



**European Alliance for Global Health – Transformation  
through Joint Research & Innovation Action**

**Deliverable 2.3**  
**Recommendations on the use and communication of  
scientific evidence in policymaking in future pandemic crises**

**WP2 – Tackling global health crises: COVID-19 research and  
innovation in the alliance**

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## 1. Document history

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V1.1	21 Dec 2023	First Draft
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V2.0	14 Jan 2024	Final Version

### WP2 Tasks:

**Task 2.1:** Inventory of COVID-19-related research and partners' expertise on pandemics

**Task 2.2:** Evaluate common research topics and develop shared action plans for joint activities on pandemics research

**Task 2.3:** Develop scientific collaborations among EUGLOH-partners

**Task 2.4:** Develop recommendations on health crisis research and policy statements on e.g. guidelines regarding future pandemic crises

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## 2. Publishable summary

The EUGLOHRIA project, the "European Alliance for Global Health – Transformation through Joint Research and Innovation Action", was designed to set in motion a joint agenda of institutional transformation towards harmonizing research and innovation efforts around the spectrum of global health in the EUGLOH alliance. An important part of this was to strengthen the collaboration between the five partner universities (Université Paris-Saclay, Lund University, University of Szeged, Universidade do Porto, and Ludwig-Maximilians Universität München), and serve as a best practice model for projects to follow. The COVID-19 pandemic has showed the importance of interdisciplinary global health approaches to tackle the societal challenges that such crises pose. In this context, EUGLOHRIA addressed the need to step up collaboration and cooperation in research and innovation by consolidating and expanding research and innovation networks, including key stakeholders outside academia. To do this, data from the EUGLOHRIA inventory of pandemics-related research within the alliance (Task 2.1, and described in the D2.1 report) served as the foundation to determine common research topics and inform the development of shared action plans for joint activities on pandemics research and the development of scientific collaborations among EUGLOH-partners. To inform how such collaborations could be facilitated based on available expertise in the alliance, a data-driven methodological framework based on hierarchical clustering was developed (Task 2.2, and described in the D2.2 report).

As part of the shared action plan (Task 2.2) and the development of scientific collaborations among EUGLOH-partners (Task 2.3), **a joint EUGLOHRIA seeding conference was held on 16-17 of May 2022 to spur new research collaborations within the alliance.** In total, 160 participants registered for the conference, and 60 scientific abstracts on pandemics-related research were submitted and presented in a conference abstract book. The EUGLOHRIA seeding conference also provided an opportunity to present the White Book of EUGLOH Excellence Core Facilities (developed in work package (WP) 3) for the alliance's researchers. In addition, **a seed funding mechanism was presented at the conference.** This mechanism represented the second step in the plan to facilitate joint activities on pandemics research in the alliance, and six new projects on pandemics-related research from the five alliance universities received the EUGLOHRIA seeding grant. To stimulate further initiatives, **a second EUGLOHRIA seed funding mechanism – a call for Pilot project – was launched in 2023 as a joint initiative of WP2 and WP3.** This initiative also aimed to promote new collaborations in pandemic-related research, but with a particular focus on using available infrastructures (as presented in the White Book of EUGLOH Excellence Core Facilities) to generate pilot data for future common research applications and initiatives. In total, **an additional 15 new projects within the alliance received funding in this call.**

To develop recommendations on health crisis research (Task 2.4), **a questionnaire** was developed and sent to the researchers involved in pandemics-related research as identified in the inventory (Task 2.1). The aims of the survey were to: i. understand the experiences and challenges researchers encountered during the pandemic, and ii. formulate suggestions on how research in higher education institutions can be better supported during challenging times such as pandemics. In total, 113 researchers responded to the questionnaire and highlighted the importance of **research adaptability, access to collaborative and interdisciplinary networks, funding flexibility.**

Finally, as an additional outcome of the EUGLOHRIA project, the developed methodological framework for fostering new research collaborations in our university alliance has been presented in the manuscript **"Utilizing supervised clustering to facilitate research collaboration within university alliances"**. The manuscript will be submitted for publication in a scientific journal during 2024.

### 3. Introduction

Originating from the Erasmus+ project EUGLOH, EUGLOHRIA integrated research, innovation, and professional development to make significant contributions in global health. The focus of EUGLOHRIA has been to foster and strengthen collaborations in research and innovation within the EUGLOH alliance to create synergies and maximise the impact of available expertise and resources. To enable this, a framework based on pandemics-related research as a test bed has been developed. This has included the development of an 'Excellence Core Facilities Network' (ECFN) in work package (WP) 3, and a 'Global Health Observatory' in WP4.

The first task of WP2 (*Tackling global health crises: COVID-19 research and innovation in the alliance*) was to perform an inventory of pandemics-related research and partners' expertise on pandemics (deliverable achieved, and the *D2.1-Report on inventory of research projects on pandemics and expertise in pandemic research* was successfully submitted to the European Commission 2021-05-06). In brief, the D2.1-Report presented the inventory of all pandemics-related research projects as well as the EUGLOHRIA partners' areas of expertise in research on pandemics, thus generating a concise overview of activities, key competences and focus points at the EUGLOHRIA partner sites within pandemics research. In total, 306 pandemics-related projects were identified and further stratified into the four categories UNDERSTAND, DETECT, ACT AGAINST, and CONSEQUENCES. Altogether, this displayed the world-wide collaborative network the partners have built up, covering a broad spectrum of disciplines relevant for tackling a global health threat.

Based on the inventory, the alliance moved towards defining common research topics and joint scientific directions with the aim to facilitate new collaborations as part of Task 2.2 (deliverable achieved, and the *D2.2-Report on common research topics and the development of shared action plans for joint activities on pandemics research* was successfully submitted to the European Commission 2021-12-04). The aim was also to integrate the inventory work performed in WP2 and WP3 (*Establishment of an Excellence Core Facility Network (ECFN) for the sustainable shared use of research infrastructure within EUGLOH*) to identify potential connections to existing Excellence Core Facilities within the alliance. As a result of the tasks completed in the first year of EUGLOHRIA, WP2 progressed towards achieving Deliverable D2.3 during 2022-2023. As outlined in detail in this report, this work included: **i) The organisation of a joint EUGLOHRIA conference** on 16-17 May 2022 to promote research collaborations within the EUGLOHRIA alliance; **ii) Launching of seed funding mechanisms**, the first round was introduced at the conference in 2022, followed by an additional EUGLOHRIA call for pilot projects in 2023 (joint effort between WP2 and WP3); and **iii) Development of a survey** (*EUGLOHRIA:s survey on pandemic-related research experiences and challenges*), which was distributed among 113 researchers in the alliance during 2023. As an additional outcome, a methodology article entitled "*Utilizing supervised clustering to facilitate research collaboration within university alliances*" has been drafted (planned for submission to a scientific journal during 2024).

