



The Centre for Health Crises

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**Being better prepared for the next health crisis – lessons from KI during the
COVID-19 pandemic**

Purpose

This report describes the action taken and the lessons learned from KI's response to the COVID-19 pandemic between 2020 and 2022. The focus has been on the realignment of KI's activities, above all research, in relation to an imminent and ongoing health crisis. The work described herein serves as a complement to that done as part of the formal crisis preparedness. The report is based on information drawn from interviews and survey responses from members of expert/preparedness (standby) and resource teams coordinated at KI in response to the pandemic. Supplementary information has also been gathered from other KI researchers. The idea has not been to chronicle everything that has been done, but to point to important lessons and proposals for action.

The ultimate aim is that doing so will leave KI better equipped to take on future health crises so that it may not only continue to deliver top-quality research and education but also support society more effectively. While compiling the report, other previous accounts of action taken by KI during the pandemic have been identified. These reports, the content of which is not revisited in this report in order to avoid unnecessary duplication, are listed in the footnote¹.

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- The CPRO compilation of administrative decisions and measures taken with respect to crisis management during the COVID-19 pandemic
- Academic vice president for Higher Education Annika Östman Wernersson's compilation of adopted teaching measures
- Compilation of measures taken during the COVID pandemic with respect to doctoral education from the Research and Doctoral Education Office
- KIRP chairperson Lars I Eriksson's compilation of collaborations between KI and Karolinska University Hospital
- STL operations controller Outi Sjölund's compilation of measures taken since the start of the pandemic (up to 10 August 2021, over 3,300 items)

Format

This report is in two parts: *During the pandemic* and *The Centre for Health Crises*. *During the pandemic* describes coordination activities², gives examples of activity realignment and presents specific lessons learned from efforts made. *The Centre for Health Crises* focuses more generally on the lessons that can be drawn ahead of future health crises and how improvements could be made.

During the pandemic

Coordination

Within a month of the government classifying COVID-19 (caused by the novel coronavirus SARS-CoV-2) as a threat to society and public health on 1 February 2020, KI had set up a preparedness (standby) team for COVID-19. For a long time, the group, which was also called the “Specialist team”, had meetings with representatives of the KI management at least once a week, initially more frequently than that. The ten or so members linked to KI participated after having been approached in person by the President, and were people with expertise in such subjects as disease transmission, infection medicine, virology, clinical healthcare, disaster medicine and vaccines. The group was formed to raise preparedness at KI in terms of how the organisation would manage, communicate and act, both preventatively and during outbreaks of COVID-19. Its assignment included sharing information, supporting the KI management, liaising with the healthcare sector and identifying other experts at KI in different disciplines of importance to the handling of COVID-19 and the repercussions of the pandemic for local, national and global society. Another overarching goal was to identify how KI could make more of a general contribution to the efforts to combat crises and pandemics. This was a complement to the general crisis preparedness that all universities engage in and focused on specific action related to necessary COVID-19 expertise. The two tracks were held together through regular meetings (weekly during much of the pandemic) convened by the President and attended by the University Director (who led the Crisis Team) along with an augmented management group (deans, academic vice presidents and the Director of Communications).

In March 2020, efforts were scaled up on several fronts. A joint COVID-19 resource group was set up between KI and Karolinska University Hospital (the KI/K COVID-19 Resource Team), comprising experts in the fields that were considered critical at the time for understanding the nature and spread of the new disease and suitable responses to it. Three more groups were created at KI: one for ethical issues, the purpose of which was to keep KI researchers updated on the ethical rules and aspects of scientific ethics specific to COVID-19; one for the quality assurance of information; and one for mental health during the pandemic. In May

² The coordination of various groups during the pandemic was also described in many of President Ole Petter Ottersen’s blogs.

2020, three additional groups were created: one for elderly health; one for the coordination of public health research; and one with competence in epidemiology and biostatistics.

The work of the resource teams was of use both internally and externally. An example of its internal use was an additional survey that the Resource team for Mental Health During COVID-19 created to measure the employees' social and work environments. The results were used to support managers in their ability to help staff work from home; links for the treatment of anxiety were also provided.

