C1.1 "Introduction to Global Health"

Mario Raviglione, Former Full Professor of Global Health, University of Milan, Italy

With contributions from:
Elil Renganathan, Professor of Public Health and Policy, Sunway University, Kuala Lumpur, Malaysia

Andrea Atzori, Head of international relations, Doctors with Africa CUAMM, Padova, Italy
Hannah Monica Dias, Cross-Cutting Lead, WHO DG Flagship Initiative Find.TreatAll, Multisectoral Accountability, TB Elimination and Public-Private Mix to end TB Programme, World Health Organization, Geneva, Switzerland
Raphaël Zaffran, Deputy Director, University of Geneva's Centre for Continuing and Distance Education

Hours & Format

26 hours
11h of video lectures and 15h of exercises

Main Objective

To introduce Global Health as a modern "cross-discipline" for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide emphasizing trans-national key health issues, determinants, and solutions; involving different disciplines within and beyond the health sciences; and promoting inter-disciplinary collaboration**.** To introduce concepts of global health advocacy, communication and relationships with stakeholders and donors. The module also directs participants' attention to the central importance of pre-decision analysis and planning and provides them with various methodologies to use some key tools (problem/decision tree analysis, SWOT analysis), which will help them prepare the groundwork for decision-making, whether on their part or on the part of the decision-makers they advise.

Learning aims

Candidates will become familiar with global health principles, main themes, and the new paradigm in facing health challenges and identifying solutions. They will get a preparatory knowledge for the deeper analysis of the various global health themes addressed by the Master courses. They will also understand the world-wide spectrum of main actors and institutions. They will be exposed to some of the fundamental and key issues in global health. Additionally, they will learn how crucial advocacy, communication and science dissemination are in today global health work. Finally, participants will be exposed to the strategic dimension of policy-making processes and to the key notion that "context matters", helping them develop strategies to moderate

potential barriers (structural, bureaucratic, timing, access, human cognitive biases) that may constrain decision-making processes.

Expected skills gained

Full understanding of global health and its principles and readiness to face the next, deeper level of learning that will constitute the core of the master course.
Essential knowledge of advocacy, communication, science dissemination and capacity to present key topics in global health to stakeholders.
Familiarity with some theories that explain how decisions are made in international policy; understanding for the various individual & organizational biases that may affect decisions; grasp for the 7 steps of the decision-making process; Ability to apply decision-making tools to public health/development projects.

PRE-RECORDED VIDEO LECTURES – 11 HOURS

Prof. Raviglione
6 hours
- What is global health (GH)? Definitions and principles
- Evolution of GH from tropical medicine to public and international health
- Recent phenomena that influenced GH and the future perspectives in the era of the UN Sustainable Development Goals (SDG)
- Principles of the global burden of disease
- The World Health Organization and other GH actors in the international scene

Prof. Atzori
4 hours
- Resource mobilisation to face the greatest global health challenges
- International scenario and trends
- Bilateral donors & Multi-lateral donors & UN agencies
- Private foundations
- Corporate sector and CSR initiatives
- Strategic partnership for resource mobilization
- Fundraising for emergency vs development

Prof. Dias
1 hour
Political Health Advocacy and knowledge dissemination

EXERCISES – 15 HOURS

Prof. Raviglione (with collaboration of Prof. Renganathan)
2 hours
Webinar Focus on the World Health Organization and its functions

Prof. Zaffran
8 hours
Essential Skills in Policymaking" (part I) - The Craft of Decision-making: Processes, Biases & Tools

- Webinar: Introduction: theory & skill-training **2.5 hours**
- Independent work **3 hours**
- Webinar: Group work, Presentations & key take-aways **2.5 hours**

Prof. Dias
3 hours
Webinar Political health advocacy and knowledge dissemination

- Building political momentum and leveraging partnerships
- Transforming technical resources into easy-to-understand and graphic content tailored for key audiences
- Harnessing the power of digital communications and social media

Prof. Atzori
2 hours
Webinar Creating a winning pitch for your project

Bibliography

1. Global Health Essentials. Edited by Raviglione MCB, Tediosi F, Villa S, Casamitjana N, Plasència A. Springer Nature – Sustainable Development Goals series. 2023 (available starting September 2023). ISBN 978-3-031-33850-2
   This new book has been conceived as a practical and handy textbook offering a succinct yet comprehensive overview of the main challenges, issues and solutions in global health in relation to the UN's Sustainable Development Goals (SDG) 2030 Agenda. Coordinated and edited by teachers involved in the Master in Global Health (MGH) at University of Milan, its chapters are written largely by professors teaching at the MGH covering virtually all themes subject of the MGH Course.
2. Skolnik R. Global Health 101 4th Edition. Jones & Bartlett Learning Books, Burlington, MA, USA, 2019.
3. Koplan JP, Bond TC, Merson MH et al. Towards a common definition of global health. Lancet 2009; 373:1993-1995
4. Wernli D, Tanner M, Kickbusch I et al. Moving global health forward in academic institutions. J Global Health 2016; 6 (1): 01049
5. Brown TM, Cueto M, Fee E. The World Health Organization and the transition from "international" to "global" pubic health. Am J Public Health 2006;96: 62-72.

6. Flahault A, Geissbuhler A, Guessus I et al. Precision global health in the digital age. Swiss Med Wkly
7. 2017;147:w14423
8. Khoury MJ, Iademarco MF, Riley WT. Precision public health for the era of precision medicine. Am J Prev
9. Med 2015 (on-line)
10. Jamison DT, Summers LH, Alleyne G et al. Global health 2035: a world converging within a generation.
11. Lancet 2013; 382: 1898-1955
12. Pablos-Mendez A, Raviglione MC. A new world health era. Global Health: Science and Practice. https://doi.org/10.9745/GHSP-D-17-002972018 (published on line 14-3-2018)
13. Abubakar I, Aldridge RW, Mosca DT, et al. UCL-Lancet Commission on Migration and Health: the health of a world on the move. Lancet 2018. https://www.thelancet.com/commissions/migration-health
14. Lancet Migration platform: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30107full text
15. Charitable giving in the USA, an overview of individual giving in the USA, the Charities Aid Foundation of America 2019
16. The SDG Giving Landscape An insight into philanthropic giving to the SDGs, Charities Aid Foundation of America 2019
17. CAF WORLD GIVING INDEX, Ten years of giving trends - October 2019, the Charities Aid Foundation 2019

C1.2 "Quantitative methods in global health: epidemiology & biostatistics"

Giovanni Sotgiu, Clinical Epidemiology and Medical Statistics Unit Department of Medical, Surgical and Experimental Sciences University of Sassari, Italy
Maria Cristina Monti, Department of Public Health, Experimental and Forensic Medicine, Unit of Biostatistics and Clinical Epidemiology, University of Pavia, Pavia, Italy

Hours & Format

48 hours
20h of video lectures and 28h of exercises.

Main Objective

To describe statistical and epidemiological methods adopted in the global health research.

Learning aims

Main basic elements used in the statistical and epidemiological research.

Expected skills gained

To be familiar with the principles of the medical statistics and epidemiology; to know the statistical and epidemiological terminology adopted in the scientific research to describe populations and samples.
To possess adequate knowledge on the statistical inference, and on the methodological tools adopted to understand the design of a scientific study. To use basic statistical and epidemiological techniques for the appropriate interpretation of the findings of a scientific study.

PRE-RECORDED VIDEO LECTURES – 20 HOURS

Prof. Sotgiu
10 hours

- Evidence-based medicine
- Observational studies
- Experimental studies
- Design of a scientific study
- Epidemiological indicators

Prof. Monti
10 hours

- Descriptive statistics, plots and tables
- Central tendency and variability indicators
- Population and sample and hypothesis testing
- Inference - how to interpret statistical models output
- Descriptive and inferential statistics using Excel and Jasp

EXERCISES – 28 HOURS

Prof. Sotgiu
14 hours

- **Webinar** Introduction **2 hours**
- **Groups' assignment** homework **10 hours**
- **Webinar** presentation and feedback of groups' assignment **2 hours**

Prof. Monti
14 hours

- **Webinar** Introduction to statistical softwares **2 hours**
- **Groups' assignment** homework **10 hours**
- **Webinar** presentation and feedback of groups' assignment **2 hours**

Bibliography

1. Charles H Hennekens, Julie E Buring, Sherry L Mayrent. Epidemiology in Medicine. Blackwell's (Oxford, OX, Regno Unito)
2. Pagano M, Gauvreau K, Mattie H. (2022). Principles of Biostatistics 3rd edition. Taylor & Francis LTD
3. Daniel WW and Cross CL (2018). Biostatistics: a foundation for analysis in the health sciences, 11th edition. WILEY
4. https:// www.bmj.com/about bmj/resources readers/publications/statistics square one

C1.3 "Research, evidence and policy making"

Paola Muti, Full Professor of Health Research Methodology and Scientific Coordinator of the Centre for Chronic Disease Clinical Research at the University of Milan
Bogomil Kohlbrenner, Institute of Global Health, University of Geneva, Geneva, Switzerland
Charles Palmer Larson, Director McGill University Global Health Program, Montreal, Canada
Christian Lienhardt, Institut de Recherche pour le Développement, University of Montpellier, France
Holger Schünemann, McMaster University, Hamilton, ON, Canada
Raphaël Zaffran, Deputy Director, University of Geneva's Centre for Continuing and Distance Education

Hours & Format

48hours
20h of video lectures and 28h of exercises.

Main Objective

Developing competences in health research approaches along a continuum from fundamental to clinical trial methods and operational research to build evidence and translate it into policies responding to major global health challenges. Developing competences in basic study methodology such as measure of event frequency, measure of risk, errors in measurements, study validity and different study designs, from the quantitative and qualitative spectrum of research. In particular, two general strategies will be discussed for the assessment of association (between exposure and health conditions) in observational studies: a) studies using populations or groups of individuals as units of observation -the so-called ecologic studies; and b) studies using individuals as observational units, which include the prospective and retrospective cohort, the case-control, and the cross-sectional study designs. Understanding the principles governing the preparation, conduct and analysis of clinical trials for investigation of new products or intervention strategies and their implications for policy making**.** This module will also help participants gain and consolidate skills in communicating & convincing systematically through learning about the art of writing effective policy & strategic memos. This constitutes a key tool for participants to be able to articulate issue backgrounds and formulate policy options & recommendations within given public health/development projects.

Learning aims

A student should be able to identify approaches where research will successfully contribute to building new evidence, select the appropriate methods, set-up and plan operational field research and clinical and intervention trials to inform policy making and improve population's health.
A student should be able to define different methods to assess disease frequency and its distribution in population as well as determinants of health conditions. In addition, she/he will be able to understand the concepts of risk of disease, attributable risk and their application in population studies and public health.
A student should understand the objectives of a memo and the contexts in which they are most effectively used and know some of the best practices and common mistakes in writing memos.

Expected skills gained

Vision on various dimensions defining health problems, identification of methodologies and application of research to face field problems, capacity to assess evidence through systematic reviews and GRADE system for rating guidelines and develop evidence-based policies. Ability in critical reading of observation studies literature and interpretation of data. Ability to perform computations commonly used in epidemiology and to derive rough estimates of association between exposure and disease. Ability to assess internal and external validity of observational studies. Ability to evaluate implementation of health interventions by integrating the approach responding to "what works, for whom, in what respects, to what extent, in what contexts, and how?" with health staff in context and with beneficiaries. Ability to write concise professional memoranda to senior management and apply the memorandum methodology to the assessment of public health/development projects.

