

Global health research and education: closing the gap in France

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The "Global Health 2030" think tank was founded in October 2016. It brings together personalities involved in global health, including Françoise Barré-Sinoussi, Paul Benkimoun, Sana de Courcelles, François Dabis, Annabel Desgrées du Lou, Jean-François Delfraissy, Eric Fleutelot, Frédéric Goyet, Mathieu Lamiaux, Michel Kazatchkine, Marie-Paule Kieny, Lélio Marmora, Benoît Miribel, Olivier Nay, Louis Pizarro and Agnès Soucat. Stéphanie Tchiombiano is the coordinator.

In addition to Stéphanie Tchiombiano, three other members were particularly involved in writing this note: François Dabis, Annabel Desgrées du Loû and Olivier Nay.

Group members are acting in their individual capacities and not on behalf of their respective organizations. This document is the fruit of a collective effort within the group. It in no way commits or reflects the individual opinions of any of its members.

<u>Contact</u>: santemondiale2030@gmail.com www.santemondiale2030.fr @Sante2030

Summary

This note follows on from a reflection we began in February ²⁰²⁰¹.

Teaching, research and academic expertise dedicated to global health are still very inadequate in France.

1- The French academic system as it is currently organized is hardly conducive to the production of new global health knowledge:

- No university research professors officially affiliated with a "global health" discipline
- Very few research units with a research focus on global health
- A limited, scattered and not very visible global health training offer
- No mention of "global health" in doctoral schools
- A knowledge ecosystem (associations, funding mechanisms, conferences, specialized journals) that is emerging, but still struggling to take shape.

2- France has little presence in international academic networks dedicated to these issues. French healthcare expertise is recognized abroad, but has little visibility in the more specific field of global health.

We therefore need to ask ourselves what avenues should be pursued, as quickly as possible, to develop global health as an area of teaching, research and academic expertise in France.

Our recommendations:

- Create a French "*task force*" of global health researchers and teachers involved in a national project to develop this teaching and research field.
- Encourage the creation of masters programs dedicated to global health, develop and coordinate a network of degree programs offering courses on these issues, and integrate courses dedicated to global health into the curricula of a large number of training programs, particularly in political, social, environmental and medical sciences.
- Stimulate the creation of "global health" specializations within the various doctoral schools.
- Boost the production of new knowledge in global health by stimulating and funding more interdisciplinary research² on global health priorities.
- Strengthen the training of decision-makers in global health issues.
- Build a continuum between researchers, decision-makers and global health operators. Public authorities could, for example, make greater use of France's universities and Grandes Ecoles³ instead of almost systematically turning to consulting firms, the IGAS or the Cour des Comptes.

¹ We published an initial note on this subject in February 2020, available on our website: http://santemondiale2030.fr/wp-content/uploads/2020/07/Note-8-champ-académique-Santé-mondiale.pdf ² Global health issues are complex and often require in-depth research, based on international partnerships, at the crossroads of several disciplines (epidemiology, health economics, biomedical research, anthropology, political science,

etc.). ³ Opportunities abound for American, British and German universities and business schools, which are regularly called upon by national agencies in charge of global health issues.

What do we mean by global health?

The definition classically used is that of Jeffrey P Koplan4 : Global health is "a field of study, research and practice dedicated to improving health status and achieving health equity, for all people, worldwide. Global health focuses on health problems, determinants and solutions on a transnational scale.

It involves many disciplines within and beyond the health sciences and encourages interdisciplinary collaboration; it proposes a synthesis and continuum between prevention at the population level and care at the individual level5".

Global health refers to the multiple health issues that transcend national borders and call for collective action by the international communitý on the factors that determine them. It is at once a field of practice (many NGOs claim it as their own), a field of study (with its specific research ^{objects6}), a field of teaching and research (laboratories are dedicated to it and many academic structures bear this appellation, particularly in Anglo-Saxon countries and Europe).

Bringing together a wide range of players and scientific disciplines, the field of global health is at once political, social, scientific and medical. It is marked by several observations:

- The maintenance of major economic, social and political inequalities, and their repercussions on access to prevention, care, healthcare products and other increasingly costly innovations;
- The growing importance of private-sector players and standards in the healthcare field (multiplication of public-private partnerships, strong presence of foundations in healthcare governance bodies, key role of private research and statistical institutes, influence of tech and drug companies, in particular).
- The interdependence of health with other areas of sustainable development, and competition with other political, social and economic interests not directly related to health (climate, education, gender, etc.).

What's the current state of global health studies in France?

Global health research and teaching lag far behind many OECD countries, despite the crucial importance of this field of study for research and medical advances, as well as for France's influence in international institutions and the major hubs of transnational scientific cooperation. France has undeniable academic strengths: scientific and technological influence, the attractiveness of French higher education and research, and integration in international research networks⁷. However, it remains marked by three structural weaknesses:

⁴ Professor of Public Health at Emory University, Jeffrey Koplan headed the U.S. CDC for 26 years, then helped create the international network of national public health institutes, IANPHI.

