Impact of COVID-19 on Mental Health in China, India, and the US
Fairbank Center Director's Seminar
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Winnie Yip: I think we should start, because we have such a rich program with many esteemed speakers. So welcome to the second Director's Seminar series. And third in a series of webinars that we examine the impact of COVID on the economy, and earlier on maternal and child health. Tonight we examine the impact of COVID on mental health and how each country responds to it. And we are delighted to have three countries experience to be shared, from China, from India, and also from the United States, but of course the global experience as well. We're very fortunate to have Professor Arthur Kleinman to chair the session. Arthur doesn't need any introduction. All the mental health that I have learned as it relates to China, I learned it from Arthur. He's an anthropologist, psychiatrist, and a medical anthropologist. And I would say that many of the leading psychiatrists and also researchers in China are Arthur's students. Arthur has published extensively, but my favorite book is *The Soul of Care.* So with that, I want to turn it to Arthur. Thank you.

Arthur Kleinman: Thank you, Winnie. It's a delight to see this program put on. And I commend the acting director of the Fairbank Center for looking at this really important topic. I'm so excited by the panelists we have tonight. And let me, just to reduce the amount of time I spend, jump in and give them very quick introductions. These are not the detailed introductions they deserve. They're all outstanding.

Arthur Kleinman: And let me begin with my colleague Vikram Patel, who is the Pershing Square Professor of Global Mental Health and the Department of Global Health and Social Medicine at Harvard Medical School. Vikram is one of their great global psychiatrists. His career has been partly in Africa, but largely in India. He's been a professor at the London School of Tropical Health and Hygiene. He has been a professor in India. And he has done a breakthrough work on community interventions for mental health problems amongst poor people in India. And that work has had enormous impact around the world.

Arthur Kleinman: Let me also introduce Xu Yifeng, Professor Xu Yifeng, who is Director of the Shanghai Mental Health Center, which is one of China's great centers for mental health. Professor Xu was also a professor at Jiao Tong University in Shanghai, and is a leading figure in academic psychiatry in China.

Arthur Kleinman: And next, Professor Xiao Shuiyuan. Professor Xiao puts together both mental health and public health in a big way. He is Professor of Psychiatry at the Xiangya Medical School, the Yale and China Medical School at Central South University, which used to be Hunan University in Xiangya, in Hunan, a province dear to my heart. And he is both a public health figure and an outstanding research psychiatrist. And he was the head, he's formerly the Head of Global Health at that university.

Arthur Kleinman: Then we have someone who I'm just getting to know, Cindy Liu, who is a professor at Harvard Medical School and directs a very interesting laboratory that tonight is the first time I've heard about, which is the Laboratory of Developmental Risk and Cultural

Resilience at both Harvard Medical School and the Brigham and Women's Hospital. So with that set of introductions, let me turn it to… How do you want this to go now, Winnie? Who-

Winnie Yip: [indistinct] Arthur…

Arthur Kleinman: Who will—you're going to say some words before we start the panel.

Winnie Yip: I was going to say that before we start, I just want to remind the participants that if you have questions, feel free to type it in the Q and A box, and we'll try to get to that much as possible towards the end.

Arthur Kleinman: Right. And let me remind also the panelists that you have seven to eight minutes, so time is short, and as we say, the art is long so good luck and, do we have a— Who's starting off first? Is it Vikram starting? Vikram would you like to start first?

Vikram Patel: Of course, sure. I'm happy to do so, Arthur, thank you. So I'm going to speak specifically about India, but much of what I'm going to say, actually, probably applies to almost any other country, at least in South Asia and Sub-Saharan Africa. So even before the COVID-19 pandemic, mental health problems were a leading cause of suffering. At the India's national mental health survey, roughly 10% of India's population, which is about a hundred million people were found to have a clinically significant mental health condition. Suicide was the leading cause of death in young Indians. And it's been that way for nearly 10 years now. And there was a profound level of discrimination and abuse of human rights against people particularly with serious mental health conditions and disabilities, including incarceration, torture, even in some of these mental hospitals and the denial of fundamental rights. Despite a strong evidence of what works, the truth remains that over 90% of people in the national mental health service said that they have neither sought nor received any form of care for their problem. And it's important to keep this in mind, it was both sought and not received. And I'll return back to that in a moment.

Vikram Patel: So really it's fair to say that, if this was the situation before COVID, we need to remember there was a crisis of mental health care even before the pandemic hit India and many other countries around the world. And I believe that this time round the crisis is going to be much worse. And I think there's good evidence as to why that might be the case. I see the mental health impact of the pandemic in India as having two very distinct phases.

Vikram Patel: The first phase is the acute phase, which the country is still in at this point in time. I think we all know what that acute phase has done to each and every one of us, you know, the chronic unrelenting uncertainty that has the following each and every one of us. And, you know, the level of the kinds of uncertainties will vary from one person to the other, but it will be fair to say that everyone faces some form of uncertainty. And I think we know well enough that uncertainty in short doses is actually essential for survival, but when uncertainty becomes a chronic enduring and never ending kind of uncertainty, it begins to create mental health problems. And so it isn't surprising that we see a rise in reporting of mental health distress across India, across many other developing countries. And in my mind, much of this should be seen in the form of this being a rational response of our minds to the extra ordinary realities that we're all

facing. What this means, I think is that the population distribution of symptoms of distress have shifted as it were to the more unwell end of the spectrum. And if that is the case, then we would also expect to see a rise in clinically significant mental health conditions. And the only data I could find from South Asia comes from Bangladesh published last week, which was a nationwide survey, which reported a third of the adult population, having clinically significant depression, which is quite a staggering rate. There's also now evidence emerging from the region that the care of people with serious mental illness has been profoundly disrupted by the lockdown and containment policies that the region had adopted.

