

Case study

Innovative concepts to communicate science

DURING COVID-19

Contributor

Harvard Medical School students

Country of implementation

Global

March 2020

January 2021

Track

Science communication by researchers

Target audience

Medical students and health care professionals

Website

<https://curriculum.covidstudentresponse.org/>

COVID-19 Curriculum

HOME

Medical Student COVID-19 Curriculum

Curriculum Overview

About Us

Translations

Module 1: From Bench to Bedside

Module 2: Epidemiology Principles

Module 3: Health Disparities, Policy Changes, and Socioeconomic Effects in the U.S.

Module 4: Mental Health in the Time of COVID-19

Module 5: Communicating Information about COVID-19

Skillset Review

Science Communication and Misinformation

Advance Care Planning

Cultural Humility & Meeting People Where They Are

Sustaining Constructive Behaviors Over Time

Activity: Putting it to Practice

Summary

Module 6: Training for Potential Clinical Roles

Module 7: Global Innovation and Collaboration

Module 8: Medical Ethics in Relation to COVID-19

COVID-19 Student Response Website

Powered by GitterBook

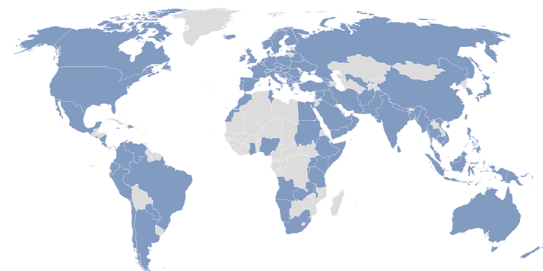
Medical Student COVID-19 Curriculum

Thank you for visiting the COVID-19 Medical Student Curriculum! Due to the wide availability of high-quality resources at the medical student level, we are no longer updating these modules regularly.

Introduction

One of the greatest difficulties facing everyone nowadays is a lack of clarity about what is going on and what lies ahead. We students especially feel a need to deepen our knowledge of the situation, as we are often viewed as resources by our friends and family. However, it soon became clear how challenging it was to process the wealth of information coming our way. A team of us at Harvard Medical School set out to quickly collate and synthesize accurate information about the pandemic to share with those who do not have the time or resources to research it themselves.

Please share these materials with anyone whom you believe may benefit from them. We invite you to sign the **guest book** so we can track this material's reach.



As of January 2021, visitors from over 100 countries have signed the guest book!

This curriculum was written and compiled by Harvard Medical School students. This document is not an official publication of the institution. It is provided for educational purposes only and does not constitute medical advice.

The contents in each module were reviewed for accuracy by expert faculty members at the time of initial publication. We thank them for their attention during this particularly demanding time. However, given our constantly changing understanding of SARS-CoV-2 and the pandemic's spread in society, the material in

Medical Student COVID-19 Curriculum: Free, open access to reliable knowledge on COVID-19, for and by medical students

Summary of the initiative

The Medical Student COVID-19 Curriculum aims to provide medical students and other health care professionals with the latest, evidence-based information about coronavirus disease (COVID-19). The project was initiated by third- and fourth-year students of the Harvard Medical School as a response to the increasing number of requests by friends and family for advice and information on the pandemic. The mission of the initiative is to empower medical students globally "to address the pandemic as budding clinicians, scientists, communicators, and human beings".¹

The curriculum comprises eight modules, which cover the following topics:

- 1) translating the emerging COVID-19 pathophysiology into diagnosis, treatment, and prevention efforts;
- 2) epidemiological principles;

- 3) health disparities, policy changes, and socioeconomic effects in the United States of America (USA);
- 4) mental health in the time of COVID-19;
- 5) communicating information about COVID-19;
- 6) training for potential clinical roles during COVID-19;
- 7) global innovation and collaboration; and
- 8) medical ethics in relation to COVID-19.

While it is recommended to work through the curriculum from start to finish, the modules can also be used individually. Each module comes with a one-page summary of key messages and is supplemented by external resources for further reading.

Above: Screenshot of the welcome page of the Medical Student COVID-19 Curriculum. Credit: Harvard Medical School students.

Context and relevance of the project

As the pandemic hit the USA, Harvard Medical School students faced the challenge of keeping up-to-date with the evolving evidence and news about COVID-19. At the same time, they were a highly sought-after information provider within their social networks. To address this information need, a group of students started to compile and synthesize evidence-based, reliable knowledge about COVID-19 to support other medical students to be a reliable resource for their own fellow students, friends and families.