In the autumn of 2020, the work of the resource teams was evaluated in terms of how they were formed, how they have operated, how they have supported the management, their work going forward and their collaboration with other actors. In October 2020, the KI president decided to establish KI's resource team post-COVID-19 (KIRP) comprising representatives of the eight previously mentioned teams plus additional expertise in order to gather and structure all knowledge and experience gained from working with the pandemic, with the aim of producing a set of proposed measures and initiatives that KI would need to take, in both the short and long term, to be better equipped in the event of a new health crisis. A KIRP steering committee was formed comprising some of the convening members of the eight teams. Three areas of action were identified:

1. "KI and society – information, communication and crisis management"
2. "KI and the public health perspective"
3. "KI in interaction with the healthcare sector – medical and technical resource and competence"

An additional two resource teams were established in December 2020 and January 2021: one for global COVID-19 research, and one for vaccines (research/coordination).

The resource teams were set up to gather internal expertise and resource persons to support the university management and assist KI's internal and external communication. Ultimately, they contributed to the organisation's longer-term sustainability and preparedness. The purpose was also for them to quality-assure KI's initiatives, especially those carried out at speed. Since the teams consisted of a small selection of all the experts available in these fields at KI, much of their work was done within the members' various networks. The members' expertise was often requested by the media.

KI submitted its report "Proposal to the KI management for urgent measures and initiatives in response to the current pandemic" to the KI management in mid-February 2021. Some of the proposals included within are also reproduced in the lessons section of this report.

Realignment of research activities

A great many initiatives for establishing COVID-19 research at KI were taken, most of them in close collaboration with hospitals. Major realignment efforts were quickly made in numerous fields such as infection, microbiology, anaesthesia/intensive care and immunology. The majority of researchers in these fields left their regular activities completely to concentrate on COVID-19-related issues of research and education in both preclinical and clinical research groups and learning environments. Research in the field of public health also got underway swiftly on such issues as how COVID-19 affected socially and economically disadvantaged areas and communities; how school closures affected the mental health of children and teenagers in different socioeconomic areas; how residents born overseas received public information and official advice; vaccine scepticism and uptake; and access to care for conditions other than COVID-19 (e.g. for mental health, sexual and reproductive health and cancer). All these issues are important to learn about and from ahead of future pandemics.

The following gives examples of how different groups at KI refocused their activities. Many other initiatives have also been taken, and below is a selection based on the responses that have come in from the groups approached:

- The *divisions of infectious diseases at the Department of Medicine in Huddinge and Solna*, which are directly tied to the Medical Unit Infectious Diseases (the Infection Clinic) at Karolinska University Hospital, were quick to do studies of the clinical picture, diagnostic administration and, later, clinical tests. It was to Karolinska University Hospital in Huddinge that the first COVID-19 cases came for isolation. The great influx of requests for research collaborations when many patients with COVID-19 were being hospitalised prompted the Medical Unit Infectious Diseases to set up a steering committee with Karolinska University Hospital and KI for clinical COVID-19 studies in the spring of 2020. Later, studies of vaccine responses were also established (basic vaccine research was being done at other departments at KI, such as MTC and LabMed) along with clinical tests of e.g. immunocompromised patients.

- The *Centre for Infectious Medicine (CIM)* at the Department of Medicine in Huddinge refocused much of its work – involving over 50 researchers – to COVID-19 in the early months of the pandemic. This was made possible by the activities and knowledge that already existed there regarding studies of the immune response to viral infections and associated research. The CIM was also quick to establish direct contact channels with units working with infectious disease medicine and anaesthesia/intensive care at Karolinska University Hospital. This led to collaborations with the emergency activities, the Medical Intermediate Care Department (MIMA), geriatrics and other units at Karolinska University Hospital in Huddinge and Solna.

- At KI's *Department of Medicine in Solna (MedS)*, well-established and ongoing clinical research on influenza immunology on patients enabled the department to redirect its activities onto immunology research for COVID-19. It was also engaged in registry research and the establishment of large clinical research databases in association with Karolinska University Hospital, and multidisciplinary clinical research in the fields of infection, pulmonary medicine and within health professions (such as physiotherapy, psychology, occupational therapy), intensive care units, neurology, radiology etc. The research, which was carried on in collaboration with other departments, concerned long-term effects with the systematic follow-up of a large number of hospitalised patients with severe COVID-19, where non-hospitalised patients were also discovered to have lasting afflictions.