PRE-RECORDED VIDEO LECTURES – 20 HOURS

Prof. Lienhardt
5 hours

- The continuum of research: from fundamental investigations to clinical trials, operational and policy research **2 hours**
- Clinical trials: aims, type/phases, design, safety, ethical issues, administration **3 hours**

Prof. Muti
4 hours
Observational studies: case-control, cohort, retrospective studies, cross-sectional studies

Prof. Schunemann
4 hours

- Systematic reviews 1 hour
- Meta-analysis **1 hour – this lesson is on Pdf slides ONLY**
- GRADE system: certainty of evidence **1 hour**
- GRADE system: developing guidelines **1 hour**

Prof. Kohlbrenner
3 hours

- Anthropology and OR **1 hours**
- Realist evaluation **1 hours**
- eSwatini diagnostic project experience **1 hour** *(with the support of Dr. Thavisha Gunaratne)*

Prof. Larson
4 hours
Integrated Innovation **1 hours**
TTS Overview making a promise a reality, or the sequence: Proof of Concept-Transitioning to Scale (focus on L/MICs)-Health Policy/Scaling up **1 hours**
Case studies: Zinc treatment of childhood diarrhea and Post sepsis discharge on under-five children **1 hours**
Critical appraisal of TTS proposals **1 hours**

EXERCISES – 28 HOURS

Prof. Lienhardt
2 hours Webinar **(Q&A on lectures)** Designing a protocol for a clinical trial: the essential

Prof. Muti
Critical Evaluation of evidence produced by observational studies with particular emphasis on chronic diseases
Introductory **webinar** Introduction **1 hour**
Homework **6 hours**
Webinar final discussion **2 hours**

Prof. Schunemann
2 hours Webinar **(Q&A on lectures)** Producing Guidelines through the GRADE system

Prof. Kohlbrenner
1 hour Webinar Anthropology and Operational Research

Prof. Larson
1 hour preparing as well as appraising TTS proposals in terms of impact, feasibility, sustainability, and policy implications
4 hours homework
2 hours Webinar discussion and feedback

Prof. Zaffran
"Essential Skills in Policymaking" (part II) "The Art of Writing Policy Memos: Writing & Communicating Efficiently"
Webinar: Introduction: theory & skill-training **2 hours**
Indipendent work: **3 hours**
Webinar: Group work, discussion & conclusions **2 hours**

Bibliography

1. Bradley, et Al. Operations Research in Global Health: A Scoping Review with a Focus on the Themes of Health Equity and Impact'. *Health Research Policy and Systems*15, no. 1 (December 2017).https://doi.org/10.1186/s12961-017-0187-7.
2. Nguefack et Al Estimating Mother-to-Child HIV Transmission Rates in Cameroon in 2011: A Computer Simulation Approach'.*BMC Infectious Diseases* 16 (12 January 2016).https://doi.org/10.1186/s12879-016-1336-2.
3. Fink, A, 'Consensus Methods: Characteristics and Guidelines for Use.'*American Journal of Public Health* 74, no. 9 (September 1984): 979–83.
4. Crowe, Sonya, et al. "Improving the production of applied health research findings: insights from a qualitative study of operational research." *Implementation Science* 12.1 (2017): 112.
5. Marchal, Bruno, et al. "Is realist evaluation keeping its promise? A review of published empirical studies in the field of health systems research." *Evaluation* 18.2 (2012): 192-212.
Joralemon, D. (2017). What is so cultural about disease? (p1-12) in *exploring medical anthropology*. Taylor & Francis.
6. Nicholas Kitchen, "Systemic Pressures and Domestic Ideas: A Neoclassical Realist Model of Grand Strategy Formation," *Review of International Studies* 36, no. 1 (2010)
7. Jack S. Levy, "Prospect Theory, Rational Choice, and International Relations," *International Studies Quarterly* 41, no. 1 (March 1, 1997): 87–112
8. Garland, Howard. "Throwing Good Money after Bad: The Effect of Sunk Costs on the Decision to Escalate Commitment to an Ongoing Project." *Journal of Applied Psychology* 75, no. 6 (1990): 728–31.
9. Heath, Chip. "'Escalation and De-Escalation in Response to Sunk Costs: The Role of Budgeting in Mental Accounting.'" *Organizational Behavior and Human Decision Processes* 62, no. 1 (1995): 38–54.
10. Janis, Irving Lester. *Groupthink: Psychological Studies of Policy Decisions and Fiascoes*. Houghton Mifflin, 1982.
11. Kahneman, Daniel, and Amos Tversky. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47, no. 2 (1979): 263–92.

C1.4 "Health data generation, analysis and use"

Charalampos (Babis) Sismanidis, PhD Medical Statistics, Team Lead "Surveillance, epidemiological studies, data for action", Global TB Programme, WHO, Geneva
Giovanni Piumatti, PhD in Psychology, Researcher in Social Sciences Fondazione Agnelli, Torino
Giorgia Gon, PhD in Epidemiology, London School of Hygiene and Tropical Medicine
Antoine Flahault, Director, Institute of Global Health, University of Geneva, Switzerland
Nimalan Arinaminpathy, D.Phil in Applied Mathematics, Team Lead in TB Monitoring, Evaluation and Strategic Information, Global TB Programme, WHO, Geneva. Professor in Mathematical Epidemiology at Imperial College London

Hours & Format

38 hours
20h of video lectures and 18h of exercises.

Main Objective

To understand the different types of health data (routine surveillance, epidemiological studies, randomized trials), how they are generated, what objectives they address when used, and the key principles of their analyses. The digitization of data through specialised software and their analysis will be a special focus. Case studies will be presented as examples to promote the understanding of key concepts.

Learning aims

Defining the main categories of health data and the objectives they address when used, with examples.
surveillance data: planning, monitoring programmatic performance, evaluating progress towards set targets, measuring impact, measuring burden, detecting and addressing outbreaks, identifying risk factors and comorbidities.
medical records data: providing patient-centred health care and clinical management.
periodic studies and surveys: burden estimation.
other research data: answering hypotheses.

- Defining key design principles for the main categories of health data, with examples.
    - routine surveillance systems: civil and vital registration systems (mortality), TB case notification systems (incidence);
    - research data: observational studies and cross-sectional surveys (population-based and health facility-based), interventional studies (key epi study designs: cohort, case-control, trials: clinical and cluster-randomised, implementation and operational research studies).

Explaining the rational of M&E for planning, monitoring and evaluation, and the importance of measuring results (outcomes, and impact vs. other categories); learn how district-based surveillance & monitoring systems are the basis for global burden estimates. Defining different types of study designs for evaluation and having a general sense on how data underpin modelling of global estimates.
Appraising, comparing, and applying the basic concepts of Monitoring and Evaluation (M&E) with the preparation of and implementation of group work – from examples of real-life programs identify what design can be used and suitable indicators should be monitored to evaluate the effectiveness of distinct public health interventions.

Expected skills gained

Demonstrate a basic understanding of the different types of health data and how they are used. Apply knowledge of study design to answer a research question. Use basic M&E skills in the context of a country situation.

PRE-RECORDED VIDEO LECTURES – 20 HOURS

Prof. Sismanidis

8 hours

- Introduction to module and structure **1 hour**
- Main categories of health data and the objectives these address **1 hours**
- Introduction to the epidemiology of TB, global framework (end TB strategy), prevention and care pathway **2 hours**
- Key principles of routine surveillance systems, including monitoring & evaluation, for TB **2 hours**
- Digital surveillance systems for TB: advantages, software specific and software agnostic examples, lessons learnt from implementation and national rollout, sustainability **2 hours**

Prof. Gon

4 hours

- Key principles of different types of evaluation design studies **4 hours**
  - Ecological and cross-sectional
  - Cohort and case-control
  - Randomised controlled trials
  - Quasi-experimental designs

Prof. Piumatti

6 hours

- Overview of most popular available software for quantitative data analysis in demography (e.g., R, Stata, SAS): pros and cons. Introduction to Stata v. 16 – Part I: Overview of basic commands for data management and descriptive analyses **2 hours**
- Introduction to Stata v. 16 – Part 2: Overview of basic commands for data manipulation with a focus on missing values treatment **2 hours**

- Introduction to 'The Demographic Health Surveys' (DHS) data sources: What are they and what can they be used for? **1 hour**
- Limitations of population-based surveys in comparison to surveys targeting specific key populations **1 hour**

ARINAMINPATHY, Nimalan
2 hours
WHO methods to estimate the global TB burden: using clinic- and district-based data, surveys and other approaches to inform modelling of global tuberculosis estimates of incidence, prevalence, mortality and drug resistance.

EXERCISES – 18 HOURS

Prof. Sismanidis & Prof. Piumatti ***(6 hours assigned to Sismanidis & 6 hours assigned to Piumatti)***
12 hours

- **Webinar** to introduce joint assignment **1 hour**
- **Groups' assignment** homework **8 hours**
- **Webinar** feedback to group assignments **3 hours**

Prof.Gon
3 hours

- **Study design live workshop**: using live group work, it will be consolidated the learning on pre-recorded videos dealing with study designs.

Prof. Flahault
2 hours
Webinar Precision epidemic forecasting: the case of Covid-19 and other epidemics

Prof. ARINAMINPATHY, Nimalan
1 hour
Webinar interactive session on the use of routine surveillance for evaluation, example of the cohort analysis of TB treatment outcomes; blind areas unanswered within routine surveillance such as: what is the gap between notifications and incidence? what is the proportion of wrong clinical diagnoses of TB? How many routinely notified TB cases die from TB? Elaboration on evaluation questions that can be answered within routine data systems and others that cannot and require an external source of data from a research study.

Bibliography

1. World Health Organization. The End TB Strategy. Geneva: WHO; 2015 (https://www.who.int/publications/i/item/WHO-HTM-TB-2015.19).
2. Sustainable Development Goals [website]. New York: United Nations; 2022 (https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals).
3. Resolution 73/3: Political declaration of the high-level meeting of the General Assembly on the fight against tuberculosis. New York: United Nations General Assembly; 2018 (https://www.who.int/publications/m/item/political-declaration-ofthe-un-general-assembly-high-level-meeting-on-the-fight-against-tuberculosis).
4. World Health Organization. Global Tuberculosis Report 2022. Geneva: WHO; 2022 (https://www.who.int/tb/publications/global_report/en/).
5. Developing and Evaluating Complex interventions. Medical Research Council. Updated version: 2019. https://mrc.ukri.org/documents/pdf/complex-interventions-guidance/
6. Charles H Hennekens, Julie E Buring, Sherry L Mayrent. Epidemiology in Medicine James R M Hargreaves, Catherine Goodman, Calum Davey, Barbara A Willey, Bilal Iqbal Avan, Joanna, RM Armstrong Schellenberg, Measuring implementation strength: lessons from the evaluation of public health strategies in low- and middle-income settings, *Health Policy and Planning*, Volume 31, Issue 7, September 2016, Pages 860–867, https://doi.org/10.1093/heapol/czw001
7. Oza S, Sesay AA, Russell NJ, et al. Symptom- and Laboratory-Based Ebola Risk Scores to Differentiate Likely Ebola Infections. *Emerg Infect Dis*. 2017;23(11):1792–1799. doi:10.3201/eid2311.170171 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5652431/
8. AbouZahr C, Boerma T, Hogan D. Global estimates of country health indicators: useful, unnecessary, inevitable?. *Glob Health Action*. 2017;10(sup1):1290370 doi:10.1080/16549716.2017.1290370

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C1.5 "Global burden of Disease"

Benedetta Armocida, MD, MSc Senior Researcher, Department of Cardiovascular, Endocrine-metabolic Diseases and Aging Istituto Superiore di Sanità-ISS, Rome, Italy, PhD Candidate in Global Health Institute of Global Health, University of Geneva

And contributions from previous module coordinator:

Richard Skolnik, Former Lecturer, Health policy and Management Department, Yale School of Public Health and Lecturer in the Practice of Management, Yale School of Management, New Haven, USA

Hours & Format

24 hours
10h of video lectures and 14h of exercises.

Main Objective

By the end of this module, students should have a comprehensive understanding of the Global Burden of Disease (GBD) study, including its historical development, methodological approaches, and practical applications. They will be able to analyze and interpret GBD data, utilize key GBD tools, and apply these insights to inform public health policy and research initiatives.

Learning aims

- Provide an overview of the Global Burden of Disease (GBD) and its significance in public/global health.
- Familiarize students with the history and development of GBD studies and the GBD Collaborator Network.
- Teach the fundamental measures used in GBD studies, including YLDs, YLLs and DALYs.
- Introduce key GBD data visualization tools and resources, and demonstrate their practical applications.
- Develop skills to interpret GBD data and understand its implications for public/global health policy and practice.
- Examine case studies to contextualize GBD findings and their real-world impact.

Expected skills gained

- Proficiency in using GBD tools such as GBD Compare, GBD Results, GHDx, and Methods Appendices.
- Ability to articulate the burden of disease globally, including causes of deaths, YLLs, YLDs, and DALYs.
- Competence in identifying and analyzing key risk factors and determinants of health.
- Skill in assessing differences in disease burden across countries, income groups, and regions.
- Capability to prepare policy briefs and other documents based on GBD data.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Dr. Benedetta Armocida
With contributions by Prof. Richard Skolnik

Session 1: GBD Overview and Measures (1 hour)

- Objective: Introduce the basic concepts of the GBD framework and its historical background.
- Content: History of Burden of Disease studies, GBD Collaborator Network, measures like YLDs, YLLs, DALYs, prevalence, incidence, and GBD structure.
- Learning Objectives: Discuss the concept of "the burden of disease" and its measures.

Session 2: GBD 2021 Findings and Policy Implications (1 hour)

- Objective: Present key findings from GBD 2021 and discuss their policy implications.
- Content: Overview of GBD 2021 findings, visualization and data tools, and public health implications.
- Learning Objectives: Familiarize with GBD 2021 findings and understand their practical applications.

Session 3: GBD Tools Practice (1 hour)

- Objective: Develop proficiency in using principal GBD tools.
- Content: Practical use of GBD Compare, GBD Results, GHDx, and Methods Appendices.
- Learning Objectives: Comfortably use GBD Compare and principal GBD tools.

Session 4: Burden of Deaths in Practice (1 hour)

- Objective: Learn about the leading causes of death and their variation by demographics.
- Content: Leading causes of deaths by age, sex, country income groups, and over time.
- Learning Objectives: Articulate the global burden of deaths by various demographics and changes over time.