## 4. T2.3: Develop scientific collaborations among EUGLOH partners

### 4.1. The EUGLOHRIA seeding conference 16-17 May 2022

As part of the shared action plan, a joint EUGLOHRIA seeding conference was held digitally on 16-17 May 2022, to facilitate new research collaborations within the alliance. Briefly, the seeding conference (hosted by Lund University, [EUGLOHRIA Seeding Conference for Joint Pandemic Research | EUGLOH](#)) aimed to provide a platform for networking and presentation of ongoing pandemics-related research by partners' research groups within EUGLOHRIA.

The main objectives were to:

- i. Facilitate exchange of research and ideas related to pandemics.
- ii. Facilitate/support networking and formation of new research collaborations in pandemics research within EUGLOHRIA.
- iii. Introduce the white book of infrastructures available at the partner universities that may benefit the alliance's researchers (work done in WP3).

The program (**Appendix A**) consisted of a mix of inspirational keynote presentations, and scientific presentations (the composition of the researchers in the different breakout rooms was based on the hierarchical clustering approach (as described in D2.2, Ref. 1-3). A total number of 160 registered participants attended the conference, and 60 scientific abstracts on pandemics-related research were included in the abstract book (**Appendix B**).

### 4.2. The evaluation survey of the EUGLOHRIA seeding conference

To get the conference participants' feedback on various aspects of the event held on May 16-17, 2022, a survey (**Appendix C**) was performed. Key areas included overall satisfaction, the structure and relevance of the event to the main topics, the effectiveness of communication with the organisers, the quality of keynote speakers and moderators, and the value of breakout sessions. In addition, the survey assessed the networking potential of the event for future research collaborations and the usefulness of its digital platform. Participants were also invited to share their most valuable experiences and suggestions for future improvements. Briefly, the EUGLOHRIA seeding conference participants expressed generally positive feedback, highlighting the professional presentation and effective moderation on the digital platform (**Figure 2**). The format, with short presentations, was appreciated for providing an overview of all pandemics-related research projects within the EUGLOHRIA alliances and potential collaboration opportunities. However, some participants requested more time for project discussions. The conference facilitated cross-border networking and generated new research ideas, and the participants showed interest in maintaining contacts for future collaborations. The event was commended for its sense of direction and the commitment of the researchers.

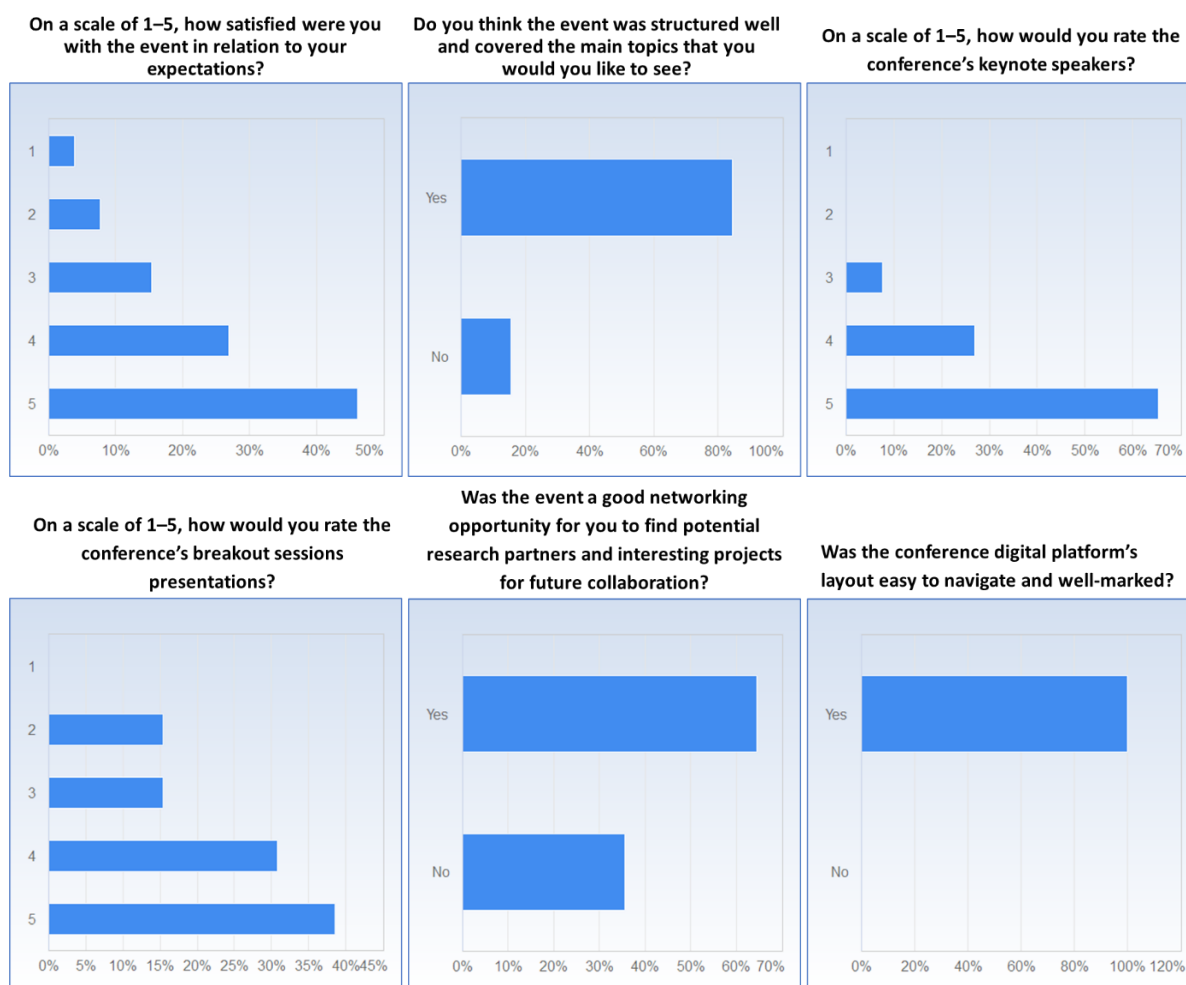








Figure 2. The EUGLOHRIA seeding conference participant's feedback. Survey rating scales 1-5: Score 1 representing the lowest rating, and score 5 representing the highest rating.

