstrous," he said. "The embryos were healthy. No known diseases. Gene editing itself is experimental and is still associated with off-target mutations, capable of causing genetic problems early and later in life, including the development of cancer."

"There are many effective ways to prevent HIV in healthy individuals: For example, protected sex. And there are effective treatments if one does contract it," Savulescu said.

Joyce Harper, a professor in genetics and human embryology at the Institute for Women's Health at University College London, described the alleged research "premature, dangerous and irresponsible," calling for public debate and legislation.

"Before this procedure comes anywhere near clinical practice, we need years of work to show that meddling with the genome of the embryo is not going to cause harm to the future person," she said in a statement.

Despite ethical concerns in the West, a recent study suggested that the Chinese public is broadly in favor of using gene-editing for medical purposes. An online survey conducted by Sun Yat-Sen University in Guangzhou found that more than two-thirds of the 4,771 people surveyed (575 of whom reportedly have HIV), supported its use in treating diseases, according to the state-run tabloid Global Times.



"(Chinese people) have a high willingness to use of gene in disease prevention and treatment," Liang Chen, a professor at Sun Yat-Sen University was quoted as saying. "This suggests that the research of gene editing in China not only has a promising potential, but also is responding to the public's needs."

CNN's Serenitie Wang reported from Beijing and Oscar Holland reported from Hong Kong. CNN's Steve George and Meera Senthilingam also contributed reporting.





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