Session 5: Burden of YLDs and YLLs in Practice (1 hour)

- Objective: Understand the leading causes of YLDs and YLLs and their demographic variations.
- Content: Leading causes of YLDs and YLLs by age, sex, time, and country income groups.
- Learning Objectives: Articulate the global burden of YLLs and YLDs by various demographics and changes over time.

Session 6: Burden of DALYs in Practice (1 hour)

- Objective: Learn about the leading causes of DALYs and their demographic variations.
- Content: Leading causes of DALYs by age, sex, time, and country income groups.

- Learning Objectives: Articulate the global burden of DALYs by various demographics and changes over time.

Session 7: Burden of Risk Factors in Practice (1 hour)

- Objective: Identify key risk factors and determinants of health.
- Content: Definitions and key risk factors for the burden of disease by demographics.
- Learning Objectives: Identify determinants of health and key risk factors for the burden of disease.

Session 8: GBD Country Differences (1 hour)

- Objective: Assess differences in disease burden across countries and regions.
- Content: Burden of disease for countries based on income and macro regions, policy implications, future changes.
- Learning Objectives: Assess further burden of disease studies, focus on country differences, and outline policy briefs by location.

Session 9: Case Study: Diabetes (1 hour)

- Objective: Review the global burden of diabetes and its policy implications.
- Content: Burden of diabetes globally over time, policy implications of diabetes data.
- Learning Objectives: Outline the global burden of diabetes and its policy implications.

Session 10: Case Study: NCDs Burden among adolescents in the EU (1 hour)

- Objective: Examine the burden of NCDs among EU adolescents and policy implications.
- Content: Burden of NCDs among EU adolescents over time, policy implications, developing studies within GBD.
- Learning Objectives: Develop studies within GBD as a Collaborator, outline the burden of NCDs among adolescents and its policy implications.

EXERCISES – 14 HOURS

Dr. Benedetta Armocida

- **Webinar 1** (2 hours): Introduction to the module objectives, an overview of the assignment, and a discussion of key points and student questions. A special segment will feature a discussion with an expert from GBD.
- **Homework** (8 hours): Individual assignment – Policy brief.
- **Webinar 2** (2 hours): Discussion with GBD experts, focusing on the estimation of diabetes within the GBD and the GBD subnational estimates for Italy.
- **Webinar 3** (2 hours): Revision of the assignments (policy briefs) in plenary.

Bibliography

The students should read the papers from the 2021 Burden of Disease Study for their main points.
They should familiarize themselves at a fundamental level with comments in the papers on methodology, key data points, and the implications of the data

Link to main papers in one place:
https://www.healthdata.org/search?search_api_fulltext=&f%5B0%5D=content_type%3Ascientific_publication

1. GBD 2021 Forecasting Collaborators. Burden of disease scenarios for 204 countries and territories, 2022–2050: a forecasting analysis for the Global Burden of Disease Study 2021. *The Lancet.* 16 May 2024. doi: 10.1016/S0140-6736(24)00685-8.
2. GBD 2021 Risk Factors Collaborators. Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet. 16 May 2024. doi: 10.1016/S0140-6736(24)00933-4.
3. GBD 2021 Diseases and Injuries Collaborators. Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet. 17 April 2024. doi: 10.1016/S0140-6736(24)00757-8.
4. GBD 2021 Causes of Death Collaborators. Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet. 3 April 2024. doi: 10.1016/S0140-6736(24)00367-2.
5. GBD 2021 Demographics Collaborators. Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: a comprehensive demographic analysis for the Global Burden of Disease Study 2021. The Lancet. 11 March 2024. doi: 10.1016/S0140-6736(24)00476-8.
6. GBD 2021 Diabetes Collaborators. Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet. 22 June 2023. doi: 10.1016/S0140-6736(23)01301-6.
7. Armocida B, Monasta L, Sawyer S, et al. Burden of non-communicable diseases among adolescents aged 10-24 years in the EU, 1990-2019: a systematic analysis of the Global Burden of Diseases Study 2019. Lancet Child Adolesc Health. 2022;6(6):367-383. doi:10.1016/S2352-4642(22)00073-6
8. Five insights from the Global Burden of Disease Study 2019 Murray, A. The Lance (British Edition) Volume 396, Issue 10258, October 2020, Pages 1135 – 1159 https://doi.org/10.1016/S0140-6736(20)31404-5
9. The evolution of the disability-adjusted life year (DALY) Ariel Chen, Kathryn H. Jacobsen, Ashish A. Deshmukh, Scot t B. Cantor Socio-Economic Planning Sciences Volume 49, March 2015, Pages 10-15 https://doi.org/10.1016/j.seps.2014.12.002
10. Italy health performance, 1990-2017: findings from Global Burden of Disease Study 2017 https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(19)30189-6/ fulltext
11. Monasta L, Alicandro G, Pasovic M, et al. Redistribution of garbage codes to underlying causes of

death: a systematic analysis on Italy and a comparison with most populous Western European countries based on the Global Burden of Disease Study 2019 [published correction appears in Eur J Public Health. 2022 Apr 1;32(2):331. doi: 10.1093/eurpub/ckac021]. Eur J Public Health. 2022;32(3):456-462. doi:10.1093/eurpub/ckab194

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C1.6 "Social and economic determinants of health"

Eduardo Missoni, Adjunct Professor, Università Bocconi

Hours & Format

24 hours
10h of video lectures and 14h of exercises.

Main Objective

The purpose of the course is to introduce students to the social and economic determinants approach to health.

Learning aims

At the end of the course students should be familiar with concepts, issues and policies related with a social determinants approach to health.

Expected skills gained

Ability to critically analyse the biomedical approach to health and the underlying societal model and identify main determinants of health and possible strategies to face the challenge.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. Missoni
10 hours

- Introduction to the determinants of health **2 hours**
- Daily living conditions throughout life-course **2 hours**
- Global socio-economic and political context **2 hours**
- The urban-rural transition **2 hours**
- The environmental challenge **2 hours**

EXERCISES – 14 HOURS

Prof. Missoni

14 hours

- **Webinar** introduction to the course and to group assignment **2 hours**
- **Groups' assignment** Homework – "Covid-19 and the political economy of Infectious Diseases and epidemics". Groups must go through the specific reading indicated in Bibliography (the political economy of Infectious Diseases and epidemics) than research on the current pandemic and produce a 10-minutes presentation commenting on how – in their view - Covid19 and the global response is related to social, economic, and environmental determinants **6 hours**
- **Exercise –** Reading The food system and its transformation
  Students must go through the specific readings indicated in Bibliography.
  Reflect on the question: "Which are the determinants of the transformation of the food system and how is this reflected in population health and global burden of disease?" **1 hour**
- **Exercise –** Reading Cancer and its societal determinants
  Students must go through the specific readings indicated in Bibliography Reflect on the question:
  "Along which pathways societal structure and development model act as a determinant of cancer?" **1 hour**
- **Exercise – Health and healthcare: sustainability and the global agenda**
  Students must go through the specific readings indicated in Bibliography **1 hour**
- **Webinar** Feedback on "food-system", "cancer" and "healthcare sustainability" Webinar to provide feedback and discussion on individual reading assignment **1 hour**
- **Webinar** Presentation Group assignment on "The political economy of Infectious Diseases and epidemics". Each group will present its analysis on how Covid-19 and the global response are related to social, economic, and environmental determinants. Discussion will follow **2 hours**

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

Bibliography

Readings related to video lectures

1. Marmot, M. et al. Closing the gap in a generation: health equity through action on the social determinants of health. *Lancet* 2008; 372: 1661–69

2. Landrigan, P.J. et al. The Lancet Commission on pollution and health. *Lancet* 2018; 391: 462–512

3. Whitmee, S. et al. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health. *Lancet* 2015; 386: 1973–2028

Readings related to assignments

4. Missoni, E., Pacileo, G, Tediosi, F. Global Health Governance and Policy: An Introduction. Abingdon, Routledge, 2019.

Group Assignment

5. "The political economy of Infectious Diseases and epidemics" – read Chapter 11.3

Assignment

6. "The food system and its transformation" – read Chapter 11.4

7. Luzzati, T., Parenti, A, Rughi, T. Economic Growth and Cancer Incidence. *Ecological Economics,* 2018, 146:381-396.

8. Assignment:
"Cancer and its societal determinants"Missoni, E. Global Health Determinants and Limits to the Sustainability of Sustainable Development Goal 3.In: Flahaut, A. (ed.) *Transitioning to Good Health and Well-Being,* MDPI, 2021

Assignment and Webinar: Development, health and healthcare: sustainability and the global agenda

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C1.7 "The UN Sustainable Development Goals (SDGs) from a multidisciplinary perspective"

Stefano Bocchi, University of Milan, Italy
Ariel Pablos-Mendez, Columbia University, New York, NY, USA

In collaboration with:
Roberto Bertollini, MD MPH, Advisor to the Minister of Health of Qatar and Member of the Scientific Committee on Health, Environmental and Emerging Risks of the European Commission
Emanuela Parotto, MD, Anaesthesia consultant, Padua's University Hospital, Italy; PhD candidate, Global Surgery Institute, Dublin, Ireland
With contributions from:
Daniela Lucini, Dept. of Medical Biotechnology and Translational Medicine, University of Milan
Vittorio Ingegnoli, Dept. of Environmental Science and Policy, University of Milan
Caterina La Porta, Dept. of Environmental Science and Policy, University of Milan
Silvana Galassi, Dept.Ecology, University of Milan
Luciano Pilotti, Dept. of Environmental Science and Policy, University of Milan
Antonio Longo, Dept. of Architecture and Urban Studies, DASTU – Politecnico Milan, Italy
Laura Piazza, Dept. of Environmental Science and Policy, University of Milan
Maurizio Maugeri, Dept. of Environmental Science and Policy**,** University of Milan
Guglielmina Diolaiuti, Dept. of Environmental Science and Policy, University of Milan
Marilisa D'Amico, Dept Italian and Supranational Public Law, University of Milan
Alberto Battezzati, Dept. of Food, Environmental and Nutritional Sciences, University of Milan
Ilenia Rossetti, Dept. Chemestry, University of Milan
Donne in Global Health

Hours & Format

38 hours
20h of video lectures and 18h of exercises.

Main Objective

To enable students to understand and value genesis, context and progress of the U.N. SDGs through a multidisciplinary didactic approach.

Learning aims

Students learn an appreciation of the historical MDGs and focus their learning on the evidence and diplomacy involved in setting the SDGs, the metrics and resources in advancing them, with emphasis on goals # 2 & 3 but also all other health-relevant SDGs, and the international arrangements to support and hold actors accountable. The multidisciplinary approach provided by teachers from numerous fields outside that of health the overall aim is a full understanding of integrated approaches to major global health issues and the need to act across disciplines and sectors to achieve results.

Expectedskillsgained

While the course is introductory to several disciplines and sectors, students will gain a deeper knowledge of the SDGs, an appreciation of the values of equity behind them, an understanding on how advances in other disciplines and sectors are crucial for global health, and the evidence and negotiating skills involved in policy development at the international level. Given their crucial importance, students will become familiar with the "agri-food" system model for sustainable nutrition-sensitive agriculture, as well as with the impact of climate changes on population health.