- An extensive *biobank project with close ties to CIM/Infection/anaesthesia/intensive care* at KI started back in March 2020. The biobank comprised samples from inpatient and outpatient care where the main reason for hospitalisation was COVID-19. The biobank is available to researchers once their applications to extract material have been approved by the biobank's steering group. In the next stage, molecular and cellular analyses of the biobank material could be linked to the establishment of patient databases with detailed information on the entire care pathway. As part of the project, the Karolinska KI/K COVID-19 Immune Atlas was developed in March 2020 (www.covid19cellatlas.com) with the aim of providing a specialised dataset that covered the acute immune response to SARS-CoV-2 infections in humans. The Atlas was built as an open resource for broad research and education purposes. It currently contains a presentation of various responses from immune and inflammatory cells found in a defined patient group with moderate to severe COVID-19.

- *Anaesthesia/Intensive care at KI* placed its research organisation at the disposal of an immediate, inter-hospital, structured collection of high-resolution patients data and biochemical information from patients hospitalised primarily for COVID-19. The data-gathering, which began in March 2020, formed the basis of a quality database that was linked to analyses of collected biobank material. The database was also quickly put to use for the characterisation of pathological processes, risk factors and initial treatment responses during the first phase of the pandemic. At a later stage it was also used to compare treatment outcomes and to enable benchmarking with other international centres.

- *The KI/K COVID-19 resource team* also continuously produced information and best-practice documents for the healthcare services, which were implemented in the care of infectious diseases, emergency care, post-intensive care and medical imaging. Over twenty versions of the series of clinical guidelines have been implemented thanks to the university's collaboration with the healthcare services.

The documents (e.g. the one on intensive care) also formed the basis of national guidelines and were used by the National Board of Health and Welfare.

- *The public health team and the Department of Global Public Health (GPH)* established regional, national and international collaborations, which has helped enhance KI's reputation. KI researchers and experts were frequently engaged by national and international authorities and organisations during the pandemic, such as the Swedish Public Health Agency, the WHO, COVAX (Covid-19 Vaccines Global Access) and UNICEF. The GPH's researchers were involved in information and public education activities at a local, national and international level. An example of the last of these is their work with the COVID-19 Clinical Research Coalition for Covid research in low-income countries (in epidemiology, pharmacology and intensive care). Staff from the GPH were seconded in March and April 2020 to the National Board of Health and Welfare's crisis management, the Region Stockholm's crisis management and, subsequently, to the WHO. Through an established collaboration with the National Board of Health and Welfare and KI's previous experience of running courses on working during Ebola outbreaks, the initiative was quickly taken to develop a crash course for healthcare professionals along the lines of the "just-in-time training" model. An online course was created in ten days for improving preparedness and imparting knowledge on the most important principles of and challenges to preventing the spread of COVID-19. The focus was on hygiene principles and the use of PPE. The course was taken by almost 200,000 healthcare and elderly care professionals (up to December 2022 inclusive).

- *The Department of Clinical Sciences* at Danderyd Hospital initiated the COMMUNITY (COVID-19 Immunity) study in April 2020 in collaboration with KI, the Royal Institute of Technology, SciLifeLab, Uppsala University and the Public Health Agency. Of the 2,267 participants, who are being monitored over time, 2,149 are healthcare professionals at Danderyd Hospital, and 118 inpatients being treated for COVID-19. The overall aim of the study is to gain a deeper understanding of how immunity develops after infection and/or vaccination. Blood samples are taken every four months from all participants and relevant clinical details are gathered via a smartphone app.

- *At the Department of Clinical Neuroscience (CNS)* almost 50% of ongoing studies were held up or cancelled altogether when the pandemic broke out. To mitigate the effects of the pandemic, a taskforce was assembled that helped laboratories in need of support to get started with research requiring participants from patient groups and the general public. The taskforce risk-assured laboratories and their study protocols so that they could resume work. A possible improvement measure would be to centrally coordinate such intervention for all laboratories dependent on meeting research participants outside healthcare.

- The *National Pandemic Centre (NPC)* was set up in March 2020 as a temporary COVID-19 diagnostics laboratory at the Centre for Translational Microbiome Research (CTMR – a joint centre operated by KI, SciLifeLab and Ferring Pharmaceuticals) with a remit to provide analyses of the incidence of COVID-19 through the nucleic acid detection of SARS-CoV-2. At the time, there was a serious lack of large-scale diagnostic testing capacity in Sweden. Research at CTMR was suspended and existing laboratories, instruments and staff were put to use for the purposes of large-scale diagnostics. In four weeks, the research centre was converted to a diagnostics laboratory in order to provide national testing capacity. This realignment required new equipment, analysis reagents and products, PPE for staff, extra laboratory space, the setting up of BSL2+ laboratories for the handling and inactivation of primary samples as well as the validation of protocols and analyses and the recruitment of extra personnel. In addition to all this, considerable efforts were made to quickly develop an IT tool for the registration, documentation and reporting of samples and test results, which was made possible through collaborations within existing platforms at SciLifeLab. As a university wishing to conduct diagnostic tests, KI had to apply to the Health and Social Care Inspectorate (IVO) and for authorisation from the government.