### 4.3. The EUGLOHRIA seeding grants

The seeding grant mechanism (**Appendix D**) represented the second step in the plan to develop shared action plans for joint activities on pandemics-related research, and provided an opportunity for researchers within EUGLOHRIA to connect and ignite new and cross-boundary research initiatives and/or common research applications. Briefly, in the context of stimulating new research collaborations, a seed funding mechanism was advertised during the EUGLOHRIA seeding conference (16-17 May, 2022) to support initiatives from researchers within EUGLOHRIA. The seeding grants could serve to facilitate one or several of the following objectives: **i)** Plan for cooperative research projects; **ii)** carry out workshops and research visits to develop cooperative projects; and **iii)** prepare proposals for external funding initiatives and research applications. The first call was released during the Autumn 2022. Overall, six project proposals on pandemics-related research at the five alliance universities was received, and after review, all six proposals were granted a EUGLOHRIA seeding grant (**Table 1**). We have received five status reports from the six projects (attached in **Table 1**). Importantly, all of the newly formed collaborations are still ongoing.

**Table 1.** The EUGLOHRIA seeding grants projects awarded in 2023.

Main applicant's home institution	Co-applicant's home institution	Title of project	Infrastructure components/or ECFN Facility involved	Status reports
LMU <sup>1</sup>	LU and U.Porto (2 coapplicants)	Strengthening risk communication and health education for migrants during global health crisis: A collaboration between EUGLOHRIA partners	<ul style="list-style-type: none"> <li>* Inst. for Medical Information Processing, Biometry, and Epidemiology - IBE, Pettenkofer School of Public Health (PSPH), LMU</li> <li>* Faculty of Medicine, Dept. of Clinical Sciences, Social Medicine and Global Health, LU</li> <li>* Inst. of Public Health, U.Porto</li> </ul>	 Report-LMU-LU-U.Porto.pdf <a href="https://lu.box.com/s/3uigbe278ugle3kv6ngsb58tqqob31a9">https://lu.box.com/s/3uigbe278ugle3kv6ngsb58tqqob31a9</a>
LU <sup>2</sup>	UPSaclay	Establishing cooperation considering the Challenges of using medical devices and mobile health apps during the pandemic and the need for legal regulation for future use in everyday healthcare	<ul style="list-style-type: none"> <li>* The Health Law Research Centre, Faculty of Law, LU</li> <li>* Faculty of Pharmacy, UPSaclay</li> </ul>	 Report-LU-UPSaclay.pdf <a href="https://lu.box.com/s/s24ezobrmwq3e4aga6bfbqxusowqiie">https://lu.box.com/s/s24ezobrmwq3e4aga6bfbqxusowqiie</a>
U.Porto <sup>3</sup>	USZ (2 coapplicants)	Big data under the covid-19 context: Applications, challenges, and future perspectives	<ul style="list-style-type: none"> <li>* Inst. of Public Health Porto University (ISPUP), U.Porto</li> <li>* National Laboratory for Health Security, USZ</li> <li>* Dept. of Public Health, Albert Szent-Györgyi Medical School, USZ</li> </ul>	 Report-U.Porto-USZ.pdf <a href="https://lu.box.com/s/r6vtaqgrpez7s45hjanderheuxqlomtp">https://lu.box.com/s/r6vtaqgrpez7s45hjanderheuxqlomtp</a>
UPSaclay <sup>4</sup>	U.Porto	Immunological Mechanisms of a Malaria candidate vaccine: traNscripTomic profiling (IMMINENT)	<ul style="list-style-type: none"> <li>* IDMIT (Infectious Disease Models and Innovative Therapies), U1184 CEA, INSERM, UPSaclay, IMVA-HB/IDMIT (<a href="http://www.idmitcenter.fr/">http://www.idmitcenter.fr/</a>)</li> <li>* i3S- Instituto de Investigação e Inovação em Saúde, U.Porto (<a href="https://www.i3s.up.pt/scientific-platforms">https://www.i3s.up.pt/scientific-platforms</a>)</li> </ul>	 Report-UPSaclay-U.Porto.pdf <a href="https://lu.box.com/s/zil050k8zwyw8cp54s6uz3u49wymc6f4">https://lu.box.com/s/zil050k8zwyw8cp54s6uz3u49wymc6f4</a>
USZ <sup>5</sup>	UPSaclay	Identification of ligands of PRINS long non-coding RNA involved in regulation of inflammatory processes to improve host response to microbial attack	<ul style="list-style-type: none"> <li>* Dept. of Immunology, USZ</li> <li>* C@PS screening platforms, UPSaclay</li> </ul>	 Report-USZ-UPSaclay.pdf <a href="https://lu.box.com/s/gq2as2zy5sxuonjlibriwas2tx4c3ycm">https://lu.box.com/s/gq2as2zy5sxuonjlibriwas2tx4c3ycm</a>
USZ <sup>5</sup>	LMU	Application of spatial and environmental sciences in pandemic research and to reduce the impacts of climate change on public health in Central Europe (SPACEPAN)	<ul style="list-style-type: none"> <li>* Dept. of Geoinformatics, Physical and Environmental Geography, USZ</li> <li>* Dept. of Geography, LMU</li> </ul>	 Report-USZ-LMU.pdf <a href="https://lu.box.com/s/34dckdfhqxzaoie7wnirp1c6u65qgx6">https://lu.box.com/s/34dckdfhqxzaoie7wnirp1c6u65qgx6</a>

<sup>1</sup>Ludwig-Maximilians-Universität München, <sup>2</sup>Lund University, <sup>3</sup>Universidade do Porto, <sup>4</sup>Université Paris-Saclay, <sup>5</sup>University of Szeged.



#### 4.4. The EUGLOHRIA pilot projects

Given the success of the first call, a second seeding grant call was launched in 2023 as a collaborative effort between WP2 and WP3. This call also aimed to facilitate new scientific collaboration in pandemics-related research, but this time with a specific focus on using infrastructures and resources available in the alliance. As a result, an additional 15 pilot project proposals within the alliance were received, and after review, all 15 proposals were awarded funding during 2023 (**Table 2**). For more detailed information about the platforms, results, best practices, and lessons learned from these pilot projects, please see the report for **deliverable 3.5, “Summary Assessment Report on ECFN and directions of further development”**.

