

# Informed Health Choices



**Informed Health Choices**

Newsletter, March 2023

*Front page drawing: Informed Health Choices by Anna Herruzo Martínez (9 years old), Barcelona, Spain*



**The IHC Network .....3**

- A meeting in London ..... 3
- New coordinators ..... 3
- The IHC website ..... 4

**Primary school resources .....4**

**Secondary school resources .....4**

- Be smart about your health..... 4
- Evaluation of the IHC secondary school intervention ..... 5
- Potential adverse effects ..... 5
- Other publications..... 6

**IHC Key Concepts.....6**

**IHC around the world**

**Australia..... 7**

- A randomised trial of Health H.A.C.C. .... 7

**Belgium ..... 8**

- Gezond Geweten: IHC secondary school resources contextualized to the Belgian (Flemish) educational setting ..... 8

**Brazil..... 9**

- Piloting the IHC primary school resources . 9

**Chile..... 9**

- Educational interventions systematic review update ..... 9

**China .....10**

- Investigation of Chinese citizens’ health literacy.....10

**Croatia .....10**

- Recent activities of the Croatian IHC team 10

**France .....11**

- Thinking critically about educational claims .....11

**Germany.....12**

- German working group activities.....12

**Ireland .....13**

- Informed Health Choices-Cancer.....13
- iHealthFacts .....14

**Italy ..... 15**

- Contextualising the IHC primary school resources..... 15

**Norway ..... 16**

- Engaging university students in critical thinking about health claims through a mobile game ..... 16

**Spain ..... 17**

- Pilot study in primary schools ..... 17
- Context analysis study ..... 18
- Development and validation of an interactive test..... 19
- Catalan version of the IHC primary school resources..... 19

**United Kingdom ..... 19**

- GP Evidence ..... 19
- Our Health – Our Knowledge ..... 20

**United States ..... 20**

- Be Health Informed ..... 20

**International..... 21**

- Are we using what we are learning?..... 21
- Webinars and meetings..... 22

**Contributors..... 23**

# The IHC Network



There is a lot of information – including a lot of misinformation - about the effects of things we can do to maintain or improve our health (health actions). The aim of the IHC Network is to help people decide what to believe and what to do by learning to think critically.

We want to help people, especially children and young people, learn to think critically about health actions – and other types of actions (e.g., to conserve or improve our environment). The network is developing, evaluating, and contextualising educational resources to enable people to think critically about health actions – and other types of actions – and to make informed choices.

We are an informal, international, multidisciplinary group, and anyone can join. This newsletter is published annually and includes updates of activities around the world.

## A meeting in London

### *Are you attending the [Cochrane Colloquium 2023](#)?*

It will be in London, 4-6 September. We plan to organize a face-to-face meeting there with people in the IHC Network. If you are interested in joining us, please send me an email: [saro@fhi.no](mailto:saro@fhi.no).

**Contact:** Sarah Rosenbaum



## New coordinators

The IHC network is coordinated by the IHC group in the Centre for Epidemic Interventions Research (CEIR) at the Norwegian Institute of Public Health. The Centre for Informed Health Choices at NIPH became part of CEIR when the new centre was established in July 2021. The centre is funded by the Norwegian Ministry of Health. One of

CEIR’s three aims is to develop and evaluate tools to support the use of research in decision-making in health crises, and improve critical health literacy in the population by

1. Designing and user testing tools for preparing evidence-based advice for policymakers
2. Evaluating the effects of interventions to strengthen critical health literacy skills

Up to now, Sarah Rosenbaum and Andy Oxman have had primary responsibility for coordinating the IHC network. We will be retiring in the next couple of years, and we are delighted that **Heather Munthe-Kaas** and **Christine Holst** will be taking over. Heather has experience leading international projects, including [GRADE-CERQual](#) and [TRANSFER](#), and using qualitative and quantitative research methods. Christine also has experience leading projects, including a [digital health literacy project](#) in Tanzania, and experience in human-centred design.



## 4 Informed Health Choices

### The IHC website

More information about the IHC Network can be found on the [Informed Health Choices website](#). A new website will be launched later this year. Stay tuned!



**Contacts:** Andy Oxman, Christine Holst, Heather Munthe-Kaas, and Sarah Rosenbaum

## Primary school resources

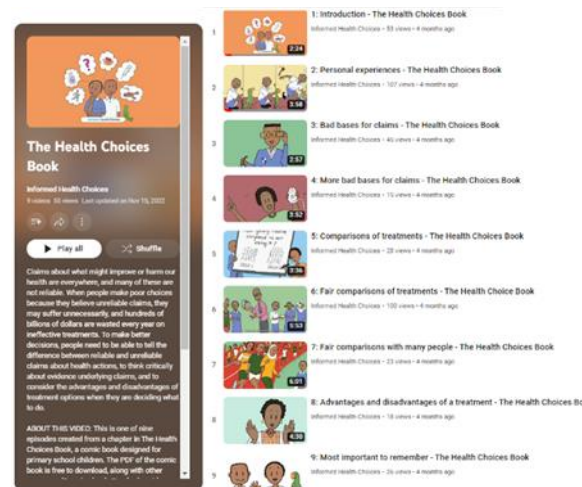
Translations of the IHC primary school resources now are available in Basque, Chinese, Croatian, English, French, Greek, Italian, Kinyarwanda, Kiswahili, Norwegian, Persian, Portugese, and Spanish.

All our resources are open access. If you are interested in translating or contextualising the IHC primary school resources, please contact us.



[Animations of all nine chapters of \*The Health Choices Book\*](#) are available on our YouTube channel. Subtitles currently are in English, but it will soon be possible to translate them using Google translate.

More information about the IHC primary school resources can be found on the [IHC website](#).



**Contact:** Sarah Rosenbaum

## Secondary school resources

**Be smart about your health**

Think critically, make smart choices

BLACKBOARD LESSONS PROJECTOR LESSONS TEACHERS' GUIDE

Learning resources for helping secondary school students think critically and make smart health choices.

Includes everything that teachers and students need to complete 10 lessons.

### Be smart about your health

We completed development of the [Be Smart about your Health](#) resources in April. The resources can be used in classrooms without Internet connectivity or stable electricity. They include ten 40-minute lessons in two versions (blackboard and projector) to accommodate classrooms with and without a projector. Based on findings from a pilot study, which included a computer-based version for students, we deactivated that version. This was due to both technical and practical barriers to using the computer-based

## 5 Informed Health Choices

version. The resources include printouts for students, but schools in East Africa have very limited resources for printing or purchasing printed materials. Therefore, the resources are dependent on teachers. Because the teachers did not have experience teaching critical thinking about health, we added a Teachers' Guide to the resources and materials for conducting teacher training workshops. We have submitted a report of the development of the to F1000Research.