Vikram Patel: But it's the second phase I think of the pandemic, which is now emerging, and it's only going to get worse in the months and years ahead. And that second phase is really the consequences of the pandemic on the economy. And we can already see this in India where more than 80% of people are daily wage laborers. And as a consequence of the lockdown, for example, almost all of them have had significant reductions in their income. And in fact, huge increases in hunger and extreme poverty. And as Arthur has written quite extensively, including with me, we know that there is a strong association between a range of indicators of social deprivation, unemployment, acute indebtedness, and so on, with poor mental health. In the U.S. alone after the financial crisis of 2008, Angus Deaton and Anne Case for example, documented that the fall in life expectancy in working age Americans was entirely driven by suicide and substance use. And so I do worry greatly about the consequences in India going forward.

Vikram Patel: I also want to point out before I turn to the solution that actually this is not affecting everyone in evenly as one might expect. Low income populations, people with preexisting mental health conditions, young people and women are very important vulnerable groups that have been extremely disproportionately affected. And we can talk about that in, in the Q and A. Now it's important to remember that these large gaps in care are not simply due to supply side barriers, which is usually what we think they are. I think it's important to acknowledge there is a rich ethnographic literature from India. And actually I'd say across the developing world that shows that people with depression, anxiety, and other common mental health conditions, rarely seek care, even when it is actually available just up the road. And so I think this also interrogates and questions the use of very narrow biomedical models, of course, Arthur Kleinman has written so extensively about that. And so I think one has to acknowledge that there about supply cycle barriers in the form of the lack of mental health professionals, but also demand side barriers.

Vikram Patel: I want to end by looking at some of the innovative solutions for this. So there's no doubt that in India in the last six months has been a transformation in the use of digital platforms, particularly telemedicine for addressing mental health care. Unfortunately, I mean well, I think that's great. Unfortunately, of course it only widens the digital divide because you know, huge sections of India's people do not have access to the internet, or good enough internet to have, you know, real time attending medicine. Still one must welcome this development because, you know, clearly it adds a new weapon as it were to improve access to care. And also it highlights the importance of psychotherapy, which is, you know, typically in India has been very undervalued. You can't deliver medicines on telemedicine. And so suddenly psychotherapy has become much more widely accepted, but I think what India has really done as an innovation has been the demonstration of the use of community health workers for the delivery of mental

health interventions. In fact, before mental health interventions, the delivery of health interventions for mothers, children, infectious diseases, et cetera. And what we've been able to do in our own community lab in India with Sundance, is to demonstrate how these principles of, of simplifying interventions, training health workers using a competency framework and having support and supervision that follows a highly effective for delivering mental health interventions. And in many ways, I think this has redefined the who, the what, the how and where mental health care is delivered. It's not only addressed the supply side barrier, but also the demand side better because the care that they deliver is actually completely embedded within metaphors and language and concepts that the community sees mental health problems through.

Vikram Patel: More recently, we've started using digital platforms for scaling up these interventions, digital platforms to train frontline workers and to support the delivery of mental health care through the empire platform. I know we're out of time, so I'm just going to end by saying that, you know, I think this is a really historic opportunity to reimagine the approaches that we've had on mental health care, which is India has been dominated by the three D's: doctors, diagnoses, and drugs. And I think this is an approach that not only isn't scalable because there are supply side barriers, but actually there are a huge demand side barriers. People don't necessarily actually want only that one approach to mental health care. And so I think why we do need to call for more investments, and let's make no mistake that actually there are currently threats to investing in mental health, even though there's so much conversation about mental health, as far as I can tell, there's very little new money that is going to mental health, all the money is devoted to vaccines and therapeutics for COVID.

Vikram Patel: And I think we need to bear in mind this enormous new threat, in fact, Arthur Kleinman and I remember very well in 1998 at the world bank, there was this huge interest in mental health and then the AIDS pandemic overtook everything and mental health was pushed back in the shadows. And we have to be very, very mindful that COVID-19 could do exactly the same for mental health as AIDS did 20 years ago. Nevertheless, even if we did get new money, I think it's really important not to invest simply in more of the traditional mental healthcare system, but we need to scale up the science, which really demonstrates the need to embrace the diversity of experiences of mental health problems before, beyond, narrow diagnostic categories and interventions to address these problems beyond narrow clinically defined interventions. Thank you, Arthur.

Arthur Kleinman: Thank you Vikram. Let's turn now to China, and let me begin with Professor Xiao, Xiao Shuiyuan if you will start, you have the good fortune in China now, of having many just reduced cases and having excellent control. So we go from India, which is like the U.S., with a huge spike in cases to China, which has controlled its cases fantastically well and is in a totally different situation. Professors Xiao.

Xiao Shuiyuan: Yeah, thank you. And we also have paid a great price for that. Well, top two things. The first one is, let's see, mental health problems of COVID-19 related populations. I will introduce four representative studies. And then I will briefly introduce the policies, to improve mental health of people influenced by COVID-19 in China. Though, the first mental health problems of COVID-19 related to populations. Until now, to my knowledge, there are more than 20 studies published on Chinese or English academic journals. Most of all, these studies were

cross-sectional online studies. So that means the— there's some kind of methodological problems. Most studies reported the high prevalence of depressive and their anxiety symptoms, none of these studies made diagnosis of mental disorders. Severe mental and health problems, such as domestic violent behaviors, suicidal behaviors were reported extensively on mass media, but not systematically investigated. And also the influence of exposure to COVID-19 related stress, such as loss of a family member to be isolated, and the loss of freedom, loss of jobs and decreased income, also divided over the beliefs, attitudes about COVID-19 related things, such as the traditional Chinese medicine and the more Western medicine and, and how the policy employed to against COVID-19. Also, this kind of work— thing has not been scientifically investigated. Now I will introduce the whole selected studies.

Xiao Shuiyuan: The first one, I think, let me see, was published on the *Psychiatry Research*, and the authors investigated over 7,000 people from the general public. They studied the quality of sleep, COVID-19 related knowledge, generalized anxiety disorder, and the depression symptoms, CES-D. And they report 35% of people with anxiety, and more than 20% of people with depression symptoms. About 20% of the participants reported poor sleep quality.