**Table 2. The EUGLOHRIA grants for pilot projects awarded in 2023.**

Main applicant's home institution	Platform	Co-applicant's home institution	Platform	Title of the project
LMU <sup>1</sup>	Yes	UPSaclay	Yes	Investigating pathogen derived proteins in Human Plasma and Saliva using advanced deep shotgun mass spectrometry
LMU <sup>1</sup>	No	U.Porto	Yes	Rapid microbiome surveys in aquaculture as early detection tool to help mitigate next global health crisis: emergence of antimicrobial resistance
LMU <sup>1</sup>	No	UPSaclay	Yes	Combined analysis of different SARS-CoV-2 serological assays of Paris (France) and Munich (Germany)
LU <sup>2</sup>	No	U.Porto	No	One health approach on SARS-COV-2 research-Using sheep as sentinel animals to increase future pandemic preparedness.
U.Porto <sup>3</sup>	No	UPSaclay	No	Fighting the pandemic of antimicrobial resistance: new anti-virulence strategies against antibiotic-resistant <i>Enterococcus faecalis</i> .
U.Porto <sup>3</sup>	No	LU	No	Innovative Approaches in Tissue-Engineered Models: Uniting Expertise for Lung Disease Research and Beyond
U.Porto <sup>3</sup>	No	LMU	No	A prison-based dog training program to promote successful adoption of shelter dogs in Portugal: focus on dog behavior and welfare
U.Porto <sup>3</sup>	Yes	UPSaclay	Yes	SENSITISE - DiSsect thE tumor microenvironment to battle caNcer radioreSistance and Immune eScapE
UPSaclay <sup>4</sup>	Yes	U.Porto	No	Immunological Mechanisms of a Malaria candidate vaccine: tranScripTomic profiling (IMMINENT)
UPSaclay <sup>4</sup>	No	LU	Yes	Structural characterization of SARS-CoV-2 non-structural membrane proteins involved in intracellular membrane remodeling upon infection
UPSaclay <sup>4</sup>	Yes	LU	No	Combine CRISPR/Cas9 technology and 3D cell culture models to investigate the interactions established between HIV and the host cells, and the early immune response towards infection
UPSaclay <sup>4</sup>	Yes	LMU	Yes	UnderstaNding mEchanisms underlying lung infectiOns in early life- PreparedNess for respirATory infections in nEwborns
UPSaclay <sup>4</sup>	No	LU	No	Using humanities to address technological progress in the field of connected objects to health: a cooperation between the GRADES Institute (ParisSaclay) and the Health Law Research Centre (Lund)
USZ <sup>5</sup>	No	UPSaclay	Yes	Identification of ligands of PRINS long non-coding RNA involved in regulation of inflammatory processes to improve host response to microbial attack
USZ <sup>5</sup>	Yes (2 platforms)	UPSaclay	Yes	Extracellular vesicle based comparative analysis of highly and low invasive diffuse midline glioma H3K27M-mutant

<sup>1</sup>Ludwig-Maximilians-Universität München, <sup>2</sup>Lund University, <sup>3</sup>Universidade do Porto, <sup>4</sup>Université Paris-Saclay, <sup>5</sup>University of Szeged.

An additional achievement related to sharing expertise and facilitating new collaborations, the EUGLOHRIA partners have organised a series of matchmaking workshops during 2023 (**Table 3**).

**Table 3. The list of workshops organised by EUGLOHRIA partners.**

Workshop facilitator	Title of workshop
LMU <sup>1</sup>	General Procedures for Proteomics and mass spectrometry-based Core Facilities.
LU <sup>2</sup> and UPSaclay <sup>4</sup>	Health-Related connected objects
U.Porto <sup>3</sup>	Longitudinal Approaches to Health Research: Cohorts and Biobanking.
UPSaclay <sup>4</sup>	Respiratory Syncytial Virus: Respiratory Infection with Clinical Complications, and Dysregulated Immune Mechanisms of the Host.
UPSaclay <sup>4</sup>	From mechanisms of infection and pathogenesis to vaccines development in malaria
USZ <sup>5</sup>	Bench to Bedside: Molecular, Extracellular Vesicle-Based Opportunities and Targetable Genetic Mutations in Translational Biomedicine.

<sup>1</sup>Ludwig-Maximilians Universität München, <sup>2</sup>Lund University, <sup>3</sup>Universidade do Porto, <sup>4</sup>Université Paris-Saclay, <sup>5</sup>University of Szeged.

## 5. T2.4: Develop recommendations on health crisis research and policy statements on e.g. guidelines regarding future pandemic crises

### 5.1. The EUGLOHRIA's survey on pandemic-related research experiences and challenges

The fourth task of WP2 was to "Develop recommendations on health crisis research and policy statements, e.g. on guidelines for future pandemic crises". To achieve the last deliverable of WP2 (D2.3), a reassessment of the original task 2.4 was made considering the current global situation related to guidelines and policy statements related to pandemic preparedness. A particular emphasis of this reassessment was put on leveraging on the EUGLOHRIA initiative (RIA = Research and Innovation Action) being an alliance with its roots in higher education and research. To embark on the previous work in WP2, and to utilise the expertise and experience within the alliance on challenges in performing research during a major global health crisis like the COVID-19 pandemic, a questionnaire was developed. All researchers involved in pandemics-related research and identified in the inventory (Task 2.1) were invited to participate in the survey (**Appendix E**). The main goals were to: **i)** assess the experiences and challenges that researchers faced during the pandemic; and **ii)** formulate recommendations that can support and enhance research and higher education during challenging times (**Table 4**).

**Table 4. The received responses by 37% of researchers from 306 registered projects at five universities, in the EUGLOHRIA inventory list.**

Partner University	Number of responses	Proportion of responses
LMU	20	17.7%
LU	42	37.2%
U.Porto	29	25.7%
UPSaclay	16	14.2%
USZ	6	5.3%
<b>Total</b>	<b>113</b>	<b>100.0%</b>

EUGLOHRIA's survey on experiences with pandemics-related research highlighted the main aspects that researchers perceived as facilitating or challenging the implementation of their projects during the pandemic. The most valuable research-related experiences during the pandemic and the researchers' main recommendations to university management/policymakers are summarized in **Table 5**. Moreover, **the rapid vaccine development, the necessity of collaborative networks, and the dual nature of research challenges and opportunities** were highlighted as key lessons learned in the survey.

Some shift in research focus due to the pandemic was evident with 24% of the researchers stating that their projects was slightly or less related to their previous research area. The research projects were mainly curiosity-driven (43.4%) or operational (34.5%). Among the respondents, 46% reported their research projects as translational – with areas including public health, diagnostics, clinical studies, therapy methods, and vaccine development being the most common. The main research topics identified at the partner universities were *public health, vaccine development, biomarker diagnostics, immunology, virology, and infectious diseases*.