**Contacts:** Sarah Rosenbaum, Jenny Moberg, and Matt Oxman

### Evaluation of the IHC secondary school intervention

Faith Chesire, Michael Migushi, Ronald Ssenyonga and their teams completed randomised trials of the IHC secondary school intervention in Kenya, Rwanda, and Uganda last year. The intervention included a two-day workshop for the teachers (taught by teachers) in addition to using the *Be Smart about your health* resources. They have written up the results, which will soon be submitted for publication.

Each trial included 80 to 84 schools and between 3128 and 4853 students. The intervention had a large effect on students' and teachers' ability to think critically about treatment claims and make informed choices. However, many of the students (between

38.3% and 44.9%) in the intervention schools did not have a passing score on the *Critical Thinking about Health* test, which was the primary outcome measure.

Faith, Michael, and Ronald are in Oslo now, where they are analysing data from their process evaluations, writing up the findings, and taking PhD courses.

The picture below is from a research day at the Norwegian Institute of Public Health (NIPH), where their poster presentation of the trials was voted one of the top five posters.

They are exploring potential adverse effects, use of what was learned in the students' daily lives and other potential benefits in the process evaluations. Later this year we will conduct one-year follow-up studies to measure retention of what was learned.



Michael, Faith, and Ronald at NIPH

**Contacts:** Faith Chesire, Michael Migushi, Ronald Ssenyonga

### Potential adverse effects

In the 2022 newsletter, we noted that researchers often overlook adverse effects of educational and public health interventions. We highlighted that we were developing a framework of potential adverse effects of the IHC secondary school intervention, to help inform the cluster-randomized trials and process evaluations.

Since then, we have submitted a report of the development of the framework. A pre-print is published in MedRxiv: "[Potential adverse effects of an educational intervention: Development of a framework](#)".

We are conducting a qualitative evidence synthesis using the framework, across trial settings. We published the protocol in Zenodo: "[Participants' and investigators' experiences and views of potential adverse effects of an educational intervention: Protocol for a qualitative evidence synthesis](#)".

For the introduction to the protocol, we reviewed studies included in systematic reviews of interventions to improve critical thinking about health choices, to see whether the studies included potential adverse effects. In short, the vast majority did not. We are

## 6 Informed Health Choices

writing up the results of this secondary analysis, as a short report.

Due to limited time and resources, we are taking a less rigorous approach to assessing potential adverse effects in the trials of the IHC secondary school intervention, as well as “far transfer” of learning, than we had planned (as described in these protocols for developing and validating outcome measures for [potential adverse effects](#) and [far transfer](#)).

**Contact:** Matt Oxman



### Other publications

#### Context analyses

Mugisha M, Uwitonze AM, Chesire F, Senyonga R, Oxman M, Nsangi A, et al. [Teaching critical thinking about health using digital technology in lower secondary schools in Rwanda: A qualitative context analysis](#). *PLoS One*. 2021;16(3):e0248773.

Ssenyonga R, Sewankambo NK, Mugagga SK, Nakyejwe E, Chesire F, Mugisha M, et al. [Learning to think critically about health using digital technology in Ugandan lower secondary schools: a contextual analysis](#). *PLoS One*. 2022;17(2):e0260367.

Chesire F, Ochieng M, Mugisha M, Ssenyonga R, Oxman M, Nsangi A, et al. [Contextualizing critical thinking about health using digital technology in secondary schools in Kenya: a qualitative analysis](#). *Pilot Feasibility Stud*. 2022;8(1):227.

#### Prioritisation of key concepts

Agaba JJ, Chesire F, Mugisha M, Nandi P, Njue J, Nsangi A, et al. [Prioritisation of Informed Health Choices \(IHC\) Key Concepts to be included in lower-secondary school resources: a consensus study](#). *medRxiv*. 2022.

#### Overview of teaching strategies

Oxman AD, Nsangi A, Martinez Garcia L, Kaseje M, Samsó Jofra L, Semakula D, et al. [The effects of teaching strategies on learning to think critically in primary and secondary schools: an overview of systematic reviews](#). 2023 (submitted).

#### Outcome measure

Nsangi A, Aranza D, Asimwe R, Munaabi-Babigumira S, Nantongo J, Nordheim L, et al. [Measuring lower secondary school](#)

[students' ability to assess claims about treatment effects: establishment of a standard for passing and mastery](#). *BMJ Open*. 2023;13:e066890.

Dahlgren A, Semakula D, Chesire F, Oxman AD, Mugisha M, Nakyejwe E, et al. [Critical thinking about treatment effects in Eastern Africa: development and Rasch analysis of an assessment tool](#). *F1000Res*. 2023 (submitted).

**Contact:** Andy Oxman

## IHC Key Concepts



The [IHC Key Concepts](#) is a framework that provides the basis for developing educational resources and evaluating people’s ability to think critically about health actions.

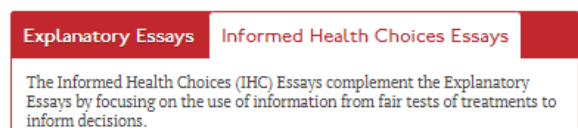


For the [2022 version](#), we (Andy Oxman, Astrid Dahlgren, and Iain Chalmers) reviewed the evidence base for each of the concepts. Whenever possible, we referenced systematic reviews that provide a basis for a concept.

The original framework published in 2015 included 32 concepts in six groups. The 2022 version includes 49 organised in 10 subgroups or higher-level concepts. For each concept, there is an explanation including one or more examples, the basis for the concept, and implications. Over 600 references are cited that support the concepts, and over half of the references are systematic reviews.

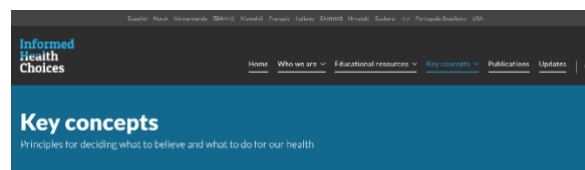
This is the last revision made by us. Any further development of the IHC Key Concepts is up to others.

### The Informed Health Choices Essays



The **Explanatory Essays** in *The James Lind Library* were written to promote wider understanding of why fair tests of treatments are needed, and what they have come to consist of. The [Informed Health Choices Essays](#) complement the Explanatory Essays by focusing on the use of information from fair tests of treatments to inform decisions. There is one essay for each of the 10 subgroups of IHC Key Concepts. The essays are also published in the [Journal of the Royal Society of Medicine](#).

### New website



Based on the 2022 version of the IHC Key Concepts, we are preparing a brief explanation, an example, and links to educational resources for each concept for the [new IHC website](#).

**Contact:** Andy Oxman

## IHC around the world



## Australia

### A randomised trial of Health H.A.C.C.

We recently completed a cluster randomised trial across several Australian high schools to evaluate the impact of an educational intervention to improve students' ability to identify and appraise health claims – [Health H.A.C.C. – How to Assess Claims Critically](#). The development of the intervention was informed by a qualitative assessment, in which Australian high school students' understanding of, and attitudes towards, health claims were explored. The key concepts that were considered most valuable to the target group were prioritised within the intervention. The methodology was based on [IHC primary school project](#) and a selection of multiple-choice questions from the [Claim](#)

## 8 Informed Health Choices

[Evaluation Tools item bank](#) were utilised to measure outcomes.

