



Global health priorities for G20 – Insights from South East Asia

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Sandhya Venkateshwaran:

I will say he has been at the forefront of numerous innovations and reforms and was just before disposed as CEO of Niti Aayog, government of India's premier think tank. We are honoured to your all participation Mr Kant and I look forward to hearing from you. We are also privileged to have today Public health experts from the region. As speakers we have Dr Eduardo Banzon, principle health specialist from the Asian development bank in Manilla. We have Professor Jerome Kim, Director General of International vaccine institute. And we have Dr Jeremy Lim who is Director of the leadership institute of global health transformation at the NUS school of public health. As discussant we have Dr Soonman Kwon, health economist and former Dean of the school of public health at the Seoul national university. Our speakers bring a wealth of insights from the South East Asian region. And we welcome them. We welcome the chair and all the other participants who have joined us in this discussion today. We will begin this event with remarks from Mr Kant for about ten minutes. Followed by presentations from three speakers on the issue that I just mentioned. We then have Dr Kwon discuss emerging insights from the presentation and he may build on them. Then finally closing remarks from Mr Kant again. So Mr Kant may I request you to share your remarks please. Thank you.

Amitabh Kant:

Thank you Sandhya. Thank you to you and CSEP for organising this interaction. Good evening to all. And thanks for having me as the chair for this very timely event to discuss global health priorities for G20 from South East Asia's point of view. South East Asia comprises of more than 8% of the world population. Historically priorities in the health sector for South East Asia can be encapsulated in a few specific areas. Universal health coverage, elimination of measles and Rubella, preventing non communicable diseases, reducing maternal under five and neo-natal mortality, combating antimicrobial resistance, scaling up capacities for emergency risk management, eliminating neglected tropical diseases and accelerating efforts to end TB, tuberculosis. Working on these priorities since the last few decades has shown that substantial advancement have been made in the region. Be it decline in maternal and under five child mortality from malaria, elimination of maternal and neo-natal tetanus, polio free and so on. Now let us look at the health priorities India will be presenting in the G20. Health emergencies prevention, preparedness and response, strengthening cooperation in the pharmaceutical sector, use of digital health solutions for achieving UHC, climate and the impact of climate on health. If one observes the three or four core priorities India proposes to table at the G20, it is logical to say that these priorities are not restricted to India or the South Asia or to South East Asia or Asia at large. These priorities relate to the needs of the people of the world. These are the necessities of the day in health care delivery systems. These priorities have not come out of the blue. They draw their inspiration from the ancient Indian philosophy of 'Vasudeva kudumbagam' which means one earth, one family and one future. The receding of the ongoing pandemic has shown that there were a lot of loopholes in the health care delivery system. We witnessed an absence of a response system to pandemics. We saw inequity in access to medical counter measures. We also saw severe disruption in the global supply chains. These shortcomings tested resilience of our societies. But in such challenging times we also saw India emerge as a nation which saw the world as one family. We supplied essential medical assistance to more than 100 countries. And made more than 280 million covid 19 vaccines available to

nations in immediate need of the same. We did this while ensuring that our population at home is vaccinated in mission mode. India had been the pharmacy of the world before the pandemic. But learning from the needs of the world during the pandemic we successfully developed capacities to produce more than 5 billion covid-19 annually in India. Efforts by India to increase this capacity show that India keeps the world's progress in mind while achieving its own. We are convinced that covid-19 in one part of the world has very major implications in all other parts of the world. And therefore we need to ensure that we are able to ensure that there is no covid in any part of the world. Our priorities identified for the G20 also ensure that there is a continuity of efforts in taking forward works of previous G20 presidencies. For instance Indonesia did excellent work on calling into action financing for TB, combating AMR and implementing the one health approach. Similarly we are going to take forward the collaboration between finance and health ministries in the form of a task force. Conceptualised by Saudi Arabia, Italy and Indonesia. Coming back to the G20 priorities we are trying to create something for the world which goes beyond the current pandemic. Our efforts are on to ensure that we have an effective health emergency PPR system. There is no inequity while accessing counter measures, ensuring safe, effective, quality countermeasures which are accessible and affordable. We also want to harness the digital technology in delivering healthcare services. Let us not forget that India under took the world's largest vaccination program and backed it up with robust digital framework in the form of COWIN. The world needs to see that digital technology can become an enabler in transforming health solutions. Lastly we will also draw the world's attention to preventive health care. In that a holistic science based medical system for wellness. As you are aware India hosts the first and only WHO's global centre for traditional medicines in Jamnagar, Gujarat. We have all been availing the benefits of yoga and Ayurveda for a long time. Along with the modern medical system India will also promote the value and utility of the traditional systems of medicine. And therefore while we may be the pharmacy of the world or the vaccine capital of the world our belief is that along with Ayurveda and yoga, pharmacy and vaccination we should take care of all the entire population of the world. Our belief is that it is one earth, one family, one future. Once again I really want to thank all of you for joining us today. I really want to thank CSEP for collaborating with us. We expect your full support to achieve our collective objective of strengthening the global health architecture during India's G20 presidency. Thank you very much. And I greatly appreciate the effort put in by CSEP and Sandhya Venkateshwaran.