In 2020, the NPC analysed over 620,000 diagnostic COVID-19 samples from Stockholm, Västra Götaland and Västerbotten. At its most, the NPC had a staff of 231 working in three shifts to uphold the contractual response time of 24 hours. Despite there being capacity, it took a long time for large-scale testing to get going due to uncertainty among the regions about who would pay for it, and it was only at a later stage that the government confirmed that it would cover the cost.

The major transition was made possible thanks to substantial initial funding from, above all, the Knut and Alice Wallenberg Foundation. KI also provided significant financing during the transition to and implementation of the new operational setup, whereby, for example, premises were made available lease-free for the first year.

Further realignment was affected in early 2021 from diagnostics to the large-scale sequencing of SARS-CoV-2 to contribute to the national monitoring of how the virus was mutating. Since then, a whole-genome sequencing of the SARS-CoV-2 virus has been performed over 135,000 times, corresponding to 60% of all sequencing operations in Sweden. In 2022, the NPC has also had a national assignment as an emergency preparedness laboratory for COVID-19 diagnostics. Additionally, the NPC, along with Biobank Sverige and Sweden's regions, has responsibility for the storage of positive COVID-19 tests, the number of which amounts to over 1.7 million.

During the pandemic, the NPC established a strong national network of healthcare regions, private diagnostics actors and the Public Health Agency. The refocus that the CTMR effected through the establishment of the NPC and the work that was

done during the pandemic shows how the university can offer flexible laboratory preparedness and, not least, emergency staffing.

- The *Centre for Molecular Medicine* (CMM, a collaboration centre between KI and Karolinska University Hospital) evaluated commercial rapid tests for antibodies in serum and virus in saliva. Similar evaluations were conducted by other organisations and authorities. With over 400 tests on the market, only a fraction could be evaluated. Different tests were compared using different methods and resources that already existed at the CMM. Use was made of the CMM's existing infrastructure in these efforts, with sample collections via the hospital and registration in approved national quality registers with a unique code and traceable processing from initial sampling to final result.

As described in several of the above points, highly effective collaboration was quickly achieved between the university and the healthcare sectors, very much on account of collaborations already in place between preclinical researchers and researchers professionally active in healthcare. Another example of this effective collaboration is that hospital staff working in areas without patients were put to supporting clinical research on COVID-19. Administrative personnel also provided support in the gathering of data and the processing of permits to conduct clinical research.

Lessons

All those approached in the compiling of this report praised the swift establishment of resource teams that had regular, frequent meetings internally and with the KI management, making possible the exchange of knowledge, the monitoring of the national and international developments of the COVID-19 pandemic, and the forwarding of questions from the media and other to the right person. There was ample opportunity and a great desire to work across subject and discipline boundaries. There was also a will to better integrate activities with the medical faculties of other universities. Many people pointed out, however, a good deal of "reinventing the wheel" here and there and, at least at first, a lack of internal coordination and meeting places. One lesson is the need for a portal at KI that forwards questions to the right people and that can take in internal questions, issues and matters for communication within and outside the university. It is hard for an external actor without a research background to identify the right expertise and it took too long to make the skills and knowledge possessed by KI visible to the outside (establish websites, access to experts). Creating a more unified KI that releases clearer external communication preceded by internal discussion requires a more open dialogue and internal meeting places for transparency and participation.

Many people mentioned the team spirit at KI and how the general willingness to refocus and step up during the prevailing crisis was so inspiring. The work was seen

as a vital contribution to society. At times of crisis, there sometimes seems to be circumstances that make rivals in the academic environment prepared to work together towards a common goal. Private initiatives were quickly taken during the pandemic without awaiting instructions “from above” and people dared to think outside the box, something that was generally considered a key to the successful efforts that were made. In future, that responsibility should not lie with individuals; this does not detract, however, from the important role played by individuals during times of crisis.