We have submitted an article and hopefully our findings will be published soon.



Contact: Leila Cusack

## Belgium

### Gezond Geweten: IHC secondary school resources contextualized to the Belgian (Flemish) educational setting

Gezondheid en Wetenschap (“Health and Science”) is part of the Belgian Center for Evidence Based Medicine (located in Leuven) and aims to inform patients and citizens with

reliable health information. The website is commissioned by the Flemish government.

In 2022, Gezondheid en Wetenschap in collaboration with Mediawijs (Flemish Knowledge Center on Media Literacy) developed learning resources for Flemish secondary school pupils (ages 12-18) based on the principles of Informed Health Choices (IHC).

The learning resources help pupils to think critically about health claims to make informed health choices. The materials cover 3 modules: health claims, health research, and health choices. Each module stimulates students' knowledge, skills, and attitudes to deal critically with health information.

Teachers can use the materials in the first, second, and third secondary school grades in Belgium (Flanders) and tailor their lessons to the knowledge and skills of their class group.

The resources were launched in November 2022 and are available on the websites of both organizations: [Gezond geweten](#) · [Gezondheid en wetenschap](#) and [Gezond Geweten | Mediawijs](#).

Exercises are provided through BookWidgets™. Each exercise has been marked by a star system that reflects the difficulty level: 1-star exercises are the basics of each module; 2-star exercises go into a little more detail and 3-star exercises



Available learning resources in Dutch:

- The teacher's guide contains the necessary theoretical background and offers guidance to start working with the resources confidently and autonomously.
- are fully building on the assimilated knowledge.
- The correction key provides the solution to the exercises with some theoretical explanation and gives an indication of what



## 9 Informed Health Choices

students should know and be able to do after completing the exercise.

- Customizable PowerPoint™ presentation to structure the teachers' lesson.

*Contact: Martine Goossens*

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## Brazil

### Piloting the IHC primary school resources

Between October and December 2022 we piloted the IHC primary school resources in one 6th grade class of a public school in Vitoria da Conquista, Bahia. The intervention included teacher training with our previously developed podcast “PenSaúde”, which covers the IHC Key Concepts, and lessons to the students. IHC resources were printed with financial support from the Bahia Research Foundation. In order to explore the experience of the students and the teacher when using the learning resources, we collected qualitative and quantitative feedback using guides from previous pilot studies carried out in Italy and Spain. A report of these results is currently under preparation and will be submitted as part of a research masters dissertation. Next steps include a second pilot project in a school in Rio de Janeiro.



\*Current members of our working group are: Joana Balardin, Edson Amaro, Marina Damin and Jade Nascimento from Hospital Israelita Albert Einstein in São Paulo; Márcio Galvão Oliveira, Daniela Arruda Soares and Herbert Gomes da Silva from Universidade Federal da Bahia in Vitória da Conquista; Ana Paula Pires dos Santos from Universidade do Estado do Rio de Janeiro; Paulo Nadanovsky from Fundação Oswaldo Cruz in Rio de Janeiro and Universidade do Estado do Rio de Janeiro; Fernando Kenji Nampo from Universidade Federal da Integração LatinoAmericana.

*Contact: Joana Balardin*

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## Chile

### Educational interventions systematic review update

We are updating [Leila Cusack's 2018 systematic review](#) of educational interventions designed to improve people's understanding of key concepts for evaluating

claims about the effects of health interventions. This review included 24 primary studies with searches until 2015 for most databases. The authors concluded that while educational interventions can enhance people's knowledge and abilities, impacts on confidence, attitudes, and behaviour remained unclear. Additionally, the included studies were at moderate or greater risk of bias, and no long-term outcomes were measured.

For the update, we already searched the Epistemonikos database, MEDLINE, EMBASE, CINAHL and CENTRAL. We screened by title and abstract more than 16,000 records and only 69 of them were considered potentially eligible. We are now assessing the full text of those articles for inclusion. We have identified additional reports of trials included in the original version of the review (the IHC primary school trial and the IHC podcast trial), but no new trials. Additionally, we found study protocols, so new evidence will likely emerge during the next few years.

We are uploading our update to [Zenodo](#) and preparing a report of the results to submit for publication in a peer-reviewed journal.

A team from Epistemonikos Foundation is working on the update of this systematic review: Francisca Verdugo-Paiva, Francisco

Novillo, Javiera Peña, Camila Ávila-Oliver, and Gabriel Rada.



**Contact:** Francisca Verdugo-Paiva

## China

### Investigation of Chinese citizens' health literacy

In 2021, the IHC China team from the Evidence-based Medicine Center of Lanzhou University developed a questionnaire on the health literacy of Chinese citizens based on the 2019 IHC Key Concepts. The reliability and validity of the questionnaire were verified. In 2022, the questionnaire was used to investigate Chinese citizens aged 15-69 in ten cities of Gansu Province, China. A total of 2446 questionnaires were collected. According to our results, only 1/4 citizens in Gansu province are health literate and can correctly understand and use evidence during the COVID-19 pandemic. Although the amount and speed of evidence production are

increasing rapidly in China, there is still a significant gap between the production of evidence and the public's understanding and use of evidence. As a response, the IHC China team is currently developing an evidence-informed health choices checklist to help the public better understand and use evidence in their daily lives.

### What we also have done in 2022:

- Translated 2022 IHC key concepts to Chinese,
- held an evidence-informed decision-making workshop to help the public understand and use evidence,
- conducted an initiative to promote the development of patient and public versions of guidelines in China,
- developed and published a guideline for patients and public on *Management of foreign bodies in the digestive tract of children in China*, and
- implemented and disseminated the patient and public guidelines for Chinese citizens through social media.

### What is going to happen in 2023:

- We will disseminate the 2022 IHC key concepts through publications, workshops, conferences, and social media,

- develop 2-3 versions of guidelines in China for patients and the public, and
- develop an evidence-informed health choices checklist for Chinese citizens.



2023 IHC China team

**Contact:** Yaolong Chen and Xuan Yu

## Croatia

### Recent activities of the Croatian IHC team

Last spring, we started a randomised trial with primary school children to test the effects of the Informed Health Choices (IHC) education on their ability to assess treatment claims and make decisions about health. As announced earlier, we approached school principals from the urban agglomeration of

## 11 Informed Health Choices

the city of Split and invited them to take part in our project.

From the 13 primary schools that agreed to participate, we randomly selected six schools, three of which received the IHC educational intervention, while the remaining three schools were controls. Overall, 32 classes including third and sixth-grade primary school children were enrolled, with more than 300 children in the intervention, and almost 350 children in the control group.