Sandhya Venkateshwaran:

Thank you so much Mr Kant. Thank you for this wonderful outline of the key issues both during Indonesia's G20 presidency and what some of these priorities that India has set already on the table. Let us begin now with our three speakers. I would like to begin with Dr Jerome Kim who will talk about research and development for medical countermeasures. Now, you know there are many, many questions that we can deal with and I just wanted to put Dr Kim these three broad questions on the table if you could formulate your presentation around that. One is what are the mechanisms to accelerate R&D with the lens of equitable access? The second is the whole issue of enabling R&D and manufacturing across geographies. We find that they are to a large extent focused in the global north. How can this be spread more equitably across the world? And what sort of policy support and what sort of financing is required to enable this at scale? That is the second question. The third and the last question again is a balance question. R&D for public health global goods, this will be let's say disease specific

global health goods. As Mr Kant referred AMR it is an issue we know. So what is the kind of R&D that is happening and is it balanced or is it skewed and how can we get more balanced? With that I am going to pass it over to you.

Jerome Kim

Thank you. I am just going to share my screen. Greetings to all. My name is Jerome Kim. I am the Director General of the international vaccine institute. An international organisation dedicated to the discovery, development and delivery of safe effective and affordable vaccines for global health. I will speak tonight on R&D for global health goods. I think the covid-19 crisis has really emphasised that crisis at least when it comes to vaccines can indeed spur innovation, which you see in the grey box in the inset, that currently there are 172 vaccines for covid still in clinical trials. A 199 in preclinical development and we have of course the great innovations we never before had an RNA vaccine. We had only one minor example of an adenoviral vectored vaccine. Now we have vaccines based on chimpanzee adenoviruses, adenovirus type 5 and adenovirus type 26. We never had a licensed DNA vaccine. And now of course Zydus Cadilla has one and we have used in much greater extent a host of new adjuvants. So we have now safety and effectiveness data on a large number of new chemical entities that can be used to boost immune responses. You can see again that crisis did indeed spur innovation. But as with everything there was a cost. And the point here is that funding makes R&D innovation real and fast. Actually it is important to know enough funding makes R&D innovation real and fast. What you can see on the graph here is that the European Union, the United States, the African Union and other countries had invested a significant amount in accelerating vaccine research and development. The United States put 18 billion USD into something called Operation Warp Speed. CEPI put 1.53 billion dollars and these investments allowed companies to de-risk a process that sometimes results in 90% of vaccine antigens that start in the lab, not making it through to licensure. And this rate of failure 90% is something that is deeply ingrained in vaccine manufacturing companies. Because this poses a risk. If they are looking at a 500 million to 1.5 billion dollar investment in a new vaccine, they want to make sure that they are not going to throw away that money because of risky vaccine investments. So what countries were able to do, what operation warp speed was able to do, what CEPI was able to do was help to de-risk the process of vaccine development. You can see the breakdown of where those funds went on the right hand side of the upper chart. What you see on the bottom is the normal vaccine timeline. It is a process that starts in the laboratory, goes to phase one in humans, which does safety and immunogenicity, largely safety. Phase two is larger maybe several hundreds of people that look at immunogenicity. Is the vaccine making the correct protective responses and then finally to phase three. This is a process that takes a long time. Why, because companies want to make sure as they move from phase one to phase two to phase three, their chances of success are increasing so that although it is 90% failure rate in preclinical in the laboratory, it is 75% success rate by the time you get to phase three. But what the funding for covid-19 vaccines did was it significantly reduced the risk of companies by providing funding and allowing companies to proceed as quickly as possible. So this point again is that funding realises innovation. But this is where the inequities come in. So you can see the scales on the left. And the next pandemic on the right. What are the things that are going to keep us from responding well? So these are the five inequities. There were inequities in diagnostics. This has been brought up to some extent before. You are not going to be afraid of a disease if you don't know it is there. If people aren't dying of the disease because

the disease is not being diagnosed, then people aren't going to want to be vaccinated. They don't think they need to be vaccinated. Particularly if they have heard all these rumours or untruths about the safety and efficacy of vaccines. There is inequity in research and development funding. I will get to this because this is one of the main points that I would like to highlight. There was inequity in manufacturing. This point was made again that there is a significant amount of manufacturing particularly the manufacturing that was funded early on by the United States and by other organisations like CEPI was in the global north. The next point is around vaccine supply. Was there fairness in the distribution of the vaccine that was produced? And finally inequities in vaccination. We are still living with a legacy of inequities in vaccination. While the rest of the world has been vaccinated sometimes with two or three or sometimes four or five doses of vaccine, about 80% of people living in low income countries primarily in Sub Saharan Africa have not seen a single dose. A single dose of vaccine. So these five inequities are inequities that we have to deal with. If we want to successfully take on the next pandemic. But there were some solutions. They are not for everything. Around diagnostics countries like Korea were able to mass produce a huge number of test kits. And those test kits were used to great effect early on in the pandemic in order to enable successful control of covid in a population until vaccines were available. Unfortunately in many parts of the world we didn't have that. So the official death rate, the official number of deaths from covid if you look on the websites is 6.6 million. The WHO estimate is somewhere between 15 and 20 million. The institute for health metrics says that it might be around 18 million. This gap is a problem that we have with inequitable distribution of diagnostic kits. It is a problem that we are living with today because people in countries that didn't do diagnosis don't fear, don't think about and don't believe in covid vaccines. The second inequity is around research and development funding. We will get into that in a second. We tried to make a solution for manufacturing and Covax was supposed to be a mechanism to distribute vaccine. And now we are thinking that Covax didn't work as it should. We anticipated having two billion doses of vaccine distributed around the world by the end of 2021. In fact only a billion doses were dispensed. So this didn't and wasn't able to cover all the people that Covax intended to cover originally and this problem undermined a country's belief and faith in Covax. So many countries scrambled to purchase whatever vaccine they could on the open market at whatever cost, whatever price they could afford. The second issue here is around the location of that manufacturing. It is clear now countries around the world view vaccine security as national priorities. The problem is we now have 27 different countries in Africa that want their own vaccine manufacturing. And globally we went from having 12 major manufacturers to having 4 by the beginning of the 2000s. There was a consolidation. Why? Because efficiency gained certain advantage economically. Now as we are disbursing manufacturing out so that regional manufacturing will become a reality. We have to really think about the sustainability of that manufacturing. And finally around vaccination and again other people will discuss this to a greater extent. But you know the vaccines supply problem was solved within 12 months. By the end of 2021 we had made 12 billion doses of vaccine. Countries were coming to IVI to say is there anything you can do with this vaccine? Otherwise we are going to have to destroy it. In the end it wasn't supply and it still remains that fragile healthcare systems are really unable to distribute the vaccine that people need to get in order to protect them against severe disease, hospitalisation and death. Until we can strengthen vaccination this inequity will undermine all the other efforts to fix the other points. So this gets to where vaccine manufacturing is located. So everyone knows the United States, Northern Europe to some extent are the principle manufacturers, the

