Application of the One Health Approach to Global Health Centers

From Geneva to Kakuma: Opportunities for One Health Innovation in the Digital Age

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Institute of Global Health, Faculty of Medicine, University of Geneva

Source: Yves Ryncki / FCBG
University Hospitals of Geneva, Switzerland

Source: Isabelle Bolon
A collaborative environment with world-class facilities for learning and research
Moving global health forward in academic institutions

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Global health has attracted growing attention from academic institutions. Its emergence corresponds to the increasing interdependence that characterizes our time and provides a new worldview to address health challenges globally. There is still a large potential to better delineate the limits of the field, drawing on a wide perspective across sciences and geographical areas. As an implementation and integration science, academic global health aims primarily to respond to societal needs through research, education, and practice. From five academic institutions closely engaged with international Geneva, we propose here a definition of global health based on six core principles: 1) cross-border/multilevel approach, 2) inter-/trans-disciplinarity, 3) systems thinking, 4) innovation, 5) sustainability, and 6) human rights/equity. This definition aims to reduce the century-old divide between medicine and public health while extending our perspective to other highly relevant fields. Overall, this article provides an intellectual framework to improve health for all in our contemporary world with implications for academic institutions and science policy.
Master of Science in Global Health
PhD in Global Health
MOOCs in Global Health
Studies in Medicine

Experts involved in UNIGE's MOOC on Global Health at the Human-Animal-Ecosystem Interface
Source: MOOC Global Health at the Human-Animal-Ecosystem Interface, Coursera
One Health in Global Health:

• OH is in line with principles of GH, it is a central and necessary approach in GH, not a new silo or discipline

• OH highlights the interdependence between human, animal and environmental health and is key to address current and emerging challenges in GH: EIDs, NTDs, AMR etc.

• OH brings disciplines such as veterinary medicine, environmental sciences, conservation sciences, disease ecology etc. to GH

Moving global health forward in academic institutions

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Our approach to One Health education:

- **Trans-disciplinary:** Academia, international organizations, NGOs, citizen science approach etc.

- **International and global:** International Geneva and beyond

- **Humanitarian:** Poverty related diseases, refugee camps etc. in collaboration with InZone, MSF, Red Cross etc.

- **Innovation:** MOOCs, digital epidemiology, AI etc.

- **Youth:** Students in Geneva, in refugee camps, online etc.
Global Health: Interdisciplinary Overview

- 2013, 2015, 2016
- English
- > 6,000 enrolments

UNIGE’s MOOC on Global Health: Interdisciplinary Overview available on Coursera

Source: Coursera - MOOC on Global health: an interdisciplinary overview
UNIGE’s MOOC on *Ebola: vaincre ensemble!*  
*Source:*  [FUN - MOOC Ebola: vaincre ensemble](http://www.fun.unige.ch)  [FUN];  [Coursera - MOOC Ebola: vaincre ensemble on Coursera](http://www.coursera.org)
Global Health at the Human-Animal-Ecosystem Interface

- Launched March 2017
- 37 experts from 20 institutions
- > 3,500 enrolments
- English, French, Chinese
- One Health: Risks and benefits at the human-animal-ecosystem interface

UNIGE’s MOOC on Global Health at the Human-Animal-Ecosystem Interface
Source: MOOC Global Health at the Human-Animal-Ecosystem Interface, Coursera
First 'Global Flipped Classroom in One Health': From MOOCs to research on real world challenges

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ABSTRACT

In 2016 and 2017, the first three MOOCs (Massive Open Online Courses) addressing One Health were released, two of them by University of Geneva and University of Basel (Switzerland). With the support of Swiss School of Public Health and using these two highly interdisciplinary MOOCs, the first ‘Global Flipped Classroom in One Health’ was organized in Geneva and Basel in July 2017. This innovative event gathered 12 Swiss and international MOOC learners to work on specific public global health challenges at the human-animal-ecosystem interface in interdisciplinary teams supported by experts from academia and international organizations (e.g. World Health Organization) based in Geneva, Basel and internationally. According to the final survey, the level of satisfaction by learners was high and they benefited from the experience in different ways: reinforcement of their knowledge and capacity to perform innovative research in One Health (e.g. using digital epidemiology), visits and meetings with experts in Global Health (e.g. World Health Organization and Institute of Global Health in Geneva, Swiss Tropical and Public Health Institute in Basel) and emerging research collaborations etc. A novel project-based learning and research model arising from MOOCs was successfully created, which offers opportunities for global education and research addressing real world challenges utilizing a One Health approach.
MOOC students and lecturers (e.g. Prof. Jakob Zinsstag) during the event at Campus Biotech, Geneva

Source: Isabelle Bolon
MOOC students and experts in One Health (e.g. Dr. S. de la Rocque) during a visit at WHO, Geneva

Source: Isabelle Bolon
MOOC students and other international students working with experts at SDG Solution Space, Geneva

Source: Isabelle Bolon
MSc in Global Health:

- **2-year programme** in Geneva and international
- **Highly interdisciplinary**: health professionals (about 1/3 including MDs, nurses etc.), biologists, social scientists etc.
- Course on «**Global Health at the Human-Animal-Ecosystem Interface**»
Geneva-Nairobi-Kakuma:

- Following **MOOC** together: Learn by teaching
- **Project-based learning** with focus on One Health challenges
- Triangle of students: Geneva-Nairobi-Kakuma
- Building **research capacity** to understand and tackle health issues at the human-animal-ecosystem interface

Kakuma Refugee Camp in Kenya, one of the largest camps in the world

*Source:* Isabelle Bolon
Kakuma Refugee Camp in Kenya, one of the largest camps in the world

Source: Isabelle Bolon
OH and innovative learning approaches in the medical curricula at UNIGE:

- **Since 2016 in 6th year:**
  OH (e.g. ecology of infectious diseases) as part of course on *Tropical Medicine*

- **2019-20 in 3rd year:**
  - Project-based course on *Global Health at the Human-Animal-Ecosystem Interface* as part of the GH track
  - International field work (about 6 weeks)

*Source: Isabelle Bolon*
Let’s discuss and work together national and internationally!
Students from UNIGE’s course on Global Health at the Human-Animal-Ecosystem Interface, Kakuma Refugee Camps, Kenya

Source: Isabelle Bolon
Thank you!

Students from UNIGE’s course on Global Health at the Human-Animal-Ecosystem Interface, Kakuma Refugee Camps, Kenya

Source: Isabelle Bolon