The education started in March and included the nine lessons from the IHC primary school resources that were delivered once a week. The teachers attended workshops that had been organised in schools before the trial started, during which detailed guidance about the teaching materials and the IHC project aims were explained.

At the end of the intervention, children from both groups completed a test to assess the short-term effects of the intervention and differences between the two groups. This was repeated after six months, in November and December, to assess retention of knowledge and longer-term effects of the intervention. The test consisted of a set of multiple-choice questions from the [Claim Evaluation Tools item bank](#). With the kind help of Astrid Dahlgren, the Rasch analysis for reliability and validity of the tests was undertaken.

We are now working on the manuscript that will be submitted for publication, hopefully soon. At all times, Diana and Tina were responsible for ensuring proper implementation of the education, observed classes and completion of the tests, and kept regular contact with the teachers who delivered the education.

Also, as part of our IHC activities, we used the 2021 World Evidence-Based Healthcare Day to highlight the importance of encouraging children to think critically about health information in an era of information overload. We shared the IHC materials, including posters and the Key Concepts that we translated into Croatian, among primary schools in Split. Promotion of the World Evidence-Based Healthcare Day and the IHC activities in our community attracted the attention of the local TV and radio stations, where we talked about the IHC project and the Key Concepts and agreed to talk more about the concepts for the general audience in future broadcasts.

Finally, we recently initiated a study among university students in health professional programmes (e.g., health studies, dental medicine, and medical school) in Split to assess how they appraise health claims and what decisions they make about health. We will be happy to share our findings with the IHC network. Meanwhile, we are sending you

all warm wishes of peace and love from Croatia! 😊



Diana and Tina at Diana's PhD thesis defence

**Contact:** Tina Poklepovic and Diana Aranza

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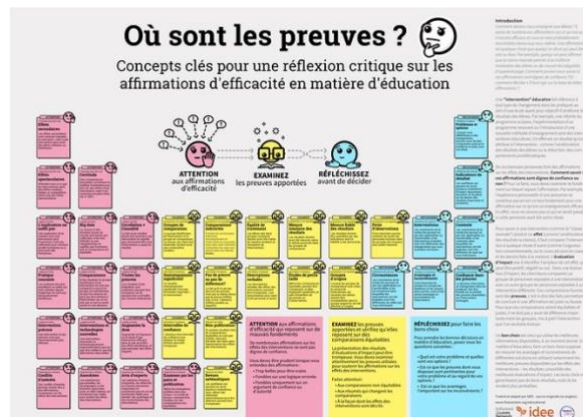
## France

### Thinking critically about educational claims

The [Innovation, Data, and Experiments in Education](#) (IDEE) programme led by [I-PAL Europe](#) aims to promote evidence generation

## 12 Informed Health Choices

and use in the French education system. To support French stakeholders in thinking critically about educational claims, amongst its activities targeting policy makers and teachers, IDEE translated and adapted to French, the “[That’s a claim](#)” poster with Key Concepts for thinking critically about educational claims. The [English language poster](#) was developed by a working group in the [Coalition for Evidence-based Education \(CEBE\)](#), based on the [IHC “That’s a claim” poster](#). IDEE used the poster as part of a national training programme organized in partnership with the French Ministry of Education, as well as several workshops organized in different French regions.



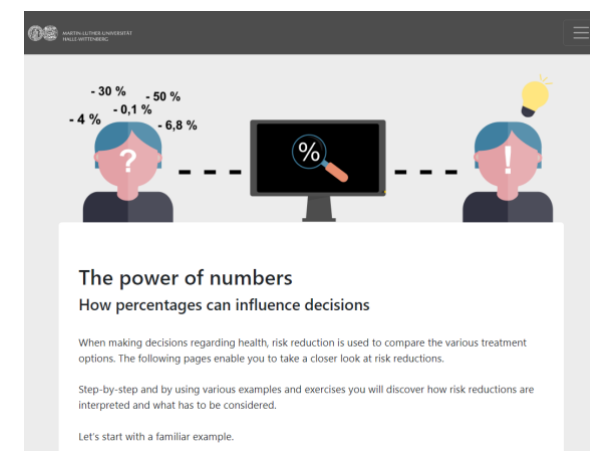
**Contact:** Lou Aisenberg and Maya Pargade-Klitzke

## Germany

### German working group activities

In 2018, we started to contextualise and adapt the already existing German items from the [Claim Evaluation Tools item bank](#) for the target group of secondary school students. We pilot tested the items in qualitative interviews using the think aloud method with secondary school students and their teachers. We then conducted a construct validation by testing the unidimensional Rasch scalability for each item set after data collection in German and Austrian secondary schools. The study took place in cooperation with the Austrian project, *Health literacy and diversity for secondary school students (HeLi-D)* and has now been published by [BMC Public Health](#).

In 2022, we completed the development and piloting of a microlearning tool to teach the difference between absolute and relative risk reductions. The tool is web-based and self-directed with interactive elements and is aimed at lay people and health professionals. The development and piloting process, with access to the latest version of the tool, has recently been published in the [International Journal of Environmental Research and Public Health](#). Further evaluation of the tool in a randomised trial with lay people and a group of health professionals is planned in collaboration with the “Health communication” research group led by Jürgen Kasper at Oslo Metropolitan University in Norway.



We are currently trying to get funding for another validation study of the Claim Evaluation Tools for the target group of adults and the development of learning tools.

German working group: Anke Steckelberg, Jana Hinneburg, Jürgen Kasper, Julia Lühnen, Sandro Zacher.

*Contact: Anke Steckelberg*

## Ireland

### Informed Health Choices-Cancer

#### *Thinking critically about cancer misinformation*

Informed Health Choices-Cancer (IHC-C) aims to provide people impacted by cancer with the knowledge and skills necessary to think critically about the reliability of health information and claims and make well-informed choices.

The recent rapid increase in health claims has led to what the World Health Organisation has called an ‘infodemic’ of misinformation. Few areas of health have been as insidiously influenced by misinformation as cancer. This overabundance of information has undermined people’s capacity to make evidence-based, informed choices about their health. Thus, interventions that can help

reduce the extent to which those impacted by cancer are victims of misinformation are necessary.

Based on the 49 Key Concepts developed by the IHC project, the IHC-C programme at the University of Galway seeks to develop an online education programme to help those impacted by cancer.

The programme is being conducted in two work packages. In work package 1, the Key Concepts were prioritised for inclusion in the IHC-C programme. In work package 2, a human-centred design approach of iterative cycles of design is utilised to develop an online learning resource tailored specifically to those impacted by cancer, based on the prioritised Key Concepts. After completing the two work packages, an intervention ready for a randomised trial will have been developed.



#### **KC 1** Not many health treatments that work are 100% safe.

##### **Explanation:**

People often think about the good things that a health treatment like medicine or health advice can do, and sometimes don't think about how it might also cause harm. But not many health treatments that work are 100% safe. Even simple advice can sometimes cause serious harm. So, be mindful if someone says that a health treatment is "100% safe" or doesn't mention its safety or downsides.