headquarters of all the major high revenue vaccine companies. But these aren't the companies that distribute vaccine around the world. Every child around the world probably gets at least one dose of a vaccine made in India. Many children get vaccines – Japanese encephalitis for example, made in China. These countries are part of the developing countries vaccine manufacturer's network. The DCVMN. And you can see some of those companies from around the world that participated in the manufacture of covid-19 vaccines. And when you look at the numbers it is really striking. The extent to which these companies provided vaccine for the rest of the world. At the same time the big companies internationally Astrazeneca, Johnson, Pfizer, Moderna had distributed vaccine manufacturing to other parts of the world in order to make sure that some supply was available elsewhere. But this was in a sense a part of the manufacturing network that they used to manufacture the vaccine that they were going to use around the world. It didn't necessarily address some of the issues with inequity. In fact when you look, developing countries vaccine manufacturers contributed 60% of the doses of covid-19 vaccines used globally. You can see the breakdown here. China and India were major suppliers of those vaccines. Vaccine manufacturers in total made 12 billion doses. The developing country vaccine manufacturers made 60%, 7.4 billion of those doses. When you look at R&D funding, how much did they get? 5%. They got 5% of the R&D funding. So these manufacturers were making vaccines for other people as Serum institute made the Astrazeneca vaccine, SK bio science made Astrazeneca and Novax vaccine. Chinese companies made vaccines that were developed and tested in China and elsewhere. But they didn't get any of the operation warp speed funding. They didn't get any of the funding from CEPI. There was a real inequity and if we had given some of that R&D funding up front to Biological E would the Covax vaccines have been available at the end of 2020 or in the middle of 2021 rather than being available much later. And would that have made a difference in terms of vaccinating people around the world and seeing impact from vaccination. When we don't allow the major manufacturers of vaccines globally to conduct the kind of research and development that was necessary and that they can do and they have proven that they can do for covid and other diseases then we are really hamstringing, impairing our ability to respond effectively, globally to pandemics. Why? Because inequities are a drag of impact. If the ultimate goal and this is the ultimate goal – get as much safe and efficacious vaccine as possible, into as many arms as possible, to save as many lives as possible, as soon as possible then inequity is a drag. It is an anchor that is keeping us from doing the things that we need to do and in this case it was research and development funding inequity. And the consequence we are all too familiar with. Inability to get vaccine into arms, inability to protect people against covid-19, infection, disease and death, had dramatic consequences. So now we have a 100 day mission. To go from the sequence to emergency use approval in a 100 days. In order to do that we need funding. Equitable funding for R&D based on capacity. We need a regulatory apparatus that is prepared for expedited approvals. We need the kind of assessments that will prepare the laboratory and clinical trials sites to be able to evaluate these vaccines quickly. We need platforms that is vaccine platforms. We also need manufacturing platforms and process platforms that will get the vaccines made according to the quality standards that are necessary for testing in humans. We need good participatory practices that will enrol people quickly that will provide information to the communities so that communities will participate in a knowledgeable way in the testing of vaccines. And finally we need the correct and expedited and ethical preparations in order to make sure that not only the experts who sit in ethical review boards but people around the world understand that we are conducting these trials in as ethical a manner

as possible. But the real question here is what the DCBM role in the 100 day mission is. Can we even foresee or think about an impactful real world solution that does not have critical developing country vaccine manufacturer and regional R&D input. I think the answer to this question is no. In order to have an impactful response to the next pandemic we need to fund those companies that manufacture the vaccines that the world uses. So to prevent another 1000 day tragedy developing countries vaccine manufacturer's an equitable R&D must be a part of the 100 day mission. What you see on the map is the number of deaths confirmed covid-19 deaths per million people. So thank you very much. I hope I have been able to go through some of the questions that were posed. But I am happy to answer any others. Thank you.

Sandhya Venkateswaran:

Thank you so much Dr Kim. Yes you have. The key issue that you have highlighted is which we know is the inequity in funding for R&D and manufacturing. And you laid a lot of emphasis on that and actually it would be great if India can take that up as a very big issue as part of its presidency. How do we get this geographically and in particular across global south as well? With that I am going to move to Universal Health coverage. I am going to request Dr Jeremy Lim to speak about how UHC can be enabled at the country level. Because the conversation here is more from a global perspective, what the G20 can do. What I am going to request you to do is keep the lens at the level of what are the policies, institutions, platforms at a global or a regional level that are required that will help countries promote UHC. That is one. Then secondly what sort of alliances with institutions and initiatives and how these can __ again to enable the development and sharing of global digital public health goods, because we do recognise and Mr Kant also mentioned that that has become an important piece of global health, digital health tools. Some countries have more __ and have developed innovations. How can we facilitate these global exchange effectively? So Dr Lim. Over to you. 15 minutes. Thank you.