At first, the communication of local information on guidelines from KI (relative to official state recommendations) was less effective in some parts of the organisation. Clear and consistent information to the staff from the management of each unit/department was deemed important to prevent uncertainty and friction in the workplace, particularly so at an international workplace like KI. Even if the information might change, it is better to impart what is known for the moment, with a caveat that things can change quickly, to avoid uncertainty amongst the staff.

The partnership between KI and the healthcare sector (i.e. all the hospitals in the region but particularly Karolinska University Hospital owing to many established collaborations) worked well. It was considered very important, given that the hospitals had real-time data on the spread of the pandemic, patient hospitalisation, fatalities and, later, vaccinations. There were some problems, however, such as a lack of research nurses, issues about what data to gather, access to aggregated population data, and regional disparities in the format of patients’ medical records. A separate permit was also required before KI could analyse patient samples, since this is normally beyond the remit of the university, and there was a delay in having it granted. An addendum was later inserted into KI’s appropriation documents for 2021 and 2022, but having a preparedness for this type of diagnostic procedure requires long-term solutions, including financing. Much of this KI does not have the mandate to change, but it is important to put it forward as one aspect of improving society’s contingency measures.

Owing to the huge demand for healthcare services in Region Stockholm, many clinical researchers in the fields of infection and microbiology did not have time to research to the extent needed. Besides, research could only commence when there was enough protective equipment, as that needed to be prioritised for hospitals. This also occurred in other parts of the country as well as in other countries, and is something that will need to be addressed ahead of future health crises.

As mentioned earlier, KI contributed a certain amount of training for healthcare personnel during the pandemic, but perhaps other courses, say for people working in elderly care, could also have been designed. For this to be possible in the event

of a future health crisis, the needs will have to be clarified and existing collaboration pathways utilised.

While internal cooperation worked well at KI, many people pointed out that external cooperation with different authorities, for example, was not so good. A description of the situation was formulated in a way that made it seem as if the system and bureaucracy did not grasp the fact that ours was a society in crisis. One exemption mentioned is the IVO's processing permits for analysing patient samples at the NPC, where their administration was efficiently managed. A lesson here is that the key to improvement is the establishment and maintenance of a contact network with authorities and other universities in advance, before a crisis occurs, that can be activated according to plan in the event of a crisis.

Many of the people approached also mentioned that ethical reviews hampered new research projects due to a lack of capacity in the handling of the vast number of applications submitted to the Swedish Ethical Review Authority. One possible improvement is the swift implementation of a fast-track system; to be sure, one such was indeed created for COVID-19 research, but it took too long. Alternatively, one could in the event of a (sufficiently serious) health crisis introduce "pre-approved" ethical permits for a certain kind of research, as some countries already have in place. When it comes to the validation of rapid tests, for example, other countries (e.g. Germany) could also provide models for a better process. Distributing test validations between (EU) countries might also be worth considering to make the process more efficient and avoid labour duplication. The issuing of permits for the use of rapid tests was one of the bottlenecks that the WHO identified as the most dysfunctional during the pandemic. One attempt to improve coordination within the EU is the union's new European Health Emergency Preparedness and Response Authority (HERA), on which all member states have representation, including Sweden and by extension KI.

Another recurring theme is financing. A considerable amount of research funding was released quickly during the pandemic, with private foundations usually being the fastest off the mark. Views have been expressed that the internal coordination of sudden donor financing can be improved and that it would have been useful for KI to have initially offered smaller research grants to kick off research and administrative help to ease the first steps. There was also a request for simplified administrative procedures that enable decisions to quickly be implemented. At national level, a pre-established national "research fund" is conceivable. Co-financing demands from government financiers should also be reviewed in a crisis situation. Finally, research financiers must be made aware of the need to also study the large gaps in knowledge about the indirect effects of health crises nationally and globally.

The Centre for Health Crises

Background

In mid-June 2021, the KI President decided to establish the Centre for Health Crises³ to take full advantage of the structures and competence amassed at KI during the KI COVID-19 pandemic. The purpose of the centre was for it to serve as a platform for the continual improvement of preparedness ahead of and in the event of emergency health crises at local, national and international level based on research and education.

A taskforce was set up that worked on the plans for the centre from August to November 2021. The members had weekly meetings and regular contact in the intervening time. Initially, a structured and summary review was done of the work of Karolinska Institutet's interdisciplinary Resource Team Post-Pandemic (KIRP) and an analysis of similar centres around the world to obtain a global starting point for the work. The focus was on creating an internal structure and direction for a centre that would build upon experiences gained from the pandemic and to bring together KI's various responses to future health crises.