##### **Example:**

In many countries, people were told that babies should sleep on their tummies, so they would not choke if they threw up. But then researchers found that babies who had died of unexplained causes were three times more likely to have been put to sleep on their tummies. If the downside of putting babies to sleep on their tummies had been discovered earlier, it might have saved the lives of more than 10,000 infant deaths in the UK.



##### **What this means for you:**

Always consider that a health treatment or health advice might cause harm.

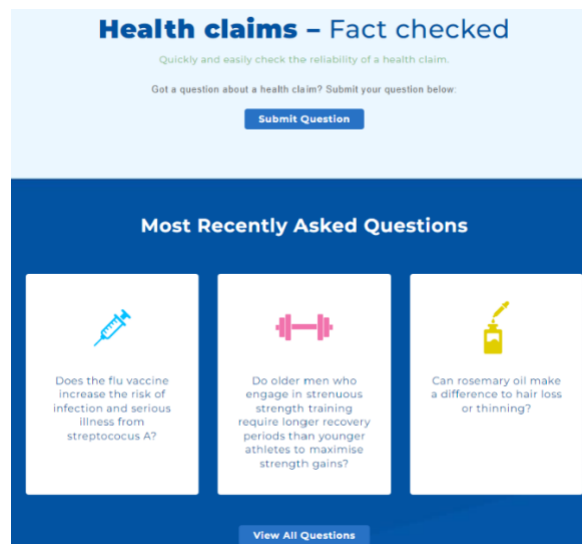
In the past year, we have completed work package 1. Two groups were established to complete the prioritisation process, one was made up of the steering group composed of 11 members, including people impacted by cancer, medical oncologists, cancer nurses, cancer researchers, methodology researchers, experts from the IHC Key Concepts initiative and experienced educationalists. The other group was a patient and public involvement (PPI) panel of 18 people impacted by cancer. Members of both groups were trained on the background of the IHC-C programme, the Key Concepts, and the two-round prioritisation process. Participants in both rounds used an online structured judgement form to rate the importance of each Key Concept for inclusion.

The first round of prioritisation was completed by eleven steering group members and three PPI members, resulting in 21 Key Concepts in the second-round prioritisation. Using the same prioritisation process, the second round of prioritisation was conducted by 15 people impacted by cancer to fully understand the knowledge requirements and perceptions of the target audience. At the end of the second-round prioritisation, the prioritisation results were analysed. Then, a consensus meeting was held, resulting in nine Key Concepts being prioritised for inclusion in the online programme.

*Contacts: Marie Tierney, Mengqi Li, and Declan Devane*

**iHealthFacts**

[iHealthFacts](https://ihealthfacts.ie) is a health fact-checking website set up by health researchers at the University of Galway, Ireland. Members of the public can submit questions about health claims they've read on social media or elsewhere to the website. Our team of researchers undertake a rapid review of the evidence to support or refute the claim. We then seek input from external experts in relevant fields such as topic experts, methodological experts, patient and public involvement (PPI) experts, and health journalists. Based on this input, we publish an answer to the question on the iHealthFacts website, providing a clear and evidence-based assessment of the validity of the claim.



In addition to providing a synthesis of the evidence on topics, iHealthFacts links each topic to the IHC Key Concepts. We also note any relevant guidelines and recommendations from reputable health agencies nationally and internationally; however, we do not endorse or promote these to maintain our independence.

The project was started because we recognise that good healthcare requires people to make informed, evidence-based decisions about their health. Many people are overwhelmed with information, particularly about what they can do to improve or protect their health. Increasing amounts of health information now spread faster and further through multiple channels, including the web, social media, instant messaging, television, and radio. Much

of this information is unreliable. Unreliable information can lead to poorly informed choices, under- or over-use of health interventions (or treatments) and avoidable waste and human suffering.

While the website was initially set up to respond to the need for accurately, understandable information during the COVID-19 pandemic, we now respond to broader health-related questions. For example, we were recently asked if exposure to WIFI is associated with brain cancer. We found little evidence to support the claim but described, in plain language, the findings of some in-vitro cell studies. We explained that this could not be considered high-quality evidence and describe several guidelines on the topic. Finally, we linked to IHC Key Concepts that we thought were relevant to this topic. In this case, for example, these included that opinions alone are not a reliable basis for claims.

We hope we are fulfilling our aim and mission to empower the public to think critically about health claims and make informed decisions about health and healthcare.

iHealthFacts is funded by the Health Research Board in Ireland. Our core team comprise Prof Declan Devane, PhD candidate Johanna Pope, and senior post-doctoral researcher Dr Paula Byrne from the College of Medicine, Nursing and Health Sciences, University of Galway.



**Contact:** Paula Byrne

## Italy

### Contextualising the IHC primary school resources

#### What we've done so far

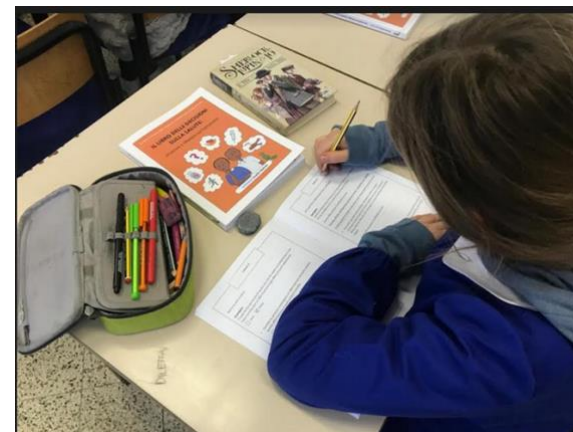
In 2019 we translated [The Health Choices Book](#) and the Exercise Book to Italian. A limited edition of these resources -to be used in a pilot project- was printed, free of charge, by the Italian Publisher Il Pensiero Scientifico. In 2020, we piloted these resources in two fifth grade classes of a public primary school in Florence. In 2022 we published [the study's results](#).

Findings from this contextualization activity indicated that the IHC educational resources are compatible with the Italian primary school context and with the Italian primary school

curriculum. Results of the quantitative and qualitative analyses consistently showed positive experiences with the IHC resources in both children and schoolteachers. For example, the African village setting of the comic served as a stimulus for the students' curiosity, and it was a key component of the desirability of the resources. Our findings are consistent with those described in other contextualization studies of IHC resources in different countries.

A novel result from this study was the active transfer, by the schoolteachers involved in the project, of the IHC Key-Concepts into different subjects of the primary school curriculum. Along with the IHC lessons, teachers used the IHC Key Concepts in science lessons (to explain scientific discoveries through fair comparisons), Italian lessons (to do a conceptual analysis of advertising messages) and math lessons (to apply the theory of big numbers to randomization). This finding is consistent with a previous framework that applies the [Key Concepts across different fields](#) with the mutual aim of encouraging critical thinking and enabling people to make informed decisions.