PRE-RECORDED VIDEO LECTURES– 20 HOURS (+ 1 HOUR OPTIONAL)

Prof.Pablos-Mendez and Dr. Emanuela Parotto

4 hours

- The MDGs: history, evidence and impact **1 hour**
- The SDGs: history, significance, change of paradigm, the 17 goals and 169 targets **1 hour**
- Universal Health Coverage (UHC) as a key contributor to achieving the SDG: history, meaning, status in the world **1 hour**
- UHC: the battle to raise it as a global priority **1 hour**

Prof.Bocchi

16 hours

- Agrofood system, old and new paradigms – The green revolution and the seed base **1 hour**
- SDG 2 Zero hunger and sustainable agriculture - food security **1 hour**
- SDG 3 Good health and wellbeing – Lifestyles Daniela Lucini **1 hour**
  Diets and Human Health – big data - Caterina La Porta **2 hours**
- SDG 6 Clear water and sanitation – Silvana Galassi **1 hour**
- SDG 7 Affordable and clean energy – Ilenia Rossetti **1 hour**
- SDG 8 Decent work and economic growth – Luciano Pilotti **1 hour**
- SDG 11 Sustainable cities and communities – Antonio Longo **1 hour**
- SDG 12 Responsible consumption and production – Stefano Bocchi **1 hour**
- SDG 13 Climate Action – Maurizio Maugeri **2 hours**
- SDG 13 Climate Action – Guglielmina Diolaiuti **1 hour**
- SDG 16 Peace, justice and strong institutions – Marilisa D'Amico **1 hour**
- Agri-food system model for sustainable nutrition-sensitive agriculture – Laura Piazza **1 hour**
- SDG5 Women in GH Gender: Equity Their health, their rights: an intersectional journey towards gender equity **1 hour**

EXERCISES – 18 HOURS

Combined Webinar: putting everything together
Prof.Bocchi, Prof. Bertollini, Prof. Pablos Mendez and Dr. Emanuela Parotto
11 hours

- **Webinar** day 1presentation of the module and assignment **1 hour**
- **Groups' assignment** homework **8 hours**
  - ✓ Establish 4-5 working groups
  - ✓ identify a country per group
  - ✓ identify any SDGs significant impact on health for the countries selected
  - ✓ discuss progress
  - ✓ challenges and solutions/strategies with a major impact on health to reach the SDG #3 targets
- **Webinar** combined round table Bocchi – Bertollini – Pablos Mendez with feedback to groups' assignment **2 hours**

Prof. Bocchi and Battezzati
2 hours
Webinar focus on Diets and Health **–** Alberto Battezzati

Prof.Pablos-Mendez and Dr. Emanuela Parotto
1 hour
Webinar The transition from MDGs to SDGs**,** the policy road to the SDGs and the UHC movement. Q&A

Prof. Bertollini
4 hours
Webinars on climate change and health

- Direct and indirect effects: challenges at global and national levels **2 hours**
- Adaptation and Mitigation: modernizing the public health agenda **2 hours**

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

Bibliography

1. Transforming our world: the 2030 Agenda for Sustainable Development". *United Nations – Sustainable Development knowledge platform*. Retrieved 23 August 2015.
2. Pablos-Mendez A, Raviglione MC. A new world health era. Global Health: Science and Practice. https://doi.org/10.9745/GHSP-D-17-002972018 (published on line 14-3-2018)
3. Orlando F., Spigarolo R., Alali S, Bocchi S. (2019). The role of public mass catering in local foodshed governance toward self reliance of Metropolitan regions. Sustainable Cities and Society, 44, 152 – 162.
4. "17Goals – The SDG Tracker: Charts, graphs and data at your fingertips".Retrieved 10 March 2019.
5. Filippini R., De Noni I., Corsi S., Spigarolo R.., Bocchi S. (2018). Sustainable school food procurement: What factors do affect the introduction and the increase of organic food?.Food Policy, 76, 109 – 119.
6. Garrett L, Chowdhury MR, Pablos-Méndez A. *All for universal health coverage* (viewpoint). The Lancet 2009; 374: 1294–99.
7. Bocchi S. The Yield in the Context of Industrial Versus Sustainable Agriculture - Pp. 1-16 (16)
8. Pilu R., Gavazzi G. ed.. More Food: Road to Survival (2017. Bentham Books DOI: 10.2174/97816810846711170101.
9. Dietrich Knorr and Heribert Watzke. Food Processing at a Crossroad. Front. Nutr., 25 June 2019
10. FAO, Rome, 2016. Influencing Food Environments for Healthy Diets
11. FAO, Rome, 2019. Sustainable Healthy Diets Guiding Principles
12. Svetlana Rodgers. Minimally Processed Functional Foods: Technological and Operational Pathways. Vol. 81, Nr. 10, 2016 Journal of Food Science
13. Mc Michael AJ. Globalization, Climate Change and Human Health. N Engl J Med 2013;368: 1335-1343

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C1.8 "Global infectious challenges"

Andrea Gori, Full Professor of Infectious Diseases, University of Milan
Mario Raviglione, Former Full Professor of Global Health, University of Milan

Claudia Alteri, PhD, Associate Professor in Microbiology and Clinical Microbiology, Department of Oncology and Hemato-Oncology, University of Milan
Marta Canuti, PhD, University of Copenaghen, Denmark
Daniela Maria Cirillo, MD, PhD Head of Emerging Bacterial Pathogen Unit (EBPU), IRCCS Ospedale San Raffaele (OSR), Milan, Italy
Kefas Samson, MD Global Coordination and Partnership on Antimicrobial Resistance, World Health Organization (WHO), Geneva, Switzerland
Alberto Matteelli, Full Professor in Infectious Diseases at the University of Brescia, Brescia, Italy
Antonio Montresor, MD, Fondazioni Ivo de Carneri, Milan, Italy

Hours & Format

26 hours
16h of video lectures and 10h of exercises.

Main Objective

To present and discuss in specific terms the main infectious disease challenges in global health based on the global burden of disease estimates of deaths and human suffering.

Learning aims

Candidates will receive a proper education on the burden, progress and strategies related to the main infectious diseases ravaging the world, including HIV/AIDS, tuberculosis and non-tuberculous mycobacteria, malaria, neglected tropical diseases, hepatitis, and antimicrobial resistance.

Expected skills gained

Full understanding of the variety of high-burden infectious diseases and conditions, and of strategies and plans to handle them in all settings with special focus on those in low- and middle-income countries.

PRE-RECORDED VIDEO LECTURES – 16 HOURS

Prof. Raviglione
2 hours
Tuberculosis epidemiology: this lecture will introduce the basic epidemiology of tuberculosis as well as the description of the global epidemic

Prof. Gori
5 hours
- 3 hour HIV: epidemiology, clinical hints
- 2 hours Sexually Transmitted Diseases and Monkeypox - MD Davide Moschese - Ospedale Luigi Sacco

Dr. Marta Canuti (free assignement hour Prof. Raviglione and Prof. Gori, respectively)
1 hour
Emerging and re-emerging pathogens
1 hour
Coronavirus Infections

Prof. Montresor
2 hours
Parasitic and other neglected infectious diseases in low/middle-income countries

Prof. Cirillo
1 hour
The impact of technology on poverty related diseases: from diagnosis to individualized therapy

Prof. Alteri
1 hour
Virology and global health

Prof. Samson
2 hours
Antimicrobial resistance: I -global situation II global response and strategies for containment

Prof. Matteelli
1 hour
Malaria epidemiology and strategies

EXERCISES – 10 HOURS

Prof. Raviglione
2 hours
Webinar Tuberculosis – Challenges and strategies Q&A
With the participation of: Dr. Sayd Karamshah (Pakistan), Ghulam Nabikazi (Pakistan), Pierpaolo de Colombani (UniMI Consultant) e Marcos Espinal (Dominican Republic & former PAHO/WHO).

Prof. Gori
3 hours
Webinar HIV/AIDS **2 hours**
With the participation of: MD Andrea Gicomelli (Italy), MD Davide Moschese (Italy)
1 hour
Webinar Sexually Transmitted Diseases and PreP MD Davide Moschese

Prof. Montresor
2 hours
Webinar Neglected Tropical Diseases Q&A

Prof. Samson
1 hour
Webinar Antimicrobial resistance: a global health challenge

Prof. Matteelli
2 hours
Webinar Malaria epidemiology and strategies

Bibliography

1. WHO Global Tuberculosis Report 2022, available at https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022
2. Modeling infectious disease dynamics in the complex landscape of global health Hans Heesterbeek1,†,*, Roy Anderson2, Viggo Andreasen3, Shweta Bansal4, Daniela De Angelis5, Chris Dye6, Ken Eames7, John Edmunds7, Simon Frost8, Sebastian Funk4, Deirdre Hollingsworth9,10, Thomas House11, Valerie Isham12, Petra Klepac8, Justin Lessler13, James Lloyd-Smith14, Jessica Metcalf15, Denis Mollison16, Lorenzo Pellis11, Juliet Pulliam17, Mick Roberts18, Cecile Viboud19, and Isaac Newton Institute IDD Collaboration‡ Science. 2015 March 13; 347(6227): aaa4339. doi:10.1126/science.aaa4339.
3. Infectious Disease Threats in theTwenty-First Century: Strengthening the Global Response David E. Bloom*and Daniel Cadarette Response.Front. Immunol. 10:549.doi: 10.3389/fimmu.2019.00549 https://ghsm.hms.harvard.edu/research/infectious-disease
4. Bedford J, Farrar J, Ihekweazu C, Kang G, Koopmans M, Nkengasong J. A new twenty-first century science for effective epidemic response. Nature. 2019 Nov;575(7781):130-136. doi: 10.1038/s41586-019-1717-y.

5. Epidemics going viral: innovation vs. nature. A collection of articles and other resources on epidemic outbreaks, including management guidelines and commentary collected in Epidemics by NEJM and available at https://www.nejm.org/epidemics
6. WHO (2020) Ending the neglect to attain the Sustainable Development Goals: A road map for neglected tropical diseases 2021–2030. Available at https://www.who.int/publications/i/item/9789240010352
7. Gabrielli A, Montresor A, Engels D, Savioli L. (2011) Preventive Chemotherapy in Human Helminthiasis: Theoretical and operational aspects. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 105: 683-693. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5576527/pdf/emss-73835.pdf
8. World Health Organization, World malaria report 2020: 20 years of global progress and challenges. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO. Available at: https://www.mmv.org/sites/default/files/uploads/docs/publications World_Malaria_Report_2020.pdf
9. World Health Organization. Compendium of WHO malaria guidance – prevention, diagnosis, treatment, surveillance. and elimination. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO. Available at: https://apps.who.int/iris/bitstream/handle/10665/312082/WHO-CDS-GMP-2019.03-eng.pdf?ua=1
10. World Health Organization. Strategic Advisory Group on Malaria Eradication. Malaria eradication: benefits, future scenarios and feasibility. A report of the Strategic Advisory Group on Malaria Eradication. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO. Available at https://www.who.int/publications/i/item/9789240003675

C1.9 "Global health challenges"

Paola Muti, Professor, Department of Biomedical, Surgical and Dental Sciences, University of Milan
Matteo Cesari, Full Professor of Geriatrics, University of Milan
Carlo Agostoni, Full Professor of Pediatrics, University of Milan
Viviana Mangiaterra, Associate Professor, SDA Bocconi School of Management, Milan, Italy
Davide Mosca, Realizing Health SDGs for Migrants, Displaced and Communities, Nairobi, Kenya
Claudia Marotta Technical Officer Health and Migration, Division of Universal Health Coverage and Healthier Populations World Health Organization, Geneva, Switzerland
Emiliano Albanese, Professor of Public Health and Director Institute of Public Health USI; Professor of Public Mental Health UniGe and Director WHO Collaborating Center, Switzerland
Sante Leandro Baldi, Research Fellow MACH, Centre for Multidisciplinary Research in Health Science, University of Milan
Richard Watt, Professor of Dental Public Health in the Department of Epidemiology and Public Health, UCL and Director of Research for Central North West London NHS Foundation Trust.

Hours & Format

26 hours
12h of video lectures and 14h of exercises.

Main Objective

To present and discuss in specific terms the main challenges in global health other than those of infectious nature dealt with within module C1.8 and based on the global burden of disease estimates of deaths and human suffering.

Learning aims

Candidates will receive a proper education on the burden, progress and strategies related to threats to maternal and child health; non-communicable diseases and conditions and their main risk factors and determinants; other emerging challenges in global health such as response and preparedness for epidemics and natural disasters, migrant health, proper nutrition, aging populations.

Expected skills gained

Full understanding of the variety of high-burden diseases and conditions, and of strategies and plans to handle them in all settings with special focus on those in low- and middle-income countries.

PRE-RECORDED VIDEO LECTURES – 12 HOURS

Prof. *Mangiaterra*
4 hours
Maternal health: situation and response
Child health: situation, challenges and response

Prof. *Muti*
1 hour
Non-communicable diseases (NCD): determinants and risk factors. This section focuses on the contemporary five key NCDs: cardiovascular disease, cancer, diabetes, chronic respiratory disease, and chronic neurologic disorders. It provides students with an understanding of the major determinants and risk factors in NCDs epidemiology. In particular, lifestyle risk-factors, alcohol intake, tobacco use, nutrition and new metabolic and molecular determinants will be discussed in the main lecture and in the related assignment exercises.

Prof. *Cesari*
1 hour
The absolute and relative increases in the number of older persons are evident worldwide, from the most developed countries to the lowest-income regions. Multimorbidity and need for social support increase with age. Age-related (usually chronic) conditions and, in particular, disabilities are a significant burden for the person, his or her family, and public health care systems. To guarantee the sustainability of public health systems and improve the quality of care provided, it is becoming urgent to act to prevent and delay the disabling cascade. In this context, with the aim of promoting a more comprehensive and appropriate assessment of the aging population, the World Health Organization introduced the concept of intrinsic capacity. In this one-hour presentation, the relationships between aging, diseases, and healthcare systems are presented. Study material will be provided for going in-depth on the topic. A written assignment will then be requested. In a final one-hour webinar, the assignments will be discussed.