⁵ Koplan JP, Bond TC, Merson MH, Reddy KS, Rodriguez MH, Sewankambo NK, et al. Towards a common definition of global health. The Lancet. June 2009;373(9679):1993-5.

⁶ A range of research topics are particularly linked to global health: global health governance, international health policies, global health financing, transnational health determinants, international responses to health issues, etc.) and even any other health topic, as long as it is approached from a "global health" perspective (looking for transnational links, etc.).

⁷ We are referring here to the IRD, Instituts Pasteur, ANRS-MIE and CIRAD networks.

1. France has little involvement in international academic networks on global health.

While global health is a recognized scientific field in most OECD countries, with university departments, training courses, doctoral schools, journals and dedicated research centers, it is still not very visible in France. This gap is particularly significant in comparison with the United States, Canada and certain European countries such as Germany and the United Kingdom.

French teachers and researchers could and should be more present in various global health discussion forums, such as :

- Dedicated international networks, such as the European Global Health Research Institutes Network (EGHRIN8) or the Consortium of Universities for Global Health (CUSH9)
- Specialist journals such as Lancet Global Health
- Dedicated conferences, such as the annual World Health Summit in Berlin, with its academic network, the M810 Alliance.

2. The current French academic system is not conducive to the recognition of global health as a university specialization.

- Very few French universities and Grandes Ecoles are involved in global health issues. Training courses in global health are not very visible in France, in the sense that they remain rare and are not labelled as such.
- The research teams involved in these issues are scattered across various public scientific and technological establishments (EPST11) and universities. They know little about each other, and rarely officially register their research in the field of global health.
- In general, interdisciplinary research is insufficiently valued in the assessments and careers of French researchers, compared with other fields of research.
- In fact, unlike in the USA12 or other European countries13, there are virtually no academic groups in France that clearly qualify as global health specialists (see map on next page).
- Despite real progress in recent years, the links between young researchers (post-docs), established researchers, teachers and decision-makers/senior administration in France are still very weak. In Germany, for example, 40% of doctoral graduates are post-docs.

⁸ https://eghrin.eu/

⁹ <u>https://www.cugh.org</u>

¹⁰ <u>https://www.worldhealthsummit.org/m8-alliance.html</u>

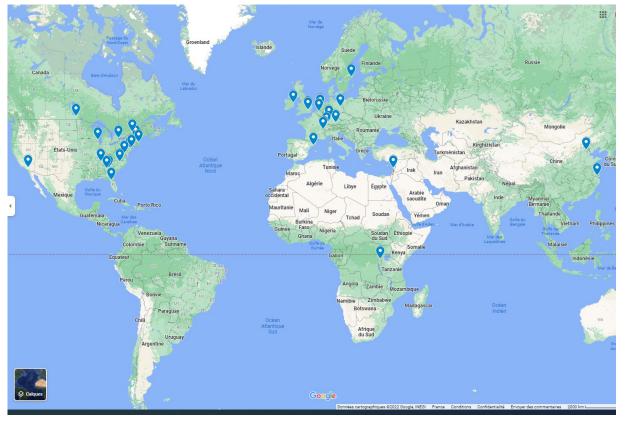
¹¹ French EPSTs include the Centre national de la recherche scientifique (CNRS), the Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE), the Institut national d'études démographiques (INED), the Institut national de recherche en informatique et en automatique (Inria), the Institut national de la santé et de la recherche médicale (INSERM) and the Institut de recherche pour le développement (IRD).

¹² Several university institutes for global health promote the international influence of American universities in this field, including Harvard, Johns Hopkins, the Universities of California San Francisco and Los Angeles, Emory and Columbia.

¹³ In Europe, specialized global health research institutes are being set up at universities, for example in Amsterdam (Institute for Global Health and Development - AIGHD), London (Institute for Global Health Innovation at Imperial College, Global Health Department at the London School of Hygiene and Tropical Medicine), Geneva (Institut de Santé Mondiale at the University of Geneva and Global Health Center at the Graduate Institute) and Milan (New Global Health Center).

work in public administration, compared with just 10% in France14. Opportunities for interaction are therefore far more numerous for American, British and German universities, which are regularly called upon by decision-makers and national agencies in charge of global health issues.

- Finally, debates on global health issues are virtually non-existent in bodies such as the Société française de santé publique, the Conférence nationale de santé, and the Conseil économique, social et environnemental. Similarly, the various academies (of medicine, science or pharmacy) have so far devoted very little attention to these issues.
- Our think tank Global Health 2030 was created in October 2016 because there was no space for producing syntheses, analyses and recommendations in French on these subjects.



Map of the world's main "global health" teaching and research centers in 2022. A non-exhaustive list of these centers can be found in Appendix 2.