Xiao Shuiyuan: The second study was focused on the health care workers exposed to COVID-19. They also use the Chinese versions of 9-item PHQ, the GAD-7, and the Insomnia Severity Index, and also the Impact of Event Scale—Revised. The results of this study was published on the *JAMA Network Open*. Overall, more than half of participants reported symptoms of depression, 45% reported anxiety, and more than 70% of participants of health care workers exposed to COVID-19 reported insomnia. So, so this is— indicates there are serious problems, mental health problems of healthcare workers exposed to COVID-19. So this is their main results—the main results of this study.

Xiao Shuiyuan: And then the third study is about the patients with COVID—other patients of COVID-19, the stable patients. They studied 770 stable patients and the overall finding that the prevalence of depression was more than 40%. This is the main results of the study.

Xiao Shuiyuan: And the final example I'd like to present is a study of adolescents. They also used the PHQ-9 and the GAD-7 to do an online survey. More than 8,000 adolescents participated in the study and prevalence of depression symptoms, anxiety symptoms, and a combination of depression and the anxiety symptoms was 43.7%, 31., — sorry. Okay, let me see. 37.4% and a 31.3% respectively. So this represents a very high mental health problems among the general adolescent. These are the main results of the study. And the study was published in *European Child & Adolescent Psychiatry.*

Arthur Kleinman: Shuiyuan, just take another couple of minutes if you don't mind.

Xiao Shuiyuan: Okay, okay. Well, actually I was just about to finish because of the time. But, the second path we have conducted a systematic review of the mental health policies related to the outbreak of COVID-19 in China. We, on a total of 37 policies we identified it. 37 policies altogether. Among them, 19 were released by the national Chinese government and the 19 reported data on implementation of these mental health policies. The targeted populations covered COVID-19 patients, suspected cases, medical staff, the general public—sorry, the

general population—patients with mental illness, and mental institutions. In that early stage of the COVID-19 epidemic, attention was paid to psychological crisis intervention. In the later stage of the epidemic, the government focused mainly on psychological rehabilitation. The major challenges to our opinion is the low rate of mental health service utilization and the lack of rigorous evaluation on policy effects. This systematic systematic review has been submitted to *Frontiers in Psychiatry*. Hopefully it will be published very soon.

Arthur Kleinman: Thank you Shuiyuan.

Xiao Shuiyuan: So this is my report.

Arthur Kleinman: Thank you so much. And now we turn to Professor Xu Yifeng. Yifeng, please.

Yifeng Xu: Thank you. I'm more than happy to share some considerations on this topic. My refocusing on mental health-related issues during the COVID-19 pandemic in China—based on our clinical experience, and my management role at my center—is that the issues have been a serious public concern in the Chinese society. Published articles suggest that the symptoms of anxiety and depression and self-reported stress are common psychological reactions to the COVID-19 pandemic and may be associated with disturbed sleep. Subsyndromal mental health problems are common responses to COVID 19. Support for mental and psychosocial well-being during COVID-19 outbreak has been far from sufficient and a number of individual and structural variables moderate this risk, impacting services for such populations. Both the needs of the concerned people and the necessary preventive guidelines must be taken into account.

Yifeng Xu: Chinese mental health institutes and the researchers in this field have conducted a few studies on mental health issues related to COVID-19 and many of them published either in Chinese or in English. Evidence from China consistently suggests that the outbreak of COVID-19 has caused various mental issues among different populations across the country. For example, according to a nationwide online survey of more than 50,000 participants conducted by my research team at our center, the implementation of unprecedentedly strict quarantine measures in China, variety of psychological problems, such as panic disorders, anxiety, and depression, was the finding of this study. Shanghai Mental Health Center has actively advocated more attention to mental health of all populations from the very beginning of the outbreak.

Yifeng Xu: Some studies from Wuhan, China, also revealed that frontline healthcare workers engaged in direct diagnosis treatment and the care of patients with COVID-19 were associated with a higher risk of symptoms of depression, anxiety, insomnia, and distress, which highlights the fact that protecting healthcare workers is an important component of public health measures for addressing the COVID-19 epidemic. Internationally, a recent manuscript inquiry to me, editor in chief of *General Psychiatry*, from University College London, hospitals reported the findings of over 1,000 healthcare workers demonstrating increased level of psychological distress and burnout early on in the pandemic, irrespective of role. The authors have also identified at-risk groups such as those who are younger, female, and as those exposed to morally-distressing situations.

Yifeng Xu: In terms of the consequences of the COVID-19 pandemic on mental health among patients with COVID-19, Chinese researchers have found that patients who are suffering and/or other physical diseases have been also struggling for their psychological wellbeing. Furthermore, the Chinese literature suggests that psychological intervention can be effective for those people who have COVID-19. Given comprehensive research findings and discussions among mental health professionals in China, I very much would like to suggest that following recommendations for coping with mental health issues emerging in the COVID-19 outbreak.

Yifeng Xu: First, nationwide strategic planning and coordination for psychological first aid during major disasters, such as this pandemic, potentially delivered through telemedicine, should be established. Second, a comprehensive crisis prevention and intervention system, including epidemiological monitoring, screening referral, and a targeted intervention should be built up to reduce psychological distress and prevent further mental health problems. Third, accessibility to medical resources and the mental health service system should be further strengthened and improved, particularly after reviewing the initial coping and the management of the COVID-19 epidemic. Fourth, more attention needs to be paid to mental health, especially in vulnerable groups, such as the young students, the aged people, woman medical practitioners, migrant workers, physically or mentally disabled. Fifth, active collaboration with the World Health Organization and other international mental health agencies. And more international cooperation and communication among mental health facilities and professionals across the world are needed in order to better deal with public health emergency of international concern. By implementing those recommendations, I feel confident that we can not only tackle the aforementioned issues which we are facing right now, but also we can be well-prepared for next major challenges, which we should encounter in the near future. Thank you very much.

