



## **Creating Opportunities and Occasions to Promote a European Results-based Action for Training and Education – COOPERATE**

**Country based needs Assessment facing Covid Crisis (Problems of health-care professionals, health-care organizations)**

**Italy**

Based on 51 responses, of which 94.1% are between 35-54 years of age and the rest between 18-34 years and all male, the following results came out:

98% are university graduates, while only 2% have a master's degree.

60.8% are doctors, while 19.6% are both nurses and obs.

33.3% have been working for 8 years, 27.5% for 7 years, 13.7% for 6 years, 11.8% for 5 years, 7.8% for 9 years while the rest, 2%, have been working for 3 or 10 years.

35.3% of responders work as primary care; 27.5% both as hospital care and as a specialist; 9.8% other.

33.3% of respondents work in shifts; 33.3% do not work in shifts; 33.3% other.

39.2% of respondents can definitely take responsibility for the planning, organization, design, control and evaluation of the nursing process in both acute and chronic cases; 25.5% cannot evaluate it; 21.6% can probably take this responsibility; 21.6% probably not; the rest absolutely not.

41.2% of respondents are definitely able to responsibly plan, organize, design, control and evaluate nursing processes and nursing diagnoses for people of all ages with health problems; 29.4% probably yes; 19.6% probably not; 9.8% cannot evaluate it.

29.4% of respondents are certainly able to plan, organize, design, direct and evaluate nursing processes and nursing diagnostics in highly stressful and critical life situations in a responsible way; 51% can take this responsibility; 17.6% probably not; the rest they cannot evaluate.

25.5% of respondents know perfectly how to act in life-threatening situations and in crisis and disaster situations; 29.4% can take this responsibility; 25.5% probably not, while for 19.6% it is not applicable.

21.6% of respondents can certainly support, accompany and advise people in organizing their lives;

45.1% probably can; 23.5% probably can't do it; for 7.8% it is not applicable; otherwise they cannot evaluate it.

56.9% of the responses are certainly able to encourage development and independence throughout life; 21.6% are probably able to do it; 7.8% cannot evaluate it; the rest is quite difficult to apply.

28% of respondents are able to confidently communicate and interact with people of all ages and their caregivers in a way that is appropriate to the individual and situation, and to ensure that adequate information is provided; for 24% it is quite probable; 8% is rather not applicable; for 36% of the respondents they cannot evaluate it.

36% of respondents are certainly able to responsibly plan, organize, design and evaluate counseling, guidance and training with people of all ages; for 18% it is quite true; for 20% rather it is not applicable;

for 6% it is definitely not applicable; for 20% they cannot evaluate it.

64% of the responses can certainly act in a way based on ethical reflection; for 20% it is quite true; 12% cannot evaluate it; otherwise it is not quite applicable.

27.5% of respondents are definitely able to assume responsibility in a qualified and heterogeneous nursing team; for 25.5% rather it is not applicable; for 27.5% it is quite applicable; for 15.7% it cannot be evaluated; otherwise it is definitely not applicable.

25% of the responses can definitely act in a way based on ethical reflection; for 41.2% it is quite probable; for 13.7% rather it is not applicable; for 9.8% they cannot evaluate it or it is definitely not applicable.

39.2% of respondents are certainly able to collaborate in interdisciplinary teams in the care and therapy of people of all ages and to guarantee the continuity of the interfaces; for 39.2% it is quite true; for

17.6% they cannot evaluate it, while for the rest it is not applicable.

29.4% of respondents are certainly able to guarantee the quality of nursing services in compliance with ecological and economic principles; for 35.3% it is quite true; for 19.6% rather it is not applicable; for

13.7% they cannot evaluate it; otherwise it is not applicable.

33.3% of respondents are definitely able to take responsibility for their personal development (continuous learning) and my professional image; for 25.5% it is quite applicable; for 19.6% they cannot evaluate it or rather it is not applicable; otherwise it is not applicable.

The results showed that there is a great need to develop skills in new technologies, diagnoses and treatments, but also in literature, in clinical guidelines for nursing assistance; while there is little need to develop changes to laws or regulations that affect patient care.

Almost all of the respondents, 98%, have no other training needs.

Covid and healthcare of the future: from training to research to the role of medicine in the area

### **Interview:**

Q. How do you see the pandemic from the University observatory? Have the universities managed to maintain a significant role, a point of reference in the pandemic storm?