The team initially developed a four-module curriculum, which was subsequently expanded to eight modules through the support of new team members with additional areas of interest and expertise.

Summary of the analysis



Innovation factors

This project is entirely run by students, demonstrating the potential of peer development of medical education materials. As the content is created by representatives of the target audience, the materials' relevance, scope and level directly meet the needs and background knowledge of the users. Besides, the material is relevant for users from different contexts including:

- preparing for clinical care;
- self-education of leaders before communicating with community members;
- using modules as additional sources in educational settings; and
- retired or non-practising medical professionals wanting to stay informed.

The free, online and open-access format provides access to the curriculum throughout the world.

The modules have been developed with pedagogical rigour including learning objectives, thought-provoking questions, unifying cases, and assessment questions.

The initiative encouraged students to work in areas of their interest, hence allowing them to be part of the pandemic response using their expertise and unique insights as medical students. Online feedback mechanisms allow ongoing quality assurance and updates of the modules as the evidence evolves. The project has empowered medical students to transition from content consumers to generators; create an up-to-date resource with global reach; and assume a new, crucial role in medical education to address the COVID-19 pandemic.

Accuracy of scientific information

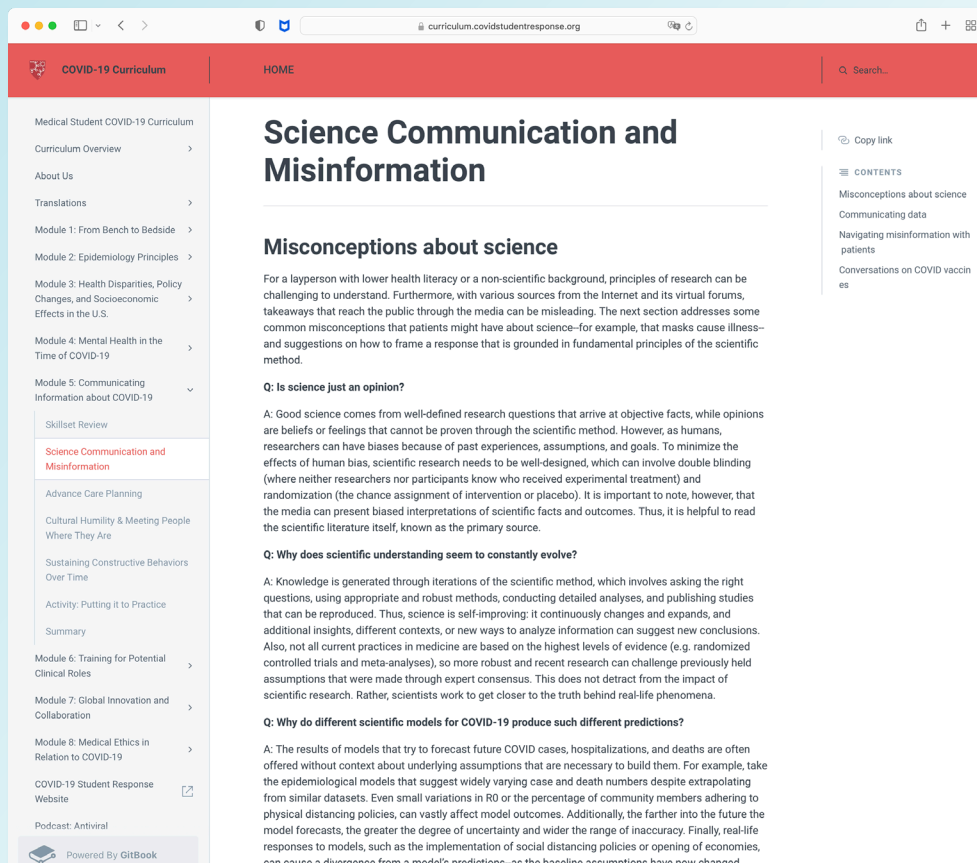
To ensure the accuracy of scientific information covered in the modules, the project team relied on academic literature, predominantly sourced from PubMed. Data, statistics and background facts stem from national and international sources such as the World Health Organization.

Each module was drafted by a student editor and reviewed for scientific accuracy by peers and at least one faculty member. The global health module was produced in collaboration with medical students from low- and middle-income countries to increase its relevance and applicability. The medical ethics module is based on renowned academic, bioethical and philosophical literature.

The team included all sources as in-text citations and hyperlinks for easy access to the primary literature. The option for cross-checking increases the transparency of, and trust in the project.