¹⁴ As a result, French public decision-makers are clearly further removed from the world of research than their German counterparts. "Public investment in research is in fact 20% higher in Germany than in France". <u>https://www.lemonde.fr/idees/article/2022/01/19/les-decideurs-publics-francais-eloignes-du-monde-de-la-</u> <u>accordent-peu-de-valeur-a-la-demarche-scientifique 6110060 3232.html</u>

3. French excellence and investment in global healthcare are insufficiently promoted

It is difficult to justify and be satisfied with France's structural backwardness, in view of the importance of global health issues, particularly highlighted by the Covid-19 pandemic, but also in view of France's many specific features in these areas:

- France's health research shines (13 Nobel Prize winners in physiology or medicine). It is open to the world, thanks to an excellent field network in low-income countries (IRD, Instituts Pasteur, ANRS-MIE, CIRAD).
- France has played a *de facto* leading role in the advent of global health over the past 20 years, notably through its support for the creation and operation of international initiatives such as the Global Fund (to fight AIDS, tuberculosis and malaria) and Unitaid, or its strong involvement in the response to health crises such as the Ebola epidemic in West Africa. It is partly thanks to the efforts of our representatives that the goal of universal health coverage has been introduced into MDG 3 at the United Nations General Assembly in September ²⁰¹⁹¹⁵.
- The "promotion of French expertise, training, research and innovation" is officially one of the four priorities of the latest French global health strategy ²⁰¹⁷⁻²⁰²¹¹⁶. We also note the growing participation of research representatives in various French discussion forums, including the group tasked with drawing up the new French global health strategy 2023-2027.
- The fact that over the past year, ANRS-MIE has opened up its field of action to emerging diseases and "One-Health" issues, the increasingly recurrent use of the keyword "global health" by research laboratories, and the publication by IRD, for the first time this year, of a brochure presenting all its work in global health17 are all indicative of a de facto evolution in the practices and representations of the research world.

What can be done to develop the academic field of global health in France?

We are proposing six projects to close the gap in France.

1. Set up a national network of French players in global health teaching and research

It is important to make more visible what is being done in France in the field of global health, which has not necessarily been identified as such until now. This effort should focus on the overall higher education and research landscape. Giving "global health" visibility to researchers' work on these issues will raise their profile on the international stage. In the same way, research laboratories that are working

¹⁵ <u>https://www.un.org/pga/73/event/universal-health-coverage/</u>

¹⁶ Promoting French expertise, training, research and innovation was the fourth focus of France's 2017-2021 global health strategy.

<u>17https://www.ird.fr/sites/ird_fr/files/2021-10/Fiche%20Santé%20%28version%20courte%29%20-%20Vers%20des%20solutions%20durables%20V2-1.pdf</u>

on global health are too fragmented. They could develop a concerted strategy via their parent establishments and their supervisory bodies, in order to coordinate more closely.

Today, we need to move on from dynamics based on interpersonal relationships, with no real structural foundations, to a genuine, more structured "global health task force", for which different administrative models can be envisaged18 once the strategic decision has been taken.

We must then devote resources to fostering the emergence of a research community associated with a network of global health experts in France, by linking operations, research and training with a triple objective:

- Provide food for thought/express "science-based" ideas for public policy and support our diplomats in their positioning, thus developing scientific health diplomacy.
- Consolidate the network, attract "talent" students and researchers training in France or abroad - by offering attractive positions, and coordinate mobility within international organizations.
- Mobilize this expertise, in particular for the WHO19 Academy, which represents a major financial investment by France and a great opportunity to create a dynamic around global health issues in France.

The emergence of an academic community generally involves the creation of journals, associations and research collectives, which are both places for the affirmation of disciplinary themes and issues, and circles for the consolidation of legitimate practices. While several French or French-speaking journals have published special issues on the theme of global health, there is as yet no specialized French journal. In this context, French and French-speaking researchers need to link up more effectively with a transnational dynamic, and publish as frequently as possible in international peer-reviewed journals.

2. Improving the visibility and recognition of French global health research

The French healthcare research system is mainly made up of two parallel bodies of civil servants, generally grouped together in joint research teams and units: university lecturers and researchers, with stable numbers but few opportunities for mobility between specialties and universities, and researchers affiliated to EPSTs, with very limited recruitment by specialty. Added to these two major national organizations are the Grandes Écoles and institutes outside universities, such as the IEP and EHESP. This complex administrative landscape is not specific to the organization of French global health research, but this lack of administrative clarity makes it particularly difficult for French academic and scientific partners to be recognized and included in international networks in the field. This French organization is all the more difficult to understand as the various entities are increasingly linked to each other in mixed research units. What's more, universities are now defining their own research strategies, based on structuring axes. Finally, they are increasingly asserting their international strategy, with a small number of them having understood by now that they need to work together on a global scale.

6

¹⁸ This recommendation is made in particular by François Dabis in his ministerial note in support of the Lyon WHO Academy project and reflection on global health in France (January 2022, unpublished document). In it, he points out that the labeling of a French global health network would make it possible to respond more effectively to the need for training, research and expertise in global health, by providing an administrative form for mobilizing resources and conducting joint projects. There are several possible forms, including an inter-institutional agreement, a scientific interest grouping, a 1901 law association, etc. The name of the network should reflect the ambition of the initiative ("Institut français en santé mondiale" or "France Global Health", for example). This national network could, for example, be organized into regional poles, with a central hub. An initial meeting along these lines was held under the aegis of the three ministries (Ministry of Health, MESRI, MEAE) at the end of April 2022.

global health is an academic issue. Without claiming to question the entire health research system, it seems to us that global health calls for a rethink of the organization of research in the various French universities where it currently exists, or in those wishing to invest in this field. While the recognition and promotion of global health research are essential, the creation of teaching positions for researchers specialized in global health, or of interdisciplinary global health chairs, would obviously be a major step forward.

