COVID-19 VACCINES

Webinar Transcript

Nigel Rollins

So, it's great to see everybody, and I was just saying before some other folks join that certainly over the past month or so, I've been relying on some of the colleagues who have been part of the kind of the steering group. So, I have been a little bit less involved with convenient coordinating this meeting and I'm delighted however to be here and a part of it. And one of the... I think it's a very, very relevant time because there's so much more happening, and I think having been in a place of real sort of almost crisis at the beginning of the pandemic and at various stages. People who know the data and the evidence about breast milk and breastfeeding have, you know, had huge emotions and it's been a real roller coaster over this past 10 to 12 months. And I think there's some very exciting data that is now emerging, which is fantastic. And I'm not sure if people have seen it and it's very relevant for today's meeting. There's a publication, there's a Lancet letter just published today. I'll just put it in the chat. I just cut and paste it for the chat, looking at the title of it is "White policy and COVID vaccines and breastfeeding", and I think having been on this real roller coaster over the past, 10… especially the first six months, I think you know some of the evidence and people on this call hoping, you know, both producing data the work that Shelly's been on and collaborating with that whole set of other people, and really thinking about the antibodies and their protective potential within breastfeeding, it's kind of coming around full circle. So, in that sense it's not a time to stop. It's a time to really invest even more and I think one of the messages in the Lancet letter is that we need to invest more in understanding and in preparedness for the future. I hope it will happen. And these are all the things that we've talked about within this group. So, it's great to be part of this group. I'm really delighted and I think I saw Dan coming on and off. I'm not sure whether Dan is back with us.

Dan Raiten

Yeah, I'm here. Hi everybody.

Nigel Rollins

Hi there Dan. I'll pass over to Dan. I just go to started while you're just connecting, but it's great to be here. I should just say that the WHO and research network is still going and we're really just getting moving again ourselves and there's a number of things known and a lot of emphasis has been on the research around the lessons and transmission and children as well as some of the indirect effects of the pandemic on child survival and health. And so that work is ongoing. But the infant feeding group, we haven't had too much feedback to the larger group over the past two-three meetings. And in March, we've been asked to share back more about sort of all the outputs, things that some people have been doing behind the scenes for a long time. And so it will be good to hear from everybody. And so over to Dan.

Dan Raiten

Alright, thanks Nigel the welcome everybody. I have nothing much to add here. We're still trying to generate some resources and it just I know that there's most of you on the group are actively engaged and we'd like to hear from you. So after you've got things you'd like to report on, please let us know. And during the course of today's calls, please put questions in the chat box so that we can respond to them. We'd like to have a dialogue during the course of this meeting today. Yeah. Just brief report. Shelly and her team are continuing to work on the technical aspect, but I don't think they've got as much to report at this point. We'll probably fill that in and then at our next meeting. But Mija Ververs would like to report, give us a brief report on repository. Mija?

Mija Ververs

Okay. Thank you Dan. Yes, as you know, we're still working hard on the repository and get everybody informed as soon as peer review journals or non peer-reviewed journals, such as med archive is coming out on our subjects. So one thing to report to you, it's in a bit of a test phase. I will put again the site link here in the chat box. But we have launched yesterday one file for all our repository journal articles, and you can search now for anything you want. Milk, vaccine, milk bank or whatever. So if you go to that link I just put in the chat box and you scroll down, you see a map. And if you click that, you will have four and a half thousand journal article excerpts at your hand. And you can select per country, if you only want to look at Brazil, or you only want to look at milk, or milk bank, you can put that. It doesn't allow necessarily the "and" in the search, you know "milk and whatever bank", but "milk bank" would be flagged I think. So it's meant for anyone who wants to be updated for a policy or for research. I hope this will be useful for you. It is still a little bit in a trial phase. So I think the next week or 2 or 10 days, it will be finalized. So I hope this can be of use for you. And if there's anything let me know. That's from my side. So I hope you have time to look at it, and see whether it's useful for you. Thank you.

Dan Raiten

Thanks Mija. Before we go too far, I just want to put a placeholder down again, you know, our focus here has been very much on the behavior and practice with regard to breastfeeding and the implications of the virus, but there are lots of questions clearly with regard to risk, prevention, treatment and care of COVID, and particularly as it relates to mothers, women, infants and children. And nutrition. And so I want to have us all to continue thinking about that, what role nutrition plays in this. Not just food insecurity, but actually the biology of nutrition. Maybe we can discuss this at a meeting later on down the road. So most of the effort said that has gone on since our last meeting has been through the (inaudible) of our communications group, and so I'm very pleased to turn the meeting over to Fatmata and Jennifer to who will lead us through the rest of the session. Thank you.

Fatmata Fatima Sesay

Hello colleagues. Thank you very much Dan, for the introduction there. And as you rightly mentioned, I mean the communication group has been working on a number of products lately and one was a communications, a misinformation brief, which basically looks at how we align breastfeeding practices and addressing the misinformation. This has been developed and, Victoria if you have the link, please also put it on the chat box. So for today's call, we have two sessions one would be a session on COVID-

19, an update on COVID-19 vaccine and breastfeeding women. This will be a short presentation by me. And then the second part will be a panel discussion on milk bank in the context of COVID, and this will be done by PATH, our colleagues Christine, and Kimberly will lead this presentation. So for the first part of the presentation, I'll just go through a brief update on COVID-19 vaccines and breastfeeding.

Do we have the slides Victoria, please? Would you want to project? Thank you. Thank you colleagues, and like I mentioned we will go through a quick update on COVID-19 vaccine and breastfeeding, and today I will take you through a brief highlights on how the pandemic has affected breastfeeding. We know to a large extent this has happened, and we and will also give you an overview of breastfeeding and COVID-19 guidance today, as well as some of the work UNICEF is supporting in terms of role in vaccines. And as well as the guidance. And next slide, please.

We know clearly that in the context of COVID-19, optimal breastfeeding practices are really critical. As we may have seen in the various works we are doing, the pandemic has impacted breastfeeding in many ways because we have systems that are overburdened, because healthcare workers are struggling with COVID-19, addressing COVID-19 pandemic as well as struggling to provide routine services. Then we've also seen manufacturing companies exploiting the pandemic, having to promote breast milk substitutes and based on internal reporting, we have seen that 47 countries are already reporting code violations. And we also know that there are a lot of misconceptions about breastfeeding. Thankfully PATH team have also worked on a misconception brief, which we have shared in the link. And these misconceptions are also affecting breastfeeding in the various contexts we are working on. And based on the recent review done by Nigel and team, it's estimated that severe reductions in the prevalence of breastfeeding is suspected and about 104, almost a 140 thousand deaths, you know, are projected across 129 low and middle-income countries over one year period plus additional morbidity. Next slide, please.

And thankfully we welcome the arrival of vaccines because it's a critical investment in research and development, and program implementers, scientists. We applaud efforts to be able to develop a vaccine in record time while maintaining robust evidence based on rigorous regulatory standards. Next slide please.

So I will briefly highlight some of the recommendations we have out that relate to breastfeeding. We have the WHO interim recommendations for the use of the Pfizer vaccine, which enables support women who are practical for group recommended for vaccination. Example, health workers, to be offered the vaccine. And clearly WHO does not recommend continuing breastfeeding during vaccination. And we also have the UK Public Health guidance which states that vaccinations can be received, but there was an initial guidance which differs from this. But due to a lot of advocacy efforts, this is now what we have is a guidance from UK Public Health. And also the FDA and CDC guidance really leaves the option for the possibility of pregnant and breastfeeding women to opt for immunization against COVID-19. Next slide, please.