Timestamps and summary bullet points from the most recent updates help users to easily identify new information. To account for the rapidly evolving evidence on COVID-19, the project team has established a formal editorial structure that allows for regular updates and discussion of controversial topics. The curriculum development workflow is organized in such a way that new information is vetted through several review stages.





Screenshot of a webpage of the Medical Student COVID-19 Curriculum. Credit: Harvard Medical School students.



Impact on knowledge, attitudes and behaviour of the target audience

No formal impact evaluation has been conducted to date. However, the usefulness of the curriculum and its reach is reflected by the following:

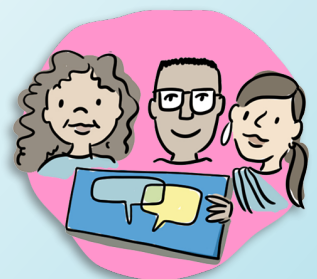
- 32 medical schools in the USA offer the curriculum, or individual modules, for academic credits or as a supplemental resource;
- volunteers translated the curriculum into 26 languages;
- since launch the website has had 217 577 visitors from 132 countries; and
- over 6000 inputs have been received as feedback, including appreciation for:
 - producing open-access, well-referenced and concise resources on COVID-19;
 - fulfilling a specific need for information at the level of health profession students, rather than primary literature or information for the general public; and
 - enabling students to continue learning outside a formal classroom or clinical setting.

Gender equality, equity and human rights considerations

Initially the curriculum was launched in a Google Doc® format. As students living in low- and middle-income countries experienced difficulties in accessing the increasingly large file, the content was transferred to a more accessible website platform.

In addition, the curriculum covers topics such as health disparities and human rights in relation to COVID-19:

- ethical considerations relating to the treatment and care of vulnerable populations including homeless people and children;
- special mental health considerations for at-risk populations such as health care workers, older patients, pregnant women, patients with pre-existing mental health conditions, homeless persons, individuals experiencing intimate partner violence, and several minority communities.



Limitations

The main limitation in the initial project phase was the identification of a platform that could be accessed globally. The current online platform with open access has supported the cause to a large extent. However, it would be valuable to make a hard copy version of the curriculum available for locations without or with limited digital infrastructure.

The overabundance of information and constantly evolving evidence pose a persistent challenge to provide the most up-to-date and accurate information. Revisions and updates have been time-consuming and resource-straining, especially in terms of reviews by faculty members.



Looking forward

At the request of educators across the globe, the team is working on transitioning the material into a case-based format with facilitator guide for in-classroom use.

The project team plans to continue to maintain the curriculum until COVID-19 is controlled globally. The material can then serve as a guide for medical students during future health emergencies.

References

- i. Medical Student COVID-19 Curriculum. About Us (<https://curriculum.covidstudentresponse.org/about-us>).

Illustrations by Sam Bradd

Disclaimers

The World Health Organization (WHO) has invited individuals, institutions, governments, non-governmental organizations or other entities to submit case studies of good practices and innovative solutions in the area of communicating public health science during the COVID-19 pandemic through a public call for submission. WHO has selected a few cases based on a pre-defined rating system and makes such publications publicly available on the WHO website (the "Website").

Contributors (authors) are solely responsible for their contributions, and readers are solely responsible for the interpretation of the posted contributions. The views expressed in the posted contributions are those of the authors and do not necessarily reflect those of WHO.

In no event shall WHO be responsible for the accuracy of information contained in the posted contributions and WHO makes no warranties or representations regarding the completeness or accuracy of any content included in the contributions. WHO shall not be held liable for any damages whatsoever arising out of the use of the contributions. WHO reserves the right to make updates and changes to posted content without notice and accepts no liability for any errors or omissions in this regard.

WHO accepts no responsibility whatsoever for any inaccurate advice or information that may be contained in the contributions or referred to in sources reached via links or other external references to the content of the contributions.

The contributions may contain links to resources on external websites. WHO is not responsible for the accuracy or content of any external link. The presence of any resource or external link in the contributions does not imply that the resource, or its author or entity, is endorsed or recommended by the WHO. These links are provided for convenience only.

The designations employed and the presentation of content in the contributions, including maps and other illustrative materials, do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delineation of frontiers and borders. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted; the names of proprietary products are distinguished by initial capital letters.

Contributions are for use of the WHO and users of the WHO website. Reproduction or translation of substantial portions of the contributions, or any use other than for educational or other non-commercial purposes, require the prior authorization in writing of the relevant author/contributor.

World Health Organization
20 Avenue Appia CH 1211,
Geneva 27
Switzerland

epi-win@who.int

www.who.int/epi-win



World Health
Organization

EPI • WiN