Prof. *Agostoni*
2 hours
Pediatric Nutrition in a global perspective: within and beyond COVID-19

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

Prof. Marotta
2 hours
Founding principles of international cooperation and its history
Health and Migration

Prof. Mosca
2 hours
Understanding migration, and its health implications
Migration and Health': an evolving global health issue. Origins, development, current trends and perspectives

EXERCISES – 14 HOURS

Prof. Agostoni
1,5 hours Optional extra-ordinary webinar
Nutrition today: from tradition to sustainable glocalization & Q&A session

Prof. Mangiaterra
2 hours
Webinar Maternal and child health Q&A

Prof. Cesari
2 hours
Webinar Aging and health Q&A

Prof. Richard Watt, Dr. Leandro Baldi
2 hours
Webinar Global Oral Health Introduction, Epidemiology, Incidence and Prevalence (Global Burden of Oral Diseases), YLD/DALY; Challenges and barriers to oral health; WHO and Oral Health; Actions; Cost effective strategies for prevention and control; International Cooperation for Oral Health

Prof. Albanese
4 hours Mental Health
- **2 hours Webinar** Mental Global Health I
- **2 hours Webinar** Mental Global Health II

Prof. Mosca
2 hours
Webinar Operationalizing migrant health principles: case studies (including: CODIV-19; regional perspectives from Europe, Africa; the Climate Change –Migration-Health Nexus; approaches to country agendas)

Prof. Marotta
2 hours
Webinar Health and Migration

Bibliography

1. MINI REVIEW published: 12 November 2019 doi: 10.3389/fnins.2019.01226 Stress, Dietary Patterns and Cardiovascular Disease: A Mini-Review Luis Pedro Morera1*, Georgina Noel Marchiori2,3, Leonardo Adrián Medrano1,4 and María Daniela Defagó2,3
2. Instituto de Organizaciones Saludables, Universidad Siglo 21, Córdoba, Argentina, 2 Instituto de Investigaciones en Ciencias de la Salud (INICSA), CONICET, Universidad Nacional de Córdoba, Córdoba, Argentina, 3 Escuela de Nutrición, Facultad de Ciencias Médicas, Universidad Nacional de Córdoba, Córdoba, Argentina, 4 Department of Pyschology, Pontificia Universidad Católica Madre y Maestra, Santiago de los Caballeros, Dominican Republi International Journal of Epidemiology 2002; 31:285-293 Editorial
3. A life course approach to chronic diseases epidemiology: conceptual models, empirical challenges and interdisciplinary perspectives – Yoav Ben-Shlomo (a) and Diana Kuh (b)
4. World Report on Ageing and Health. World Health Organization; 2015.
5. Tinetti M, Fried T. The end of the disease era. Am J Med. 2004;116(3):179-185.
6. Clegg A, Young J, Iliffe S, Rikkert M, Rockwood K. Frailty in elderly people. Lancet. 2013;381(9868):752-762. doi:10.1016/S0140-6736(12)62167-9
7. World Health Organization, Department of Ageing and Life Course. Integrated Care for Older People: Guidelines on Community-Level Interventions to Manage Declines in Intrinsic Capacity.; 2017. Accessed March 1, 2019. http://www.ncbi.nlm.nih.gov/books/NBK488250
8. Abubakar I, Aldridge RW, Mosca DT, et al. UCL-Lancet Commission on Migration and Health: the health of a world on the move. Lancet 2018. https://www.thelancet.com/commissions/migration-health
9. Lancet Migration platform: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30107-0/ full text
10. Government of Spain Ministry of Health and Social Policy, International Organization for Migration, WHO (2010). Health of migrants: the way forward – report of a global consultation 3–5 March 2010. Geneva: World Health Organization (https://www.who.int/migrants/publications/mh-way-forward_consultation-report.pdf?ua=1, accessed 14 October 2020)
11. International Organization for Migration, Ministry of Health Sri Lanka, WHO (2017). Migration and Health, resetting the agenda. In: Report of the 2nd Global Consultation, Colombo, 21–23 February 2017. Geneva: International Organization for Migration (https://www.iom.int/migration-health/second-global-consultation, accessed 14 October 2020)
12. WHO (2008). Resolution WHA61.17. Health of migrants. In: Sixty-first World Health Assembly, Geneva, Switzerland, 16–24 May 2008. Geneva: World Health Organization (https://apps.who.int/iris/bitstream/handle/10665/23533/A61_R17-en.pdf?sequence=1, accessed 14 October 2020)

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

13. WHO (2017). Promoting the health of refugees and migrants: framework of priorities and guiding principles to promote the heath of refugees and migrants. In: Seventieth World Health Assembly, Geneva, 22–31 May 2017. Geneva: World Health Organization (https://www.who.int/migrants/about/framework_refugees-migrants.pdf, accessed 14 October 2020)
14. WHO (2019). Promoting the health of refugees and migrants: draft global action plan 2019-2023. In: Seventieth World Health Assembly, Geneva, 22–31 May 2017. Geneva: World Health Organization (A72/25; https://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_25-en.pdf, accessed 14 October 2020)
15. WHO Regional Office for Europe (2016). Strategy and action plan for refugee and migrant health in the WHO European Region. In: 66th session of the Regional Committee for Europe, Copenhagen, 12–15 September 2016. Copenhagen: WHO Regional Office for Europe (https://www.euro.who.int/data/assets/pdf_file/0004/314725/66wd08e_MigrantHealthStrategyActionPlan_160424.pdf, accessed 14 October 2020)
16. WHO. World report on the health of refugees and migrants, 20 July 202 2022 https://www.who.int/publications/i/item/9789240054462
17. WHO. Promoting the health of refugees and migrants: experiences from around the world. 2023 https://www.who.int/publications/i/item/9789240067110
18. African Union Commission. Migration and Health: Addressing Current Health Challenges of Migrants and Refugees in Africa - from Policy to Practice. 2022 https://au.int/en/documents/20220504/migration-and-health
19. WHO. Global research agenda on health, migration and displacement: strengthening research and translating research priorities into policy and practice. 2023 https://iris.who.int/bitstream/handle/10665/373659/9789240082397-eng.pdf?sequence=1

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.1 "Advocacy and communication for global health promotion"

Francesco Rio, Global Health Consultant, Geneva, Switzerland
Bettina Borisch, Professor, Institute of Global Health, University of Geneva, Geneva, Switzerland
Raphaël Zaffran, Deputy Director, University of Geneva's Centre for Continuing and Distance Education

Hours & Format

24 hours
10h of video lectures and 14h of exercises.

Main Objective

To understand the concepts of effective communication and advocacy in global health and to promote/reinforce change in public health policy, programme or health legislation in the global context.

Learning aims

The over-arching intention of the course is to generate knowledge, comprehension, analysis, and "thinking through" on advocacy and communication for global health promotion; understand the main ways of health promotion; guide on effective preparation of global health-oriented documents including theses

Expected skills gained

The capacity of conceiving, speaking and acting to promote global health principles on personal and/or institutional behalf. The capacity to conceptualise thesis and research project preparation.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. Rio
5 hours

- What is global health advocacy? Definitions, concepts and principles **1 hour**
- Media representation **1 hour**
- Utilizing determinants of health and disease to analytically thinking global health issues **1 hour**
- To be effective and changing **1 hour**
- Global Health Communication **1 hour**

Prof. Borisch
5 hours

- Leadership in global health promotion **2 hours**
- Advocacy in health promotion **1 hour**
- Case of front of package labelling **1 hour**
- The case of Iodine **1 hour**

EXERCISES – 14 HOURS

Prof. Rio
6 hours

- **Webinar** Introduction **1 hour**
- **Assignment** Homework **4 hours**
- **Webinar** Final discussion and Q&A **1 hour**

Prof. Borisch
6 hours

- **Webinar** Introduction **1 hour**
- **Assignment** Homework **4 hours**
- **Webinar** Final discussion and Q&A **1 hour**

Prof. Zaffran
2 hours

- **Webinar 2 hours:** "From Topic to Thesis: Applied Research Methods & Presentation Strategies in preparation for a thesis in global health"

Bibliography

1. Social Science & Medicine 189 (2017) 35e43 Academic advocacy in public health: Disciplinary 'duty' or political 'propaganda'?
2. BMJ 2010;340:c2869 A moment of truth for global health A cross cutting approach is needed to meet the challenges of the global financial crisis
3. Journal of the American College of Cardiology, vol. 69, no. 19, 2017 Advocacy for Health Care All Hands on Deck!
4. J Epidemiol Community Health 2004;58:361–365 - Advocacy for public health: a primer
5. Leas EC, Althouse BM, Dredze M,Obradovich N, Fowler JH, Noar SM, et al. (2016) Big Data Sensors of Organic Advocacy: The Case of Leonardo DiCaprio and Climate Change. PLoS ONE 11(8): e0159885

6. The Milbank Quarterly, Vol. 97, No. 1, 2019 (pp. 44-47) The Responsibility to Advocate—and to Advocate Responsibly
7. Maria Hubinette, Sarah Dobson, Ian Scott & Jonathan Sherbino (2017) Health advocacy, Medical Teacher, 39:2, 128-135
8. Weishaar et al. BMC Public Health (2016) 16:899 - Why media representations of corporations matter
9. Health Promotion Practice, November 2017 Vol. 18, No. (6) 785–788 Shifting the Culture Around Public Health Advocacy: Training Future Public Health Professionals to Be Effective Agents of Change
10. Douthit NT and Biswas S (2018) Global Health Education and Advocacy: Using BMJ Case Reports to Tackle
11. the Social Determinants of Health. Front. Public Health 6:114
12. JAMA February 13, 2018 Volume 319, Number 6 Language, Science, and Politics The Politicization of Public Health
13. The Journal of Infectious Diseases® 2017;216(S1):S24–32 Communications, Immunization, and Polio Vaccines: Lessons From a Global Perspective on Generating Political Will, Informing Decision-Making and Planning, and Engaging Local Support
14. European Journal of Public Health, 1–3 (2016) A Global Charter for the Public's Health—the public health system: role, functions, competencies and education requirements
15. Lancet 2004; 363: 2084–86: Robert Beaglehole, Ruth Bonita, Richard Horton, Orvill Adams, Martin McKee: Public health in the new era: improving health through collective action
16. https://www.tandfonline.com/doi/full/10.1080/16549716.2023.2183596 Global public health policies: gathering public health associations' perspectives
17. LibGuides, University of Westminster, "Dissertations 4: Methodology: Methods": https://libguides.westminster.ac.uk/methodology-for-dissertations/methods
18. C. Anderson. (2013). "How to Give a Killer Presentation: Lessons from TED", *Harvard Business Review* (June), 5 pages: https://hbr.org/2013/06/how-to-give-a-killer-presentation (also attached as PDF if you want to put it on the students' Moodle)

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.2 "International cooperation and humanitarian action as tools in global health"

Giovanni Putoto, Head of Planning and Operational Research, CUAMM, Padova, Italy
Stefania Recalcati, Associate Professor in General Pathology, Department of Biomedical Sciences for Health, University of Milan, Italy

With contributions from:
Claudia Marotta, Technical Officer Health and Migration, Division of Universal Health Coverage and Healthier Populations World Health Organization, Geneva, Switzerland
Francesco Di Gennaro, Associate Professor in infectious diseases and tropical medicine, University of Bari, Bari, Italy
Niccolò Ronzoni, Medical doctor specialized in infectious diseases and tropical medicine, Negrar Hospital, Verona, italy
Andrea Atzori, Head of International Relations, CUAMM, Padova, Italy

Hours & Format

24 hours
10h of video lectures and 14h of exercises.

Main Objective

To provide a broad view of international cooperation activities and humanitarian actions implemented by the civil society (NGOs, FBOs) and the University system.

Learning aims

To understand: (i) the founding principles of international cooperation and its history; (ii) the key drivers of migration and the possible impacts on origin and destination countries; (iii) the burden and key drivers of the major epidemics seen from an international cooperation perspective; (iv) the scope and impact of health care associated infections; (v) the international cooperation in the health field from the NGOs perspectives; and (vi) the work in global health of faith-based organizations.

Expected skills gained

At the end of the module, the students will be able to: (i) understand the fundamental drivers of migration and the impact of migration on origin and destination countries; (ii) appreciate the key steps in planning a research and training project in a resource-poor country; (iii) understand the dynamic of Ebola Virus and cholera epidemics in sub-Saharan African countries; (iv) plan for implementation of key practices and

activities for health care associated infections control, (vi) appreciate the principles and experiences in cooperation with Africa with special reference to the NGO CUAMM; and (vi) understand how faith-based organizations can contribute to global health.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. Marotta
1 hour

- The changing face of cooperation in the era of massive migration

Prof. Recalcati
2 hours

- **The new role of the Universities in the International Health Cooperation: the UNIMI policy document**

Prof. Di Gennaro
1 hours

- Role of inter-university cooperation with resource-poor countries. Training and research

Prof. Putoto
2 hours

- Ebola. Cholera. Health Care Associated Infections (HCAI).
- Infection prevention and control. Antimicrobial resistance. Health Cooperation and NGOs. CUAMM's principles and experiences in cooperating with Africa

Prof. Ronzoni
2 hours

- HIV: epidemiology, clinical hints. Hepatitis: burden and response. Epidemics of infectious diseases. General principles. Background factors (biological, environmental and lifestyle and others)

Prof. Atzori
2 hours
Faith-inspired Engagement in Global Health: the example of the Catholic Church's Advocacy and Humanitarian Responses

EXERCISES – 14 HOURS

Prof. Di Gennaro **5 hours**

- **Preparatory webinar 1h**
- **Journal Club** Homework **3 hours**
- **Feed-back and discussion - Webinar** Q&A **1 hours**

Prof. Putoto- Ronzoni **5 hours (3h Putoto – 2h Ronzoni)**

- **Preparatory webinar 1h**
- **Assignment Homework - Case study (theme: Ebola and the vaccine case) (2 hours)**
- **Webinar** Q&A **2 hours**

Prof. Recalcati **4 hours**

- **Preparatory webinar 1h**
- **Journal Club** Homework **2 hours**
- **Feed-back and discussion - Webinar** Q&A **1 hours**

Bibliography

1. Lancet Infect Dis. 2016 Feb;16(2):259-63. doi: 10.1016/S1473-3099(15)00361-8. Epub 2015 Nov 26. Ebola:Lessons learned and future challenges for Europe. Quaglio G1, Goerens C2, Putoto G3, Rübig P2, Lafaye P4, Karapiperis T5, Dario C6, Delaunois P7, Zachariah R8.