Arthur Kleinman: Thank you Xu Yifeng for that. And now let's turn to our last speaker, Cindy Liu for a view from the U.S., Cindy.

Cindy Liu: Great, thank you. Hopefully everyone can see this. Let me just put this in the slideshow mode. Yeah, so thank you so much for having me on this panel. I'm going to speak about the us and what we've been seeing here in the States. So I should preface this first, that of course mental health is an issue in the U.S., one out of five individuals have mental illness. This is during pre-pandemic conditions. And what's startling is that among the youth, the suicide rate has increased very dramatically over the past 10 years. And so these have been areas of major concern. And then of course we have the pandemic, in the U.S. we declared the pandemic to be a national emergency March 13th.

Cindy Liu: And so what you see here is population level data collected by the U.S. Census Bureau from April until relatively recently. And I'm just showing here anxiety symptoms. But what you see is that there's about 30 to 35% individuals who are reporting significant anxiety symptoms. And then you also see, too, that there's a break here. This census took a break in the data collection, but then they resumed again and it, it came down somewhat. And, and I think the big question is, is it going to stay that way? Is it going to rise? And so, so we don't know that nor do we know sort of the other impacts that these particular symptoms might have.

Cindy Liu: I also wanted to demonstrate here that while this red line is, you know, encompasses all different ages, here you see that age is actually really correlated with the prevalence. So individuals who are younger 18 to 29 are here represented in the red line. And below here, pretty in a systematic fashion are the older U.S, people in the U.S. And so they are reporting lower levels of anxiety. When thinking about the U.S., we can't really just think about the pandemic. There's also a number of major events that have happened.

Cindy Liu: Of course, you all know about our election from the past year, but many other things may have accounted for the mental health rates. So we saw police brutality protests occurring at the beginning of June that lasted for a number of weeks, you know, that took place in between all the cases that were rising and then as well, our school year began around August and September. And so, as you can see here, it starts up again, and we have to take these into account because these are the things that individuals are reporting as having an effect on their mental health. And so you see here, this is for depression, that the rates are slightly lower than anxiety, but still the similar trend of somewhat of a rise over April to July. And then you see what might be a rise. We have yet to really determine that from August until October and similar differences by age.

Cindy Liu: So I mentioned these various events in the U.S. because I think it sets us apart from the different countries, because what's been happening so far in the past year has just been, I would say you could call it unique or just these pivotal events that, that are taking place and affecting individuals. And you'll see here that when we think about the U.S. we want to think about that the U.S. as not a homogeneous group, there are different groups, and they are differentially impacted by these events. So we see here a spike for black individuals, right around May, as well we see that in Asians. So these are just some, I would say some evidence suggesting that we really need to take into consideration the different groups that we have here in the U.S. Try to—

Cindy Liu: Some of my work has documented the distress levels across different groups, I have a study on young adults between the ages of 18 to 30. And in this study, the rates of depression, generalized anxiety and PTSD are somewhat consistent with what we're seeing from the U.S. Census data. And actually we use very similar measures, to the data that was described in the presentation on China. And we also see, too, elevated rates of depression, anxiety, and PTSD in pregnant and postpartum women. Again, another vulnerable population. When you look at these rates relative to the other studies on COVID, what we see is that depression seems to be elevated. Anxiety is not as heightened, but then if you look across the two groups, you do see that the young adults are showing, reporting higher levels of distress. We've also collected some qualitative data to which has really helped us to understand and provide some context of these numbers. With young adults, we see that their finances are a major issue, as well, you know, their futures, they're concerned about their future. They're also concerned about the future of the country, and not only that, but they also have shared about their relationships with family. And it's tied up with, you know, what's happening now. So it's tied up with the pandemic, it's also tied up with politics. And I think all of this just demonstrates that there are, when we think about the pandemic, we have to think about it from a political economic and social perspective, because that is the lived experience of the individuals here in the U.S.

Cindy Liu: Another vulnerable group are those who have a preexisting mental health diagnosis. And in our work, we did collect data on individuals who reported that whether or not they've had a diagnosis. And in fact, we asked them whether or not they had a diagnosis that was treated, not treated or suspected. And what we find is that there's a higher proportion of these individuals who are reporting clinically elevated rates of depression, anxiety, and PTSD, which shouldn't be a surprise. Obviously they are a more vulnerable group, but we do see that the extent of it is quite high. And so they're reporting at least two to almost six times as high of a likelihood in these clinical clinically elevated depression, anxiety, and PTSD.

Cindy Liu: So what is it that the U.S. is doing? One thing I wanted to note is that what was somewhat remarkable was that tele-health really changed overnight within health care. And so in the past, it was not as readily adopted due in part to government regulations, reimbursements as one example. But when COVID, you know, occurred here in the U.S. it changed dramatically. If you look at the orange on the left, that's the proportion of those who did not use tele-health before the pandemic, and then on the right, you'll see that the blue represents those who have started to use telehealth after the pandemic. So a large majority of 85%. So telehealth is a major, I would say, major strategy to address mental health. It's certainly not the only strategy, but it's one that we have definitely at least seen within our medical centers.

Cindy Liu: And this is a paper published by my colleague, Justin Chen, at MGH, who talks about sort of the pros and cons of tele-psychiatry. I would like to just note that one of the benefits to tele-psychiatry is access, that it can provide access to those who may have faced barriers, including transportation and scheduling concerns. On the other hand, there are some things that we need to take into account when considering the diverse population. And one is that, while, you know, it may grant access. Some people don't have internet or stable connectivity. And so that would be a major issue that would keep them from being able to pursue or continue with care on the provider end, being able to interact with somebody over Zoom while we were getting used to that now, still may be challenging, especially in a clinical setting where reading nonverbal cues is really key.

Arthur Kleinman: Thank you, I suggest take a minute or two. Yeah.