**Table 5. Summary of the main relevant aspects compiled from the Task 2.4 survey.**

<b>A Summary of main aspects compiled from the Task 2.4 survey</b>	
The main aspects that challenged implementation of the projects during the pandemic?	<ul style="list-style-type: none"> <li>- Supply Chain Disruptions</li> <li>- Human Resource Constraints</li> <li>- Data Collection challenges.</li> </ul>
The main aspects that facilitated implementation of the projects during the pandemic?	<ul style="list-style-type: none"> <li>- Open science practices</li> <li>- Streamlined Regulatory Processes</li> <li>- Public engagement</li> <li>- Availability of research infrastructure</li> <li>- Public healthcare-academia relationships</li> <li>- Digital infrastructure</li> <li>- Global collaboration</li> <li>- Adaptable Lab Protocols</li> <li>- Previous knowledge on the topic</li> </ul>
The most valuable research-related learning experience	<ul style="list-style-type: none"> <li>- Research Adaptability: Rapid vaccine development showcasing the research community's quick response to overcome barriers.</li> <li>- Collaborative Networks: Creation of national/international research networks emphasizing collective efforts in meaningful directions.</li> <li>- Pandemic Research Dynamics: Challenges and opportunities in pandemic research, including funding and public health model gaps.</li> <li>- Technological Insights: Advances in optical fingerprinting and digital data collection, with a focus on addressing biases in machine learning.</li> <li>- Interdisciplinary Expertise: The critical role of interdisciplinary collaboration and methodological expertise during crises.</li> </ul>
Summary of the researchers' main recommendations to university management /policy makers.	<ul style="list-style-type: none"> <li>- Cooperation and infrastructure: Strengthen cooperation between institutions, promote interdisciplinary studies, and invest in infrastructure and equipment for distance research.</li> <li>- Transparency and evaluation: Maintain truthfulness, streamline ethical approvals and set clear evaluation standards for research.</li> <li>- Funding strategy: Providing long-term flexible funding, prioritising basic research and supporting rapid seed funding with reduced bureaucracy.</li> <li>- Research and innovation: Emphasising interdisciplinary basic research, addressing pandemic-related challenges and supporting university innovators.</li> <li>- Data and protocols: Simplify research data protection procedures and establish clear emergency response protocols.</li> </ul>

Out of the total responses, 65% of research projects resulted in publications with an overall of 151 papers published between 2020 and 2023 (**Table 6**). Among those who did not yet publish, 30% mentioned that the research project was not yet finished, and 25% were still undergoing peer-review. Significant challenges to conduct the projects during the pandemic included data collection (29.7% rated it as highly challenging), remote collaboration (27% found it challenging), and laboratory access (41.1% rated it as challenging). Other challenges were related to financial constraints, lengthy patent application processes, and difficulties in engaging and recruiting study participants.

Factors perceived to ease future research included flexible funding (71.7% rated it as likely to facilitate), streamlined regulatory processes (52.8%), and global collaboration (58.9%). Key learning experiences included adaptability in research, importance of collaboration, and

technological advancements in response to the pandemic. The researchers also stated that the pandemic created new opportunities, such as increased funding, shifts in research focus, enhanced collaboration, expedited processes, and heightened public interest of their research.

Moreover, several key recommendations for university leadership and policy makers were identified, e.g. the importance of: **i) strengthening collaboration between institutions; ii) promoting interdisciplinary studies; and iii) investing in infrastructure for distance research.** The survey highlighted the importance of *maintaining transparency in research, streamlining ethical approvals and establishing clear evaluation standards.* The researchers also suggested a long-term, flexible funding system that prioritises basic research and facilitates rapid seed funding with minimal bureaucracy. Other points included the importance of fostering innovative and multidisciplinary basic research to address pandemics-related challenges, streamlined processes for protection of research data, and the establishment of clear emergency response protocols (**Table 5**).

Taken together, these findings highlight a significant impact of the COVID-19 pandemic on the research community, revealing both challenges and innovative adaptations in response to the pandemic. A summary of the participants' responses for the survey is presented in **Appendix F**.

**Table 6. The number of publications in 2020-2023 reported by 37% of 306 registered projects at five universities, listed in the EUGLOHRIA inventory.**

Year	No. of publications
2020	21
2021	64
2022	50
2023	16
<b>Total</b>	<b>151</b>

## 5.2. Methodological article: Utilizing supervised clustering to facilitate research collaboration within university alliances

As an additional outcome of the methodological framework in EUGLOHRIA, an effort is currently in progress to publish a methodology article entitled: "**A SUPERVISED CLUSTERING APPROACH TO FACILITATE RESEARCH COLLABORATIONS WITHIN A UNIVERSITY ALLIANCE**" (**Appendix G**). The publication of this article may inspire other university alliances on how they can identify and facilitate research priorities and academic cooperation.

## 6. Discussion

The COVID-19 pandemic has underscored the importance of having evidence-based, robust health crisis recommendations, guidelines, and policy statements to enhance global preparedness and control measures (Ref 4). One of the key lessons learned among researchers is the necessity of improving areas such as early detection, surveillance, infection prevention, vaccination strategies, health equity, and risk communication (Ref. 5). Previous reports have emphasised the importance of effective collaboration between different stakeholders and the promotion of research communication and development, to guide pandemic preparedness, adapting and strengthening health systems, and improving surveillance for early detection of and response to emerging pandemics (Ref.6-7). Moreover, ensuring adequate resource allocation, effective risk communication, and regular monitoring and evaluation are essential to create a comprehensive and adaptive approach to pandemic preparedness and response (Ref. 8-10).

As previously mentioned in the D2.1-Report, the COVID-19 pandemic has made evident the importance of interdisciplinary global health approaches to tackle the societal challenges that such crises pose. In this context, EUGLOHRIA addressed the need to increase collaboration in research and innovation by consolidating and expanding cross-national research and innovation networks to include stakeholders from areas also outside academia. This is well in line with the Horizon 2020 project "Science with and for Society" that was launched to further open up to civil society actors and the public by introducing outreach approaches that promoted exchanges between research and society (Grant Agreement number: 101017572 — EUGLOHRIA — H2020-IBA-SwafS-Support-1-2020). A main achievement of the work presented in the D2.2 report was the development of a clear methodology and analytical pipeline that could be used to identify common research topics and joint scientific directions within the EUGLOHRIA alliance in an objective way and based on data.

This report concludes the work carried out by WP2 in *"Tackling global health crises: COVID-19 research and innovation in the alliance"* as outlined by the tasks T2.1-T2.4 (**Figure 2**).



Figure 2. WP2: Tackling global health crises: COVID-19 research and innovation in the alliance.

**The EUGLOHRIA seeding conference** was the first Joint EUGLOHRIA digital conference hosted by Lund university (2022), and focused on fostering research collaborations and exchanges of

ideas on pandemic-related topics as well as the importance of networking for future research initiatives within EUGLOHRIA partner universities. This conference was essential for the development of interdisciplinary collaborations between different academic fields with a main focus on pandemics-related research. However, the EUGLOHRIA conference evaluation survey explored the feedback from participants, and evaluated the extent to which the conference had achieved its objectives, the quality of communication, and the relevance of the content and the overall satisfaction of the participants.

**The seeding grant mechanism** served to initiate and enhance scientific partnerships and collaborative efforts in pandemics-related research within the alliance. As a result, 21 new research projects have been initiated within the alliance. Apart from addressing important scientific questions, these initiatives will function as good examples of cross-partner research initiatives that may foster additional future collaborative initiatives within the alliance, as well as attracting funding from external funding bodies.

