

Making the gut microbiome more “human” through targeted communication

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One of the hardest challenges among the scientific community is to create impact by making their work more understandable for a wider audience. If these results are expected to produce a tangible change in our society, we should put all our efforts to show the benefit for the people. Are scientists up for the challenge?

COMMUNICATING EU-FUNDED RESEARCH

In most research projects funded by the EU, the communication and dissemination is a key element of project's impact. Progress is communicated through different channels, showing why these projects are relevant (7), and demonstrating how they help promoting healthier lifestyles, fight diseases, and make people's lives better. By communicating the added value, the European Institutions build trust in how the citizens' money is spent to produce growth and innovation (7). In a nutshell, communication of EU projects increases people's engagement in complex topics that would otherwise remain unknown.

OVERCOMING THE “CURSE OF KNOWLEDGE”

Before developing a communication strategy (what we want to do) and a plan (how we do it), it is fundamental to first identify the pitfalls that could be encountered. For instance, it must be acknowledged that the gut microbiome is a complex concept, potentially difficult for the general public to understand. Scientists, on the other hand, struggle when it comes to simplifying their narrative for a non-scientific audience. They might feel they are “spoiling” their own work by making it too simple. Harvard linguist Steven Pinker describes this as the “curse of knowledge” - the difficulty realising that the reader might not have a sufficient background to understand our writing (9).

In a nutshell, communicating science requires these three simple principles:

- Know your audience(s) and be empathetic
- Don't use jargon and mind your terminology
- Get to the point and keep it simple

The “curse of knowledge” may be tackled by applying three of the newsworthiness criteria used by journalists in their craft (1):

1. Impact: how will society benefit from my results?
2. Timeliness: the more recent your information, the more likely people will find it of interest.
3. Human interest: show why your point is relevant for the human condition.

THE EU-FUNDED PROJECT “MYNEWGUT”

Over recent years, the gut microbiome has been linked to a plethora of health conditions, including obesity, diabetes, autism, and anxiety, among others. The role of the gut microbiota in promoting health has become a trending topic in the field of nutrition research, but also, maybe surprisingly for non-experts, in the research on mental health. There is currently a lack of understanding about the role of the gut microbiota's in health and well-being both among scientists and non-scientists. Why would the European Commission invest in research on the microbiota? The final goal is to help reduce the socioeconomic burden of diet- and brain-related diseases in Europe, particularly, obesity, chronic-metabolic and behavioural disorders.

The EU-funded project “MyNewGut”, coordinated by Prof. Yolanda Sanz of the Spanish National Research Council (CSIC), has received funding from the European Union's Seventh Framework Programme to investigate the role of the

gut microbiota in the development and function of brain, gut and peripheral tissues. This five-year multi-disciplinary research project involves 30 partners from 15 countries from diverse fields: omics-technologies, computational modelling, immunology, microbiology, brain research, physiology and nutrition from both EU and non-EU countries. The project started in 2013 and aims to achieve the following goals:

- Expand knowledge of the contribution of the human microbiome to nutrient metabolism and energy balance.
- Identify microbiome-related features that contribute to or predict obesity and associated disorders.
- Understand how the gut microbiome, under the influence of environmental factors, plays a role in the brain, metabolic, and immune system development in early life and long-term health consequences.
- Provide proof of the disease risk reduction potential of dietary interventions with new food products and ingredients that target the gut microbiome.

Besides contributing to more scientific knowledge about the gut microbiome, the MyNewGut project will also try to increase the competitiveness of the European food industry. In fact, by using the knowledge generated to design innovative microbiome-directed foods, it will also help to improve dietary habits of consumers. These results may also help inform new strategies in public health, support EU legislation, and improve food-related disease prevention across Europe.

In a nutshell, scientists have been looking into how the human gut is like a second brain and how people should start taking care of it. But how can we make sure we get the message across? That is where organisations like EUFIC, European Food Information Council, come into play, helping scientists increase the impact of their mission.

DIFFERENT AUDIENCES

During the first few years of the MyNewGut project, the communication has been focused on creating awareness among regulators and scientists, familiarising them with the topic. The results have been presented at scientific conferences to promote the project's outcomes, so audiences could spread this knowledge through their networks. Towards the end of the project, the communication has been tailored to more specific end-users, such as healthcare professionals, the food industry, the media, and consumers.