3. Building a community of practice involving researchers, decision-makers and field workers

The three poles (researchers and teachers / political decision-makers / operational players) tend to operate in silos in the French system. On the one hand, the research results that constitute scientific evidence are not sufficiently "used" by decision-makers or those working in the field. On the other hand, researchers do not necessarily answer the questions posed by decision-makers or implementers, and are not always able to present their findings in such a way that they can then be translated into decisions and interventions. Ideally, therefore, we need to both help policy-makers and practitioners to reformulate their questions and, at the same time, stimulate researchers to answer them in a way that can be "grasped" by decision-makers. What Canadians call "knowledge brokerage" requires time and resources. This observation is not specific to healthcare, and is perhaps even more striking in other sectors, but the links between the various players within the French ecosystem remain too weak.

We need to show decision-makers that global health research is important²⁰, and that it can be a tool for decision-making, health diplomacy and governance. French experts are insufficiently represented at international level, in the forums where major global health issues are discussed. Strengthening the links between decision-makers, teachers, researchers, field workers and global health experts will help consolidate this collective expertise and contribute to France's positioning on the international stage. This network could also contribute more intensively to the development, implementation and monitoring of France's global health strategy.

4. Increase resources allocated to global health research

Until now, global health issues have not been clearly included in the various funding schemes for public health research, whether these be national agencies specific to certain health issues, such as Inca (on ^{Cancer21}) or ANRS-MIE (on AIDS, hepatitis and emerging infectious diseases). The extension of ANRS's scope to include emerging infectious diseases is an important recent development, enabling it to integrate One-Health research issues, but global health is not explicitly mentioned in its mandate. The same is true of the ^{Prézode22} scheme, and of all the funding mechanisms managed by Expertise France and the Agence Française de Développement. As for the ANR, it excludes international research funding in principle, reserving its calls for tender to French teams conducting research in the following fields

²⁰ Nay O, Barré-Sinoussi F. Bridging the gap between science and policy in global health governance. The Lancet Global Health. 2022 ;10(3):e322-3.

²¹ For three years, the French National Cancer Institute ran a research program focused on cervical cancer prevention in five sub-Saharan African countries and two South-East Asian countries, in partnership with the WHO, but it did not directly involve French universities.

²² PREZODE (Preventing Zoonotic Disease Emergence) is an international initiative launched in January 2021 by France with the support of the European Commission and the FAO, and which aims to encourage collaboration between countries on the risks of zoonotic emergences and pandemics and therefore all One Health approaches. The co-pilots of this initiative are INRAE, IRD and CIRAD. A first PREZODE research program financed by the Programme d'Investissements d'Avenir (PIA) has been announced for 2022. https://prezode.org/prezode fre/

in France. The same applies to GIP IReSP. Specific "global health" calls could be launched to stimulate research teams and encourage them to position themselves clearly in this field. We recommend that global health issues be more systematically included in the various existing public health research funding schemes, and that the possibility of funding international research teams (and not just French researchers) be systematically considered, given the profoundly transnational nature of these issues.

5. Organizing and expanding the network of global health degree courses

A significant number of students and professionals looking for training with a "global health" label go abroad, generally to English-speaking countries where diplomas in this specialty are numerous, visible and renowned. As a result, France is deprived of the formation of a community of practice in global health, capable of conveying its values and expertise, and producing structuring ideas or new concepts that can fuel debate on national and international stages.

Multidisciplinarity is a strong feature of global health, and may require inter-faculty organization, mobilizing, for example, teachers with dual affiliations. This is already partly in place at SciencesPo, EHESP and ISPED, but could be developed further, with full recognition of the "global health" specialization which, for the moment, does not really exist in France. Some French institutions do offer specializations or seminars on global health as part of a broader training program, but there is no master's degree entirely dedicated to global health, or at least with this designation.

In the appendix, you will find a table showing the various training courses and courses explicitly dealing with global health in France:

- Master's degrees in political science from the School of Public Affairs and the Paris School of International Affairs (PSIA) at Sciences Po Paris, Master 2 specializing in Global Health
- Masters in Public Health with a strong international dimension (ISPED Bordeaux offers nine training courses within the Masters in Public Health, both face-to-face and distance learning, including an international health course). EHESP has also set up a Master of Public Health (PMH), an international, multidisciplinary course taught in English.
- The "Global Health" specialization certificate offered by the CNAM in collaboration with the Institut Pasteur in Paris for students doing a Master's degree in public health.
- Several courses dedicated to global health are offered in political science curricula, notably at Sciences Po Paris23, Paris 1 Panthéon-Sorbonne24 and the Institut d'études politiques de Toulouse25.

It is important to consider the complementarity between these different training courses. Our general recommendation is to create at least one "global health" Master 2 at national level, at least partly in ^{e-learning26}, to open up to international students.