**The results from EUGLOHRIA's survey on pandemics-related research experiences and challenges** focused on researcher's experiences from conducting research during the SARS-CoV-2 pandemic. The results from the survey showed a diverse variety of challenges, but also opportunities, encountered during the pandemic. In line with other reports, the survey underscored the need for adaptable research methodologies and the advantages of embracing open science practices in future health crises (Ref. 6-7, 11). The survey also provided valuable insights into how these experiences have shaped researchers' work methods, the integration of new technologies, as well as the adoption of novel practices in the field. Furthermore, the survey highlighted the importance of developing robust, crisis-responsive research frameworks and methodologies that can be integrated into university research and teaching agendas for more resilient and adaptive responses towards health crises.

Finally, and from a larger perspective, the successful implementation of the WP2 tasks was made possible by strong collaboration with the other EUGLOHRIA WPs. One such example is the WP2 and WP3 joint effort of the pilot project seeding grants. Another example is the close collaboration with WP5 in disseminating calls and results from WP2 within the EUGLOH alliance. Taken together, this highlights the importance of close cooperation between all the alliance partners and WP academic leaders for successfully achieving the ambitious goals that was set out in the EUGLOHRIA initiative. Importantly, the established frameworks will serve as a foundation to integrate and further develop the research and innovation action agenda of the recently funded expansion of the alliance into EUGLOH 2.0 (also including the University of Alcalá [UAH], UiT The Arctic University of Norway [UiT], University of Novi Sad [UNS], and Universität Hamburg [UHH]).



## 7. Conclusion

In conclusion, this report outlines how new research collaborations can be facilitated within a university alliance to address global health challenges. In particular, it shows the benefit of having a well-designed framework for how to support the development of such collaborations, including performing an inventory and collection of information that could be used for a data-driven approach to identify common areas of expertise, the importance of match-making exercises and seeding mechanisms, and how surveys can be used to extract important information to identify specific structural challenges related to global health crisis. The established framework can be further developed and exploited in expanding the alliance with the inclusion of additional partner universities.

## 8. References

- <sup>1</sup>R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- <sup>2</sup>Ian Fellows (2018). wordcloud: Word Clouds. R package version 2.6. <https://CRAN.R-project.org/package=wordcloud>
- <sup>3</sup>Ingo Feinerer and Kurt Hornik (2020). tm: Text Mining Package. R package version 0.7-8. <https://CRAN.R-project.org/package=tm>
- <sup>4</sup>COVID-19 Strategic Preparedness and Response Plan Operational Planning Guideline. (2022). <https://www.who.int/publications/m/item/covid-19-strategic-preparedness-and-response-plan-operational-planning-guideline>
- <sup>5</sup>Risk assessment and management of exposure of health care workers in the context of COVID-19: Interim guidance. (2020). <https://www.who.int/publications/i/item/risk-assessment-and-management-of-exposure-of-health-care-workers-in-the-context-of-covid-19-interim-guidance>
- <sup>6</sup>Global collaboration to accelerate new COVID-19 health technologies. (2020). <https://www.who.int/news-room/events/detail/2020/04/24/default-calendar/global-collaboration-to-accelerate-new-covid-19-tools>
- <sup>7</sup>Research to Counter Health Threats: Preparing for Future Pandemics. (2023). <https://www.un.org/en/academic-impact/research-counter-health-threats-preparing-future-pandemics>
- <sup>8</sup>A Global Early Warning System for Pandemics. Mobilizing Surveillance for Emerging Pathogens. (2021). <https://millkeninstitute.org/sites/default/files/2021-06/A%20Global%20Early%20Warning%20System%20for%20Pandemics.pdf>
- <sup>9</sup>COVID-19 and Global Health Security: Overview of the Global Health Security Alliance, COVID-19 Response, African Countries' Approaches, and Ethics. (2020). DOI: <https://doi.org/10.1017/dmp.2020.360>
- <sup>10</sup>Five ways to prepare for the next pandemic. COVID-19 and other infectious-disease outbreaks can teach us how to respond to future threats. (2022). DOI: <https://doi.org/10.1038/d41586-022-03362-8>
- <sup>11</sup>Europe's global approach to cooperation in research and innovation: strategic, open, and reciprocal. (2021). <https://euraxess.ec.europa.eu/worldwide/lac/europes-global-approach-cooperation-research-and-innovation-strategic-open-and>

## Appendix A

### The EUGLOHRIA seeding conference program.

<https://lu.box.com/s/mahb3s4nlbisz1czt237r0a935t6airc>



THE CONFERENCE  
PROGRAM-LU 16-17

#### THE CONFERENCE PROGRAM

##### OPENING SESSION, DAY 1, MONDAY 16 MAY 2022

13.00 – 13.10 13.10 – 13.20 13.20 – 13.30	<b>Opening Ceremony/Guest Speakers</b> Associate Prof. Lena Eskilsson, Vice rector, <b>Lund University</b> Prof. Eric Cassan, Coordinator of the EUGLOHRIA, <b>University of Paris-Saclay</b> Associate Prof. Joakim Esbjörnsson-Klemendz, <b>Lund University</b>	
13.30 – 14.00	Opening Keynote Speech – Professor Peter M Nilsson, Lund University	
14.00 – 14.30	Keynote Speech – Dr. Stéphanie Simon, University of Paris-Saclay	
14.30 – 14.40	Pause	
	Parallel Sessions	
14.40 – 14.45	Introduction by Moderators	Introduction by Moderators
14.45 – 15.25	Session 1 (Breakout room 1) Short Presentations by the Participants	Session 2 (Breakout room 2) Short Presentations by the Participants
15.25 – 15.55	Panel: Questions and Discussions	Panel: Questions and Discussions
15.55 – 16.05	Pause	
16.05 – 16.35	Keynote Speech – Dr. Gergely Röst, Szeged University	
16.35 – 16.45	Pause	
	Parallel Sessions	
16.45 – 16.50	Introduction by Moderators	Introduction by Moderators
16.50 – 17.30	Session 3 (Breakout room 3) Short Presentations by the Participants	Session 4 (Breakout room 4) Short Presentations by the Participants
17.30 – 18.00	Panel: Questions and Discussions	Panel: Questions and Discussions
18.00 – 18.15	Closing Day 1	