MYNEWGUT'S COMMUNICATION STRATEGY

MyNewGut's communication strategy has been to adapt its various communication channels and messages accordingly, targeting audiences online (3), as well as offline, through

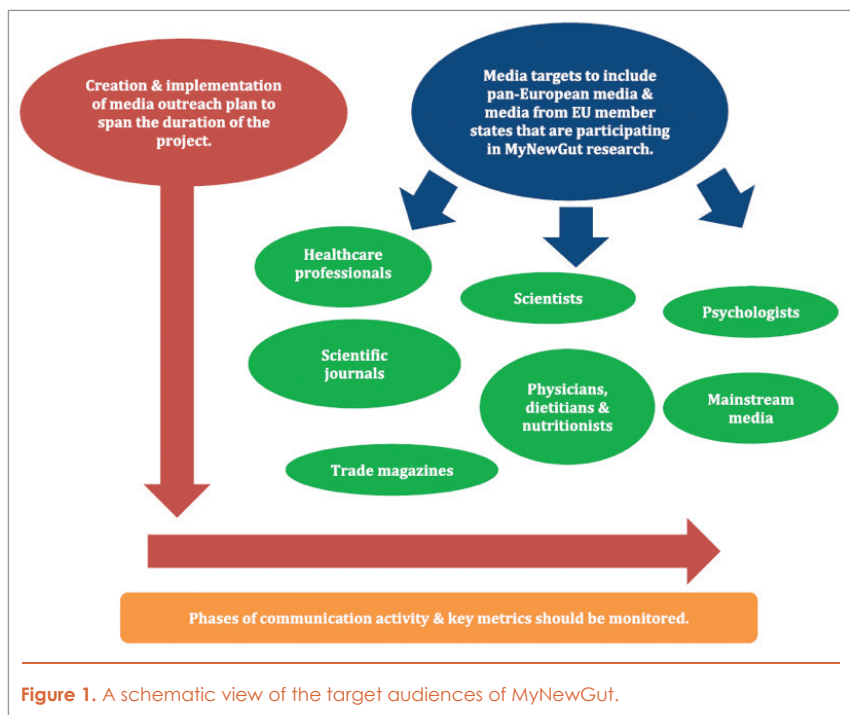


Figure 1. A schematic view of the target audiences of MyNewGut.

leaflets and infographics (5). A way of reaching these target audiences is by using several types of digital media, such as websites, social media, and the newsletter. Project news got disseminated at conferences as well as via the project's website, international peer-reviewed journals, non-peer reviewed/popular specialised journals, events and websites. It is good to also keep in mind that printed material is not dead, and that the "make it visual" rule is valid for both online and offline tools.

THE POWER OF SOCIAL MEDIA

Encouraging people to 'like', 'share' or 'comment' on the project's website and social media channels, increases their engagement, and gives rise to more opportunities for MyNewGut's research to go 'viral' (2, 5). MyNewGut has built an impressive community of 5,300 followers on Twitter, which includes all audiences with an interest in the topic. In fact, besides research and health professionals, the topic of the human microbiome has also attracted an audience of non-experts, interested in finding out more and being part of the community. Furthermore, the news about the project's results get also disseminated on EUFIC's general, and on its SciFoodHealth Twitter account (which specifically shares the news from EU-funded research), amounting to a community of 33 thousand followers. Stressing the importance of such social media coverage, a study that looked at whether scientific articles were shared on Twitter found that highly tweeted articles were 11 times more likely to be highly cited (4).

PRESS COVERAGE

There have been several studies demonstrating that coverage of science results in the popular press amplifies the transmission of the research results and increases citations, compared to no media coverage (5). In some cases, the

strongest effect of media coverage can be already seen in the first year after publication. Indeed, articles on medical research published by the New York Times received 72.8% more scientific citations compared to articles in the same issue of the journal that did not receive publicity in the newspaper (8). However, dealing with press coverage requires the mediation of a key player, whose task is not only to filter science-based information and preformulate what journalists may be likely to cover, but also to implement a long-term media relations strategy. The communicator's task consists of liaising with the press by preparing press kits summarising the main achievements of the project, keeping regular contacts with journalists and publishing a press review showing the coverage status.

SCIENCE COMMUNICATION: "SO WHAT?"

Effective communication means transmitting your message concisely so that it is understood. It's about engaging your audience. It's about the 'so what?' and 'why does it matter?' of your message. As science is getting more and more interdisciplinary, the ability to communicate more effectively across disciplines fosters collaboration and innovation. So why does communication matter? Simple. When scientists communicate more effectively, science thrives and shines at its best.

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