Cindy Liu: Okay. This is the last slide. And so, the thing is telepsychiatry is here. I think telehealth is here to stay. I think there are a lot of issues that need to be ironed out, but, you know, the question is whether or not it can be reached in scale to all different individuals. So that's all that I have, thanks.

Arthur Kleinman: Great. Well, thank you all for— Cindy, thank you for that. Thank you to Professor Xu, Professor Shuiyuan, Professor Patel and Professor Liu. Let's ask some questions now. I know that Winnie has several. Before Winnie begins with some questions, let me just say that what I'd like us also to do is reflect on populations where we may not have data, but we have observations. So it's early in the course of things. So after Winnie goes, I'm going to come back to questions about what have we seen in the area. Since we know that the SARS-CoV-2 affects the brain, what have we seen in the areas of confusional states, their deliriums and psychosis created acutely by the virus itself? Secondly, what's the impact on people with serious chronic

mental disorders, whether they've had the disorder or whether it's the threat of the disorder. So we'll come back to some questions like that. Winnie, why don't you begin.

Winnie Yip: So thank you all the panelists for very rich presentation. I have a question all three of you pointed to the use of tele-health as the way to provide care during the pandemic. And I think all of you are making reference that tele-health would probably stay. And the question is to what extent it becomes a mainstream service as part of the mainstream service? The set of questions that I have related to tele-health is what is being done to train up the medical providers, to provide mental health through tele-health? And related to that question is how is quality of care assured and in your country? What are the financial burden for people accessing mental health? Or if they can provide insurance? And if you can shed light a little bit on that. I mean, what I'm trying to get at is at the end, do different countries have generalizable lessons that you can learn from each other, or are they very localized? Thanks.

Arthur Kleinman: Let's start with Vikram. You want to handle that first?

Vikram Patel: Yeah, it's easy for me to answer this Winnie, there are no— there are no rules on telemedicine. The whole thing is it's an industry that began six months ago with the pandemic. No, there was no telemedicine in India before this. There was for some areas of medicine like ophthalmology, but, you know, in mental health, there were a couple of NGOs, not-for-profits, working in the community that were using telemedicine for continuing care for serious mental illness. But the scale that we've seen in the last six months is just a quantum shift. And also the care has not been focused by— for serious mental illness. It's now actually become a counseling platform. People logging in and asking for counseling support, for, you know, mood and anxiety problems. So insurance definitely doesn't cover it. And for the overwhelming majority, it's a fee for— it's a cash, you know, your cash for service. You have to pay with a credit card and, you know, by session. So it's like a private practice, except that, you know, now everything's become digital for delivery.

Arthur Kleinman: Shuiyuan, in Hunan, what's happening?

Winnie Yip: You're muted—you're muted, Professor Xiao.

Xiao Shuiyuan: I have not conducted a study on the use of mental health service during the period of COVID-19 pandemic, but we have, we have been doing research on the influence of COVID-19 on the prevention of tuberculosis in Hunan province. And during the time of the epidemic, all, almost all, community tuberculosis prevention and the control stations were closed. Patients cannot get treatment, cannot be diagnosed, and probably some of them lost hope for their life during the COVID-19 period. So we assume we have a relatively comprehensive report on the influence of COVID-19 to the tuberculosis control system in Hunan province. And I don't know if we could publish all data or not, but hopefully, our assessment is that the Chinese way of controlling COVID-19 has seriously damaged the tuberculosis control system. I think the mental health care system also has been greatly influenced because of the close of hospital, clinics, and because of the more stigma, more stigmatization of the mental health problem, and people receive mental health problems during the period of COVID-19. And I think, Professor

Xu will have more about the tele-mental health care in China, because he's the director of the Shanghai Mental Health Center. Thank you.

Arthur Kleinman: Great. Thank you, Dr. Xiao. Professor Xu, Xu Yifeng, what have you learned about the relevant to tele-medicine, telepsychiatry mental health care?

Yifeng Xu: Yeah, the simple answer is yes, we do have the tele-medicine and tele-psychiatry. Not long before the COVID-19 pandemic, you know, because the government put much emphasized, you know, on the internet fast service just before, you know, in the last 10 years. So we do prepare for this. In fact, the outpatient visits during the lockdown is severely impacted. Take my hospital, for instance, we have a reduction of more than 30 to 40 in February and March.

Arthur Kleinman: 30 to 40 percent.

Yifeng Xu: Yeah. A reduction of outpatient service visit. Only in September we surpassed the number, compared with last year. So you can see the influence. Plus, we have a lot of—more than 30%—of outpatient visits from outside Shanghai, but during the lockdown and the current thing, they couldn't get to Shanghai. So, we lost this part of patients. Yeah, so we developed various manners of tele-medicine like apps, smartphone-, or internet-service. In fact, our hospital is accredited as internet plus Shanghai Mental Health Center. It's an accreditation by the government, you know, so we could provide online service for those patients with no relapse—just for prescription, you know. It's an easy way to give them service and medications are delivered by the, like, UPS, something like that, you know, delivery services.

Arthur Kleinman: Right, right, right. Thank you, Xu Yifeng. And now, do you want to say something, Cindy, about— You've already said a bit about tele-psychiatry. Anything else to add?

Cindy Liu: Yeah, I mean, I think the main concern is that the relaxed regulations for tele-psychiatry, there's some concern that it's actually going to get revoked. So it's really just unclear whether or not, the fact that it can happen now, whether that will continue into the future.

Arthur Kleinman: Okay, so let me— Winnie, if you'll let me now ask some questions. Let's get back to the question I had, which was how about the chronic mentally ill. Now that's— We look in the United States, that really is the gist of our problem in mental health, that we have no system for the chronically mentally ill. There are often in the streets or in the prisons. We know that they have been affected by this. What do we know about the chronically mentally ill in India Vikram?