 ²³ 20:00 course in the "International Development" master's program at SciencesPo's School of International Affairs (PSIA) and 20:00 course in the "Public Policy/Global Health" master's program at SciencesPo's School of Public Affairs.
 ²⁴ 20:00 classes in the "Development and Humanitarian Aid" Master's program of the Paris 1 department

²⁵ 20:00 lecture on "Global health issues", as part of the core curriculum for 5th year students at IEP Toulouse.

²⁶ The French institution providing this new training could create partnerships with certain French-speaking universities whose schools of public health have already come together at global (REFESP) or African (REFSAO) level.

Finally, strengthening the training of France's senior civil servants in global health issues must become a priority. Specific courses should, for example, be given to future senior civil servants at the Institut national du service public (INSP), for both initial and continuing training.

6. Setting up a "global health" doctoral program in France

PhD students who want to do a thesis in global health are obliged to go abroad or, when they stay in France, to choose a doctoral school in one of the already recognized disciplinary fields, such as public health, economics or political science, for example. High-level academic expertise and research in global health do in fact exist in France, but they are not recognized for their original contribution. It would therefore be important to define the contours of a comprehensive, multi-disciplinary training pathway, offering a postgraduate course for future global health researchers and professionals wishing to obtain a doctorate in the specialty.

The French university system is organized around four major disciplines: Law and Social Sciences, Medicine, Humanities and Science. Some advocate the creation of a CNU sub-section dedicated to global health, but this would mean attaching the sub-section to one of the disciplines that already has a section on the Conseil national des universités (CNU²⁷). If a new "Public Health" section as advocated by the recent Chauvin report²⁸ (open to non-medical practitioners, interdisciplinary) were to be set up, this might make sense, but we're not at all sure at this stage. Moreover, the risk would be to "atomize" academic bodies and confine global health to a space dominated by one professional group (public health specialists in this case²⁹), whereas what characterizes global health is precisely interdisciplinarity.

Ideally, doctoral students could be attached to several doctoral schools, in line with their crossdisciplinary subject, but this is not possible at present. In the end, it seems to us that the most appropriate course of action would be to encourage the creation of "global health" specializations in doctoral schools linked to various disciplines (political science, economics, demography, public health, medicine, management science, etc.).

²⁷ The Conseil National des Universités (National University Council) is a uniquely French form of national career regulation, even though since 2008-2009, institutions have had a little more leeway to manage their own careers. The mission of this national body is to validate the quality of candidates for entry into the careers of university professors and lecturers (qualification), participate in their recruitment and then evaluate them throughout their careers. It is made up of 11 groups, themselves divided into 52 sections, each corresponding to a discipline. Each section is made up of two colleges, with equal numbers of representatives of university professors and equivalent staff, on the other.

²⁸ See proposal no. 29, p. 45 of the Chauvin Report:

https://solidarites-sante.gouv.fr/ministere/documentation-et-publications-

official/reports/health/article/designing-the-public-health-of-the-tomorrow

²⁹ Doctoral students would have no interest in choosing a new closed sub-section, offering fewer opportunities than a "classic" discipline, in terms of positions. In France, they make fairly pragmatic choices at the start of their careers, and positions remain closely linked to disciplines. Although the academic field is currently evolving (with the transition of several faculties of medicine or law, for example, to transdisciplinary universities), calling this principle into question would require fundamental reform. The multidisciplinarity of global health risks disappearing, since anthropologists, economists, sociologists and political scientists will have no interest in joining this new section.

APPENDIX 1: Presentation of Global Health 2030

Global Health 2030 is an independent think tank that since 2016 has brought together personalities who have long been involved in global health issues. Its reflections are part of the Sustainable Development Goals.

OUR COMMITMENT

France is one of the biggest providers of international healthcare funding, but its influence in international bodies and healthcare partnership platforms remains limited. We are convinced that France can only be heard and listened to in the international arena of global healthcare when its players succeed in conveying a strong, coherent message, structured around clear, stable objectives, and underpinned by values that are attached to the history of healthcare in France.

Our aim is to formulate recommendations on France's global health policy, and to mobilize all stakeholders to ensure that health issues become a strategic focus of French international aid.

OUR PREVIOUS NOTES

- 1 White paper on global health
- 2 Manifesto: Our vision of global health
- 3 Health is a priority for the Sahel
- 4 Reinvigorating the fight against tuberculosis
- 5 The importance of the European Health Commission
- 6 <u>- Contribution to the preparation of the next Global Fund</u> <u>Replenishment Conference</u>
- 7- <u>A European health commissioner is essential for the health of</u> <u>Europeans</u>
- 8 The French institutional framework for global health thoughts and proposals
- 9 UNAIDS: what challenges, what future?
- 10 Representations of French influence in global health in Genevabased international organizations
- 11 Structuring the academic field of global health in France
- 12 Support WHO in its role of coordinating the global
- management of the Covid-19 epidemic.

13 - Inclusion and participation of the whole of society in the response to Covid-19. Food for thought

14 - Anticipating the evaluation of the international response to the first wave of Covid-19: issues, expectations and points of attention

15 - Should we save the OMS soldier?