And more recently we have the Moderna vaccine, and thankfully also WHO has provided a guidance on this, that the vaccine can be offered to breastfeeding women who are part of a group recommended for vaccination. This also aligns with the previous guidance on the Pfizer vaccine. And also guidance has been provided on the Astra Zeneca vaccine, which link I have also provided. And you know, there are a lot of moving puzzles, moving pieces around that guidance and vaccine lately. So it's not quite a bit up to date, because yesterday I also heard about the Johnson & Johnson vaccine which is currently being considered, you know for recommendation, but I don't think any guidance is out yet on that. Next slide, please.

So basically, we know that mRNA COVID-19 vaccines, you know, do not really have any significant impact on breastfeeding. Even though we do not have data on safety at the moment, but we know that the effects of mRNA vaccines on breastfeeding children may not really be there at the moment. And we

know that vaccine efficacy is expected to be similar in lactating women as in older adult and the virus is not a live virus, and that mRNA does not enter the nucleus of the cell and it's degraded quickly. So therefore we know that it is biologically and clinically unlikely to pose a risk to a breastfeeding infant. This is what we know about mRNA COVID-19 vaccines basically to date. Thank you next slide, please.

So I coming now to the programmatic part in terms of what we're doing as an agency to support vaccine rollout as it relates to breastfeeding. As soon as we receive the various guidance, especially the one released by WHO, this was disseminated across a country and Regional Offices to ensure that we have guidance in country to support the rollout of vaccines and to guide countries in delivering programs. Then we've also requested countries to monitor and report any data in terms of whether there is any effect on breastfeeding, or whether guidance is different from ones WHO is currently recommending. Then we have also contributed to the development of frequently asked questions through the IFE Cold Group, which will be released soon perhaps in the next weeks. And as you also know, UNICEF and partners are also leading vaccine procurement and supply operation because we are leveraging on UNICEF's unique experience as the largest single vaccine by the world by working with manufacturers and partners on the procurement of vaccine, as well as freight and logistics. And we are also bringing the full weight and strength of our community engagement and expansive social network to build demand and acceptance of vaccines. Next slide please.

So this is a small part of the work we are doing in terms of following up with countries on the vaccine rollout and whether there are any experiences that we could share and track. So recently, UNICEF collected data from a number of countries to understand what guidance has been provided at country level in terms of breastfeeding and vaccine following the dissemination of the WHO guidance. And also to understand if there is any impact on breastfeeding practices already. So we shared a short set of questions to the regions where we know vaccine rollout has commenced. And so far we've received data from 11 countries in ECAR, and these are the countries we so far have data on. But we'll just like you to know that this will be an evolving process for us to continue receiving data and updating information and providing guidance as needed. Next slide, please.

So this is a short snapshot of what we have to date. And as I mentioned this is data that we'll continue to receive, analyze and update as we receive country data. So we have received data from 11 countries. And out of this 11 countries, we've noted that 11 are already rolling out of vaccine, and in line with the recommendations already in place, the seniors are the priority in receiving the vaccines as well as health workers. And in most of these countries it leaves open the option for breastfeeding women to receive the vaccine. And apparently the COVID-19 recommendations for breastfeeding in these countries seem to align with the WHO and SAGE recommendations, which is really good news for us. But we also know that one country is not recommending the vaccine during breastfeeding. And as a program, we are really following up to ensure that UNICEF works closely with partners to ensure that the recommendations for breastfeeding is included in the relevant national guidance. And all the countries are also working on communication and information materials, which you know anchors on the WHO recommendations and have been shared across programs for adoption. So what is interesting from the feedback received so far is that a few of these countries already purchasing or using the Chinese Sinovac vaccine. And as we know this is yet to be included in the WHO recommendations, and we are concerned about this. And in terms of the impact on breastfeeding, I would say perhaps it's too early to report because most of these countries have just started rolling out vaccines. So we will continue to receive regular updates in the coming months, and monitor what is happening at country level. And as much as possible we will provide updates and guidance where needed. Next slide, please.

So in all of this, we think there's still some work to be done on the advocacy side. As we may have seen there's still no data on, you know, COVID-19 and breastfeeding women. So this is a strong call to action for supporting evidence in the generation on the safety of vaccinations for breastfeeding. Which we think needs to be continued and also analyzing the risk-benefit trade-off for vaccination and

breastfeeding. This could be something that we think vaccine developers, researchers and founders as well as policy makers could also embark on. As well as origin government to adopt the recommendations in line with the national guidance, as we may have seen in one country already. This recommendation is not fully adopted. The next slide please.

An interesting part here is the importance of advocacy for breastfeeding. As you may have seen an example is here, a blog for moms pushing guidance to change such as in UK. As you may all know, the previous UK guidance was not quite supportive of breastfeeding, but now we see that the guidance has changed due to some of the advocacy effort. And I would also like to acknowledge the advocacy statement put out there by ABM to support, to align and support women to continue breastfeeding while receiving vaccination. Next slide, please.

I think this should be my last slide. So this is just a teaser of the bigger puzzle. So it's not a full presentation on breastfeeding and COVID-19. We are having a next week session on the 5th of March, and we really encourage partners to you know, reach out and give us ideas on what you would like to present in terms of COVID-19 and for infant feeding and there is a link provided below to sign up and reach out. So, that's all from me. Thank you so much.

Victoria Anders

There were two quick questions for you in the chat, Fatmata. But in the interest of time for the rest of the session, the panel that we have planned, maybe you can keep the comments brief. But Shelley was curious, which was the country that not recommending vaccines for breastfeeding women?

Fatmata Fatima Sesay

Okay. It's still... I don't know… I didn't seek consent to name the country here. But Shelly, I can share this with you, it's one country in the ECAR.

Victoria Anders

And then the other question is, if there's any uptake data or refusal data on breastfeeding women who are receiving the vaccine or are refusing to receive it?

Fatmata Fatima Sesay

No so far. We have not received data on that, and we'll continue to monitor and report. Like I mentioned, generally we have not seen any impact yet in terms of refusal or opting breastfeeding women and you know, the vaccines. But this is just a snapshot, you know of what we will be a longer process in terms of collecting data and understanding what prevails at country level. But so far no, no data on that yet. We have not received any negative implications.

Dan Raiten

Ok good. Thank you. I guess we'll turn it over to Kirsten in the PATH team.

Fatmata Fatima Sesay

Yes, Christine and PATH, over to you, please.

Kiersten Israel-Ballard

Hey, hi, everybody. I'll wave so you know who I am. Thank you for that Fatmata. That was really important for everyone to be aware of. So, we as PATH and our colleagues are going to be talking about human milk banking and how donor milk has been impacted during the COVID pandemic. We have a little less time than we thought we would for this session. So in the interest of that we're going to go a little quickly through our introduction here because we have what we want to bring our stories from the global field. We have panelists from the US, UK, India, South Africa and Poland to share experiences about how this really has unfolded in the field. Next slide.

So, you know with this interest group we have been very focused on infant feeding and you might ask well why human milk banks? But human milk banks have been at the front and center of this challenge as we've been unfolding over these months. Is transmission possible via breast milk? What's happening as moms and babies are separated? They call for donor milk. Safety issues, and we're go into a little bit into why this has been such a challenge for this field, you know, the human milk banks are global and yet there is a very limited mechanism for rapid communication, pandemic preparedness, safety measures, how are they regulated? How are they integrated with other programs? And so really this came into play. Next slide. Kimberly and I are going to be tag-teaming a bit on these introduction slides. So we'll go back and forth a bit. Kimberly?