Vikram Patel: Well, unfortunately, not a lot, Arthur. You know, at the moment, there is very little on the ground documentation of what our colleague from China referred to, which is the disruption—the effect of the disruption—of routine mental health care on the outcomes of people with enduring mental health problems like schizophrenia. We have absolutely no information at all. We have a lot of anecdotal information from practitioners who say a number of their patients with bipolar disorder, schizophrenia, intellectual disability, et cetera, have had dramatic deteriorations or relapses. There's also early indications that suicide rates have increased. And

that a significant number of the individuals who have ended their lives had a serious mental illness and had relapsed.

Vikram Patel: So at the moment, it's all anecdotal, but I want to just say briefly, if you'd allow me that in the next few weeks, the largest study of this question has— is, is going to be published. It's important because I think it also speaks to what would be happening in other countries. It's a U.S. study involving the electronic health records of 61 million adult patients—61 million adult patients. And it basically shows that people with a diagnosis of schizophrenia had a seven fold increase risk of acquiring COVID-19—seven fold increased risk of acquiring—compared to people without schizophrenia. And when they acquired COVID-19, they died at double the rate of those without. So this is going to change all, you know, the conversations about mental health will be transformed because it will demonstrate again that people with mental health problems are more susceptible to suffer medical diseases and to die from them.

Arthur Kleinman: Yes, I think this is critical to— for us to focus on. Xu Yifeng, what about Shanghai jingshen weisheng zhongxin [Shanghai Mental Health Center] at your hospital? What's the, what was the observations, even if there are no studies, of what's happening to the chronically mentally ill?

Yifeng Xu: Because we don't have patients come up with COVID-19 and mental health illness. So it's hard for me to tell, you know, how serious this problem is.

Arthur Kleinman: But what about the outpatients? What about the outpatients?

Yifeng Xu: They're okay, so far so good. You know, because they are in Shanghai, so they have enough supply of drugs and the outreach is allowed, you know—no lockdown locally. Yeah.

Arthur Kleinman: Okay, Xiao Shuiyuan, any, any observations from Changsha?

Xiao Shuiyuan: Yeah, no. We have no, no scientific data about that. But to my knowledge, some, many of patients with chronic mental illness has no access to drugs, to doctors, I think from the, from February to March. And after that, as the psychiatric clinic is open to service, they can get access to treatment. At the same time, telehealth, that kind of crisis intervention, psychological, psychosocial support, you say, based on the internet, based on the telephone, available during that time.

Arthur Kleinman: Okay, okay. Shuiyuan— and let me just stay with Shuiyuan and Xu Yifeng for a minute. What, what do you— You are in close touch with colleagues in Wuhan. Wuhan had the most severe—and Hubei—had the most severe shutdown. What has been the consequences of the shutdown, that severe shutdown, for people with mental health problems? Any observations from your colleagues in Wuhan?

Yifeng Xu: Yeah. There is a paper that describes the situation in Wuhan, when they locked down. They do have people suffered from mental health, have difficulties to the access of facility, as well as to the medicine medication, yes.

Xiao Shuiyuan: [indistinct]

Yifeng Xu: It's a— It's a published paper, yeah.

Arthur Kleinman: Yeah, Shuiyuan, you had something…

Xiao Shuiyuan: Yeah. At the time in Wuhan, although nearly 500 psychologists are sent to Wuhan, but they are only— they were only responsible for the patients with both COVID-19 and mental illness.

Arthur Kleinman: I see.

Xiao Shuiyuan: Yeah, so, it's not just the mentally ill, but also the patients with cancer, with cardiovascular diseases, all these kinds of things.

Arthur Kleinman: Right.

Xiao Shuiyuan: Yeah, they are influenced.

Arthur Kleinman: Yeah. And, and let me ask now anyone can respond to this. What about the question I raised about the— What do we observe across nationally on the acute effects of COVID on the brain, of SARS-CoV-2 on the brain and, and, and acute states like confusional states, delirium, or acute reactive psychosis. Well, any, any comments on that? No? Yifeng, have you seen any of that?

Yifeng Xu: No, I heard that some—some of the people have lost taste, lost their smell, but I myself have never seen such kind of patients, I'm sorry.

Arthur Kleinman: Any reports from India on that, Vikram?

Vikram Patel: Yes, I mean, there have been these cases of delirium, but I think most of them have been attributed to metabolic and physiological results of severe COVID-19 infection. For example, hypoxemia and so on. So I haven't seen it come from encephalopathic kind of delirium described in the literature from India. One thing is true that there is, there are descriptions now of this kind of post-syndrome fatigue condition. And of course, Arthur, you yourself have been very involved with this. So maybe you should, I'd love to hear your thoughts on this because I've been reading about these and I wonder to what extent were these a modern-day equivalent of the kinds of fatigue syndromes that were often described in the eighties after very similar flu-like conditions?

Arthur Kleinman: Yeah, well, I would, I would recommend that all of you look at this topic because this is where chronic fatigue syndrome really got it's, it's starts in post-viral, usually post-flu situations where there's are people who are, who have the long-term effects, not everyone, but some have the long-term effects often around exhaustion, sleep disturbances, and the things we associate with chronic fatigue. Thank you for making that point, Vikram. Cindy,

do you want to add anything on this, on the acute— I'm sure you've been reading the literature closely. What, what's happening in the U.S.?

Cindy Liu: So, so anecdotal at this point, but I think the mechanism is due in part to the infection, inflammation, and it, as you were just talking, it made me think more about just some of the work in other major natural events that have led to infection or maternal infection and risks to offspring. And so I think that's another area of concern, too. When we think about women who may be pregnant and who have COVID on one hand, there doesn't seem to be any evidence of vertical transmission to the developing fetus or to the infant at that point. But the question of whether or not the infection itself may have some downstream effects later on in terms of the child's development. So that's something that I'm, I'm keeping my eyes towards given the prior work on—

Arthur Kleinman: That's great, that's great. I'm also wondering from all of you, and I think Winnie suggested this, what's going to be—and let's move away from sort of tele-psychiatry or tele-medicine to the bigger question of what, what do you think, just based on your understanding of the local scene, are going to be the long-term effects of, of this pandemic on your societies? Is it going to increase attention to mental health problems? What do you think is going to have a significant effect on the way psychiatrists practice? Is it going to, or is it just going to be a transient effect that will disappear after the pandemic disappears? Let's start with Vikram. Vikram, what's your sense?