A. Universities are communities of men and women who, through study and the expansion of knowledge, seek to pursue three objectives: research, training and sharing of cultural contents with society by providing elements to favor the increase in the level of Welfare.

In the immediate aftermath of public health measures to contain the pandemic, the University was the first social player to rapidly explore and implement various communication technologies aimed at largely



reconstructing the relational fabric between professors and students to allow to continue the educational activities.

At the same time, it has promoted virtual meetings, in-depth initiatives on very diversified topics, open not only to the academic community but often also to a wider audience. In short, he has recreated, with tools appropriate to the situation, and in spaces other than the traditional ones, a community capable of keeping dialogue and interdisciplinarity alive, which otherwise would have been broken in no uncertain terms.

The discussion expands referring to the School of Medicine which, due to its operational characteristics, has also played an important role in the field of basic research on the SARS Covid-19 virus, on the clinical aspects of patients affected by the complications of the pathology in the context of the various medical specialties.

So basic scientific and clinical research but also real assistance and care of patients.

Q. Should a new relationship between hospital and territory, between general practitioners and specialists, be rethought in Healthcare?

A. The pandemic has brought to light very serious organizational errors of territorial medicine and the effects of the culprits weakening it over time. These statements come from many quarters and were reiterated in the "Report on public finance" presented by the Court of Auditors in May 2020. The document states that the concentration of care in hospitals has impoverished assistance in the area, leaving the Italian population "without protection adequate". A very heavy j'accuse for the health policies of many Regions shared among other things by many medical organizations.

Will we be able to reverse the course and abandon profiteering in healthcare? The orientations that

lead to investing in ultra-specialist hospital structures of much larger dimensions than local needs will change so as to make them profitable sources of profits thanks to the recruitment of patients from other regions where, on the other hand, the modernization and adaptation of the hospitals?

I think this will be a very important point on which the regional administrations will discuss in the near future.

Q. In a situation in which the health personnel has proved to be lacking, is the long-debated question of the limited number in Medicine to be reviewed?

A. I use it to respond to a military metaphor. Healthcare personnel fight in alliance with the sick in a fight against Evil. So how should the army be organized in this war? Rapidly increase the number of soldiers, to have a shock mass against the enemy, perhaps poorly equipped and poorly trained (see the exorbitant number of fallen among family doctors sent into jeopardy in the early days of the pandemic) or seek efficiency and professionalism to increase the effectiveness of the fighters?

First of all, it would mean strengthening local medicine by providing it not only with clinical-diagnostic tools, technological support, services in the area, but also administrative help.



If 60% of a family doctor's time is occupied by bureaucratic commitments, only the remaining 40% will be dedicated to treatment. If we then remove the ballast of bureaucracy, doesn't the number of doctors double miraculously without having to increase the number of students with the inevitable consequence of lowering their level of preparation?

Q. Covid has opened up a new horizon, that is the alliance, for the first time in history, between industry and universities and between all scientists in the world. Is it possible to hope that this collaboration will continue?

A. I'm afraid not. Public and private research have different goals. The first pursues the free circulation of data available to the scientific community, the second, profit.

However, the exceptional nature of the moment due to the looming pandemic meant that a large drug

industry AstraZeneca immediately recognized that a partnership with the University of Oxford would be able to enormously accelerate the basic study phases of vaccines and also partially its clinical development, thus allowing a more rapid production of vaccine on a global scale. This collaboration had the important consequence of the Anglo-Swedish multinational industry committing to commercialize the vaccine at production cost for the duration of the pandemic.

Unfortunately serious marketing errors and bad communication have marginalized the use of the

AstraZeneca vaccine, reducing the economic advantages of the clients of the various nations. However, many other pharmaceutical industries have followed this policy of collaboration and scientific exchanges with research institutions during the period of the emergency.

Q. In the light of what has happened, will tomorrow's Medicine continue to follow the recently undertaken path of specialties and a reductionist approach, or will it rediscover its Hippocratic origins aimed at treating the person as a whole? A. I don't think that what happened with the pandemic can have effects on the adoption of scientific methods other than those of the recent past; I think instead that, even before the pandemic, a complex methodological revolution in medicine is underway which will inevitably lead to the abandonment of the reductionist method as it is no longer able to deal with the analysis of enormously complicated phenomena which will require, in order to be understood, the intervention of complex calculation and assisted by artificial intelligence.