Kimberly Mansen

Thanks Kirstien. So before we jump into some of our fellow colleagues' presentations, we wanted to make sure everyone was a bit on the same page about what is human milk banking. What is the primary purpose? We're not talking about general shared milk. We're talking about a very specific population often that is receiving it, and so will give a little bit of background before diving into our panelists. So here just to call out. We do not have data systems that tell us in the first few days of life for those newborns admitted to the hospital, we do not know what they are being fed globally. NICU's around the world are not reporting up, and so from anecdotal reports and evidence, and visiting NICU's around the world, we have seen that up to about 40% potentially in one neonate ward are not able to receive full mother's milk feeds on the first, second, third day of life, or until discharge. And so that's the population that mostly the milk banks focus on providing donor human milk for. And as we know from WHO, advance slides, all the way back from 2011, so obviously more and more guidance is coming out for the research. But since then, for low birth weight infants and including those very low birth weight, those that do not have access to their own mother's milk, donor human milk is recommended, especially for settings relevant where a safe and affordable milk bank can be set up. And so we'll be hearing from a few countries on what their experience has been with the COVID changes in that. And so in better understanding what the milk bank process is, and like I said, this is not milk sharing. This is a formalized system that ensures safety and quality, and as you can see from this graphic a human milk bank, it's a service established to recruit breast pump donors, collect donated milk and then process, store, screen and distribute that milk to meet the infant's specific needs for optimal health. So often we're talking about a little bit of nutrition that's there to meet the gap as mom's milk is coming in to be able to provide for those infants until they can receive their own mother's milk fully.

And so as part of that safety process, there's a screening process for moms, both serological and lifestyle screening, the mom is taught a hygienic way of expressing milk, storing it, ensuring temperature

control. It gets to the milk bank, pasteurization happens and in order to kill off microbial contamination, potentially, or any scare of HIV or other concerns. And then there is either pre-pasteurization or post-pasteurization. There is bacteriological testing to ensure that it's not out of range. And then once again, temperature control until it reaches the NICU or the neonate ward and that infant. So it is a very safe process, where documentation is able to trace back to that.

Moving forward, here. So where are the milk banks around the world? And this is not a perfect map. It still needs to be updated. But it gives a brief vision for... there are over 600 milk banks that we've been able to account for, there is no one service that is helping bring these most things together. But groups are starting in attempting to... Brazil has the most milk banks within one country with greater than 220 right there. So over a third of about of the milk banks globally. But if you see where we've highlighted the sections, where there really are gaps, where the burden for low birth weight and prematurity may have... does have the most significant impacts and the populations there were not necessarily seeing these milk banks show up there. There is interest and these are growing but just to give a vision for where we're at.

So you see that there's many more things around the world. Because of lack of a standard guidance globally, there really are practices that vary greatly around the world. And so when we're talking about COVID, we want to understand that we're not just talking about how do we insert a questionnaire into a standard system. We're talking about systems that vary across the board, have different temperature regulation, different ways of processing the milk, storing it, how do you accept, what types of donors are allowed to donate? We're talking about milk banks that are in hospitals, that are in the community, providing to many hospitals or providing to one unit. So variation exists across the board. I'll hand it back to Kirsten.

Kiersten Israel-Ballard

Yeah and just to clarify, if... You know, not only do we see gaps in scale up but gaps and how systems are aligned and this all comes into play when a pandemic hits. So there are challenges that face this field. For example, there are no global standards. What are the minimum requirements of safety and quality for donor human milk? They don't exist. Policies aligned between newborn nutrition biosafety, the data gaps. Again, we don't know how many babies even need donor human milk. The integration of systems. Are human milk banks integrated, especially again, when a pandemic hits are integrated into broader systems, so they receive rapid communication. And innovations just to make this more accessible less expensive. Next.

So this lack of global standards, and again, this was all foreboding. A lack of minimum standards around safety has been a challenge. And there's been really a call to action around the need for this. There was a meeting that was held, co-sponsored by the WHO and the University of Zurich that started to discuss really the potential for developing official guidance, biosafety guidance, to ensure safety and quality. There is no legal framework. Is donor human milk food? Is it a tissue? How is it regulated? Systems around safety range massively around the world and there is no platform for rapid communication among these groups. Next.

And the reason this matters in the big picture is we have new standards for improving the quality of care for the small and sick newborn. And we really need to refocus and think of how feeding factors into this. Historically, the feeding aspects, especially provision of human milk, has not been called out in terms of how to operationalize provision of human milk. Not only supporting the mother but also around safe donor human milk. How do we actually prepare so that we can maintain this as an essential newborn care, and addressing also the equitable access around lactation support, especially when there's a pandemic setting like we've seen.

So with that I'm going to hand it back over to Kimberly, so we get really into the voices of our colleagues around the world.

Kimberly Mansen

Great. So we have six members and colleagues that have been willing to join us this morning and, or around the the world so evening, all the way up until India. And just thank you in advance for all of them. I will introduce them individually just before they give a very short presentation, and then we'll save all questions for the very end. We're hoping to leave enough time for you to ask. So please write them in the chat, and we will get them and try to prioritize at the end. But otherwise we're going to we're going to stick to just zooming through each of the six experiences. So Kim Updegrove, thank you for joining us. She's actually a part of this working group and so is very familiar with what we do here and we'll speak to that, but Kim is an advanced practice nurse serving as the executive director of the Mother's Milk Bank at Austin. She also chairs the Standards Committee for the Human Milk Banking Association of North America, so is able to speak both at the broader North America level and specifically on the milk banks. So Kim, take it over.

Kim Updegrove

Thanks Kimberly and Kiersten. So I have two slides only. I'll go rapidly through my comments in the essence of time. But basically this first slide shows donor human milk use in Canada and the United States. There are 31 nonprofit milk banks located around the continent, and they've grown in number and volume of donor human milk ounces dispensed over the past 10 years. Most notably increasing the dispensed milk by 1 million ounces between 2018 shown on the graph and 2019, a tremendous positive trajectory. All interrupted when the pandemic was announced on March 5th, a series of factors led to that sudden decline in the use of donor human milk. Most notably is when we have something that impacts the general population and it's filled with unknowns about the potential presence of the virus in the milk or in the packaging, it allows fears and myths to enter in an impact the protocols that are used to protect in this case mothers and infants. So most notable was in April of 2020, a letter published in the Journal of Human Lactation. I raise this just as one example, but it's 20 examples of many. This letter suggested that the milk itself is dangerous, and that the packaging including the bottles for donor human milk is dangerous. This kind of negative impact on a protective and potentially life-saving protocol, for especially the very low birth weight infants, has considerable weight. And so it led to an immediate need for national and international collaboration so that we could respond to these types of communications, these myths and these fears, develop the research that might counter these messages. And to this end, partnerships with researchers both nationally and internationally, a partnership with Sifrik has been invaluable. What we've seen since then, our letters calling for actual science that are out in the published literature, research that continues to be published showing the effects of COVID-19 on the breastfeeding diet. And the prioritization of milk for infant feedings is recovering. So the growth in the use of donor human milk is resuming at a slower pace.

Next slide, and let me say last slide.