16 - The Franco-German axis, a driving force in global healthcare

17- Drawing up France's new global health strategy: the art and the way

18- Digital health and global health

OUR MEMBERS

Santé mondiale 2030 brings together personalities with a longstanding involvement in global health, including Françoise Barré-Sinoussi, Paul Benkimoun, Sana de Courcelles, François Dabis, Annabel Desgrées du Lou, Jean-François Delfraissy, Éric Fleutelot, Frédéric Goyet, Mathieu Lamiaux, Michel Kazatchkine, Marie-Paule Kieny, Lélio Marmora, Benoît Miribel, Olivier Nay, Louis Pizarro and Agnès Soucat. Stéphanie Tchiombiano is the coordinator.

Our vision of Global Health

Global health is a fundamental human right. It is also a global common good. Universal access to healthcare and the construction of sustainable healthcare systems are central central issues of human development, the economy and the fight against poverty, as well as security. They therefore make a decisive contribution to the inclusive development of societies and to peace.

Health issues are complex and call for **long-term strategic visions** to meet the challenges posed by globalization, intensifying human exchanges, demographic transitions and climate change.



10

APPENDIX 2: Leading global health research institutes worldwide

Institute name	City	Link					
EUROPE (EXCLUDING FRANCE)							
Global Health Academy	Edinburgh	https://www.ed.ac.uk/global-health/about					
Institute for global health	London	https://www.ucl.ac.uk/global-health/					
Institute for global health innovation	London	https://www.imperial.ac.uk/global-health-innovation/					
London School of Hygiene and tropical medicine	London	https://www.who.int/workforcealliance/members_partners/member_list/lshtm/en/					
The George Institute for Global Health	Oxford	https://www.georgeinstitute.org					
Trinity College Dublin Global Health	Dublin	https://www.tcd.ie/tcgh/					
Global Health Institute	Lausane	https://www.epfl.ch/schools/sv/ghi/					
Swiss Tropical and Public Health Institute	Kreuzstrasse	https://www.swisstph.ch/en//					
Graduate Institute Geneva	Geneva	https://www.graduateinstitute.ch/discover-institute/who-we-are					
Global Health Institute	Antwerp	https://www.uantwerpen.be/en/research-groups/global-health-institute/about-ghi/mission/					
ISGlobal, Barcelona institute for global health	Barcelona	https://www.isglobal.org/en/quienes-somos					
Amsterdam Institute for Global Health and Development (AIGHD)	Amsterdam	https://www.aighd.org					
Julius Global Health Center	Utrecht	https://www.globalhealth.eu					
KIT global Health	Amsterdam	https://www.kit.nl/global-health/					
Center for social medicine and global health	Lund	https://www.lunduniversity.lu.se/lucat/group/v1000505					
Karolinska Institutet Department of Global Public Health	Stockholm	https://ki.se/en/gph/about-the-department-of-global-public-health					
School of Global health	Copenhagen	https://globalhealth.ku.dk					
The Heidelberg Institute of Global Health	Heidelberg	https://www.klinikum.uni-heidelberg.de/heidelberger-institut-fuer-global-health/					
nstitute For Tropical medicine, Travel Medicine, and Human Parasitology	Tübingen	https://en.wikipedia.org/wiki/Institute_for_Tropical_Medicine_Tübingen					
TUM Center for global Health	Munich	https://www.med.tum.de/en/center-global-health-0					
Charité Global Health Center	Berlin	https://www.charite.de/en/service/press_reports/artikel/detail/neues_zentrum_fuer_globale_gesur heit_charite_global_health_gegruendet-1/					
Center for global health	Milan						
	NORT	TH AMERICA					
Johns Hopkins center for global health	Baltimore	https://hopkinsglobalhealth.org/					
Robert J.Havey, MD Institute for Global Health	Chicago	https://www.globalhealth.northwestern.edu/					
Duke Institute for global health	County Durham	https://globalhealth.duke.edu/					
UNC Institute for global health and infectious diseases	Chappel Hill, North Carolina	https://globalhealth.unc.edu/					
Yale Institute for Global health	New Haven, Connecticut	https://medicine.yale.edu/yigh/about/					
UC Global health institute	California	https://ucghi.universityofcalifornia.edu/uc-global-health-institute					
Global Health Initiative	Hanover	https://dickey.dartmouth.edu/programs/global-health					
Global Health program	Chicago	https://publichealth.uic.edu/global-health-program/					
Tufts center for Global Public health	Medford	https://global.tufts.edu/tufts-center-global-public-health					
UCSF Institute for global health sciences	San Francisco	https://globalhealthsciences.ucsf.edu/					
Vanderbilt Insitute for global health	Nashville	https://www.vumc.org/global-health/welcome					
Office of Global health	Milwaukee	https://www.vulic.org/global-health					
Harvard Global Helath Institute	Cambridge	https://www.incw.edu/departments/once-on-global-nearm					
BU School of public health	Boston	https://www.bu.edu/sph/about/departments/global-health/					
CNU Global halth and medicine SIG	Elke Grove	https://medicine.cnsu.edu/students/SIG/global-health/index.php					
Center for global health	Dayton	https://medicine.wright.edu/center-for-global-health					
	Washington	https://publichealth.wustl.edu/centers/global/about-global/					
Global health	Washington	https://publichealth.gwu.edu/departments/global-health					
Loma Linda Global Health Institute	Loma Linda	https://ghi.llu.edu/about					
Emory Global Health Institute	Atlanta	https://globalhealth.emory.edu/index.html					
Arnhold Institute for Global Health	New York	https://icahn.mssm.edu/research/arnhold					
Institute for global health and translational science	Syracuse	https://upstateglobalhealth.org/contact/					
Global Health Institute	Athens	https://publichealth.uga.edu/departments/global-health-institute/about/					
Global Health Institute	Gainesville	https://www.cpet.ufl.edu/students/uf-cpet-summer-programs/global-health-institute-/					
Rutgers Global Health Institute	New Brunswick	https://globalhealth.rutgers.edu					
Global Health Program	Boston	https://medicine.tufts.edu/local-global-engagement/global-health-program					
Center for global health	Toronto	https://www.dlsph.utoronto.ca/institutes/centre-for-global-health/					
International Health Unit	Montréal	https://espum.umontreal.ca/etudes/domaines-detudes/sante-mondiale/					
Center for Global Public Health	Manitoba, Winnipeg	https://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/cgph/					
	SOUT	H-EAST ASIA					
Xi'an Jiaotong University, Global Health Institute	Xi'an	http://ghi.xjtu.edu.cn/en/Team/Faculty.htm					
Peking University - Health Science Center - Department of Global Health	Beijing	http://sph.pku.edu.cn/English/Global_Health.htm					
	МП	DDLE EAST					
Global Health institute AUB	Beirut	https://ghi.aub.edu.lb					
		CONTINENTAL					
The George Institute for global health	Sydney	https://www.georgeinstitute.org/					
Organization for tropical studies	50 universities out	https://tropicalstudies.org/about-us/					
	of 3 continents						
		AFRICA					
University of Global Health Equity		AFRICA https://ughe.org/academics/mghd					