Vikram Patel: So I can just predict, you know, I think that it's going to create a much greater demand for mental health care because also it's important to remember we're starting from a very, very low level. So, I mean, you can't get any worse. I think it will get better. There will be more demand. I think there will be a change in the way mental health gets conceptualized beyond, as I said, a very narrow biomedical model because the whole tele-medicine approach itself, actually, is a departure from a very narrow clinical model. And so I think that's become much more widely accepted. And in my own work, for example, there is now a very strong demand from governments to translate our work with community health workers, to take it to scale, which I would not have expected six months ago. This demand coming from the state rather than us going constantly to the state. So I think that is a—that is another reflection of demand from policymakers.

Arthur Kleinman: Xiao Shuiyuan, what do you see in Hunan? What do you think are going to be the long-term consequences for Changsha and Hunan?

Winnie Yip: You're muted.

Xiao Shuiyuan: What I am concerning, is the more serious mental health problems related to COVID-19, not to the general anxiety/depressive symptoms, that takes them as, kind of, suicide, domestic violence behavior, and the damaged relationship between family members—and all these kinds of things. So this kind of phenomenon has not been scientifically studied I can know. And I'd also like to say that the Chinese government has really focused on mental health problems during the period of COVID-19, as I reported. Thirty-seven policies were released—released in a really short time—to improve, to try to improve, the mental health of people. I think

I see a really bright future of mental health service in China. In the recent years, the government they asked for screening depression symptoms among the general public. Thank you.

Arthur Kleinman: Thank you. Cindy, what about you? What do you think is going to be happening in the U.S.?

Cindy Liu: Yeah, well, I think the pandemic has perhaps put a dent into stigma. So as a result, people are just more aware of it and thus driving the demand for services. I think my concern is the burden of the providers right now because they are just so flooded and they are really trying to minimize wait times. And it's very, very challenging. On the other hand, I think I'm hopeful because of this awareness. I think a lot of it is taken up by young people and just anecdotally, just seeing them being more facile with talking about mental health and wanting to be in the mental health profession. I think that's helpful. Of course, the need is immediate, but over time I'm hopeful that there'll be some way that services can be provided at a larger scale.

Arthur Kleinman: That's a really interesting point. So let me take one of them to our colleagues from abroad. Vikram, what about stigma? You think stigma is going to be affected by COVID-19?

Vikram Patel: Yeah, I agree. I mean, I see the same thing, what Cindy described. I think definitely, you know, just, I'll give you one very, you know, hard metric, which is the way the media has described mental health. I have, I think by and large, it's been incredibly sympathetic, compassionate, and I think it's completely opposite to some of the mixed messaging that the media had about mental illness, you know, the crazy guy and the lunatic and the killer, et cetera. Actually, I'm not seeing any of that. So I think if that's one metric of the change in public understanding of mental health and mental illness, you know, I think it's a big shift in, in attitudes.

Arthur Kleinman: How about our Chinese colleagues? What do you—Xu Yifeng, what's your view of stigma? You think stigma of mental illness in China will be affected by what's happened in COVID-19?

Yifeng Xu: Yeah, I think so. You know, just like the, the effective, sorry, the contagious, you know, disease, just like a mental health problems, you know, often can pose a threat to other people, you know, so it will still maintain high, high prevalence of stigma, I think.

Arthur Kleinman: Okay. Shuiyuan what about your view? What's your view of this, and having the chance to look at both tuberculosis and mental health? Do you see mental problems becoming less stigmatized?

Xiao Shuiyuan: I think so, because the awareness of mental health problems in China during this time actually raised, I think. More people are more concerned with the or more aware of mental health problems. And, also, the younger generation, they are not afraid to talk about depression, bipolar, but not schizophrenia at the moment, but really free to talk about suicide, talk about depression and bipolar disorders.

Arthur Kleinman: Yeah, important to make that kind of distinction. I think that's very important. Winnie, would you like to ask a question or make a statement at this point?

Winnie Yip: I organized these seminars with the hope that people call us from different countries from the U.S., China, and globally, would work together and collaborate more. In this area, where do you see will be fruitful areas of collaboration? I'd like to hear from each one of you for comment on that.

Vikram Patel: So maybe I'll go first, Winnie, because I actually had the pleasure of working very closely with Professor Xiao, and he will remember well. We actually had an India-China Mental Health Alliance, which was funded by the China Medical Board. And, you know, there were, there was a very interesting model actually, there were a series of different priority areas that the Chinese and Indian colleagues decided together. They were supported by people like Arthur Kleinman, from Harvard. And so we had mentors who were friends of both countries. And basically we produce a series of articles that were published in the *Lancet*. And our hope had been that each of those would actually be the basis, the foundation of work. And somehow that hasn't happened. And that's—that's disappointing for me, but it did, we did manage to produce a series of really high quality pieces and Professor Kleinman will remember those, but we were not able to go beyond that inter-area work. And I'd love to hear from my colleagues in China, you know, their thoughts on how that might happen.

Arthur Kleinman: Shuiyuan, what do you think? More collaboration in the future?

Xiao Shuiyuan: Of course, it's my great pleasure to work with Vikram before. And of course, with also Professor Yip and Professor Kleinman is my mentor, has been my mentor for quite a long time. So it's my pleasure.

Arthur Kleinman: Xu Yifeng, what do you think? What do you think is…

Yifeng Xu: Yeah, of course. I think there will be much more collaboration between different countries. In fact, we already have several, you know, online conferences with our colleagues in Canada, in King's College London, and in Germany, yeah, and so on. So, you see, we have the common themes, yeah. We'll have the common interest about the human—humanity. We don't need to apply for visa, you know, it's much cheaper and it's a friendly, friendly environment, but why not?