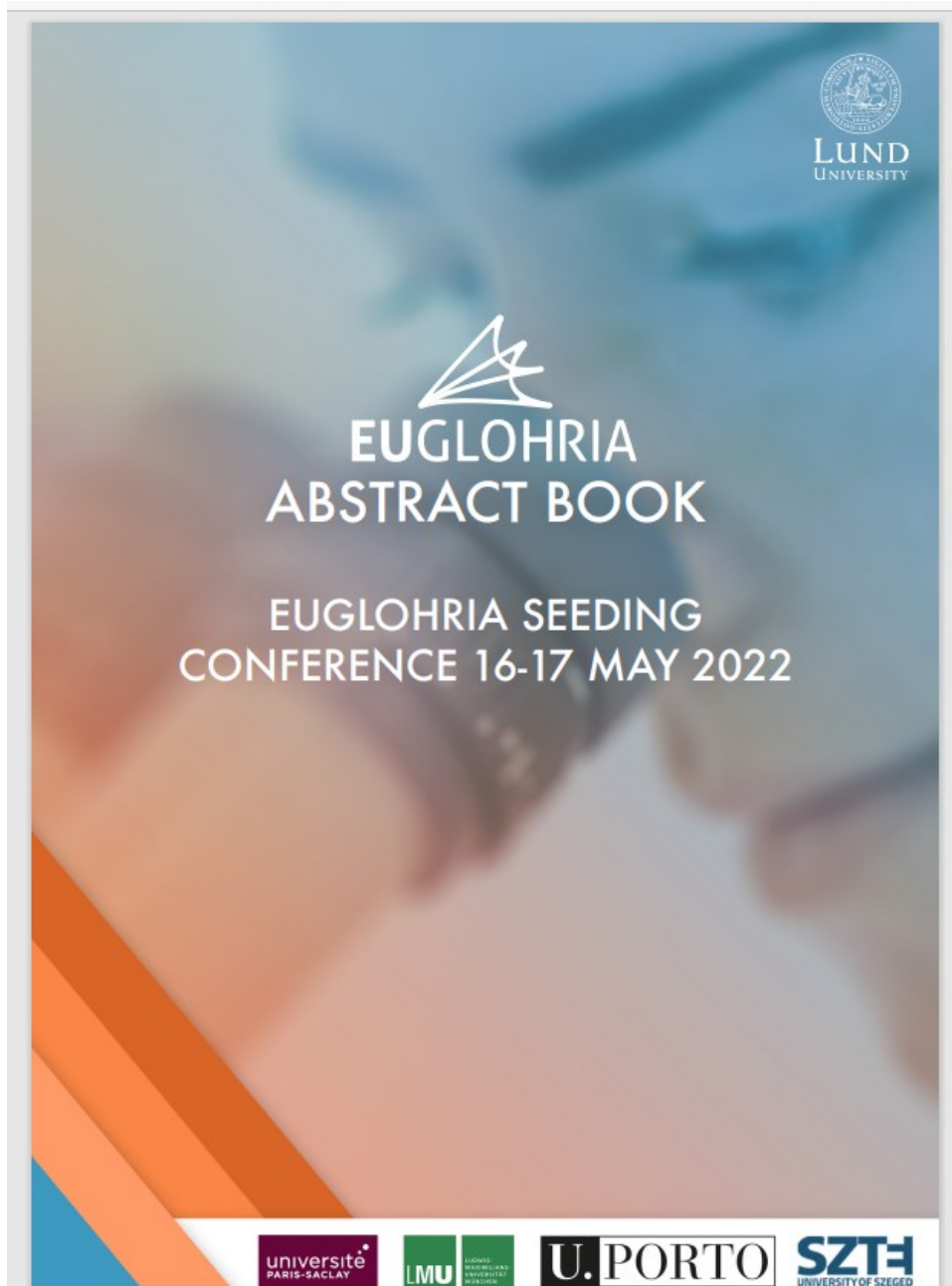
## Appendix B

**The abstract book of EUGLOHRIA seeding conference.**

<https://lu.box.com/s/31dnksukm6ap8hxooct5aalfout8ixdh>



The abstract book of EUGLOHRIA seeding c



## Appendix C

### Conference evaluation survey-LU 16-17 May 2022.

<https://lu.box.com/s/9bfs6z87yevwtsepcsye0cmqm7xmdm8bq>



Conference  
Evaluation Survey-LU

#### Conference Evaluation Survey: The EUGLOHRIA Seeding Conference, 16-17 May 2022

Dear Participant! We would be grateful if you could take a minute to participate in a survey about the EUGLOHRIA Seeding Conference. The survey is anonymous. Your feedback means a lot to us. The survey is open until 31 May 2022. Thank you in advance!

Organizing Committee, EUGLOHRIA, LUND UNIVERSITY

Heiko Herwald, Joakim Esbjörnsson-Klemenz, Fariba Vaziri-Sani

1. On a scale of 1–5, how satisfied were you with the event in relation to your expectations?

Comment:

2. Do you think the event was structured well and covered the main topics that you would like to see?

- Yes
- No

Comment:

3. On a scale of 1–5, How would you rate the effectiveness of the communication with the event's organizers?

Comment:

4. On a scale of 1–5, how would you rate the conference's keynote speakers?

Comment:

5. On a scale of 1–5, how would you rate the conference's keynote moderators?

Comment:

6. On a scale of 1–5, how would you rate the conference's breakout sessions presentations?

Comment:

7. Was the event a good networking opportunity for you to find potential research partners and interesting projects for future collaboration?

- Yes
- No

Comment:

8. What was the most valuable part of the event for you and what was your biggest take-away from the event?

9. Was the conference digital platform's layout easy to navigate and well-marked?

- Yes
- No

Comment:

10. Do you have any additional suggestions to improve the future conference for next time?

- Yes
- No

Comment:


## Appendix D

### The EUGLOHRIA seeding grant application form.

<https://lu.box.com/s/kz7fn2aae2im4tq78poqilqcg1tiloau>



The seeding grant application form-LU2



**EUGLOHRIA**  
The EUGLOHRIA seeding grant

The seeding grant application  
**Deadline for application: January 15<sup>th</sup> 2023**

**General information**

- Researchers affiliated with any of the five EUGLOHRIA alliance universities (University of Paris-Saclay, Lund University, Ludwig-Maximilian University of Munich, University of Porto, University of Szeged) are eligible to apply.
- It is important that all applicants follow all the guidelines for the completion of the seeding grant application form.
- **Important:** Please be aware that the EUGLOHRIA seeding grants does not support a researcher with more than one grant at the same time, regardless of whether the projects are in related fields or not.
- Please submit your complete project proposal by 23.59 CEST at the latest on **January 15<sup>th</sup> 2023** to the respective administrative office at the host university (within the EUGLOHRIA alliance). The coordination of all administrative work for all applications sent to each host institution will be managed by the respective host university within the alliance. The email address for EUGLOHRIA office at these universities are as below:

University of Paris Saclay: [euglohria.upsaclay@universite-paris-saclay.fr](mailto:euglohria.upsaclay@universite-paris-saclay.fr)  
Lund University: [euglohria@med.lu.se](mailto:euglohria@med.lu.se)  
University of Szeged: [euglohria@szte.hu](mailto:euglohria@szte.hu)  
University of Porto: [euglohria@up.pt](mailto:euglohria@up.pt)  
Ludwig-Maximilian University of Munich: [euglohria@lmu.de](mailto:euglohria@lmu.de)

- The application form is available on the EUGLOHRIA website (link: [www.euglohria.eu](http://www.euglohria.eu)).