2. BMC Med. 2015 Nov 26;13:281. doi: 10.1186/s12916-015-0524-z. The 2014 Ebola virus disease outbreak in Pujehun, Sierra Leone: epidemiology and impact of interventions. Ajelli M1, Parlamento S1, Bome D2, Kebbi A3, Atzori A4, Frasson C4, Putoto G4, Carraro D4, Merler S5.

3. PLoS Negl Trop Dis. 2016 Nov 2;10(11):e0005093. doi: 10.1371/journal.pntd.0005093. eCollection 2016 Nov. Containing Ebola at the Source ith Ring Vaccination. Merler S1, Ajelli M1, Fumanelli L1, Parlamento S1, Pastore Y Piontti A2, Dean NE3, Putoto G4, Carraro D4, Longini IM Jr3, Halloran ME5,6, Vespignani A2,7,8.

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

4. Mantaining Maternal and Child Health Services During Ebola Outbreak: Experience from Pujehun, Sierra Leone. Quaglio G, Pizzol D, Bome D, Kebbie A, Bangura Z, Massaquoi V, Frasson C, Dalla Riva D, Putoto G. PLoS Curr. 2016 Jun 2;8. pii: ecurrents.outbreaks.d67aea257f572201f835772d7f188ba5. doi: 10.1371/currents.outbreaks.d67aea257f572201f835772d7f188ba5.
5. PLoS One. 2019 Jul 5;14(7):e0218052. doi: 10.1371/journal.pone.0218052. ECollection 2019.Integrating TB and non-communicable diseases services: Pilot experience of screening for diabetes and hypertension in patients with Tuberculosis in Luanda, Angola. Segafredo G1, Kapur A2, Robbiati C3, Joseph N4, de Sousa JR5, Putoto G1, Manenti F6, Atzori A7, Fedeli U8.
6. Greenaway C., Castelli F. Infectious diseases at different stages of migration: an expert review. J Travel Med. 2019 Feb 1;26(2). pii: taz007. doi: 10.1093/jtm/taz007.
7. Greenaway C., Castelli F. Migration Medicine Infect Dis Clin North Am. 2019 Mar;33(1):265-287. doi: 10.1016/j.idc.2018.10.014. Review.

Bibliography- Dr. Andrea Atzori:

1. Foster, G. (2011). Study of the response by faith-based organizations to orphans and vulnerable children. UNICEF. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.religionsforpeaceinternational.org/sites/default/files/pubications/Responses%20of%20Faith-Based%20Organizations%20to%20Orphans%20and%20Vulnerable%20Children.pdf
2. Gizaw, Z., Astale, T. & Kassie, G.M. (2022). What improves access to primary healthcare services in rural communities? A systematic review. BMC Primary Care 23, 313. https://doi.org/10.1186/s12875-022-01919-0. Retrieved from https://bmcprimcare.biomedcentral.com/articles/10.1186/s12875-022-01919-0#citeas
3. Herzig van Wees, S; Betsi E. & Sop Sop, M. (2021). A description and explanation of the complex landscape of faith-based organisations in Cameroon's health sector. Development in Practice, 31:3, 356-367, DOI: 10.1080/09614524.2020.1841737. Retrieved from https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F09614524.2020.1841737
4. Kagawa R.C; Anglemyer, A. & Montagu, D. (2012). The scale of faith based organization participation in health service delivery in developing countries: Systemic review and meta-analysis. PLoS ONE, 7(11): e48457. https://doi.org/10.1371/journal.pone.0048457. Retrieved from https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0048457
5. Karpf, T. & Ross, A. (Eds.) (2008). Building from common foundations: The World Health Organization and faith-based organizations in primary healthcare. WHO. Retrieved from https://apps.who.int/iris/handle/10665/43884

6. Levin, J. (2014). Faith-based initiatives in health promotion: History, challenges, and current partnerships. American Journal of Health Promotion, 28(3), 139–141. doi:10.4278/ajhp.130403-cit-149. Retrieved from https://journals.sagepub.com/doi/abs/10.4278/ajhp.130403-CIT-149?journalCode=ahpa
7. Maurice, J. (2015). Faith-based organisations bolster health care in Rwanda. The Lancet, vol. 38(9989), 123-124. https://doi.org/10.1016/S0140-6736(15)61213-2. Retrieved from https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)61213-2/fulltext
8. Nicol, J. et al. (2022). The impact of faith-based organizations on maternal and child health care outcomes in Africa: Taking stock of research evidence. Pan African Medical Journal, 43 (168). 10.11604/pamj.2022.43.168.32983. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9941616/
9. Oliver, J. et al. (2015). Understanding the roles of faith-based health-care providers in Africa: Review of the evidence with a focus on magnitude, reach, cost, and satisfaction. The Lancet, 386(10005), 1765–1775. https://doi.org/10.1016/S0140-6736(15)60251-3. Retrieved from https://pubmed.ncbi.nlm.nih.gov/26159398/
10. Syed, U. et al. (2023). The role of faith-based organizations in improving vaccination confidence & addressing vaccination disparities to help improve vaccine uptake: A systematic review. Vaccines, 11(2), 449. https://doi.org/10.3390/vaccines11020449. Retrieved from https://www.mdpi.com/2076-393X/11/2/449
11. Vilakati, P. et al. (2020). The neglected role of faith-based organizations in prevention and control of COVID-19 in Africa. Transactions of The Royal Society of Tropical Medicine and Hygiene, Vol. 114, Issue 10, 784–786, https://doi.org/10.1093/trstmh/traa073. Retrieved from https://academic.oup.com/trstmh/article/114/10/784/5898257
12. Widmer, M. et al. (2011). The role of faith-based organizations in maternal and newborn health care in Africa. International Journal of Gynecology and Obstetrics, 114(3), 218–222. doi:10.1016/j.ijgo.2011.03.015. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0020729211002505
13. WHO. (2021) World Health Organization strategy for engaging religious leaders, faith-based organizations and faith communities in health emergencies. Retrieved from: https://www.who.int/publications/i/item/9789240037205

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.3 "Health systems - Universal coverage, social protection, non-state sector"

Fabrizio Tediosi, Associate Professor of Hygiene and Public Health University of Milan, Professor, Swiss Tropical and Public Health Institute & University of Basel, Switzerland
Andrea Gori, Full Professor of Infectious Diseases, University of Milan
Luca Ragazzoni, Scientific Coordinator of Center for Research and Training in Disaster Medicine, Humanitarian Aid, and Global Health, University of Piemonte Orientale (UPO), Novara, Italy

With contributions from:
Fahrad Rihai, **MD** Assistant Professor, Faculty of Medicine, McGill University, Montreal, Canada, and Global Head, New Commercial Partnership Models & Health Systems Engagement, Novartis, Basel, Switzerland
Tido von Schoen-Angerer, former Executive Director MSF Global Access Campaign, Geneva, Switzerland

Hours & Format

24 hours
10h of video lectures and 14h of exercises

Main Objective

The course analyses the relationships between global health strategies and national and local health policies and systems. It focuses on health systems frameworks, the role and behaviour of institutions and stakeholders, the major innovations in financing and delivering health services, the links between health systems and social protection systems and on how health systems are responding to global changes.

Learning aims

At the end of the course, participants will understand the importance of health systems and policies, and their relation to social protection, in achieving public health goals. Participants will be acquainted with systems approaches to global health challenges and the main conceptual elements of working within such frameworks.

Expected skills gained

Participants will be able to critically reflect how societies organize themselves in achieving collective health goals; analyze how health systems actors respond and adapt to globalhealth challenges; appreciate how different actors interact in the policy processes to contribute to public health policy outcomes.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. Tediosi

5 hours

- Health system perspective to global health challenges definitions and objectives of health systems health systems frameworks; Relevance of a health systems approach to address global health challenges **2 hours**
- Financing Health Systems forUniversal Health Coverage; Policy instruments to improve healthsystem performance through better health financing policy **2 hours**
- Social health protection systems in low- and middle-income countries **1 hour**

Prof. Lonnroth

3 hours

- The role of the private sector in global health **1 hour**
- Income security in times of sickness **2 hours**

Prof. Ragazzoni

2 hours

- Preparedness and response to natural disasters
- Preparedness and response to emerging epidemics: COVID-19 and health emergencies

EXERCISES – 14 HOURS

Prof. Tediosi

6 hours

- **Webinar 1:** Q&A on recorded lectures and introduction to assignment **1 hours**
- **Assignment** Homework (feedback via email) **4 hours**
- **Webinar 2:** Presentation of assignment and discussion, **1 hours**

Prof. Gori

2 hours

- **Webinar: 2 hours**

Prof. Ragazzoni

2 hours Webinar

- Preparedness and response to health emergencies in humanitarian settings

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

Dr Farhad Rihai
2 hours
Webinar the role of the private sector in global health

Dr Tido von Schoen-Angerer
2 hours
Webinar Navigating inequalities: access to medicines from a civil society perspective

Bibliography

Health systems and UHC

1. De Savigny D, Adam T. (2009). Systems thinking for health systems strengthening. Alliance for Health Policy and Systems Research. WHO
2. WHO. Health systems financing: the path to universal coverage. World Health Organization, 2010.
3. Tracking universal health coverage: 2021 Global Monitoring Report. World Health Organization. https://www.who.int/publications/i/item/9789240040618
4. Saksena P, Hsu J, Evans DB. Financial risk protection and universal health coverage: evidence and measurement challenges. PLoS Med. 2014 Sep 22;11(9):e1001701. doi: 10.1371/journal.pmed.1001701. eCollection 2014 Sep. Review. PMID: 25244520
5. Gorsky M, Sirrs C. The Rise and Fall of "Universal Health Coverage" as a Goal of International Health Politics, 1925–1952Am J Public Health. 2018;108:334342. doi:10.2105/AJPH.2017.304215
6. Shroff ZC, Marten R, Hanson K, editors. Systems for health: everyone has a role. Flagship report of the Alliance for Health Policy and Systems Research. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO -

Social protection / income security

1. ILO. Social Protection Floors Recommendation, 2012 (No. 202). Geneva: International Labour Office, 2012
2. World Social Protection Report 2020-22: Social protection at the crossroads – in pursuit of a better future. Geneva: International Labour Office, 2021 https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---soc_sec/documents/publication/wcms_817572.pdf
3. Lönnroth K, Tessier L, Hensing G, Behrendt C. Income security in times of ill health – the next frontier of the SDGs. BMJ Global Health 2020;5:e002493. doi:10.1136/bmjgh-2020-002493 https://gh.bmj.com/content/5/6/e002493
4. Social protection responses to the COVID-19 crisis: Country responses and policy considerations. Social Protection Spotlight, 23 April 2020. Geneva: International Labour Office, 2020

https://www.ilo.org/secsoc/information-resources/publications-and-tools/Brochures/WCMS_742337/lang--en/index.htm

5. Sickness benefits: An introduction. Social Protection Spotlight, May 2020. Geneva: International Labour Office, 2020
6. Tediosi F, Lönnroth K, Pablos-Méndez A, Raviglione M. Build back stronger universal health coverage systems after the COVID-19 pandemic: the need for better governance and linkage with universal social protection. BMJ Global Health 2020 (in press)

TB case study on social protection

1. WHO. Global tuberculosis report 2022. World Health Organization, 2022
2. Lönnroth K, Glaziou P, Weil D, Floyd K, Uplekar M, Raviglione M. Monitoring universal health coverage and social protection in the context of tuberculosis care and prevention. PLoS Med 2014: 11(9): e1001693. doi:10.1371/journal. pmed.1001693
3. Pedrazzoli D, Borghi J, Viney K, Nishikiori N, Houben, R, Siroka A, Garcia Baena I, Lönnroth K. Measuring economic burden for tuberculosis patients: End TB Strategy and Universal Health Coverage framework. Int J Tuberc Lung Dis 2019; 23(1):5–11
4. The role of the private sector On private health care: WHO. Engaging private health care providers in TB care and prevention: a landscape analysis. WHO/CDS/TB/2018.33. https://www.who.int/tb/publications/2018/PPMLandscapeAnalysis.pdf

C2.4 "Essentials of health economics"

Fabrizio Tediosi, Associate Professor of Hygiene and Public Health University of Milan, Professor, Swiss Tropical and Public Health Institute & University of Basel, Switzerland

Hours & Format

24 hours
13h of video lectures and 11h of exercises.