Arthur Kleinman: Yeah, so there's a good example of tele-, instead of tele-medicine, this is tele-conferencing as an outcome of COVID. I agree entirely. I agree entirely. I think you're going to see many fewer lectures traveling long distance and much more of this kind of engagement that we now see. Well, I think we've, we've asked a lot of questions. There were some questions in the chat that I saw, but I think we've covered the gist of them. I would just really ask a final question for our panelists. And it's a question in which COVID and global mental health are featured.

Arthur Kleinman: And this is the question: Many of us around here, Vikram, Xiao Shuiyuan, Yifeng, myself, I don't know, Cindy, if you've been involved with this, have been involved in a

big way in global mental health. We've had, we had the world mental health report here. We had the "Out of the Shadows" meeting when Jim Kim was head of the World Bank, et cetera. What do you see now in terms of the future for global mental health? Are we going to have the same experience we had—which was referenced by someone—we had when AIDS—the AIDS activism—came along at the beginning of the nineties, which seemed to displace global mental health off the list of priorities? Will COVID do that and return the list to the infectious diseases? Or do you see a big jump in where global mental health is going? And if so, what is it in global mental health that will benefit from this? Is it attention to the ordinary every day, anxiety and depression that is as Peter Tyra says in the *World Psychiatric Journal*, that is just a rational response to the dangers of the situation we're in, or is it attention to the severe problems—schizophrenia, bipolar disease, severe depression, suicide, substance abuse—where do we see it going? Let's start with Vikram.

Vikram Patel: Well, yeah, I, it's hard for me to be sure on this. So I'm going to give you my prediction. My prediction is unfortunately that we are going to see another AIDS-like scenario. I think if I just look at the conversations on COVID-19 itself, Arthur, the emphasis on very narrow biological issues, whether it's the immune system or the vaccine, and completely—almost completely—ignoring the social, cultural, economic, and political dimensions, I think is not a good sign for me, because mental health can never really be constructed in that way. And I think I worry about this domination of the biological narrative. I accept it, by the way, I'm not rejecting it. I'm just thinking it's too singular to focus on just the one and that doesn't bode very well for mental health.

Arthur Kleinman: Well, let me just say, as an aside to that, Vikram, I can see the influence on you of Harvard already. It's terrific. And now, Xu Yifeng, how about you? Where do you see global mental health—as a leader of global mental health, where do you see it going? Are we going to fall back, or go forward?

Yifeng Xu: It's hard to say, you know, I hate to pick the wrong side, you know. You know, it's always about the money, priority, and power. So, if you could, in China there's saying, "The money goes with the infectious diseases." So, if the COVID-19 pandemic is everywhere, so maybe the money could be to mental health will be deducted. But, if we could connect mental health issues with COVID-19, we could allocate our money, our fund.

Arthur Kleinman: Yeah. So that's interesting. So let's just remember that today in the area of dementia, Alzheimer's disease, that there's a general feeling that the major model we've had of Alzheimer's is wrong. And what people are turning to now is herpes simplex type 1 virus and Alzheimer's—a possible source of Alzheimer's. This may be a new era for looking at the relationship of viral disease and schizophrenia, schizophrenia viral disease, and bipolar disease. What do you think, Xiao Shuiyuan?

Xiao Shuiyuan: As we all know that the United States has been always the leader of global health, including global mental health, I'm now, a little bit worried about the, the political scene in the United States. After four years of the Trump administration, you as the United States, still has a passion to global health. So this is my question, I'm—

Arthur Kleinman: Oh, a great question. Thank you for that. That's, that is a great question, too, turning it right around. How about Cindy? How about you? What do you— What's your— You're a younger member of this group. You're really just beginning and on your research career. You've got so many years ahead of you and great studies. What do you think is going to be the future?

Cindy Liu: So it's interesting that you asked this question because I was just sending a couple of emails to Vikram today, I don't know if he's checked his email though, where do we fit in this area? We have all these epidemiologists who are creating these models and, like, do we fit there? Where do we fit? And, also, does prevalence even matter because I can generate all sorts of rates, but does it matter the end? You know, so what kind of prevalence actually matters? The symptoms? suicidality? I mean, I think those rates are actually really increasing and yet, is that still enough for us to, to get those resources, right? To compete for those resources. So, that's my—that's my takeaway is I just don't know, because like I said, I can generate all these numbers and it seems compelling to me, but I'm not sure if it's enough.

Arthur Kleinman: So let's end on this count. I think we can say the following: that the big problem in global mental health across nations has been the gap between the burden of disease and the amount of attention and funding put into the area. And what we've just heard from experts from the United States, India, and China, is that maybe the future will also be problematic in terms of this gap between the great need for mental health services and the amount of attention and support given to it. With that let me turn things over to our outstanding acting director of the Fairbank Center, Winnie, for your closing comments.

Winnie Yip: I want to thank all of you for the insight and your sharing with me and the audience that all the countries actually, even in the United States, before COVID had serious problem and deficiencies in its mental health system. So the cost to mental health is great as a result of COVID, but we also want to end with a positive note that this might actually encourage the government to pay attention to it. And I would argue that not just providing more money, but also how to spend money effectively to look at new models of care that can be accessible to the majority of people. And in the future, if we have another pandemic, we will be much better cushioned and protected it against this. And I really hope beyond today, the experts here and beyond we should collaborate and we should resurrect what has been produced in the last set of papers between China and India to see if we can move it to next step that is actions, beyond the papers. So thank you very much for all of you and for those of you in the U.S., goodnight! And for those of you in China, you have another day ahead of you! So, thank you.

Arthur Kleinman: Thank you all.

Xiao Shuiyuan: Thank you all.

Arthur Kleinman: Xiexie dajia [thank you everybody]! Thank you all.

Xiao Shuiyuan: Bye-bye.