So we all deserve a little levity and this is actually a real picture. This is a picture of one of my walk-in freezers and I use it to show that we've been surprised in the milk banking industry in the US and Canada, by the amount of donated milk that has come into each of the milk banks. Weekly surveys of the member milk banks of the human milk banking association of North America show that everyone has experienced big increases in the amount of milk coming in. The factors that seem to be responsible for this seem to be related to the change, the lifestyles of women. Here where maternity leave is not a given, most women are working when they're donating their milk. They're used to going into an office

and pumping and using that pump supply for their infants and when they have extra they donate to a milk bank. In the case of COVID where most women are now working remotely, they're breastfeeding more as their kids are also home. So they can breastfeed but they're pumping also, so they're pumping because they don't know when they're going to have to have to go back to the office and they're worried about out their supply in light of the stress. So pumping and then breastfeeding, they're producing more therefore and they need their freezer space to accommodate fewer trips to grocery stores and more meals provided at home. It's a funny odd effect of the COVID and I wouldn't have been able to predict it. It is unknown if this trend will continue, Fatmata and others mentioned the unknowns about the vaccines, which we just don't know what the vaccines effect on the quality and quantity of human milk are. And so we'll have to wait to see if new fears arise or new strains and new vaccines presents different challenges. The bottom line is that global communication and research is needed to continue our understanding and to create a response that protects the maternal infant dyad. It is of note that the process of screening a milk donor that Kimberly went over hasn't changed. It's a lifestyle and medical history taken, it's healthcare provider statements of the donor's health and provision of some documents in support of that. It's blood work and then drop off of milk. In COVID though a couple of things needed to be tweaked. So asking women to go to a lab to get their blood work drawn at a time when we're also saying, "stay home, don't go near anybody else and wear your mask," creates a problem. So we had to renegotiate contracts with various blood labs to have the women who are applying to be milked donors get first appointment. So first appointments all capitalized means they get to go first in the morning and not be in a waiting room filled with ill patients who are seeking blood work as well. We needed to accommodate the fears of the women themselves in dropping off their milk. So we created programs that are variations of Porch Angels. Porch Angels mean that volunteers in the community, sometimes from our own boards and staff, go out to the approved donors home at a specific time and she takes her milk from the freezer leaves it on the porch with an ID, watches from the window as the Porch Angel picks up the milk and brings it to the milk bank. If the mother is in close geographical location to the milk banks, it's contactless drop-off. So she drives by and stops in the parking lot or has someone do it for her, puts the milk in the trunk of her car, calls from her car, and staff from the milk bank go out to the car, take the milk, no contact whatsoever. And we'll see how this continues. The vaccine issue is a big one. Our ability to communicate out to the world of milk donors is essential to let them know facts, not myths and fears about what is safe and what is not safe. Thank you for this time.

Kimberly Mansen

Thank you Kim, and just reiterating, the Porch Angels are coming up in the chat. How great those are, and as well as the surprise for the increase in donation in the US that you're seeing during this time. So next we have Gillian Weaver, we're transferring over to the UK. Gillian has over 30 years experience working in milk banks, milk banking, providing expert advice around the world. And both co-founders will be speaking one after another today, but I'll introduce the next after. For the cofounders of the Hearts Milk Bank and the Human Milk Foundation in the UK. So Gillian, please take it over.

Gillian Weaver

Thank you Kimberly and hello everyone. So I'm going to give you a brief review of the milk banking situation in the UK. And also what adaptations have been taken. But I think it's worth stating that although the UK has a very long history of human milk banking, we're a little bit like a sort of microcosm of the rest of the world in that all milk banking is here. We have very different models. So for example, if you can just click on a couple of times Kimberly. So for example in Scotland, there is a nationwide service that is funded by all the health boards throughout the whole of Scotland, and the single milk bank

recruits donors, covering the whole of Scotland including some of those islands you can see on the map. And supports all the neonatal units with donor milk. In Northern Ireland, there is a provincial human milk bank, again just one, similar sort of model that recruits donors and supports the whole of the province of Northern Ireland. However, it also provides a similar service to families and to hospitals and to recruit donors throughout the whole of Ireland. So throughout the Republic as well, where there are no milk banks at the moment. England on the other hand has 13 human milk banks, they vary in size from a single room, a single member of staff, or a couple of part-time members of staff, located on the neonatal unit, to much larger operations, which you can see from the size of the of the symbols on the map here. Wales on the other hand, to the sort of middle and west of the of the UK, has no milk banks and relies on support from some of the milk banks in England. You can find out more from the United Kingdom Association for Milk Banking, the website will give you more details of all the milk banks as well as milk banking more generally throughout the UK. But given the fact that we have these very different, very different systems, very different models early in, or late in January, just over a year ago. It was very clear that although all the milk banks were going to be impacted by the COVID-19, which was the time of the epidemic in China, but had reached not too far away in Italy, that although we were likely to be to be impacted, there wasn't a lot of information and knowledge and help that we could rely on. We knew that there had been no cases reported so far in the UK. We wanted to be able to put out information to all the donors and to anyone who was looking to us at the Hearts Milk Bank for advice. So Natalie very quickly put out this statement on the 27th of January stressing that safety was at the heart of all the milk bank operations, but that in fact, although some additional donors screening questions would be added as Kim has outlined for North America, despite that, actually most of us far as we could see, as far as we could read from publications that were coming out from China and from talking to our colleagues in Italy, actually the recommendations that we already followed would provide sufficient safety. We knew that milk banks based likelihood of reduced donor numbers which certainly happened initially but then similar to North America, changed. Disruption to screening, very much the same, and increase donor milk demand and likely reduced availability. And that was certainly the case in the first month or couple of months. Logistics including transport were going to be very much affected in the UK. Most of the milk is transported both from donors to the milk banks and from the human milk banks out to hospitals. Most of it is transported by volunteer motorcyclists who also transport blood and other essential products throughout the UK. There's a very neat system that's in place. Many of these volunteers are in the age group that would be deemed vulnerable. And so we were worried that that was going to be impacted. And also that the queries that were going to arise around the safe handling and the pickups and so on. So if we can move on to the next slide, the recommendations, the standards that I talked about, the one that's used throughout the UK, but also further afield in Europe and more globally, is published by the national institute for health and clinical excellence. But there's also a Europe-wide guideline as well. And certainly these don't address the sort of pandemic-related challenges to milk bank service provision, but we knew that we would need to take some actions very quickly. Natalie set up a WhatsApp group for all the milk banks in the UK so that we had a very rapid response group. It has 24 participants. She also quickly developed a Google sheet so that everybody could input responses to milk stock levels, staffing challenges, etc. What we wanted to be able to do in England was to replicate what they had in Scotland and Northern Ireland, which was a joined up service and to make sure that if one milk bank was short of staff because of illness, was short of milk, that milk banks close by would be able to help. This hasn't happened really previously. So that was very useful. Daisy Cooper, who is MP, local to their Hearts Milk Bank raised questions in Parliament about support for human milk banks, particularly support for getting blood testing done for donors who were unable to, or reluctant to leave the house. And for the first time, we were able to join up with a national blood transfusion service, and to be able to offer their services to mothers, to be able to go and have their blood taken if they weren't able to get it done any other way. And from the, from the COVID Response Group, the information that we were able to glean and gather was published in this paper in Infant Journal. This happened by early May that it was fully published, and this outlined how milk banks had

responded to the pandemic, what had been put in place. And this is a Journal that although globally isn't well known, it's certainly read in all neonatal units by all staff. So having seen, we can move on to the next slide. Thanks Kimberly.