Main Objective

The course provides and introduction to key health economics principles. The course focuses on: a) The relationships between population health and economic development; b) Health systems financing and the role of health insurance; c) Impoverishing effects of health expenditure; d) Methods to pay health care providers and the role of incentives; e) How to reduce waste in health systems; f) Setting health priorities on the basis of burden of disease.

Learning aims

It is expected that upon successful completion of the module, student will be able to: appreciate the relevance of the relation between health and economic development; appreciate the importance of understanding the health sector as an economic sector; assess alternative methods of raising revenue to funding health systems; assess alternative approaches to pay health care providers; identify and analyze the causes of inefficiencies in health systems; assess policy options to improve health systems performance.

Expected skills gained

By the end of the course, participants will understand economics aspects of health systems. Participants will have learned skills to:

- Use methods of economics to promote population health;
- Understand pros and cons of policy options to fund health systems;
- Understand pros and cons of different methods to pay health care providers;
- Identify and analyze health systems inefficiencies;
- Use burden of disease data to set priorities in health systems.

VIDEO LECTURES – 13 HOURS

Prof. Tediosi
13 hours

- The relationship between health and economic development **2 hours**
- Financing health systems **2,5 hours**
- Health and financial risks **2 hours**
- Health care provider payment systems **2,5 hours**
- Inefficiencies in health care **2 hours**
- Using burden of disease data to set priorities in health systems **2 hours**

EXERCISES – 11 HOURS

Prof. Tediosi
11 hours

- **Webinar** Introduction **1 hour**
- **Groups assignment** Homework **8 hours**
- **Webinar** presentation and feedback of assignment **2 hours**

Bibliography

1. WHO. (2008). Health systems, health and wealth: Assessing the case for investing in health systems. Edited and Written by Josep Figueras, Martin McKee, Suszy Lessof, Antonio Duran, Nata Menabde. Available from http://www.euro.who.int/__data/assets/pdf_file/0009/83997/E93699.pdf
2. Cashin, Cheryl. 2016. Health Financing Policy: The Macroeconomic, Fiscal, and Public Finance Context. World Bank Studies. Washington, DC: World Bank. doi:10.1596/978-1-4648-0796-1. https://bit.ly/2RlUxs5
3. Kutzin J., Witter S., Jowett M., Bayarsaikhan D. Developing a national health financing strategy: a reference guide. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241512107.
4. Saksena P, Hsu J, Evans DB. Financial risk protection and universal health coverage: evidence and measurement challenges. PLoS Med. 2014 Sep 22;11(9):e1001701. doi: 10.1371/journal.pmed.1001701. eCollection 2014 Sep. Review. PMID: 25244520.
5. Wagstaff, Adam et al. Progress on catastrophic health spending in 133 countries: a retrospective observational study. The Lancet Global Health , Volume 6 , Issue 2 , e169 - e179 https://bit.ly/3bsF14E

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

6. Wagstaff, Adam et al. Progress on impoverishing health spending in 122 countries: a retrospective observational study. The Lancet Global Health , Volume 6 , Issue 2 , e180 - e192 https://bit.ly/3tVWIzM
7. The Lancet's special issues on Global Burden of Disease – October 2020 https://bit.ly/3caHW2W
8. OECD (2016), Better Ways to Pay for Health Care, OECD Health Policy Studies, OECD Publishing, Paris. https://bit.ly/3hznXh1
9. OECD (2017), *TacklingWasteful Spending on Health*, OECD Publishing, Paris. *https://bit.ly/33NQqjM*

C2.5 "Principles of health management"

Federico Lega, Full Professor, University of Milan, Director of the Centre in Health Administration. Board Member European Health Management Association.

Hours & Format

30 hours
17h of video lectures and 13h of exercises.

Main Objective

The course provides an introduction to key health management principles, providing students the foundations of management and leadership, with specific reference to the health sector. As such, it will provide students with an overview of: a) the science of management by discovering what researchers have found in relevant fields like strategic management, human resource management, performance management; b) the roles managers must perform and the soft skills required; c) the four primary management functions: planning, organizing, leading, and controlling; d) How to develop effective project management and business modelling and planning.

Learning aims

It is expected that upon successful completion of the module, student will be able to:
master the contents of the major functions of managers: planning, organizing, steering, controlling; explain the difference and specificity of leadership vs. management and their practices and methods; develop a business model and outline the business planning of an investment or project; designing structures and roles in organization; doing effective project management.

Expected skills gained

By the end of the course, participants will have a deep understanding of the key management principles. Participants will have learned skills to:
Develop their aptitudes and skills as managers; Draft a strategic plan, develop an organizational chart, set up a performance management system, design a change management initiative; Develop cost and revenue analysis; Analyze and reconfigure the business model of organizations.

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

VIDEO LECTURES – 17 HOURS

Prof. Lega
17 hours

- Leading What makes good organizations great; Overcoming organizational "traps" to improving performance; Why professional contexts are "wicked" and their specific organizational and managerial challenges **2 hours**
- Planning Strategy-making in organizations: theory and practice; Scope and use of strategic planning and strategic plans **3 hours**
- Steering & engaging; Enabling and empowering decision-making at middle-level: the role of managers; From planning to budgeting: making managers accountable **2 hours**
- Organizing; Designing organizations; Structures and configurations **3 hours**
- Assessing and rewarding
- Appraisal and "pay" the performance of employees **2 hours**
- Motivation; What motivates people and how can we manage motivation?; When do jobs fit people and people fit jobs?; How can we make jobs more enjoyable? **2 hours**
- Change; Change management framework and "best" practices; Wrap up of the module **3 hours**

EXERCISES – 13 HOURS

Prof. Lega
13 hours

- **Webinar** Introduction **2 hour**
- **Groups assignment** Homework **9 hours**
- **Webinar** Presentation and feedback of assignment **2 hours**

Bibliography

Slides and readings selected by the instructor. Extracts from "Khan U., Lega F., Health management 2.0, Emerald, 2021".

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.6 "Innovations in Global Health: the “omics” and digital health"

Daniela Maria Cirillo, MD, PhD Head of Emerging Bacterial Pathogen Unit (EBPU), IRCCS Ospedale San Raffaele (OSR), Milan, Italy
Dennis Falzon, MD, Team Lead, Global Tuberculosis Programme, World Health Organization, Geneva, Switzerland

With the contributions of:
Yejin Lee, World Health Organization, Geneva, Switzerland
Alistair Story, Full Professor of Inclusion Health and Co-Director of the UCL Collaborative Centre for Inclusion Health, London, UK
Ali Merzouk, E-learning Coordinator, European Respiratory Society, Lausanne, Switzerland
Zelalem Temesgen, Professor of Medicine, Mayo Clinic, Rochester, MN, USA

Hours & Format

24 hours
10h of video lectures and 14h of exercises.

Main Objectives

- To familiarize with “omics” and digital technologies applied to the field of infectious disease and global health.
- To acquire knowledge on current and next-generation digital innovations (including “artificial intelligence”) in support of global health through assessment of recent practices and evidence.

Learning aims

Regarding “omics”, candidates will learn how technology has contributed to the advancement in the understanding the pathology and the interplay of host and parasite genomics in pathogenesis; its application to novel diagnostics and therapeutics; and to the design of new diagnostics, drugs and new approaches to the development of vaccines. Candidates will also acquire knowledge on how innovations will impact diagnostics in low resources settings.
Regarding digital technologies, candidates will acquire a conceptual framework to help them classify the landscape of digital technologies within various efforts in global health. The sessions will look at how various digital technologies are being applied in global health, the evidence base for impact and scope for more research as well as current and future perspectives in digital health, such as “artificial intelligence.”

Disease models will be used to illustrate how innovations in the "omics" and digital technologies are being applied to the benefit of the individual and the community, focusing on priority global public health concerns like tuberculosis (TB) HIV infection, and antimicrobial resistance. TB is a major public health concern worldwide and the topmost bacterial cause of death, even if largely preventable and curable. Apart from approaches to disease control common to other communicable conditions, discussing how to end TB will engage broader discussion on topics at the heart of global health, such as poverty reduction, social protection, addressing stigma and implementation research, prospects that have been made more bleak by the COVID-19 pandemic. HIV remains a major global public health threat, having claimed over 40 million lives so far, with nearly 40 million people living with the disease, nearly 2 million acquiring HIV in 2021, and nearly a million people dying from HIV-related causes annually. Similar to what has been noted in efforts to combat TB, challenges to ending the HIV epidemic include stigma, discrimination, and social inequalities. Antimicrobial resistance (AMR) is a very serious threat to global public health that requires action across all government sectors and society. Students will familiarize with this emerging problem in nosocomial environment and the community and learn the different strategies to control this global threat. Discussion will focus on the best policies, cost of inaction and capacity to engage all stakeholders in the nosocomial settings and in the community.

Students will learn the basics on the diseases including transmission models, and strategies for prevention and community engagement, such as health messaging for underserved populations. Approaches used by international agencies such as WHO or ECDC will be discussed.

Expected skills gained

A critical understanding of how current knowledge can inform optimal use of innovative approaches like the "omics" and digital technologies to improve problem solving in prevention, patient care, data management, and decision making, using examples from priority global public health threats.

Understanding of the barriers for implementation of technologies in low resources setting and time-lapse from discovery to country's availability of new tools

VIDEO LECTURES – 10 HOURS

Prof. Cirillo

8 hours

- The impact of "omics" on poverty related diseases: from diagnosis to individualized therapy **2 hours**
- How the genomic of the host and the pathogen has contributed to our understanding of the major poverty related diseases **2 hours**
- Genomics for diagnosis of bacterial antimicrobial resistance **2 hours**
- From research to real world: the challenge of aligning the introduction of new diagnostics and new drugs **2 hours**

Dr. Falzon& Dr.Yejin Lee

1 hour
The landscape of digital technologies in support of public health action

Prof. Temesgen
1 hour
How can artificial intelligence and clinical decision support systems contribute to global health?

EXERCISES – 14 HOURS

Prof. Cirillo
7 hours

- **Webinar** the global need to control AMR: why laboratory strengthening is a priority in all countries **2 hours**
- **Assignment** Homework **4 hours**
- **Webinar** Live discussion on assignment **1 hour**

Dr. Falzon
2 hours
Webinar Landscape of digital technologies in support of public health action

Prof. Story
2 hours
Webinar Use of digital technologies to support patient adherence to treatment

Prof Merzouk
2 hours
Webinar E-learning to increase professional capacity on a large scale

Prof. Temesgen
1 hour quiz "Precision medicine and clinical decision support for public health"
Homework with feedback via email

Bibliography

Omics

1. Singhania A, Wilkinson RJ, Rodrigue M, Haldar P, O'Garra A. The value of transcriptomics in advancing knowledge of the immune response and diagnosis in tuberculosis. Nature Immunology. 2018 Nov 1;19(11):1159–68.
2. The CRyPTIC Consortium and the 100,000 Genomes Project. Prediction of Susceptibility to First-Line Tuberculosis Drugs by DNA Sequencing. New England Journal of Medicine. 2018 Oct 11;379(15):1403–15.

3. Zignol M, Cabibbe AM, Dean AS, Glaziou P, Alikhanova N, Ama C, et al. Genetic sequencing for surveillance of drug resistance in tuberculosis in highly endemic countries: a multi-country population-based surveillance study. The Lancet Infectious Diseases. 2018 Jun;18(6):675–83.

4. Yerlikaya S, Broger T, MacLean E, Pai M, Denkinger CM. A tuberculosis biomarker database: the key to novel TB diagnostics. International Journal of Infectious Diseases. 2017 Mar;56:253–7.

5. Miotto P, Tessema B, Tagliani E, Chindelevitch L, Starks AM, Emerson C, et al. A standardised method for interpreting the association between mutations and phenotypic drug resistance in Mycobacterium tuberculosis. European Respiratory Journal. 2017 Dec;50(6):1701354.

6. Tagliani E, Cirillo DM, Ködmön C, van der Werf MJ, Anthony R, van Soolingen D, et al. EUSeqMyTB to set standards and build capacity for whole genome sequencing for tuberculosis in the EU. The Lancet Infectious Diseases. 2018 Apr;18(4):377.

7. Tagliani E, Anthony R, Kohl TA, De Neeling A, Nikolayevskyy V, Ködmön C, et al. Use of a Whole Genome Sequencing-based approach for Mycobacterium tuberculosis surveillance in Europe in 2017–2019: an ECDC pilot study. Eur Respir J. 2020 Jul 30;2002272.

8. Hamers RL HIV drug resistance in low-income and middle income countries The Lancet Infectious Diseases e588-e596, October 01, 2018

1. Sohrabi C et al , World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19) International Journal of Surgery, 2020 https://doi.org/10.1016/j.ijsu.2020.02.034

Digital technologies

2. Falzon D, Timimi H, Kurosinski P, Migliori GB, Van Gemert W, Denkinger C, et al. Digital health for the End TB Strategy: developing priority products and making them work. Eur Respir J. 2016 Jul;48(1):29–45.