Through the data coming from the study of genes (genome) of messenger RNA transcripts (transcriptome), of the functions and structures of proteins (proteome) and of many other elements, which will require ever more reliable, faster and capable of investigating more and more deeply into the biochemical structures of the living, it will be possible to reach the molecular identity of the subject. Today this new perspective, defined as "omics" is represented by precision medicine which takes its first steps towards this world of knowledge which tends to outline increasingly personalized diagnoses, therapies and interventions and in this sense it truly becomes the medicine of the person.

Perhaps this will be the modern Hippocratic vision of a medicine capable of adapting itself in the smallest details to the specificity of the single individual.



## The future of education

### Interview:

Q: The health emergency represented by CoViD-19 has revolutionized the working methods that were considered immutable. In the CoViD emergency context, what are the major training needs of healthcare professionals?

A: Healthcare workers were among the professionals most affected by this emergency and in the first moments of the pandemic they mostly expressed needs related to safety, the containment of the infection and the use of Personal Protective Equipment. This was followed by the need for communication, stress management and teamwork. The training was found to be a support and support tool for emerging needs for safety and protection, both physical and psychological.

Q: Let's imagine that training in general will have a sharp contraction in the current year deriving from the impossibility of delivering courses in the classroom. What type of training delivery is necessary to implement to support professionals in the health and social care world? What type of offer does CBA offer?

A: Residential training has suffered a setback and has been replaced by remote methods, in an initial phase with emergency logics and sometimes a little improvised and then, increasingly mature and structured.

In the current situation there are two great opportunities that can be seized to continue training despite the difficulties and commitments that health professionals still face and they are: synchronous and asynchronous distance training. In the first case (synchronous) these are webinars where the teacher (and the classroom group) are present, while in the second case (asynchronous) the teacher records a lesson that can be followed at any time by the learner.

Each of the two modalities has specificities that can make it an opportunity, based on the needs of the professional and his organization. The main strengths of synchronous training are those of the presence of the teacher and the possibility of interacting with him. This encourages interaction between the participants and the teacher and between the participants themselves and maximizes the effectiveness of distance learning, transferring the best of classroom training online.

Q: What are the benefits of having the CBA training platform at your disposal?

A: The advantages of asynchronous training can mainly be summarized in its usability, because it is always available and has no fixed dates or times, and in learning at one's own pace. The participant can log in when he wants and as many times as he wants, even by downloading materials to view and study offline.

For organizations this is an advantage especially in emergency periods, when effective management of the presence of operators is a priority.

Q: The relationship with operators and structures is the basis of the approach for CBA. How to bridge the relational gap present in distance training courses or on the dedicated platform

A: In this more mature phase of the pandemic experience we are experiencing, distance learning is increasingly being structured as a new opportunity and not just as a mere emergency response.

The challenge for the future is to move from an "emergency training" as we experienced in the first

part of the pandemic to structured distance training and considered as a real opportunity for people and organizations, which can complete the offer residential.

In order to ensure effective training and adequate learning, it is important that the following be ensured even in the synchronous and asynchronous methods of distance learning: good planning and delivery and the involvement of the learner. The participant must be able to interact with the teacher both synchronously and asynchronously, for example being able to send questions to the trainer.

### **What can the industrialized world do to prepare for the next pandemic?**

The answer is simple: a lot. Currently, the WHO has developed preparedness plans against the coming pandemic. For example, the U.S. Department of Health has stepped up research to produce a new vaccine. But such a plan must necessarily involve all key figures in the community. It is necessary to coordinate physicians, pharmaceutical manufacturers, transporters, food managers. On the governmental level, public health, justice and law enforcement at the local, state and federal levels are involved. It should be kept in mind that such a master plan also has disadvantages. Aaron Wildavsky of Berkeley University says that the key to a good crisis management plan is dictated by flexibility, because a rigid structure can do more harm than good. Planning is necessary and useful, though. It is needed to identify who is responsible for an area of the contingency plan, to procure everything necessary, including organizational structures. Such a plan also makes the directors of public facilities question what their responsibilities are and provides intellectual but also emotional preparedness, so that if the crisis comes, the community is more ready to intervene. Special attention should be paid to the production of flu vaccines. A global vaccine supply plan needs to be developed, with a well-defined timeline to ensure success. It is very good that the U.S. and Vietnam are already collaborating to develop and produce a vaccine for H5N1 for their respective nations. But if the same thing is not done by other states it will all be in vain, because the flu to be stopped necessarily needs a vaccine plan on an international scale. No one can be said to be isolated in the event of a pandemic. The trade collapse caused by the pandemic and its devastating effect on industrialized countries will be the first real test of the flexibility of the global goods transfer system. Given that world trade relies on the rapid and accurate tracking of goods and services, a sharp fall in the global economy would dramatically erode the ability to meet the demand for essential goods such as food and medicines. The industrial community cannot continue to be a minority in planning a response to the pandemic. Industries should therefore also have guidance to follow in the event of a crisis; each company should elect a manager who is accountable for the ability to produce, accessibility, and transport products in the event of a crisis. To complete the matter, all plans at local, national, and international levels should consider 3 possible scenarios: What would happen if the pandemic started tonight? What if it started a year from now? What if we were lucky enough to have 10 years to prepare? All three possibilities are likely, but none of them is certain. Starting tonight What could happen tonight if an H5N1 outbreak suddenly broke out in some cities in Vietnam? First, there would be a rush to official data from government agencies to know where the disease surveillance stands, to know which