Having seen how well the WhatsApp group worked in the UK in terms of being able to collaborate and communicate and to be able to move things forward, I tried my hand at developing a similar global group. I attended the WHO Zurich University meeting that Kirstien mentioned, and at that we had talked about the need for a global, much more global collaboration, and global group. And so I went through my contact list having spent sort of 30 years very fortuitously visiting and talking with, working with milk banking colleagues around the world. And we started a WhatsApp group, called it to the GAMBA which just stands for the Global Alliance of Milk Banks and Associations. It's a purely virtual collaborative network, but it has been able to link members from very many of these human milk banks of which there are currently 756 in 66 countries. So at the moment we have over a 100 members from over 40 countries in the GAMBA group. And as soon as it started it was it was alive and firing with questions and people being able to share their challenges, their responses. We were able to learn from each other and it worked really, really well. It was you can see where the milk banks are on the map, which is from the path tool kit, but we were able to really talk very quickly amongst ourselves. And even as a result of that, within just over a month a paper was being published in the Lancet Child and Adolescent Health that summed up what responses had been taking place. We were also able to, for the first time, globally celebrate the world of human milk donation. And all of the members from all around the world submitted our Together We Can aspirations, of which mine was certainly to create this Global Milk Bank movement in support of breastfeeding which is the most important statement I feel about human milk banking. And our desires are that we will become a much more formalized group. I'm hoping that's going to happen very soon, and that we will be able to continue to work together and to be able to inform and answer the sort of questions that Kirstien and Kimberly were remarking on earlier. Thank you.

Kimberly Mansen

Thank you so much Gillian, and we are going to quickly hand it over to your counterpart at the Hearts Milk Bank. An amazing researcher, Dr. Natalie Shenker. She's also the co-founder of the Human Milk Foundation and the Hearts Milk Bank, and she's a UKRI Future Leaders Fellow at Imperial College, London. So Natalie.

Natalie Shenker

Wonderful. Thanks Kimberly. So I also feel an utter fraud because I did not know about human milk banks until about 8 years ago, after the birth of my first daughter when I was on maternity leave for my PhD at Imperial. This picture was taken just a couple of months after setting up my new lab in the middle of a pandemic and we're able to get to work on some human milk research. But really my journey was inspired by meeting Gillian serendipitously and learning about this remarkable service and about not only the capacity for improving research on human milk that milk banks can facilitate, but also understanding more about all of the ways, that's understanding how donor milk should be used, should be processed, collected, supporting the donors and so on. But fundamentally always as part of an optimal lactation support service. So after four years of setting up a charity, which was no mean feat, I was awarded a You Care Future Leaders Fellowship, which on the next slide shows a large scope of research that if we could really channel the team at the Hearts Milk Bank, then we would be able to establish clinical trials to address situations where donor milk should or perhaps shouldn't be made available beyond the current rationing in the NHS. A bioresource of human milk samples that would facilitate research not only into human milk composition but a very large prospective cohort study

looking at the links between human milk composition and future risk of breast cancer with a view of developing cancer screening tools. And critically longitudinal studies conducted over in natural terms of lactation, which are very few in the literature, and we published at the end of last year the first work from that looking at how human milk changes or indeed doesn't seem to change over a two-year and beyond period of lactation. However, then COVID came along and things had to pivot rather quickly.

So on the next slide, the reason they had to pivot very quickly was from my understanding of the history of human milk banking and why, as a pediatric surgery registrar who had worked for 10 years in the NHS, many of those years in neonatal units at Oxford, at Great Ormond Street and at St. Thomas's, which has its own milk bank, I had managed never to hear about human milk banking services. And that's because in the UK at least they are tucked away services usually where donor milk is only available for the very most premature, very low birth weight babies and not generally known beyond that. We did some research in 2014 showing that only one percent of the UK population had ever heard of milk banking services. But when I was out and about fundraising for the charity, I was meeting lots of 80 and 90 year old women who fully remembered donating their milk and back in the 60s and 70s milk banking was very much an equitable service in the UK, where milk was much more broadly available for any baby in hospital where mothers were unable to produce any or enough of their own milk. Why did this change?

Well, that's the next picture. This is an image, I think from The New York Times, the one in the middle back in the 1980s because actually that virus isn't COVID, it's HIV. And the reason human milk banks were largely closed down in the UK and elsewhere was the realization that HIV was transmissible. The research into pasteurization wasn't progressed rapidly and then wasn't published, and women in the UK who needed HIV screening to become milk donors then subsequently couldn't get life insurance if they had an HIV test on their record. There was still stigma for many years afterwards. And so by the 1990s only 6 milk banks remained. And it was that awareness of knowing having taken on a milk bank after Gillian went into a global work in London. Just three weeks later, Zika came out leaving me feeling rather stranded in terms of what should be done. It really was a personal imperative that I felt we had to respond quickly and have an advisory team at the Human Milk Foundation who are able to give advice very, very quickly. So obviously the critical questions on the next tap is kind of is it transmissible through milk, and that answer was addressed very, very quickly by Tina Chambers over in the States, and groups in Australia and Holland and elsewhere. And does the processing in the milk bank, critically the heat treatment, destroy virus if it does get through? And by June, we had good answers to both of those and a lot of that support was facilitated by having a WhatsApp group of nearly 100 participants, created in March that enabled us to share information to know what was going on and really act as a moral support as well as a source of information. So through formalizing this virtual communication network into a global alliance. It's really going to help build a platform that will enable resilience in the future so that the strong response relatively that milk banking has had globally, compared to what happened in the 1980s didn't repeat itself. As Julian has already mentioned, we published a call to action on behalf of all 90 members of the group, and it was very much a collaboratively written paper. But then as a follow-up to that at the end of last year on the next slide, we're able to publish a qualitative study looking... just on the next slide Kimberly... Showing the actual issues that were faced by milk banks. We had written testimonies by over 35 different authors, and from that were able to identify key themes. But we also use that opportunity, a wonderful student of mine was able to help collate the birth rates, the preterm rates across the globe by continent and then look at the capacity of donor milk services. This is a very rough, not so much back of the envelope, but certainly a rough estimate. But it was showed that donor milk services reach just over 800,000 infants globally, but that's clearly an enormous shortfall of the number of very vulnerable babies. And this is nothing compared to the wider service that donor milk banks could provide if given more investment and more infrastructure capacity. So finally, what research opportunities will, having a global alliance of milk banks, facilitate in the future? And really, I've already covered on the next slide the importance of having a strong milk bank response, being able to produce a

world day of human milk donation campaign within two weeks really shows what technology and really the impetus from the enthusiasm from everybody in that group to come together. So the first project we're working on this minute is looking at mapping out the rise of human milk for profit. Services, commercialization of human milk, which although has its place in certain circumstances, risks the exploitation of mothers and the shortfall of nonprofit human milk bank services for vulnerable babies. And we all firmly believe that not only should milk banking should be part of optimal lactation services within a country setting, it should be at the point of greatest need and prioritized rather than who can afford to pay for it. As Kimberly and Kirstien have already outlined, there needs to be a set of minimum global standards so that at least services can be running safely efficiently, but always in the context of understanding the local settings and what's appropriate and it may be that certain technological developments with expensive machinery, greater microbiological testing isn't actually necessary in all settings. And then finally the environmental impact published in the BMJ, really an overview of the available literature looking at the impact of suboptimal infant feeding, suboptimal breastfeeding support across the world, and its really feeding into this entire impetus at the moment to ensure that everything we do can be as environmentally friendly as possible and they had a group of students in just, final point, last year who mapped out in precise detail the carbon footprint. Next slide complete, there we go.