All the schoolteachers reported remote learning as the only barrier to implementation of the IHC resources.



#### Current activities

In 2022, we did a second contextualization activity of the IHC resources in an extended geographical area, including schools from the north, the centre, and the south of Italy. We are currently analysing results.

Here are some examples - collected by the schoolteachers during the IHC lessons - of comments from the children about the suitability of the IHC Key Concepts to their daily life.

- “Teacher, I have the perfect example! A few days ago, I bought new soccer shoes and yesterday, at practice, N. scored four goals, but I only scored one! So, it wasn't the shoes, but it was us!” (Concept: “new and expensive” is not necessarily better).
- “Teacher, I have another example! I saw the Bugs Bunny movie, and Michael Jordan gave the basketball team some bottles of

water with a label saying, “very powerful” and the team gave their best. But there was nothing in the water: it was them!” (Concept: “the placebo effect” in fair comparisons).

- “After the Christmas break, N. told the teacher that his little brother had received a new pair of scissors as a gift. He immediately ran to replace the old scissors with the new ones, but I told him: Just because they are new doesn’t mean they work better than the old ones!” (Concept: “new and expensive” is not necessarily better).

*Contact: Camilla Alderighi and Raffaele Rasoini*

## Norway

### Engaging university students in critical thinking about health claims through a mobile game

We would like to share our experiences with the development and evaluation of a mobile game to engage students in critical thinking about health claims. The paper on our experiences has been submitted and is under consideration for publication.

### Background

In 2021, researchers at Oslo Metropolitan University (OsloMet) created a mobile game to

enable students to think critically about health claims in the face of the media's many unreliable claims. The mobile game was an extension of previous work carried out at OsloMet, in an umbrella project called "Behind the headlines", which includes five Key Concepts from the IHC framework. However, the mobile game also contained concepts about research methods and source criticism.

### Concept

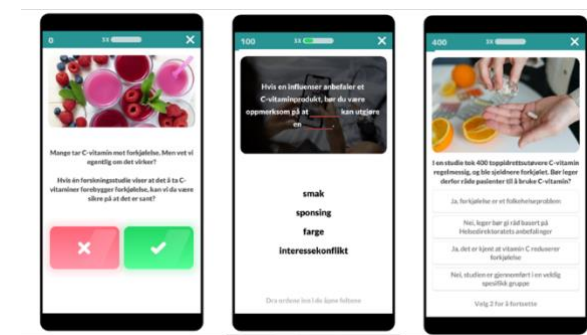
As a basis for the game, we conducted a group discussion with three participants from universities around Norway. They were asked how they read and critically assessed health news. They used a variety of media sources to read health news, such as original newspapers, online newspapers, and social media. The participants had higher trust in news from the authorities than from mainstream media and the least trust in health information from commercial sources.

When faced with websites or blog posts, the participants said they used Google, etc. to assess reliability. They were sceptical of sites with little content or that were shared by influencers. However, two of them had been fooled to buy products that were heavily advertised. None of the participants mentioned assessing the evidence supporting claims.

Although there were few participants in our group discussion, our findings are in line with previous knowledge about how adults and students find and assess health news in the media.

### Development

We prepared proposals for topics and tasks in the game based on the group discussion with students and which types of tasks were technically possible. A reference group consisting of staff and students from several faculties at OsloMet chose dietary supplements as the topic for the game. The rationale was that this was considered relevant for all students, regardless of gender, age, and field of study, and because there are many health claims about dietary supplements in the media. A preliminary version of the game was created, and this was pilot tested and discussed in three group discussions.



Examples of game elements



**Implementation and evaluation**

The final game was launched in November 2021, and we used user data to assess user patterns in the game. The game's usefulness and relevance were evaluated with three short questions in the game, and a focus group interview in April 2022.

The mobile game was tested by 193 students at OsloMet. The students were engaged to play several times (from 1 to 296), but the median number of playthroughs was 2. We found a demonstrable correlation between the number of playthroughs, and the score achieved. This may indicate that the game is suitable for practicing concepts. However, since a high proportion achieved high scores, it is possible that the level of difficulty was a little low. We found no demonstrable difference in scores between different faculties, and this may indicate that the topic of dietary supplements does not depend on educational background.

The analysis of the qualitative data revealed that the students experienced the game as fun, educational and engaging, and that it was relevant and useful regardless of their field of study. They also wanted more modules beyond health, and they came up with suggestions for improvements, including explanations and learning stops along the way and links to references with more information.

**What have we learned?**

We found that user input can be successfully used in the concept and development of a serious game that aims to engage students to think critically about health claims. Furthermore, we found that the users experienced the game as educational and fun. Future research should focus on assessing the effect of the mobile game on learning outcomes, and possibly also health choices, in randomised trials.

*Contacts: Ida-Kristin Ørjasæter Elvsaas and Marianne Molin*

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## Spain

In 2017 we started collaborating with the Centre for Informed Health Choices (Oslo, Norway). Our main goal is to explore and evaluate how IHC resources can be optimally implemented in the Spanish context. With this purpose, the IHC-Barcelona team is leading the following initiatives.

**Pilot study in primary schools**

Recently we have submitted for publication the manuscript "Piloting the Informed Health Choices resources in Barcelona primary schools: A mixed methods study" (Box). We will present our results at the World Congress on Public Health May 2023 (Rome, Italy), and

we have also submitted the abstract to the Cochrane Colloquium September 2023 (London, UK).

**Pilot study in Spanish primary schools**

**Introduction** - The main objective of the Informed Health Choices (IHC) project is to teach people to assess treatment claims and make informed health choices. For this purpose, the IHC learning resources were developed for primary school children. The aim of this study is to explore students' and teachers' experiences when using the IHC resources in primary schools in Barcelona (Spain).

**Methods** - We conducted a mixed methods study for piloting the IHC resources in a convenience sample of primary schools in Barcelona. The intervention included a workshop with teachers, and nine lessons with the students. We collected data using multiple approaches, including ad hoc questionnaires, non-participatory observations, and semi-structured interviews. We performed quantitative and qualitative analyses. Finally, we formulated recommendations for using the IHC resources in this setting.

**Results** - Two schools, with a total of 143 students in 4th and 5th grade (9 to 11-year-olds) and six teachers, participated in the study. One school followed the suggested IHC teaching plan and

completed all the lessons; the other school modified the plan substantially and did not complete all the lessons. Overall, students and teachers from both schools understood, were interested in, and were able to apply the content of the lessons. During the lessons, students used the IHC resources (mainly the textbook), and teachers used them in a variable way. Teachers adapted the IHC resources to increase student participation and used Information and Communications Technologies to support their teaching. We observed more facilitators than barriers to teach the lessons. The teachers suggested some ideas to improve the lessons based on the activities they developed and implemented. We proposed seven recommendations for using the IHC resources in this setting.