3. Falzon D, Raviglione M. The Internet of Things to come: digital technologies and the End TB Strategy. BMJ Global Health. 2016 Aug;1(2):e000038.

4. Digital resources for tuberculosis. https://www.who.int/tools/digital-resources-for-tuberculosis

5. Principles for Digital Development. 2015. http://digitalprinciples.org/

6. May M. Eight ways machine learning is assisting medicine. Nat Med. 2021 Jan;27(1):2–3.

7. WHO guideline: recommendations on digital interventions for health system strengthening. Geneva, World Health Organization. 2019. https://apps.who.int/iris/bitstream/handle/10665/311941/9789241550505-eng.pdf

8. Digital implementation investment guide (DIIG): integrating digital interventions into health programmes. Geneva, World Health Organization. 2020. https://www.who.int/publications/i/item/9789240010567

9. Global Strategy for Digital Health 2020-2025. Geneva, World Health Organization. 2021. https://www.who.int/docs/default-source/documents/gs4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.7 "Global Health at the Human-Animal-Ecosystem Interface"

Prof. Dr. Jakob Zinsstag, Deputy Head of Epidemiology and Public Health Department, Swiss Tropical and Public Health Institute, Basel, Switzerland

Hours & Format

Blended learning course of **29 hours** combining:
20 hours of lectures on an e-learning modality via *Swiss TPH's MOOC "One Health"* available on Tales (https://tales.nmc.unibas.ch/en/one-health-connecter-les-humains-les-animaux-et-l-environnement-13/).

5 hours estimated of exercises, integrated as part of the MOOC and a final assignment.
4 hours of face-to-face online webinars to debate and interact with experts.

Main Objective

Introduce global health students to the field of Global Health at the Human-Animal-Ecosystem Interface, providing them with an innovative approach that faces current and emerging problems in a transdisciplinary and intersectoral way.

Learning aims

At the end of this course, students should be able to:

- Describe and critically discuss the interdependence of human-animal-ecosystem health from the local to the global level.
- Explain the concept of One Health in its theoretical foundations.
- Justify the added value of integrated approaches to health in a qualitative and quantitative way.
- Provide examples of current and emerging issues in Global Health at the human-animal-ecosystem interface and explain how One Health could help in mitigating them.
- Apply transdisciplinary and system thinking, identifying the roles play by different disciplines, sectors and institutions in tackling complex Global Health issues at the human-animal-ecosystem interface.
- Apply critical and evidence-based thinking to generate ideas integrating interventionist-oriented knowledge to create assessable impacts in the One Health fashion.

Expected skills gained

Transdisciplinary, systemic and innovative thinking. applied to complex cross-sectoral health problems; Scientific argumentation; Presentation skills; Computer literacy specific to e-learning

PRE-RECORDED VIDEO LECTURES – 20 HOURS

Various Experts
20 hours
MOOC video lectures by experts from top international institutions.

EXERCISES – 9 HOURS

Prof. Dr. Jakob Zinsstag
9 hours

- **Webinar** Introduction to the course, presentation of the online material and the pedagogic/learning approach **1 hour**
- **Exercises/quizzes** incorporated into the MOOC **3 hours (students make them independently)**
- **Webinar** discussion about One Health and the role of international organization in the field **1 hour**
- **Webinar** Final assessment and presentation of activities, interaction and final exercises and quizzes **2 hours**

One Health Methods

- **Webinar** Introduction to methods **1 hours**
- **Webinar** small groups practical work and presentation **1 hour**

www.onehealthstory.com

Member of the One Health High Level Expert Panel (OHHLEP) https://www.who.int/groups/one-health-high-level-expert-panel/ohhlep-term-2/members

Publish your research, practical information and case studies on:
https://www.cabi.org/products-and-services/one-health-resources-cabi

Have a look at the 2nd edition of our One Health book: http://www.swisstph.ch/about-us/departments/epidemiology-and-public-health-eph/human-and-animal-health.html

Traduction française de la première édition: http://www.quae-open.com/produit/151/9782759230976/one-health-une-seule-sante

Join our permanently accessible MOOCs on One Health (English and en Français)https://tales.nmc.unibas.ch/en/one-health-connecter-les-humains-les-animaux-et-lenvironnement-13/
and transdisciplinarity https://tales.nmc.unibas.ch/en/partnering-for-change-link-research-to-societal-challenges-46/

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

C2.8 "Global health and the law: international and national regulations"

Pedro A. Villarreal, Research Associate, German Institute for International and Security Affairs, Berlin, Germany
Claudia Nannini, Legal Officer, World Health Organization, Geneva, Switzerland

Hours & Format

24hours
10h of video lectures and 14h of exercises.

Main Objective

To introduce the legal dimension of global health as a necessary component of interdisciplinary approaches. The cross-border protection of human health often requires devising solutions between different countries. Public international law is a key tool for such purpose. Exploring different legal regimes in this field leads to the role of the international co-ordinating authority in this subject, the World Health Organization. Understanding its powers, as well as its limitations, can help in obtaining a comprehensive overview of how to deal with the persistent challenges of global health.

Learning aims

The course will show students how achieving the goals of global health may require creating obligations under public international law. Students will also learn how inter-state coordination may also require granting legal powers to an international institution, namely the World Health Organization. The course will also display how the legal determinants of global health operate in pratice.

Expected skills gained

Students will understand the main legal obligations at the international level, and their linkage to national decision-making by authorities. The course will also allow students to employ basic legal criteria in their own future professional experiences related to global health.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. *Nannini*

4 hours

- *Introduction* – Overview of Public International Law, the Law of IOs and Human Health; Key themes include: WHO's legal nature, objective and functions, and governance; Categories and examples of WHO's normative instruments; overview of ongoing or concluded Member State-led work on a "pandemic accord" (2005) **1 hour**
- *WHO's partnerships and collaborations*: WHO's hosted partnerships, joint programmes and other initiatives; WHO's collaboration with individual experts; WHO's engagement with other intergovernmental organizations and non-State actors; WHO's Collaborating Centres and networks **1 hour**
- *General overview of the IHR (2005):* History, legal status, objective and scope of the IHR; and Party status; Roles, responsibilities and obligations of States Parties and WHO under the IHR **1 hour**
- *Access and benefit-sharing in the field of influenza*: the WHO Pandemic Influenza Preparedness (PIP) Framework for the sharing of influenza viruses and access to vaccines and other benefits; Development, objective, scope, governance features and functioning of the PIP Framework **1 hour**

Prof. *Villarreal*

6 hours

- Non-Communicable Diseases and Law; Framework Convention on Tobacco Control and the Protocol to Eliminate Illicit Trade in Tobacco Products; International Agency for Research on Cancer **1 hour**
- Health and Human Rights, Health as a Human Right; Themes: Obligations for Healthcare Systems; Availability, Accessibility, Acceptability and Quality; Examples of right to health litigation **1 hour**
- International Health Regulations (2005) Specific tools and procedures; Public health emergencies of international concern (PHEIC), including past events: H1N1 influenza, Ebola, COVID-19 (2014 and 2019), COVID-19; Additional public health measures; Implementation and compliance; Dispute settlement, Amendments of 2024 **2 hours**
- Access to Medicines**;** Legal background of pharmaceutical research and development; Current model of patent protection: international law and intellectual property; International trade law; Link to human rights; Intellectual property and pandemics **1 hour**
- The present and future of public international law on pandemic response; overview of the pandemic agreement (so far); open questions **1 hour**

EXERCISES – 14 HOURS

Prof. *Villarreal*

11 hours

***W*ebinar** Introduction and discussion of assignment **3 hours**
Assignment Preparation for discussion of assignment **6 hours**
Webinar Final results of assignment **2 hours**

Prof. *Nannini*

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350

3 hours
Assignment Homework e.g. Quiz multiple choice (feedback via email) **1 hour**
Webinar Q&A and discussion **2 hours**

Bibliography

1. Constitution of the WHO, 1946.
2. International Health Regulations (2005) as amended in 2024.
3. Framework Convention on Tobacco Control (2003).
4. International Agreement on Pandemic Prevention, Preparedness and Response (as presented in May 2025).
5. Solomon, Steven, "Instruments of Global Health Governance at the World Health Organization", in Kickbusch, Ilona et al (eds.), *Global Health Diplomacy: Concepts, Issues, Actors* (Springer, 2013), 187-196.
6. Solomon, Steven and Piercy, Kenneth, "Law and diplomacy at the World Health Organization, in Burci, Gian Luca and Toebes, Brigit (eds.), *Research Handbook on Law and Diplomacy* (Edward Elgar, 2022), 138-154.
7. Zhou, Suzanne and Liberman, Jonathan, "The global tobacco epidemic and the WHO Framework Convention on Tobacco Control - the contributions of the WHO's first convention to global health law and governance", in Burci, Gian Luca and Toebes, Brigit (eds.), *Research Handbook on Global Health Law* (Edward Elgar, 2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3339718
8. Tobin, John, "Chapter 4: Meaning of the Highest Attainable Standard of Health", *The Right to Health in International Law* (Oxford University Press, 2011), 121-174. International Health Regulations (2005) General Overview (Claudia Nannini)
9. Burci, Gian Luca, "The Legal Response to Pandemics. The Strengths and Weaknesses of the International Health Regulations" (2020) *Journal of International Humanitarian Legal Studies* 1-14.
10. Fidler, David P., "From International Sanitary Conventions to Global Health Security: The New International Health Regulations" (2005) 4 *Chinese Journal of International Law*, 325-392.
11. Taylor, Allyn, Habibi, Roojin et al, "Solidarity in the wake of COVID-19: reimagining the International Health Regulations" (2020) 396 *The Lancet*, 82-83.
12. Hestermeyer, Holger, "International Patent Law", *Human Rights and the WTO. The Case of Patents and Access to Medicines* (Oxford University Press, 2007), 33-75.
13. Report of the United Nations Secretary-General's High-Level Panel on Access to Medicines. Promoting innovation and access to health technologies. September 2016.
14. Villarreal, Pedro A., Tonti, Lauren, "Chapter 6. Infectious Disease", Gostin, Lawrence and Meier, Benjamin Mason (eds.), Global Health Law & Policy. Ensuring Justice for a Healthier World (Oxford University Press 2023) 147-173.
15. Moon, Suerie, "Nature Won't Wait, but can a Meaningful Pandemic Agreement get done in 2025? ", Geneva Policy Outlook, 20 January 2025, https://www.genevapolicyoutlook.ch/nature-wont-wait-but-can-a-meaningful-pandemic-agreement-get-done-in-2025/.

C2.9
"Global health diplomacy, governance and policies"

Eduardo Missoni, Adjunct Professor, Università Bocconi, Milan, Italy
Bettina Borisch, Professor, Institute of Global Health, University of Geneva, Geneva, Switzerland

Hours & Format

24hours
10h of video lectures and 14h of exercises.

Main Objective

The purpose of the course is to introduce students to the global health system, its main actors, policies and governance.

Learning aims

At the end of the course students should be familiar with the global health architecture, dynamics and governance, as well as with the main challenges of global health diplomacy and it impact at national level.

Expected skills gained

Critical analysis of the global context, processes and powers and their interactions.

PRE-RECORDED VIDEO LECTURES – 10 HOURS

Prof. Missoni
5 hours

- The evolution of public health strategies in the context of global development policies **2 hours**
- Global health actors: the UN and WHO **1 hour**
- Global health actors: Non-State Actors (corporations, civil society and Global Phylanthropy) **1 hour**
- Global health actors: Transnational Hybrids (Global Public-Private partnerships) and multistakeholderism **1 hour**

Prof. Borisch
5 hours

- Governance-global and national: the FCTC, *pandemic treaty*, the case of Switzerland, tobacco policies **3 hours**
- Governance-global and national: the case of Australia, tobacco policies **2 hours**

EXERCISES – 14 HOURS

Prof. Missoni
7 hours

- **Webinar** Introduction to course **1 hour**
- **Individual assignment** Readings **4 hours**
- **Webinar** Feedback on individual assignment and debate Global governance and health **2 hours**

Prof. Borisch
7 hours

- **Assignment** (2h homework) followed by webinar (1h)
  Global health governance: cases from Latin America: Uruguay and Panama **3 hours**
- **Flipping Classroom modality:** assignment (3h homework) followed by webinar/Discussion (1h)
  Global health governance: obesity epidemic **4 hours**

Bibliography

Readings to complement video lectures and for individual assignment

Missoni, E., Pacileo, G, Tediosi, F. Global Health Governance and Policy: An Introduction. Abingdon, Routledge, 2019.

- Chapter 4 – The right to health and the evolution of public health strategies in the context of global development policies, pp.44-73
- Section 2 – pp. 75-186

MGH Administrative Office
Department of Pathophysiology and Transplantation, University of Milan
Via Pace, 9 - 20122 - Milan
E-mail: mgh@unimi.it Phone: +39 02 503 20350