Our work at Hearts showing that nearly 70% of our carbon footprint comes from transportation. And we've already jumped on that stool, we'll be adopting electric vehicles from next year, and who knows drone technology or whatever in the future. And this is something that other milk banks are looking into and would be fantastic to be able to facilitate a community of practice that enables these ideas and these innovations to ripple out. So thank you. That's me.

Kimberly Mansen

Thank you so much Natalie and just a call out to this group, especially for how many researchers we have on the call, Natalie's been a treasure to the milk bank community just bringing in her strong research hat and we welcome further collaboration from those that are interested on the research side.

So now we're going to move on over to India across the world. Dr. Sushma Nangia and thank you so much for joining us. She comes from Lady Harding Medical College in New Delhi in India, and she leads the department of neonatology and is the Director Professor and Head. Also strong researcher and some very interesting early preterm nutrition results coming from her work. So Dr Nangia, and just to call out, my apologies for the remaining three speakers, we really do need to keep it as close to five minutes as possible to leave just a few minutes for questions. Thanks.

Dr. Sushma Nangia

Good evening from India and thank you for this opportunity to be amongst all of you and speak on the COVID-19 pandemic country experience. So, let me just begin by saying that I come from India with a birth cohort of 26 million babies and just about 80 milk banks, which have started in the last, let's say five years maybe seven years, but certainly not before a decade. So it's only the last decade that we have had the milk banks come in. And in India, the other thing is that we do not call them milk banks. For some reason, they give the connotation that it's a bank where you can deposit something and you can retrieve something, so they are called as Comprehensive Lactation Management Centers. So they are basically there to manage the lactation. And the third thing is that we differ from the rest of the world in terms of the milk banks that we have. These are all facility-based or hospital-based, and we have mothers donating who are at the hospital, when they deliver their babies or when their preemies are admitted in the NICUs, we do not have any home collection as of now. So with that, the next slide, please.

Okay, the big question was how do you ensure safety and quality of donor human milk bank? So in our country because some of the hospitals were turned into complete COVID hospitals during the last year, so majority of the milk banks that were situated in these hospitals closed down completely. And few of them, like ours which remained, open have shown shortage in the collection of milk bank. And unfortunately, even though we had perinatal guidelines for COVID but there were no COVID-19 guidelines for donor human milk banks in India. So next slide, please.

So this is in Hindi, my apologies for that, but that's from the newspaper that a milk bank in western part of India was collecting 20 liters per week, which came down to 5 liters per week. So that was the kind of impact for those which remained open as I said earlier. Some of them had to close down. Next, please. So the next slide, please.

So the changes, adaptations that we did were in terms of counseling, so our counselors were in full PPE when they were counseling. For expression we used, next one please, for expression we used plastic containers rather than, the next slide please, plastic containers as you can see rather than the steel containers that we were using earlier because these were one time use and throw because of the COVID related fear amongst our health workers. Next slide, please.

And as regards to cleaning, we have somebody called as hygiene helpers who are there with Abel Dolan on complete PP to carry mother's blood work to the microbiology department. And so also when they are clearing the lactasets as you can see with a big box, so we have to provide protection for them and they were all in appropriate protective gears that were provided to them, next please. We can leave this next one. The next slide.

Yeah, so you can see the trend in donation and this is completely different from what the rest of the world has shown an experienced. So you can see in yellow the bars each month for the amount of milk that was collected at our milk bank, and in the brick pillar during the COVID pandemic, in the thick of the pandemic, and slowly we are now resurrecting that, and we are getting to more donation and more collection that is happening. The next slide, please.

So what's needed going forward is that we need more inter-collaboration between the NICU and the CLMC's which are there so that we have established some of these using WhatsApp so that the NICU nurses can call up the CLMC and they can ask for the milk and they can also send some of the mothers there who are COVID negative or who've been tested but their results are pending. And finally, what we really look forward to is some research and operational funding for doing research related to COVID-19 and the breast milk that is produced in a mother who's positive, visibly a mother whose negative, or a mother who's been tested as positive, but she subsequently become negative. So research and operational funding related to COVID-19 is what is the future that needs to be looked at. Otherwise, we have lots of samples but we have no way to go ahead and assess them. I think that's all from my side from India. I know it's very different from the rest of the world and we've really gone down in terms of the donations with the COVID-19 mothers.

Kimberly Mansen

Dr. Nangia, thank you so much for that. And especially I think it very much has relations to other countries that have experienced on similar donations. So we're getting a trend that it looks very different around the world right now for operations and it'll be interesting to see how that continues especially with vaccines coming out. So anyone with questions, please leave them in the chat and we will move on going south, very far south down to South Africa, inviting Jenny Wright. She's the director or the CEO of Milk Matters, a human milk bank in Cape Town, South Africa, one of the first milk banks that South Africa had, and sharing her experience that she has adapted to COVID, and joined that virtual network as well that Gillian spoke of. So Jenny.

Jenny Wright

Thank you very much. And hello to everybody around the world. South Africa was a bit behind many other countries when COVID hit our shores. So it was in the first week of March that the first case in South Africa came and we had the advantage of having seen what happened in other countries, and so knowing a little bit more at that stage about what might be coming our way. But obviously we had no idea that this would be the situation we'd be in nearly a year later. The initial questions we had were all about safety. And as you all know it was a new virus, there was no information. Nobody could answer those questions. And what we needed to do was look at the coronavirus as if it were similar and try and see from the what the likelihood was of the impact of this virus until such time as there was information about the COVID-19 virus itself. And so we were very relieved when the data started coming out. To show that yes indeed, pasteurization did destroy COVID-19 if it did get into the milk, but that it was also not actually transmitted in breast milk. So that was fantastic and I must say the GAMBA was a wonderful resource. I was part of that from early on and it really has been a fantastic way of sharing concerns, questions, practice of this topic came out very quickly and I think it was really overwhelming for a lot of us. Trying to adapt and trying to keep up and this really was very useful. So I'm very happy that it's going to continue. Once we read that the milk itself was going to be safe and we didn't need to worry about that, the next question was regarding the safety of our staff and of our donors. In terms of the donors really we didn't need to make that many changes because we will, first of all real nonprofit bank and supply to state and private hospitals independently with or without a hospital facility, so we supply to all of them and so in terms of getting the donations from the mothers, it actually wasn't as much of a problem as we had expected. We were put into very stringent lockdown very quickly and not anybody was out and about, but we were allowed to go to get medical help and to buy food. Luckily we have a depot system, so mothers dropped off their donations at the depots and they collect containers once they have been screened and registered. And the most of our mothers were thankfully very willing to do that. And our depots are based in pharmacies, baby clinics, and doctors rooms on the whole so they were allowed to go there. So once we get all over, you know, getting the right permits and things they were actually willing to do that and for the mothers that were too scared to do that or to scared to go to the labs, we managed to make a plan so really we didn't have too much of an issue about that and we didn't see the fear that other countries had of hospitals being worried about using our milk. That was never an issue in South Africa, and there was debate as you heard internationally as well as here over the transmission potentially from the outside of the containers. And the largest microbiologists and pediatricians were worried about the safety of our staff in those early days when we actually didn't know how long is it on the container and all of those sorts of things. So maybe milk banks around the world were quoting the milk for 14 days before they used it for the safety of their staff and, but we didn't have the luxury of doing that because we don't have enough milk to be able to do that and maintain the supply. So if we did that there would be an interruption to supply and these babies are under normal because they don't have access to enough or any of their own mother's milk. So it would mean formula and I think everybody here knows the risks that that brings to the very tiny premature babies that other baby these the receive more from a milk bank. So that really wasn't an option. And so we did the next best thing, which was that it was decided that we needed to decontaminate the outside of containers, which has been done very carefully. So there's absolutely no way that the milk can be infected. So that is still in place and really whether it's necessarily or not is up for debate. You always assume the outside of a container is potentially contaminated so everything in the milk bank is good that in any case that we appreciate it if everybody worried about our safety. So that was really the biggest shift. We also couldn't use volunteers because there were elderly so our workload went up. But that really was the biggest in terms of system changes. We did see differences within the supply and demand and yes, we did see an increase in donations, but not to the extent, I look with envy at that video photo, but we did see an increase but it doesn't mean that we're not struggling. We had our first wave in July or August of the