countries have a good chance of having cases related to the outbreak. Next, a decision would be made to close the borders in at least some states, with no indication of when they might be reopened. Border closures would also be necessary to protect nations that had already thought about the possibility of vaccinating their citizens. Military commanders would then devise strategies to also defend the country against possible insurgency in affected nations. But not only that, chaos and panic would also develop in unscathed nations especially in the face of media reports of the gradual spread of the virus around the world. The economy at that point would be on its knees. Each nation would have to make a plan to survive only with its own resources for at least 12-36 months. Both private and public sectors would have to identify domestic referrals to which they could turn to meet the need for basic necessities. At the same time, if the country were infected, the labor force would drop because 50 percent of the population would fall ill with a 5 percent mortality rate. And the virus could affect those in charge of the crisis containment plan as much as anyone else. There could be shortages of food, soap, paper, light bulbs, fuel, spare parts for military instruments, water distribution, medicine. Non-essential goods industries such as clothing, electronics, automobiles could collapse due to lack of demand and would close. Businesses involving close human relations such as schools, theaters, and restaurants would be closed. The vaccine would have no effect before one month and would also have a limited effect during the next

12-18 months after the onset of the pandemic. Although other vaccines make use of innovative knowledge, the flu vaccine uses fragile and limited tools based on technology that dates back to the 1950s. Today, flu vaccine production is around 300 million doses annually for the trivalent one or 1 billion doses for the monovalent one. Considering the emergence of a new viral strain, people will only be protected after 2 vaccine inoculations. With today's numbers, this means that less than 500 million people, about 14% of the world's population, will be able to be vaccinated within a year of the outbreak of the pandemic. In addition since the structure of the virus changes quickly, vaccine production can only begin once the pandemic has broken out, to ensure that a vaccine is produced for as new a virus as possible. From the outbreak of the pandemic, it is estimated that it can take 6 months to get to the finished vaccine. Even assuming all these steps work, the flu vaccine is only produced in 9 nations: Australia, Canada, Germany, Italy, Japan, the Netherlands, Great Britain, and the United States. These countries have only 12 percent of the world's population. In the event of a flu pandemic, these nations are likely to keep vaccines for their own citizens, as happened in 1976 when the United States, anticipating a swine flu (H1N1) pandemic, refused to share vaccine with other nations. If a pandemic happened we would still have another weapon: antiviral drugs. If taken daily during the period of exposure to the virus they are able to prevent the onset of the disease. They are also able, if taken within 48 hours of exposure to the virus, to reduce symptoms and complications. Unfortunately, there are no data to ensure that antivirals have the same efficacy for the H5N1 strain as well, and there is no certainty that they can be effective in patients who have already developed the severe cytokine-releasing form of pneumonia. To combat the pandemic, antivirals could be essential, but even for these drugs there is the problem of stockpile quantity, plus for most countries they would not be usable due to high cost. Antibiotics to treat secondary rash bacterial infections will also have the same problems. Even today, in the United States, stocks of eight different anti-infective agents are low, due to industrial production problems. Beyond the drug problem, many countries will not be able to cope with the surge in demand for health services, which are taken for granted today. In the United States, for example, there are 105,000 automatic respirators, 75,000-80,000 of which are already in use during all hours of every day. During a flu season, the number of respirators in use reaches 100,000. In a flu pandemic, the United States may need hundreds of thousands more respirators. The same situation is repeated in other industrialized countries. In projected all the medical equipment in hospitals could be insufficient within a few days of a pandemic