Jeremy Lim:

Thank you very much Sandhya. Thank you to the organisers for the kind invitation. Greetings to all the participants from not so sunny Singapore. It has been raining every single day. But that really should not dampen the enthusiasm for India's upcoming G20 presidency. Taking over from Indonesia which is South East Asia's largest country. I thought it was very apt that I speak after Jerome. Because Jerome has spent time really emphasising the point that the world did pretty well scientifically but fragile health systems or if I can quote Jerome, the inequities drag on impact. And these inequities really can be solved at least in large part by three letters, UHC. Universal Health Coverage. I think it is so important that we think about the last mile because that is where the real action happens and as was mentioned we can make the vaccines but if they cannot be delivered and put into the arms of the citizens and of the ones who need them then we have not achieved very much. So I want to move on to my next slide just some disclosures that I am speaking to you today in my capacity as an academic and as the director of the global health program in the national university school of public health. But I also hold a number of different roles which are on this screen. But I wanted to spend the time really talking about universal health coverage and drawing reference towards Sandhya's point around what are some of the policies or the platforms. I will just say very upfront that universal health coverage is at its heart a moral and a political decision. If we look at UHC implementation in many countries around the world the same narrative is played out. That something happens in

the political process that recognises that citizens matter and citizens are very concerned about health care and access to decent health care for every citizen. When that time comes locally the world has to be ready to support these countries as what Prince Mahidol of Thailand of Songkla famously said that 'true knowledge is not in the learning, but in the application to the benefit of mankind'. So once that political process, once that decision has been made the world can step up to support. Maybe Sandhya what I would say is because Universal health coverage is a very local issue and it is political, it has to be left to the citizens to sort out how universal health coverage and when it should be implemented in citizen's own countries. That said, the international organisations such as the WHO and G20 can play a very powerful role in shining an intense spotlight on universal coverage. And credit to Margaret as well as Dr Tedros that they have used the bully pulpits of the world health organisation to constantly reinforce. I think Margaret has said so at least in three or four meetings that I was physically present, she described universal coverage as the single most powerful concept that public health has to offer the world. I think Dr Tedros says it very strongly also that it is a scandal that a mother could lose her baby because the services needed to save it are too far away or sickness can plunge an entire family into poverty. So it is moral and it is political and the platforms can play a very powerful role in framing the overall narrative and calling each other or rather calling out each other when we as individual countries have not lived up to our commitments to citizens. I think that is why many of us as panellists are old enough to remember the World Health reports 22 years ago that ranked health systems very controversial. But it made the point that governments have a very large role to play. And that the world is watching. So whether it is UHC index or any other metrics, the ability of international organisations to use their platforms to keep the spotlights on this a very powerful thing to allow a local advocates to be able to bring universal health coverage to the forefront of the local political agenda. What then happens after that, we then have to support the countries and that is where Sandhya the issues around capacity building, around technical support do come in very, very importantly. We are among friends. I will be very practitioner focused and say that many countries are too embarrassed to learn from each other and politically it would be very difficult for one country to learn from another country if the political leaders do not see that the second country is more advanced. Therefore networks regional initiatives such as ASEAN can be very powerful to encourage that sort of shared learning. The Rockefeller Gates foundation joint learning network has promoted a lot of good practices, a lot of mutual understanding and there can be similar platforms to drive universal health coverage much more specifically. I want to say a little about covid. Covid as what Jerome has shared very eloquently highlights that these inequities drag down the entire world and these inequities are driven by absence of universal health coverage particularly at the primary health care level. I think this is an area that we can do better and this is an area that India has a lot to teach the world. I won't bore you with all of these quotes. It really suffices to say that universal health coverage in a pandemic world is more urgent than ever. All that said, we must appreciate that healthcare was already broken before covid. This is the world health report. This is a status tracking report from 2017 jointly put out by the world health organisation as well as the World Bank. It mentioned that more than half the world that is just under 8 billion people at that point in time did not have access to the essential health services. 100 million families were pushed into poverty, pushed into bankruptcy due to inability to pay for health care. And therefore covid really simply made their situation even worse. But the silver lining is it catalysed needed reforms and it focused the world's attention on the need to provide for everyone in that none of us are safe until all of us are safe in a pandemic world. Hence the