**Conclusions** - It is feasible to use the IHC resources in Barcelona primary schools; however, these resources should be adapted to promote classroom participation.

## Context analysis study

### *Systematic assessment of educational documents and resources*

We continue to work on a systematic assessment of educational documents and resources to explore how critical thinking about health is taught in Spanish primary schools. We reviewed the following documents: 1) state and autonomous communities' curricula (18 documents), 2) school educational projects (18 documents), and 3) education materials (textbooks and teacher guides from 4 editorials that publish teaching materials for primary education). We identified more than 5,000 quotes related to the keywords "critic", "health", and "critic and

health" (Box). We are now conducting a descriptive thematic synthesis. We plan to publish the in 2023.

#### Quotes from the state and autonomous communities' curricula

- "Furthermore, Physical Education is linked to the acquisition of **health-related skills** through actions that help to acquire responsible habits of regular physical activity, and the adoption of **critical attitudes** towards unhealthy social practices." [1]
- "Prepare projects aimed to develop an active, **critical and healthy lifestyle**, using their ability to search, organize and process information and being able to present it orally and/or in writing, relying on Information Technology and the Communication." [2]
- "Assessment and acceptance of one's own bodily reality and that of others, and demonstration of a **critical attitude towards unhealthy aesthetic models**." [3]
- "The necessary participation and personal development in the information society and its digital environments means that students must distinguish between a great diversity of contents and must learn to analyse them and become aware of the need to **make critical, safe, legal, healthy, responsible and sustainable use of digital tools**." [4]
- "Learning aimed to maintain a **critical attitude** is presented to identify practices that hinder or benefit **healthy development** and that favour the prevention of risk behaviours and responsible **decision-making** towards behaviours that make up **healthy lifestyles**." [5]
- "Uses new technologies to **collect, analyse, contrast critically** and present, in written or oral form, **information on favourable and harmful**

**habits for health** (such as a sedentary lifestyle, unbalanced diet, tobacco or alcohol)." [5]

1. *Ministerio de Educación, Cultura y Deporte. Real Decreto 126/2014, de 28 de febrero, por el que se establece el currículo básico de la Educación Primaria. BOE. 2014;52:19349-19420.*
2. *Departamento de Educación, Universidad, Cultura y Deporte. ORDEN de 16 de junio de 2014, de la Consejera de Educación, Universidad, Cultura y Deporte, por la que se aprueba el currículo de la Educación Primaria y se autoriza su aplicación en los centros docentes de la Comunidad Autónoma de Aragón. Boletín Oficial de Aragón. 2014;19288-20246.*
3. *Consejo de Gobierno. Decreto 32/2014 de 18 de julio, por el que se establece el currículo de la educación primaria en las Illes Balears. Butlletí Oficial de les Illes Balears. 2014;166(1):33178-33332.*
4. *Departament d'Ensenyament. Currículum educació primària, decret 119/2015, de 23 de juny, d'ordenació dels ensenyaments de l'educació primària. Generalitat de Catalunya. 2017.*
5. *Consejo de Gobierno. Decreto 27/2014, de 5 de junio, que establece el currículo de Educación Primaria en la Comunidad Autónoma de Cantabria. Boletín Oficial de Cantabria. 2014;29:1507-1937.*

### **Semi-structured interviews with key education and health stakeholders**

After the systematic assessment of educational documents and resources, we will conduct semi-structured interviews with key education and health stakeholders. We will explore their experience and perspective regarding teaching and learning critical thinking about health in Spanish primary schools and identify factors that can potentially impact the implementation of the

IHC resources in our setting. We plan to publish the findings in 2024.

### Development and validation of an interactive test



We continue to work on an interactive CLAIM Test, an online interactive test in Spanish with questions from the [Claim Evaluation Tools item bank](#). We have submitted an abstract to the Cochrane Colloquium September 2023 (London, UK) (Box).

#### Development and validation of the interactive CLAIM Test

**Introduction** - The main objective of the Informed Health Choices (IHC) project is to teach people to assess treatment claims and make informed health choices. For this purpose, the Claim Evaluation Tools item bank was developed to measure people's ability to apply the IHC key concepts (concepts that people need to use to assess treatment claims and make informed health choices).

**Objectives – 1)** To develop and validate the interactive CLAIM Test (iCLAIM Test), an online interactive test in Spanish, with questions from the

Claim Evaluation Tools item bank. 2) To measure the ability of Spanish primary school children to assess treatment claims and make informed health choices.

**Methods** - We followed a multistep process to develop the iCLAIM Test, including 1) selection the questions from the Claim Evaluation Tools item bank, 2) direct translation, reconciliation, reverse translation, and final revision of the questions, 3) design the interactive test in an online teaching platform, 4) external review with experts, 5) user-testing with children, 6) validation survey, and 7) adjustment of the test.

**Results** - Two researchers selected 24 multiple-choice questions [MCQ], which addressed the 12 IHC Key concepts included in the IHC primary school resources. Three Spanish researchers, a Spanish translator, and an English translator completed the translation process of the questions into Spanish. One web developer and two researchers designed the online interactive test. Twelve experts (7 researchers, 4 teachers from primary schools, and one designer) reviewed the test, and 11 children participated in the user-testing.

During 2023, we will survey a sample of approximately 300 children from Spanish primary schools to validate de test. Finally, we will adjust the test according to the validation findings.

**Conclusions** - We expect to obtain a validated, online, and interactive test in Spanish to measure the ability of primary school children to assess treatment claims and make informed health choices. After that, we can use the iCLAIM Test to evaluate the effect of health education interventions in primary schools, such as using the IHC resources.

### Catalan version of the IHC primary school resources

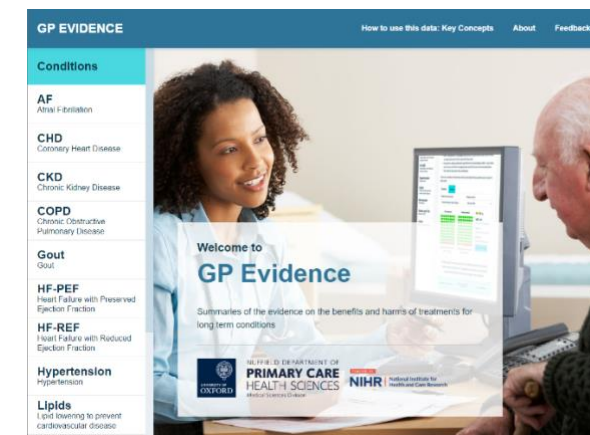
We continue to work on the translation and production of resources into Catalan. We plan to publish the Catalan version in 2023.



**Contacts:** Laura Martínez García, Laura Samsó Jofra, and Pablo Alonso-Coello

## United Kingdom

### GP Evidence



**GP Evidence**, a new website designed by GPs for GPs, was released in the UK in February to improve the accessibility of the evidence on the benefits and harms of treatments from long-term conditions to support more informed decision-making in clinical practice.