**1. Applicants information**  
Applicants (Full name):  
Degree(s):  
Institution name (anglicised version):  
Institution address (anglicised version):  
Telephone:  
E-mail:

**2. Title of proposal: (max 200 characters)**

**3. Budget and project period**

**3a. Total budget requested: Euro:**

**3b. The grant is primarily intended for:**

- Planning of joint research projects, e.g. through workshops
- Organisation of research conferences hosted by the institutions within EUGLOHRIA
- Short stays for researchers to exchange experience
- Writing joint research proposals for external funding collaborations

**3c. Project Period: From: 2023xxxx To: 2023xxxx**

Applicants: 1

## Appendix E

### EUGLOHRIA's survey on pandemic-related research experiences and challenges.

<https://lu.box.com/s/s22w3gxtz5uhk3wst4c6oxtsqyuv6ow6>



#### EUGLOHRIA's Survey on Pandemic-Related

##### EUGLOHRIA's Survey on Pandemic-Related Research Experiences and Challenges

In order to achieve the main goals within EUGLOHRIA related to research, innovation, and education, and acknowledging the importance of forming recommendations that will be beneficial for research and higher education, Work Package 2 of EUGLOHRIA at Lund University kindly invites all researchers listed in the previously conducted inventory (306 pandemic and COVID-19-related research projects) to participate in this survey. All incoming responses about experiences and challenges associated with conducting research during an ongoing pandemic are of great importance for the compilation of a final report that will be produced, linked to the relevant aspects gathered based on this survey. On behalf of Work Package 2 of EUGLOHRIA at Lund University, we will express our sincere appreciation for the time and effort you show by participating in this survey. Your response will be linked to your specific project(s) using ID, therefore it is of great importance that you provide the Project ID you have been assigned via personal email when filling out this survey. However, no individual projects or researchers will appear in any reports, so that their anonymity is preserved.

Please note that you must answer the survey as many times as you have projects in the inventory list.

The survey will remain accessible until September 1, 2023 and it is estimated to require about 10 minutes to fill out. We appreciate your cooperation in advance.

WP2, EUGLOHRIA, Lund University

Heiko Herwald, Joakim Esbjörnsson, Fariba Vaziri-Sani

1. The project ID number e.g. LU1, UPSaclay1, UPorto1, USZ1, LMU1
2. The full title of the project:
3. Affiliated University:

- LU
- UPSaclay
- LMU
- UPorto
- USZ

4. How related was this current research project to your previous research area?

- Not related at all
- Possibly related
- Slightly related
- Related
- Highly related
- Definitely related

5. Did your research project get published?

- Yes
- No

6. Which of the following alternatives describes your research project best?

- Curiosity-driven
- Operational

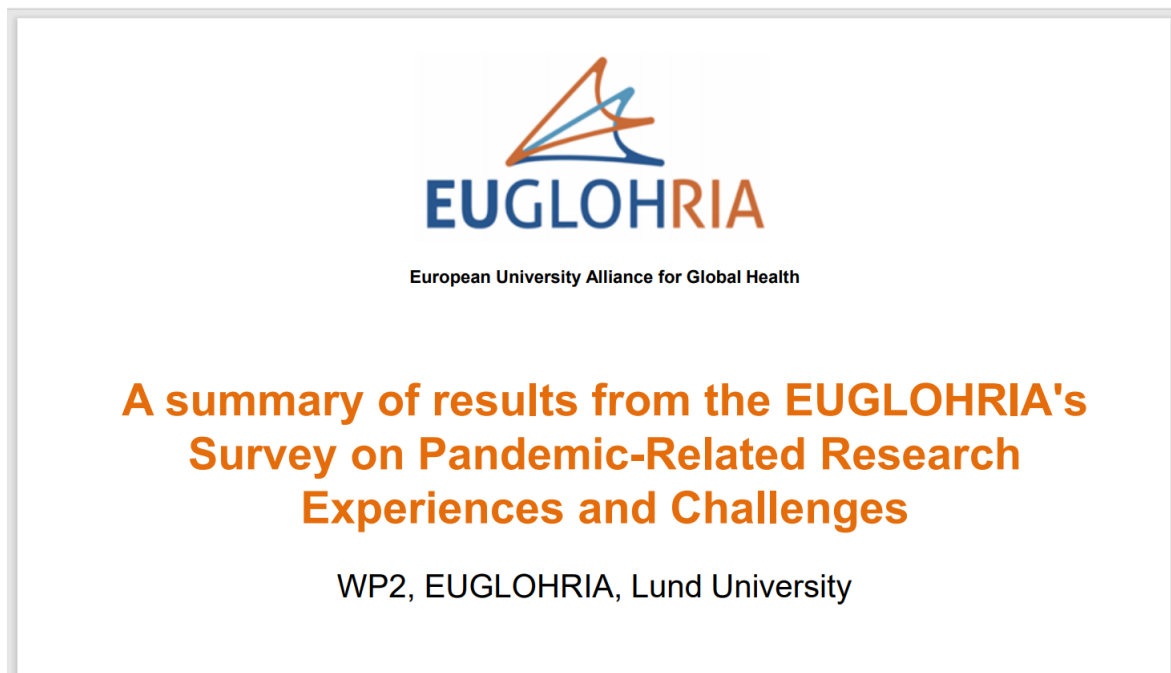
## Appendix F

**A summary of all responses for the EUGLOHRIA's Survey on Pandemic-Related Research Experiences and Challenges.**

<https://lu.box.com/s/utvgsk1gm8v0a8o9jidkzazybdsxijo2>



Summary of  
results-The EUGLOHR





## Appendix G

### Methodological article: A SUPERVISED CLUSTERING APPROACH TO FACILITATE RESEARCH COLLABORATIONS WITHIN A UNIVERSITY ALLIANCE.

<https://lu.box.com/s/4nxkmw7cfuxpevzm2p6itaumbdjz4d42>



Methodological  
article.pdf

1 **A SUPERVISED CLUSTERING APPROACH TO FACILITATE RESEARCH**

2 **COLLABORATIONS WITHIN A UNIVERSITY ALLIANCE**

3

4 Fariba Vaziri-Sani<sup>1,2</sup>, Jamirah Nazziwa<sup>1</sup>, Jessica Gerlich<sup>3</sup>, Agnès Linglart<sup>4</sup>, Francesca Biagini<sup>5</sup>,

5 Henrique Barros<sup>6</sup>, Joana Resende<sup>7</sup>, Miguel Sousa<sup>7</sup>, Zoltán Kónya<sup>8</sup>, Márta Széll<sup>9</sup>, Katja Radon<sup>3</sup>,

6 Frederic Dollé<sup>10</sup>, Eric Cassan<sup>11</sup> and Joakim Esbjörnsson<sup>1, 12\*</sup>, *for the European University*

7 *Alliance for Global Health – Transformation through Joint Research and Innovation Action*

8 *(EUGLOHRIA)*

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