political motivation as galvanised by platforms like G20 can be very useful in mobilising resources to support the countries that are less well resourced. And there are many countries within ASEAN, within South East Asia that would benefit tremendously from this assistance. Of course covid has challenged fiscally many of our countries and the situation is likely to get worse. Many countries in South East Asia, Singapore, Vietnam, and Thailand are also aging and coupling the aftermath of pandemic with the population aging, rising incidence of chronic diseases and shrinking workforces and particularly in the context of Philippines where the healthcare work force essentially supports the entire world. It is so common for Filipino nurses to be seen in Australia, in Europe and **Venezuela**. The healthcare situation is going to get even more difficult. And therefore we do need to think about different and innovative solutions. Finally the point I wanted to make and this is from a financial times article that says – long covid or the aftermath of covid-19 seems to accelerate chronic diseases and therefore we do need to expect that there will be more demand pressures and it is absolutely imperative that we need new care models. Again I want to highlight where India can teach the entire world some of these technology enabled models. So the silver lining in my mind is that, the world has fundamentally changed. There is so much acceptance of digital health modalities and expanded use of technology. I put this slide as this image on the left hand side partly in jest. But covid has shown us that it is fully possible to moderate a session while one is in a car, one is on the move and it really highlights that we are mobile, we are connected wherever we are. This has profound implications on how we think about healthcare delivery. South East Asia a month ago there was a list of the top 50 health-tech start-ups. I would put it to you that just 10 years ago we would be hard pressed to even find 50 health-tech start-ups. And today we number in the hundreds which can be augmented, which can be accelerated by the sort of scaling up that Indian start-ups are very, very known for. Finally of course there is opportunity as what the BCG the consulting firm analyses that there is a lot of opportunity. At least 1.6 trillion can be saved globally each year through adoption of digital services. So, where then is this silver lining. This piece I wrote for the Asia Pathways two years ago where I had reminded all of us that in China 60 years ago the barefoot doctors or the community health workers had a profound impact on population health and on primary health care of the Chinese population. They were part of the story that enabled China to uplift 800 million people out of poverty. Now we fast forward from the 1960s to the year 2022, to the year 2023 and with the modern tools of connectivity of real time, compute power, can we have the intimacy of the familiar trusted face, the community health worker with the power of the world's knowledge at the bedside? I think the answer is yes. We need to scale this very, very quickly. Lot of these technologies already exist today. These are some of the companies around the world. Life track is a company based in the Philippines, Koios in the US and many of them tend to be university spin outs. I took this photo when I was in India and this is in one of the Apollo hospital community clinics where the very, very young minimally experienced GP or a family doctor was supported by an orthopaedic surgeon in one of the Apollo hospitals. So whether it is remote consultation and support, whether it is AI enabled, technology allows us to deliver universal health coverage, primary health care much more easily today because we are less reliant on the workforce that has to be highly skilled and in all the right places. So where does India come in. I would submit to you that India has leapfrogged the world at least twice. Once in the well-known information technology revolution where India bypassed the so called fixed line network and moved straight into mobile telecommunications and today it is well known that India has some of the cheapest and most competitive and high quality telecommunication providers. Like Fin-tech is

another sector where as this headline highlights, Indians are skipping plastic money, jumping straight to mobile wallets. So India has the experience of innovating and importantly innovating tech skill. These are important lessons to showcase to the rest of the world, particularly for us in South East Asia. Financial mobilisation is definitely helpful, but we have to go beyond that. I mentioned at the start of this brief presentation that universal health coverage is at its heart a political decision and hence it is something that only citizens can legitimately participate fully in. Those of us who are outside the country we can be cheerleaders, we can be technical support, but we cannot be too intimately involved in the political process. However, where we can support is in the technical assistance, in the capacity building and when the time comes to launch genuine universal health coverage, that's when resources like money and so on would be very, very useful. I would say that despite the gloominess of the covid-19 pandemic, the manpower challenges, the fiscal tightening, there is opportunity. We have particularly in South East Asia a convergence of political will, recognition of the necessity to do things differently, we have the enabling technologies today. The consumer technology world has highlighted many innovations that we in healthcare can use. Covid has shown that we need effective and well-functioning health systems particularly in primary health care and we have a systems understanding. What I hope that India can do in its G20 presidency is to support countries in South East Asia working with entities within the region. All of our countries in South East Asia have got national universities. University of the Philippines in Philippines, national university in Singapore, university Malaya, all of us as universities would be happy to work with India to provide for capacity building, to sharpen the operating model know-how in India and really transplant it in other countries. And of course India is very well known for its technology prowess. How can India play an upsized role in technology diffusion to enable genuine universal health coverage? On this note I think you very much for the opportunity to share some thoughts Sandhya and I will be glad to take any questions later.

Sandhya Venkateswaran:

Thank you so much Prof Lim. That was very interesting and as you rightly said that UHC is a political issue. Of course one question becomes how we move the politics behind UHC. But perhaps that's a more complicated question. Even if we were to look at the digital solutions as you pointed out, I mean there are digital solutions, there are innovations and maybe the egos of countries sometimes constrain them from asking others. So the question then becomes what sort of alliances, what sort of platforms, mechanisms can be created to enable this exchange. I think, with India focusing on digital health and India having a fair amount of expertise in this area, one of the big questions that India could look at is what sort of mechanisms can be put in place regional and global to facilitate that exchange. With that I am going to move to Dr Eduardo Banzon. I think having heard the specifics of research and development and of UHC and overarching burning question becomes what sort of governance mechanisms are required and what sort of financing mechanisms are required. Because both the earlier presentations of course talked a lot about financing but when we are talking of global processes, regional processes, that notion of stewardship becomes very important. What sort of global stewardship exists to actually move what needs to be moved? The last two three years of covid there has been a lot of talk on what sort of institutional mechanisms are required for global health emergency management, for sharing of data and knowledge, for equitable distribution of resources, harmonising global health protocols. All of these got highlighted as issues. What is that entity or a collection of entities that can enable this effectively so that there aren't inequities

across the globe as Dr Kim spoke about? So if you could touch upon that as well as what sort of financing mechanisms are required to do all of this? That would take this conversation forward. Over to you Eduardo. 15 minutes please.