It was developed by a GP, Dr Julian Treadwell as a doctoral research project at the University of Oxford. He was motivated by a degree of frustration in his own clinical practice with the difficulty of providing person-centred care in a world increasingly driven by guidelines and performance targets.

The simple idea underpinning the website was that if clinicians had easy access to information on the evidence underlying guideline recommended treatments – for example numerical estimates of the chances of benefits or harms, and the strength of this evidence – they would be more able to discuss the pros and cons of treatments with patients.

Previous research had shown that GPs' baseline knowledge and confidence in this area was low, and that major barriers to finding this information were time and confidence in understanding scientific and statistical terminology.

Therefore, the website was developed using a participatory co-design approach, where GPs were involved in the design process “from the ground up”. Knowledge and techniques of risk

communication and content design were employed.

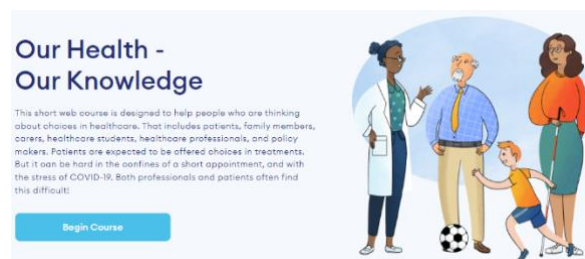
Most of the evidence provided on the website represents best available expert evidence from NICE guidelines and Cochrane reviews. Data collection and curation was supported by an Expert and Patient Steering Committee, comprised of three experts in evidence synthesis and interpretation, and three expert patients.

Dr Julian Treadwell says: “We hope this process has produced a genuinely useful resource which can positively support clinical practice in a world of information overload. The insights gained from this level of user involvement were incredibly valuable and significantly shaped the finished product.”

GP Evidence was funded by the NIHR (UK), is free to all users, and carries no advertising. [Visit the website here.](#)

**Contact:** Julian Treadwell

### **Our Health – Our Knowledge**



We are delighted that [Our Health – Our Knowledge](#) is now live.

This is a short course designed for interested lay people, healthcare students and professionals who are thinking about choices in healthcare. We know that appointment times can be short relative to how much information people might want and need. We also know that people search for information online - but that much of that information is poor quality. This project was co-designed with a lay group and has also been translated into Welsh. It covers areas such as how to critique claims of interventions, bias and risk, screening, end of life healthcare, and patterns of illness and placebos. We hope this will go some way to help people use and interpret health information. We are very grateful to the Welsh Value in Health Centre for support.

**Contact:** Margaret McCartney

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## **United States**

### **Be Health Informed**

***Discover how to make sense of the health and wellness information vying for our attention — and avoid being misled.***

“Be Health Informed” is a STEM-aligned lesson from the [News Literacy Project](#), a nonpartisan education non-profit organisation that seeks

to provide free resources and training to help educators teach news literacy to students and help adults learn how to determine whether information is credible. It is hosted on [Checkology®](#), a free, browser-based virtual classroom.

We make decisions about our health and well-being all the time – from how much we sleep to which treatments we seek out when we get sick to what to do about COVID-19. The stakes couldn't be higher where our health is concerned. The News Literacy Project's "[Be Health Informed](#)" lesson teaches people how to spot health misinformation and discern which sources are credible and based on quality evidence, so they can avoid being misled.

Students who complete "Be Health Informed" will be able to evaluate health and wellness information, explain why we're all vulnerable to health misinformation, list key characteristics of quality health information, and describe common red flags to watch out for when encountering health misinformation.

The lesson is hosted by Dr Melissa Clarke, the former assistant dean of the Howard University College of Medicine and CEO of the Be Health Empowered Group. An adapted version is also available for the [general public](#).

News literacy topics found in "Be Health Informed" include advertisements, bias, conspiratorial thinking, evaluating evidence, fact-checking and verification, misinformation, evaluating science- and data-based claims and social media. Other Checkology lessons focus on these concepts and more.

- Watch a [1-minute video segment](#) from "Be Health Informed."
- [Preview](#) the lesson on Checkology.



*Contact: Pamela Brunskill*

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## International

### Are we using what we are learning?

#### 3ie 15th anniversary

In 2008 when the [International Initiative for Impact Evaluation \(3ie\)](#) was founded, very few people in the development field had heard about impact evaluations as a useful tool to

inform development policy, and very few of these studies had been carried out. There was no need to focus on specific evidence gaps, argued a seminal report published by [Center for Global Development](#) (CGD) with the telling title "[When will we ever learn?](#)", as the development field was simply a huge black hole.

Over the past 15 years, the body of rigorous effectiveness studies—and therefore the evidence available for decision-making—has increased from just a few hundred to over 10,000 (searchable in 3ie's [Development Evidence Portal](#)). Access to relevant, practical, and digestible evidence has also improved a lot over the last 5 years for implementers and decision-makers as organizations like 3ie have developed portals, help-desks, and tools to rapidly synthesize and translate existing evidence. Unfortunately, the good and timely use of this evidence has not taken off to the extent it could have and should have—especially because this evidence can be used to improve lives and ensure (taxpayers') money is well-spent.

To tackle this and other challenges to evidence use, in late 2020, the Center for Global Development (CGD) convened a [Working Group on New Evidence Tools for Policy Impact](#), bringing together government policymakers, multilateral organizations, bilateral aid agencies, and NGOs. The group

## 22 Informed Health Choices

was tasked with 'reviewing recent progress and remaining challenges in the field and formulating recommendations for how to realize the full potential of impact evaluations and other evidence tools as essential elements of evidence-informed policymaking.

One key challenge identified in the group's [final report](#), is that multilateral and bilateral development institutions often lack institutional incentives, consistent signals, and role modelling from leadership on the importance of learning and evidence use. The authors note: "Professional success is still too often measured by project approval and disbursements, as opposed to learning from, acting on, and sharing of evidence [...] Even when evidence generation is prioritized, decision-makers may overlook the methods that are most appropriate and relevant to answering specific policy questions." As pointed out by [Goldman and Pabari](#), "Evidence use needs to be planned for and woven into the institutional culture."

To help address these institutional and structural barriers to improved evidence use, 3ie is joining forces with CGD and jointly organizing a one-day conference on the 24th of May that will focus on best practices for institutionalizing the use of evidence into international development organizations.



**Contact:** Marie Gaarder

### Webinars and meetings

A roundtable discussion of educational interventions to improve primary and secondary school students' ability to make informed health choices took place 10 November 2022. A recording of the webinar can be found [here](#), and information about the six projects that were discussed can be found [here](#).



Several people have suggested we should organise more webinars. If you have suggestions for future roundtables, workshops, or other types of meetings – either virtual or physical (e.g., [at the Cochrane Colloquium](#)) – please let us know.

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