outbreak. Currently, two U.S. industries worldwide supply most of the protective masks for those working in health care. But these would not be able to cope with the increased demand in the event of a pandemic, because raw materials come from different countries, so if transportation stopped, there would be no possibility of producing more masks. Health organizations and doctors are also unprepared for the possibility of a pandemic. A huge amount of medical care will be needed. New hospitals would be improvised inside schools and centres for at least 1-3 years. Doctors will get sick and die just like anyone else, in fact probably in a greater percentage if they do not have access to protective equipment. It is likely that volunteers who have developed an immune response to influenza, having contracted it and overcome it, will then be enlisted as physician aides. And this would go against the acknowledged resistance of the medical community to accept volunteers in their work, so judicial and professional standards would have to be reviewed. But more sensitive questions should be asked. Who should set priorities in access to limited stocks of antiviral drugs? Citizens might consider any criteria for choice an injustice, creating dissent and riots. In addition, we are not equipped with regulation of disposal of such huge numbers of corpses as there might be. It is evident how, in case of a pandemic, it is necessary to plan everything, both medically and otherwise, and affecting all social plans of all nations. Between now and a year Even if the pandemic arrived in a year's time, still one would have to move quickly. Information campaigns should be developed for the medical and non-medical sectors. Every entity, industry, school, morgue, should have its own contingency plan. There is an urgent need to find measures that can counter the vulnerability of the world economy. Consumer and health supplies are needed. Doctors need to learn how to communicate risk, learn how to handle facts and theoretical knowledge to share information with a panicked public. If there were one more year, vaccine production would play a much more important role. Even if vaccine production capacity remained the same, techniques that allow for multiple doses from a single vaccine dose could be improved to accommodate the increased demand. In addition, plans should be explored to ensure the availability of syringes and tools for shipping vaccines. An international plan on how to allocate vaccines is also needed. Indeed, it is much better to pose these ethical issues now in public discussion than to wait until the crisis arrives. Priority should be given to emergency interventions and risk analysis. An aggressive and comprehensive action plan should start now to study the ecology and biology of the virus and the epidemiological role of the various animal species involved. 10 years from now If industrialized countries started as early as now to develop a new system of vaccine production, an influenza pandemic 10 years from now could have a much less devastating impact. An international project to produce a vaccine for the entire world population could be started as early as now. This should be a priority for the 7 industrialized countries plus Russia (G8). Currently, the "Bioshield" bill and another bill that has been submitted to the U.S. Congress aims to promote the availability of vaccines in the U.S. This is a good intent, but it counts for little toward an international need. The ultimate goal should be to produce a new vaccine that works for all subtypes of influenza and that can be available in a short time to everyone in the world. What direction to take? The world needs to better understand what the potential is for an emergency caused by pandemic influenza. A pandemic is to be expected; it can be caused by H5N1 or a new viral strain. It can happen tonight, next year, or 10 years from now. The signs are alarming: the number of H5N1 infections in animals and humans is growing; small epidemic outbreaks have been documented, suggesting that the virus is close to manifesting a human-to-human transition. Meanwhile, the virus continues to evolve through genetic reassortment in the transition between chickens, pigs, and humans. The incredible population explosion in Asia has created a multi-host situation for the virus. Consider that: the most recent influenza pandemic, the one of 1968-1969 originated in China, when the population was 790 million. Today it is 1.3 billion people. In 1968 there were 5.2 million pigs in China; today there are 508 million. In 1968 there were 12.3 million Chinese chickens; today there are 13 billion. The changes are similar in other



nations: with this rate of development, and considering the exponential growth in intercontinental travel over the past 50 years, one can see how a flu pandemic could be more devastating today than ever before. Can disaster be averted? The answer is yes. Even if a flu pandemic cannot be avoided, its impact can be considerably lessened. This depends on how the heads of state—from G8 representatives to local authorities—decide to act. These must address the economic, security, and health issues that the next pandemic will bring to the forefront, and decide how to invest their means. Every country must realize that even if it has enough vaccine doses to protect its citizens, the economic impact of a global pandemic will inflict much damage on everyone. The resources needed to prepare as best as possible will be expensive. But they must be considered in light of what it would cost not to take action: we would be looking at a limping global economy for many years. This is the critical point. The clock is ticking and the next pandemic may be getting closer. We must act decisively and knowledgeably. Someday, after the next pandemic has happened and passed, a commission like the one on 9/11 will be asked to assess how well governments, corporations, and public health leaders have prepared the world for catastrophe, once they are clear about the danger. What will be the verdict?