Eduardo Banzon:

Thank you Sandhya. Thank you Jerome and Jeremy. It is always nice to follow Jerome and Jeremy. And frankly in a sense I would just probably want to step back a bit when you start talking about governance and financing of public health, global public health goods. Because it is something that is in a sense people are still sometimes arguing what that actually means. But it was nice to reflect back in 2002 that basically anything that requires multi country collaboration it would be those that we can consider global public health goods. The Lancet has joined into this discussion and they probably went a little more detail on what needs to be considered as global public health goods where you need countries to collaborate whether in the governance mechanism or financing. So that includes of course the product development of vaccines as highlighted by Jerome. Pandemic preparedness, then building or in a sense getting countries to agree on global or regional leadership over these concerns. So in a sense I would start probably by going with what Jeremy was talking about. The WHO clearly since it came out in 1948 it needs to be strengthened because it is really an instrument that does work, that has every country collaborating with each other and has actually shown how it can basically address and govern health concerns, global health good that these countries could collaborate. Even before the pandemic it has really made efforts to work into getting countries to work together. I always consider that international health regulations that it started in 2015 to be quite a wonderful instrument because it actually really legally binding to all WHO member states. It has provisions making WHO member states to address concerns globally and one can probably say that this IHR actually helped us globally in responding to the pandemic. So WHO as an institution actually needs to be strengthened. Moving forward this is something that G20 should look into. Building new structures and institutions is always being recommended. But I think we already have something called the WHO that has actually been doing this job. So the challenge really is to build on the assessments that were done recently, the problems that they had in addressing covid-19, addressing those weaknesses, those problems that were identified as and further strengthening it. We have also seen how for example covid pandemic. So the process of WHO, the prequalification, the way it has been doing, its emergency use listing of vaccines was basically used by those who were helping finance the vaccines to ensure that the vaccines that were being developed all over the world were safe enough. They became sort of a benchmark. They were ensuring that the development that was happening at warp speed all over the world and so this is in another sense an example of how the WHO is basically showing that it can be and it should be strengthened in governing global public health goods. Another institution that has been there for quite some time is the United Nations. Sometimes we look at United Nations as not really involved in health. For me the great success stories that actually did is when it came out with the MDGs. And among the MDGs, we all know that the MDGs discussion they say health was preferentially among all the MDGs, if you look at the MDGs now it is quite comprehensive and health is just one of the sustainable development goals. But in the MDGs, the MDG6 in particular is addressing child mortality, five maternal mortality. But MDG6 which was trying to address TB, Malaria and HIV-aids actually led to what became a mobilisation of resources, government and public and private resources into what became a global fund to fight Malaria, TB and HIV aids. Of course

the MDG on child mortality also led into what came to be known as GAVI alliance. These are in a sense global mechanisms where different countries, developed countries, private sectors, businesses, philanthropists basically mobilising money to help address so that the world can address very specific goals. That was written in MDGs and of course the United Nations led this. We saw of course how we have a criticism of what Covax was able to deliver in its promise. But at least the presence of the GAVI, the WHO spearheading it and of course CP was sort of a product of continued efforts to mobilise more resources again on vaccines led to what became Covax. I think the lesson that we see is how we can make Covax or a mechanism like Covax work better in the next pandemic. Seeing that as Jeremy said, the G20 the health finance ministers agreed to launch a pandemic fund and it is quite interesting now on how this pandemic fund which also involves the WHO and now much more stronger involvement of the developed countries be able to ensure and mobilize more financing, in stressing pandemic preparedness something that we sort of agreed and some other global public health goods. I probably had my presentation reflecting on what is South East Asia has been doing and I think these are probably what South East Asia is doing, you could provide some insights to India and its leadership of G20. So one of the things that South East Asia is now pushing is something called... well it is not just South East Asia is ahead of this...we sometimes call it the South East Asia centre for disease control. A very specific name is the ASEAN centre for public health emergencies and emerging diseases. Essentially it is really calling all countries in South East Asia to work together, to do disease surveillance regionally to get every country to share their monitoring of diseases. Very similar to what Africa has done with the African centre for disease control and prevention. What is quite interesting is the objective that is actually driven by ASEAN is very similar to how the African centre for disease control and prevention is driven by the African union. So in a sense you already have existing political associations or cooperative association of countries like ASEAN, African union and if you include the European ones, the European centre for disease prevention and control, the European Union. So you build on these existing structures of collaboration which the EU and ASEAN have already built and then basically leverage that to put something like a regional CDC. Now the ASEAN or the South East Asian CDC is still in its infancy. But it is moving forward and this is something that we consider as a good platform for governance for addressing global public health goods. Another thing that ASEAN is looking at is something which was a declaration that was done prior to the pandemic which is a declaration ASEAN looking for vaccine security and self-reliance. Now the pandemic obviously has delayed some of the dialogues and it is only now that as we move from the pandemic that ASEAN is now having more strategic, more focused approach on how to build up vaccine security and self-reliance. Now among the points that Jerome was saying, when the pandemic happened most of the investment was happening in developed countries. The ASEAN self-sufficiency strategy is probably looking at these investments be done more now in developing countries like ASEAN. This is the WHO assessment of national regulatory authorities. Part of the reason that they focus on developed countries was the point that the regulatory agency was strongest in the developed countries. And was supposed to be not that strong in developing countries. Now the WHO have come out with this benchmarking tool where they now assess and they assess the premature ones and it is used by countries to argue that they can regulate vaccine manufacturing and do the necessary pharma governance for vaccine. It is quite interesting that here the three countries in ASEAN Indonesia, Thailand and Vietnam have now been assessed with a maturity level of three and Singapore was recently assessed this year as maturity level 4. Now having these strong national