(11)

APPENDIX 3: Main global health training courses in France

List of courses integrating global health issues in France									
Title	Affiliated organization	Type o f establishment	City	Content type	Office	Link			
			т	RAINING WITH A GLOBAL	HEALTH SPECIALIZATION	I			
Specialized Master Global Health	SciencePo Paris : PSIA - School of International affairs and EAP - School	Grande école / non- university institute	Paris	Masters specializations	Louis Pizarro (PSIA)/ Daniel Benamouzig (Ecole d'affaires public)	https://www.sciencespo.fripublic/en/content/global-health.html			
Master's degree in public health including a Certificate of Global specialization	CNAM/Pasteur	Non-university institute	Paris	International scope, epidemiology course, infectious risk, Health issues	Arnaud Fontanet / Olivier Weil	https://formation.onam.fr/rechercher_par-discipline/mastern_specialize- lable-conference-designades-eccles-sande-publique-11129/App/RP= https://formation .cnam.fr/recherchercherchercherchercherchercherch			
d is c i p l in e / c e r t i f i c a t - despecialisation-global-health / One Health / One Health									
Master in Public Health - International Health	ISPED	Scientific and technical establishment	Bordeaux	UE International interdisciplinary health and field placement	Renaud BECQUET Joanna ORNE- GLIEMANN	http://www.isped.u - - MATION/MASters- DUS-Masters- DUS- DNU			
Master of Public Health - Societies and Development pathway	SESSTIM Institute: Alx- Marseille University - IRD INSERM SESSTIM = Sciences	Mixed: University / non-university institute	Aix-Marseille, entirely remote	Epidemiology course, Humanitarian medicine, Tropical diseases, OneHealth	Prof. Stéphanie Gentile, Prof. Roch Giorgi	https://sesstim.univ-amu.fr/master-spsd			
Master of Public Health	EHESP	Non-university institute	Rennes	International, multidisciplinary and taught in English	Odessa Dariel, Florence Bodeau-Livinec	https://mph.ehesp.fr			
Master international One Health: Managing Health of populations (opening 2022)	VetagroSup, Lyon 1 Claude Bernard University	mixed: Non-university institute / University	Lyon	Integrated into the M2 Public Health, International Approach and One Health	Thibaud Porphyre, Sylvie Mialet and Florence Ayral	http://chaire-vph.vetagro-sup.fr/formations/master-oh-mhp/			
Master's degree in public health health intervention	University of Paris	University	Paris	International Health course - global health, epidemiology.	Pierre-Yves Ancel, Pascal Astagneau	https://odf.u-paris.fr/frioffre-de-formation/master-XB/sciences- technologies-sante-STS/sante-publique-K2NDG2O3//master-sante- publique-parcours-epidemiologie-et-interventions-en-sante-des- populations-epipop-K168T00F.html			
MASTER INTEGRATED AT LEAST ONE "GLOBAL HEALTH" or "ONE HEALTH" COURSE									
Master in Risk,	IEP Toulouse	Non-university institute	Toulouse	Public and	Julien Weisbein / Christel Coumil	http://www.sciencespo			
Science, Environment and Health				environmental health international, courses in	Christel Cournil	- toulouse.fr/ri sques- science- environnement -et- <u>samte49416kjso</u>			
Master of Philosophy and Biomedical Humanities	Sorbonne University	University	Paris	One Health" course	Claire Crignon, David Teira, Alexandre Escargueil	https://humanites- biomedicales.sor bonne- universite.fr/la- formation- <u>hb/master</u> <u>humantes/bomedicales</u>			
IEP Toulouse 5th year - Core curriculum	IEP Toulouse	Non-university institute	Toulouse	Global health issues" course	Stephanie Tchiombiano	https://cours.sciencespo-toulouse.fr/enrol/index.php?td=2123_			
Master's degree Public policy o n food and risk management	IEP Lyon, VetAgro Sup, Université Lon 2	Mixed: Non-university institute / University	Lyon	Health crisis management" course, English-language course at opening international,	Gwenola Le Naour	https://www.sciencespo-lyon.fr/sites/default/files/ap_07_pagers.pdf			