massive infections. And again in December January the 2nd wave. In the first wave, we had a huge increase in the need for milk. Our increases had gone up in the two sessions sort of between about 33 and 38 percent increase in use which for a milk bank size and with amount of milk coming in is significant and our supply has gone up but certainly in the second one not enough. In the first wave we were getting the stashes for moms who are now not allowed to work or working from home and that got us through, it really did get us through. In the second wave that is not the case. The mothers are either back at work or they are still working from home or they're not working and so there isn't that cushion of the stashes and we are under pressure and other milk banks in the country are also struggling now with that, also because mothers now seem to be more affected in the second wave than they were in the first. So that's impacting the supply as well. In terms of the demand both times, it's gone up hugely, but there has been a difference. Always in South Africa, we have a problem that they're not enough beds for the mothers to stay in the hospital with their baby. Many of them live far away. They can't come and visit easily, many of them can't afford to come and visit easily. This was exacerbated terribly in COVID because first of all the number of beds available with decreased because you needed to limit the number of beds in a particular room. Second of all, the economic impact of our extended lockdown was catastrophic and so mother's couldn't afford to come in or if they were isolating, partner's family didn't necessarily come in. So in most cases the tiny babies needed to have donor milk. In that stage, we saw that moms were having to isolate but it wasn't that there were so desperately ill, it was that they couldn't be in a neonatal unit with other mothers and babies, and so they needed to be at home. So that was the reason in the first wave that we were mainly seeing this increase in demand, but was COVID related. What we are seeing in the second wave, it's very much more a case of, obviously those other issues are still there, but now we are getting a lot more cases where the mother is direfully ill. She's in the ICU, ventilated, died. So that is the situation now that is driving the increased demand for milk, because of COVID and it is quite difficult to manage because every hospital would phone wanting milk feels that a baby whose mother is ventilated or died and automatically it qualifies for milk and we would love that to be true. But unfortunately, we just don't have enough milk. So even though you've got more people committed than before the demand is even more. So for example, one day we gave out 86 percent more milk than we had pasteurized in that day. So you can see the concern going forward, our questions are ... last point... so it's around COVID positive mothers. When can we accept their milk? How vaccinations affect us? Will there be funding because money is being thrown into relief for COVID-19 and just managing the supply so we will feed babies as long as we can but the challenges are there.

Kimberly Mansen

Great. Thank you so much for coming and I especially appreciated the stories of the changes that are happening and who's demanding the milk. I think we haven't heard the use side as much that that is very, very helpful. So, I will quickly hand it over to our last speaker. Dr. Aleksandra Wesolowska, a researcher and a co-founder and president of the human will fate foundation in Poland. She leads a group of milk and lactation research in Poland as well. And so, it's all very interconnected. So, please take it over Aleksandra.

Aleksandra Wesolowska

Thank you. Thank you, Kim. And I'm very happy to be here and very good to share my experience from Poland. In Poland recommendation for perinatal care has been changed three times from the beginning of the pandemic. End March the recommendation was very heavy and mothers, in fact with (...) was separated from baby and milk was discarded as a potential biohazard. It's a pity but Poland as one of the European countries was formed to Chinese protocols without an adapt and hesitation. So we have to act and hopefully their recommendation of relaxing a little bit in a May 2002, but finally in the summer

Poland adopted the WHO recommendation to milk banking and breastfeeding. But to be honest, the recommendation was very poorly implemented and very few hospitals have asked for donor milk from local milk bank and most of their newborn was supplemented by formula. So we decided to monitoring those who are in tendency to research project. And next slide, please.

In my country to coming back to balance in perinatal care after COVID pandemic will be possible because of two main forces: one is the research providing convincing results to take clinical decision on evidence-based medicine and second is the self-awareness of the parents and it was very significant when mothers of premature babies were on strike against separation a few months ago. And finally the great success has been achieved because parents of premature baby, especially breastfeeding mothers are included in the priority of anti COVID vaccine in Poland. But still because of the lack of regulation of human milk in Poland the milk bank system is inefficient and about half of 16 units were closed for some time during COVID-19 pandemic and less than 10% of children suffer from COVID-19 receive donor milk. So we decided to self monitoring our activities to human milk bank network, but the result is not very optimistic. I regret to say that milk bank is really in crisis in Poland. And the next step, the milk bank is a victim of COVID-19 as well. And it has been too deeply diagnosis and cure because it is the next step in our activity in Poland. Thank you so much for your attention. And thank you.

Kimberly Mansen

Thank you Aleksandra much appreciated for keeping that short, just so that we can wrap up well, and so just to stop sharing and to get out you'll see Kirstien wrote in the chat "We would love to answer further questions beyond but we'll have time for today". And just much appreciated. We very much appreciate everyone that was willing to share the experience that they've gone through. We all, just to recognize everyone is living this pandemic, milk banks have needed to adapt into it as much as anyone else in any other service in this time and just recognizing the tremendous pressure and then also to ask them to come and share with us who are interested. So thank you for your just extensive time and willingness to share. And so I also want to end with, I very much appreciate the comments and questions early in the chat. This pandemic has only highlighted and further exacerbated that disparities, donor human milk, the access to it, the donation of it, has been... there's been a long trend of confusion for how we can get back to something that is more equitable, not just in the US where there's many messages, but globally and I think you heard some of those messages today. There are no regulations. There are no systems in place to ensure equity and this is absolutely an area that needs further investment and understanding. So we very much welcome your questions and we'll stay on for those that would like and the speakers that are able just for a moment if there's anyone that is able to speak up feel free to do so for the last question of the session.

And if there's no one I have a question because I am so interested in this, getting back to the use side. We heard a lot of the changes in donation. Maybe there's less donors, but there's more milk donated because moms are at home, or maybe there's less donations within the hospital but getting back to the actual use and this was, I know that Jenny you were able to present how that need has changed and there's greater demands and pressure on the milk bank from some systems. I was wondering Dr. Nangia, in India has the demand for use gone up, have you seen a decrease and then anyone else and that is wanting to talk through that. I'm very curious on the use side.