authority in the ASEAN countries actually lays down supports to enable more investments in vaccine manufacturing and development in ASEAN countries. So we will continue to monitor the discussion of ASEAN on how they want to move forward with vaccine security and self-sufficiency and it will be something that the G20 India would like to bring and be part of the dialogue in the coming year. The Asian development bank has where I am a principle specialist for South East Asia also mobilises financing. The nine billion facility is not just for South East Asia. It is actually a facility for all of the ADB member countries from central Asia to pacific. But nonetheless it actually highlights the role development banks can do in financing global or regional public health goods. Finally the point that was raised by Jeremy in UHC in countries actually makes me want to highlight this work we are doing in the greater Mekong Sub region where ADB is not just supporting Universal health coverage within countries but in a sense beyond borders. So we know that people move around in our world. So in the Greater Mekong Sub-region, this is Vietnam, Thailand, Lao, Cambodia, the movement of people across borders is quite significant. We want to help ensure that when one citizen from Lao moves to Thailand or from Vietnam or Cambodia the coverage in this country of the UHC is continued on across borders. This is ongoing work that we are trying to do but little difficult. We do have some models in other regions like in the Caribbean and of course in the European Union where you have this portability of health coverage. So, even as we will support countries implement and pursue universal health coverage we will also help countries pursue UHC beyond borders. India as a host of the G20 what are the things that it may want to explore in the coming year. I just would like to emphasise again that the WHO is already an institution that we have which is an existing institution that can be the lead governance entity for global public health goods. I think we should sustain efforts in strengthening it. Now the G20 of course have come up with a pandemic fund. It is of course collaborating with regional development banks. But I think this collaboration with regional development banks should be emphasised because the regional development banks do have the ability to better understanding their developing member countries under the global ones. Then you have the regional CDCs. We already have the model, the Africa CDC, the European one as an option. So the G20 next year could look into supporting more to these regional CDCs. I have to acknowledge whether there is a South East Asia CDC. But this may be something that could be explored. There should be more dialogue and actions on vaccine securities and self-sufficiencies of developing countries... it is something nice to announce as a slogan sometimes. But we need to have this discussions. Because this would need some countries to say I want to manufacture. These countries would need assurances that in the next pandemic they will be provided the vaccines. Of course we need to support universal health care within countries. Wonderful presentation Jeremy on highlighting the strengths of India on how it can support with issues within countries but more than that with the digital health strengths of India it can really get UHC beyond borders. Put it in the agenda and hopefully get this UHC beyond borders emphasised during the G20. Sandhya Thank you.

Sandhya Venkateshwaran:

Thank you Dr Banzon. It was a very interesting. You have highlighted many of the institutions and the platforms that are there and what you are suggesting in strengthening those platforms rather than reinvent the wheel and create newer institutions and platforms. Except in cases like a regional CDCs. So if the region doesn't have CDCs in those may be those could be created. That is an interesting thought. But otherwise you put your weight behind the fund that has been

created and build capacity. That is very valuable. So finally we come to our discussant Dr Soonman Kwon and I would request you to sort of surface some of the insights that are emerging from the three speakers with a specific focus on what would be your, if I can use the big word recommendation to the Indian government that these are the three or four issues that are important to focus on. Over to you Dr Kwon.

Soonman Kwon:

Thanks a lot. Thank you for inviting me into this meeting and thanks a lot for all those presentations. I learned a lot from this valuable presentations. These all three topics are very important. Especially during this Covid-19 we learned that we need to do a good capacity building and role of not only the national governments at each country level but also we need something like a good collaboration, coordination in a regional and global level. First of all in terms of national level we know that like in the UHC and digital transformation and pandemic preparedness we need to have a good domestic resource or it can be a political resource and also an economic resource mobilisation for all of these and technological innovations and also in terms of acceptability by providers, consumers and also governance issues across different industries, different sectors. All are very important. But most of it all I think we learned what covid means or pandemic means is that nobody is safe until everybody is safe. That we need to really introduce or get a consensus on something about the regional level or global level collaborations. But there are many challenges because it is so called the global public goods. So there is always incentives or hope that other countries are doing and also different thinking and expectations among high income countries and low income countries. A very similar example is from the global coordination to climate change. So we need to do something and also in that sense develop partners or some leadership of several countries are very important. In terms of it what is the most specific one to think about. For example in the regulation and policy response to a pandemic, the collaboration or reform in the international health regulations and we can encourage the data sharing from more countries in those issues. Also we learnt a lot and we suffered a lot and we have very serious concerns in the global inequity in the access to medicines or vaccines. So to overcome the challenges in the access to vaccines or medicines or necessary healthcare, first of all it is important that each country have a good universal health coverage systems that covers not only essential health care but also essential public health interventions and medicines and technologies. So definitely UHC should be a very high priority. But at the same time many low income countries have challenges in the production and distribution of medicines and technology. So in that sense we need a more concrete level, global financial facilities to ensure or improve the equity in the access to medicines and vaccines and Eduardo mentioned ASEAN initiatives in the new financial facilities and also MDB's role in the financial facilities for vaccines. I think we need to have a more concrete ideas and consensus and detailed programs on how to make it play a bigger role in the coming pandemics. I think it is the same case for digital transformation that was mentioned by Jeremy. Because one typical form of digital transformation is the non-face I mean E health or E-consultations and E-prescriptions. That means the patients get consultations from doctors abroad through E-modality. So we need a collaboration among government in the regional or global level in terms of the standards and quality of care. Most importantly I agree with Jerome that we need to think about this how to improve equity in the access capacity of the vaccines and essential medicines. In that sense I think what is the role of the development partners or some leading countries. Because for a long time development partners and some