Master of Public Health, Nancy	Université de Lorraine, Université de Strasbourg, Université of Franche-Comté,	University	Paris	Intervention in health promotion	Jonathan Epstein	https://medecine.un iv- lorraine.fr/fr/ ecole-sante- publique/les-			
Master in Development and Humanitarian Aid	University of Paris I Panthéon Sorbonne	University	Paris	Global Health and Development ^{**} course	Louis Pizarro, Olivier Nay, Stéphanie Tchiombiano	https://comations.packies.couder.coud			
Master of Philosophy and Biomedical Humanities	Sorbonne University	University	Paris	One Health" course	Claire Crignon, David Teira, Alexandre Escargueil	https://humanites- biomedicales.sor bonne- universite.fr/la- formation- <u>hb/master</u>			
	Other related training courses humanites biomedicales								
the Paris1-EHESS-	Institut Convergences	Mixed: scientific and	Paris	Health and Migration	Camille Schmoll, Patrick	https://ehess.fr/fr/master-migrations			
Migration master's degree	Migrations (EHESS, Paris 1 Panthéon Sorbonne, IRD, CNRS, Sorbonne Paris	technical establishments / u n i v e r s i t y University	Paris	Classes by Annabel	Olivier Bouchaud	http://odf.univ-paris13.fr/i/offre-de-formation/feuilleter-ie-catalogue-			
Master of Social	Nord University	Mixed: University /	Paris	Desgrées du Lou At least one of the	Olivier Leservoisier	1/sciences-technologies-health-STS/diplome-d-universite-1/du-sante-des- migrants-program-bdusdm-116-2,html			
Sciences - Population and development	Paris Descartes / IRD	non-university institute		internships must be carried out in a developing country. development of		https://www.cepe d.org/1MG/pdf/un iversite_de_pari s- <u>mastersciences.social_parcours_</u> opoutence.and.develocementoof			
DU Pharmacy and humanitarian aid	Private training	Private sector	Paris and Field training	Health development project management, training theoretical and practical	Marion Massé	https://www.pah-Jespharmacienshumanitaires.org/formation-pah			
			SOME DOCTORAL SCH	OOLS WITH A GLOBAL HE	ALTH DIMENSION (NOT A	CCREDITED AS SUCH)			
CERDI	CNRS - University of Clermont- Auvergne	Mixed: scientific and technical establishments /	Clermont-Ferrant	Possible theses in global health and development,	Simone Bertoli, Grégoire Rota-Graziosi	https://cerdi.uca.fr/version-francaise/formation/theses-en-cours#/admin			
Society, politics, public health (545)	University of Bordeaux, SciencePo Bordeaux	university Mixed: University / non-university institute	Bordeaux	Public Health specialization with 4 options Epidemiology,	Bernard N'kaoua, Andy Smith, Emmanuel Lagarde	https://ed-sp2.u-bordeaux.fr/Presentation/Specialites-de-these			
EHESS	EHESS, INSERM, CNRS, Uparis	Mixed: scientific and technical establishments / university	Paris	Biostatistics, One of the objectives: The reconfiguration of management systems and	Maurice Cassier / Jean- Paul Gaudilière	nttps://itris.org/inche/centre-de-recherche-medecine-sciences-sante-sante- mentale-societe-cermes3/			
Pierre-Louis Doctoral School of Epidemiology and Public Health (ED 393)	Sorbonne University	University	Paris	forms of intervention Research teams in epidemiology and infectious diseases - Does little work on	Fabrice Carrat	http://www.ed393.upm c.fr/fr/lab oratoires_ et_equipes _rattaches _a_led3			
Doctoral School of Public Health	Universities of Paris Saclay, Paris-Est, Paris Sud, Versailles	University	Paris	Center for Research in Epidemiology and Health Laboratory populations :	Florence Manegaux	<u>932.hml</u> http://www.ed- sante- publique.univer site-paris- saclay.fr/3_les <u>heses/subjects-ofheses-popoasis/</u>			