Dr. Sushma Nangia

Thank you, Kimberly. Yes, the demand for donor milk has gone up because the mothers are not there within the hospital system. So we were at one point of time towards the end of June, we were in a situation where the milk bank was going to run dry and we would not have anything to give to the

sickest of the babies in the NICU. But thereafter we started screening the mothers because the country didn't have any guidelines so we started on our own, if the mother did not, if the woman did not have any symptoms, she did not have any fever, she did not come from a zone where it was a containment zone where such families were staying, so we were freely allowing her for coming for donation because earlier on there was such a lot of scare that any woman who's until her RT-PCR was negative, we would not take any donation from her. And since the patients were dwindling, the numbers were going down, we have didn't have much milk and the demand was, I wouldn't say it increase, but proportionately it was more than what we had. So the babies in the NICU were there and there was demand, and we only use this milk for babies were less than 34 weeks and only for the first two weeks because we don't have those kind of stores. So not every baby, every sick baby receives it but certainly these preterm babies within the first weeks, we prioritize them to receive and now we are in a better situation. We do have more donors and there are some stocks which can take care of the NICUs of our hospital, the two NICUs that we have and a few satellite areas that we are helping out.

Kimberly Mansen

Thank you for sharing that, and Nathalie I saw a reaction and your screen as well. Anything else to pitch in there just on the data side?

Natalie Shenker

That was one of the most terrifying parts, was the demand from hospitals doubled in the first two months of the pandemic as they were trying to mitigate against transportation issues or just to make sure that they had enough in stock if they had to introduce more lockdown procedures in the hospital, but that leveled off and is now just increasing at its normal rate. Where we've seen (...) from our community program. We have 2 lactation consultants who work full-time in the milk bank and they're there to support mothers who can't breastfeed at all or they're using donor milk as a bridge to a full lactation and that's more than doubled over the course of the pandemic. As it seems that more healthcare professionals are aware of the service and so referring women but also women are seeing breast milk in a different way and I think there's been a strong communication network of advocates in the UK and beyond on the significance of human milk during the pandemic. The antibody content within that's been shown by research as globally and the importance of it generally so it's a mixed picture, but there's some good news in there.

Kimberly Mansen

Great, thank you. Thank you for sharing that and also Lindsey Graph. Thank you for writing in the chat that Canada actually, so North America in general, saw a decrease in demand early, and that now has leveled off so back to manage their...

Are there any last questions and anyone that needs to jump off feel free to do so, but if there's any last questions I would be glad to stay on. Kim please, please.

Kim Updegrove

I'll just make a comment to add to what Lindsay wrote in the chat box. The dropping off of milk used in the NICUs in the United States. Our milk bank serves about 165 hospitals. And so we surveyed them very superficially and as what the story was, and what they reported was that they were cutting back on

the use of donor human milk because of those fears of the unknown of whether or not it was safe. And so more babies in the, in NICU, despite being the most fragile babies, were placed on formula instead of donor human milk, because we faced the same problem that Sushma spoke to, and others that's, the mothers were limited in their ability to be in the NICU. They were less comfortable because they had to be one, only with their baby. And so they didn't have their partner or their parents to be with them. They came less often to see their children. So I think what that means is that in the coming year, we're going to look at outcome stats with the babies in the NICU, and I fear that we're going to see that they suffered from breastmilk substitutes.

Kimberly Mansen

It's really a helpful perspective. And I think ties back well to early on in the call, it was denounced, some of the recent articles that have come out of the impact of COVID and breastfeeding just in this last week. And I think seeing this as an entire ecosystem of understanding, if COVID is separating moms and babies or creating fear, if we're disrupting the support system for lactation, do we really want to see an increase in donor milk? No. So what are we doing collaboratively? With both NICU providers, with the breastfeeding support community, with getting information out there, for the prevention of overuse of donor milk and also getting back and ensuring our ultimate aim of supporting breastfeeding and moms to provide when they're able. So, well, thank you everyone. Oh, go ahead, Kirsten.

Kiersten Israel-Ballard

One final question. I know that we're over time, but if I had to ask, and maybe one of you can respond, you know, we're in the midst of a pandemic, but safety issues are an ongoing priority for milk banks and provision of human milk. What would you want to see changed now in terms of thinking about pandemic preparedness, what do you feel like if you had to summarize, what should have been done differently in thinking forward?

Natalie Shenker

Can I answer that? I think it was summarized in the Lancet piece, is that this has been a remarkable response by everyone on the call and everyone in the GAMBA group from 40 different countries, but it has literally been done on a WhatsApp group that was set up ad hoc. And what we really need to do is as a group, work out over the course of February and March, what the next steps are and take this forward to a more formalized, managed setting, with support from wherever the relevant funding or NGO structure would be. And we've got ideas about where that might come from, but the group needs to decide what the best way forward would be, and to develop a strong community of practice that really consolidates what we've learned from 2020, so that the next pandemic, we have the response, you know, very rapidly and very systematically. Everybody knows what their responsibility is, and it's not that rather overwhelming sense of panic, which I think many of us felt in the first couple of months.

Kimberly Mansen

Aleksandra, I think you've shared many perspectives I know in the GAMBA group. Specifically related to the need for further guidance, anything specifically about the COVID vaccine coming up in Poland, where it just exemplifies this need for further messaging awareness, research from other bodies other than just a WhatsApp group?

Aleksandra Wesolowska

Yeah. If can I add one more very quick point, I'm very happy that in Poland, the mothers of preterm was prioritized as a zero group for vaccine. But the problem is that the mother faced very difficult decisions, to get the vaccine or to continue breastfeeding. And this is something that, that have me, you know, I recognize how far we are in Poland unfortunately, but I think that maybe it is a problem in other countries as well with the priority to breastfeeding and to donor milk in the next level. And in the end the far more, and the problem is that we have to, we need to train the mother and the healthcare providers that breastfeeding is not an option. It is the best option. Fortunately we could introduce the recommendation that vaccination is not against breastfeeding. That is not the opposite, but it was really difficult at the beginning. Thank you.

Kimberly Mansen

Thank you. Well, any last words before we close up the session?

Natalie Shenker

I just say (...) but just one thing on Aleksandra's point about the vaccine, is having sat in on the meetings with MHR after the UK decision, initially not to indicate the vaccine in breastfeeding women, there is still a perception in the UK and probably globally that actually, it doesn't matter that why would you need the vaccine to go back to work if your baby's over six months or whatever, or if it's three months, you have formula, then it's more important to have the vaccine. And without the education of regulators, doctors, particularly in our country, and that's like a side project which we're all desperately working on, but if there was any support for that from people on the call, then it would be really wonderful to hear.

Kimberly Mansen

It fits quite well with next month's session. And everyone is welcome to join in on that. Whether you're a part or not so please, Victoria Andrews on the line can also coordinate invitation to that if you have not yet received it. But absolutely I think all of these questions, whether it's about breastfeeding donation of milk, use of donor milk, anything milk related as Shelley's called out in the chat, it's, it's all very, co-related right? We're feeling the same pressures around whether it's mom for her own baby or for milk, for use and other babies. And thank you, Rob, for your chat as well on the conflicts of interests. We did not have time to get into that today, but that very much relates to some of, even just down to the level of some of the commercialization activities of human milk, not even always formula, but that has definitely come up and been a conflict for the milk banking world as well. So thank you so much to everyone that is on this call. Victoria, can I ask for your help to save the chat and send it out to those on this call. And I can share it with the speakers as well, if that's okay. Just to make sure we get the questions answered that were not answered during the call.

Victoria Andrews

Yes, we will share the questions with you and then the recording of the session and the chat will be posted on the USAID Advancing Nutrition website.

Kimberly Mansen

Wonderful. Well, thank you again to everyone that was able to stay for a much longer time than the session normally runs. And a last and final, thank you to all of our speakers, willing to prepare and come and present. So all the best to you at the end of this week. And we'll see you all.

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