high income leading countries have invested a lot in strengthening the capacity of individual countries. In the policy capacity or the medicines capacity. But I think there should be a more balanced and more focus on how to increase the capacity of R&D of countries or how to increase the funding to the R&D in pandemics or R&D of neglected tropical diseases. So I hope that there is more increased awareness and more increased investment by development partners or the leading countries around the world. Eduardo's presentation shows some additional incentive. (Drop in Kwon connection for few seconds) So it is very unique because it could create a ___ in sub regions. There are many countries that have shared cultures and history and they have existing mechanism of ASEAN. So the question is globally do we need an additional governance structure or mechanism to handle those issues that we have been discussing? Or can we strengthen the capacity of existing agencies like WHO for example. So there are pros and cons and we do not want to fragment, we do not want to introduce another fragmentation in the landscape. So we should calculate and consider pros and cons on what is the best way to increase at the global level or regional level collaboration and coordination in these whole areas. Finally we talked a lot about pandemics and it is true that we need to improve our preparedness and response capacity but at the same time we should not forget that there are so many other health issues that we are facing these days. For example in Asia and globally populations are very rapidly aging. There are huge issues of non-communicable disease and some countries especially like the Pacific islands they are facing tsunamis the related issues in climate change and health and also during this pandemic crisis. Also from the experience of rapid aging of population we learned that primary care again is so important. So all these issues should not be neglected. We should also pay kind of a balanced perspective and balanced investment and equity not only in pandemic covid-19 but also on this type of old and also emerging health challenges in the region and in the globe and really work hard to get a consensus on the regional and global level collaborations in these areas. Thanks a lot.

Sandhya Venkateshwaran:

Thank you Dr Kwon. I think you have raised a lot of questions. You underlined a lot of questions we have to still work and find some of the answers and I look forward to working with all of you as we move forward over the next few months to find answers to some of these questions. I am going to now request Mr Kant to sort of share his remarks having heard some of these presentations. And how he has processed them.

Amitabh Kant:

Thank you Sandhya. First of all let me thank all the speakers. I would like to personally thank Eduardo Banzon the principle health specialist of ADB. I'd like to thank Jeremy Lim the director (LIGHT) of NUS school of public health. I would like to thank Jerome Kim the director general of International vaccine institute. And I would like to thank Soonman Kwon the professor of health economics and policies Seoul national university for their very, very important inputs. We in the G20 secretariat and I and ___ have taken note of all their expert advice and guidance to further strengthen our G20 health working group agenda. We have greatly benefited from the inputs given by them and their expertise I greatly appreciate. Today's discussion highlighted the need to further deliberate on the issues of governance and financing of global health, funding of research and development as well as the manufacturing of medical counter measure and moving towards delivery of global public health goods and also on climate and health which is very important to my mind. Lastly on ensuring universal health coverage

for all. I would like to say that India has been handed over the presidency at a time when the world is trying to keep up with several challenges such as geopolitical tensions, economic downturn, supply chain disruptions and subsequent rising food, fuel and fertiliser prices, alongside tackling the long term ill effect of the pandemic. We should also realise that because of covid 200 million people have gone below poverty line. 75 million people have lost their jobs and we instead of progressing have regressed at the midway point as far as the sustainable development goals are concerned. As the G20 presidency India will aim to translate today's deliberations into concrete deliverables within a designated time frame among G20 member countries to make a meaningful impact keeping in mind future for all. The Prime Minister has already said that India's G20 presidency will be inclusive and will be ambitious and action oriented. Today it is an acknowledged fact that universal health coverage can be ensured by building a resilient healthcare system. Beginning from strengthening the primary healthcare services provided with implementation of digital health solutions. This would be fundamental to building back better for a much better tomorrow. Not only access but affordability at which medical countermeasures are made available is a very critical challenge to be considered. Whether a vaccine is available at 20 USD or 3 USD will have a major role in managing any future health emergency and hence the need to focus on cost effective high quality research and development. Principles of sustainability, inclusiveness, holistic vision, transparency, accountability, foresight and equality and equity must be at the centre of a governance transformation of health. We all would agree that the world needs inclusive and effective policies to deliver equitable and better social, economic and health responses (break in streaming of Mr Kant for few seconds) ... in order to ensure healthy lives and promote wellbeing for all. Drawing from issues as discussed during past G20 presidencies the Indian presidency seeks to take it a step forward by ensuring delivery of concrete outputs, accounting for the inevitable dimensions of quality and access along with affordability of medical countermeasures across the world. Additionally India's health agenda would also take up the issue of inclusive digital health solutions with that transformative potential of bridging the digital divide in the world by connecting all stakeholders through commonly accepted data structures and vocabulary. Digital public goods such as telemedicine, tele radiology and other AI enabled IT solutions are some of the areas that G20 members could collectively work on to build resilient health systems. I would in the end like to conclude and thank CSEP for putting together this very, very distinguished and esteemed panel of speakers today. And I would like to take this opportunity to urge all those who have gathered today to support India's line of efforts during this G20 presidency so that India emerges as a stronger world leader ensuring that the benefits of development are accessible to all our brothers and sisters across the world. This is critical and especially for those in the low and middle income countries. Thank you very much ladies and gentlemen. I once again thank all of you experts and greatly thank CSEP for doing this workshop we have greatly benefitted from.

Sandhya Venkateshwaran:

Thank you so much Mr Kant. Thank you for your kind words. More importantly thank you for outlining India's focus and key issues that you have so succinctly underlined that India is focusing on which are many of the central issues that are plaguing the world today. We are on time. I am not going to take very much time. I would also underline my gratitude to all of you for participating. It's been a very useful and rich discussion. Thank you professor Kwon, Professor Kim, Dr Banzon and Dr Lim of course and Mr Kant. Thank you very much for being

here. I look forward to working with some of you to deepen some of the key issues that came up today. So we can continue to engage with the government of India on these issues. I just wanted to say that this conversation was focused on South East Asia. We are hoping to do a similar one focused on Africa and look forward to your participation in that. So thank you very much and have a good evening.