While it was doing this, the taskforce also held a workshop with the Faculty Board at KI to draft proposals through groupwork and dialogue with input from representatives of KI's line organisation. It also had a permanent point of information at the meetings of the Committee for Research, progress and update meetings with the academic vice presidents for Doctoral Education and Higher Education, and regular meetings with the President. In November 2021, a report was submitted to the KI management containing conclusions from its work.

In setting up the Centre for Health Crises, KI is signalling its intentions to meet its societal responsibility and its readiness to contribute education, research and empirical knowledge and expertise to the building of a safer society. This can be seen as a kind of "fourth mission" for the university – to take an active part in dealing with health crises and to contribute greater knowledge of prevention, preparedness, response and coping skills from a local, national and global perspective.

The Centre began operational activities in 2022. A director and a steering group were appointed at the start of the year and additional staff were recruited. A number of health-threat areas were identified, such as infection and pandemics, disaster toxicology, the health effects of extreme weather and radio-nuclear accidents. Experts with broad experience in these fields were identified and part-time recruitment commenced. To enhance the capacity and preparedness of the health services for future crises, the recruitment has also begun of experts in different fields, such as the upscaling of intensive care in crises, mental health and

³ Previously the Health Emergency and Pandemic Science Centre

how to create resilient health systems.

Lessons for the Centre for Health Crises going forward

In conclusion, it appears that KI, just like the rest of society, was not sufficiently prepared for handling a health crisis on the scale of COVID-19. One problem was that it was, and still is unclear what role the universities should play in such situations. Despite this, many valuable initiatives were started and activities were realigned and refocused in an impressive way, even if coordination and communication were sometimes less than optimal. Critical decisions were largely taken by individuals rather than at a departmental level. There was an impressive range of expertise at KI that was not, however, fully able to support the surrounding society, including public authorities, and resolving this will be an important aspect of the Centre's work ahead of future health crises.

Success factors mentioned are the ability to react promptly by bringing together the relevant expertise, and to have an intelligence-gathering operation in place to detect slowly growing crises. In this respect, the centre's role lies in its network structure, with its affiliated experts from different health crisis fields. Collaboration with other Swedish and foreign universities will also be essential to accessing a broad range of skills and knowledge.

Continuing collaboration with the healthcare sector is important as regards stimulating multidisciplinary research, identifying research lacunae and spreading examples of good practice from different kinds and centres of activity. Collaboration is also important in education. Here, the centre could make a vital contribution by offering courses and other forms of education to train the next generation of health crisis experts. Being able to quickly arrange courses for healthcare staff, for example, as was done during the pandemic, will also be important.

Another important function of the Centre could be to offer meeting places for internal discussion in order to improve the climate of debate and to discuss strategies and what KI should and should not do in a health crisis. The centre can also help KI to "speak with one voice" during a crisis so as not to compound any distrust there might be towards researchers and research without impinging on the right of all researchers to express themselves as professionals. Media training for researchers to help them deal with fake news and to quickly summarise current knowledge is something else that the Centre can offer. In the event of a new health crisis, qualified communicators working exclusively with this will need to be earmarked early.

Because the Centre is a permanent structure, ways can also be found to deal with the many systems and processes in society that do not entirely harmonise, particularly externally, and that KI has little, if any, ability to change. Work on and

training in various health-crisis scenarios, as well as providing input to crisis contingency planning and the pre-planning of how technical platforms could be used/repurposed, could be among the Centre's responsibilities.

Creating contact pathways to public authorities, decision-makers and other universities will be one of the Centre's most important remits and something that proved a weakness during the pandemic. This can be done collaboratively to reinforce preparedness for a future health crisis and to clarify failings and deficiencies and how they can be remedied in order that the ability to realign or refocus activities during such a crisis can be improved. The Centre can be a natural portal for forwarding to the right expertise and vice versa – channelling existing knowledge and expertise to the right recipient in the right format. Strengthening our preparedness would benefit not only society but also KI's researchers, teachers, and students.

In sum, the role of the Centre for Health Crises could be to promote (research, teaching, collaboration, communication), act (offer expertise and knowledge) and inspire (think freely and explore new paths), and to do so transparently and openly.