Great that we’re able to connect people from so many places today, and we’ve had a lot of success with that in the webinars in the past. But, your experience as an individual may vary, based on your internet connection, and your computer equipment. So, we have a few troubleshooting steps that we’ll go over quickly, if you have technology challenges today. And then, if those continue, as I said, please do go ahead and put a question in the chat box. So, the troubleshooting slide is gonna come up next. So, one tip is, if you lose connectivity, or you can’t hear, go ahead and close the webinar. Re-enter the meeting room in a browser other than Google Chrome, by clicking on the webinar link provided.

Some people have had success with Google Chrome, but we’ve found that overall, it’s easier to use another browser, such as Firefox, or Explorer. As I mentioned, you can use the Q&A box to ask for technical support, and the support staff will try and respond to you. If, in the worst-case scenario, the troubleshooting steps that you take aren’t successful, and you’re not able to join the webinar again, the webinar is being recorded, and the slides will be posted on the A3 website, after the session. For those of you who’ve registered, you’ll receive an email with a link to the recording, after today’s event. If you have any questions, you can also send an email to that email address there, info@aidsfree.org.

In addition, the questions that don’t get answered during our Q&A session will be compiled after the webinar, and shared with the presenters. They’ll submit their responses, and we’ll post those responses on the AIDS Free website, along with the recording, and the slides. So, to get us started now, I’m going to turn it over to our moderator for today, who’s Alex Brazo.

Thank you so much, Sabrina, good morning, good afternoon, and good evening, everyone. I’d like to welcome and thank you for joining us today. My name is Alex Brazo, and I’m here with my colleague, David Sullivan. We are PMTCT and Pediatric Technical Advisors in the office of HIV/AIDS at USAID in Washington. And, together, we’ll present a brief introduction to set the stage on today’s country presentations. So, today’s webinar is the fourth in our series to compliment the AIDS previral load, and early infant diagnosis knowledge base. Which is a collection of resources on global guidance, country experiences, laboratory management, logistics, clinical implementation, and monitoring and evaluation, intended to support the scale up of viral load and EID programs.

The slides and recordings from the previous three webinars, which have highlighted country best practices, are also available at the
links below, listed one through three on the bottom of the slide, there. And, the slides and recordings from today’s webinar will also be shared by AIDS Free. So, for today’s presentation, we’re very excited to host colleagues from South Africa, Lesotho and Cameroon, who will be discussing best practices for improving early infant diagnosis.

We first up have a presentation from Wits Reproductive Health Institute in South Africa, on data-driven strategies to improve early infant diagnosis, and linkage to care. Our second presentation will be from the Enova team in South Africa, on EID in Mopani District, Limpopo South Africa, improving linkage to care through mother and baby tracking tools. Our third presentation will be from colleagues at EGPATH Lesotho, presenting on efforts to optimize early infant HIV diagnosis, and ART initiation for HIV-exposed infants, in Lesotho. And, our fourth presentation, to wrap us up, will be from colleagues in ICAP Cameroon, on an early infant diagnosis quality improvement collaborative.

So, to set the stage today, we wanted to highlight some global progress that’s been made, in preventing vertical transmission of HIV, and the need for continued focus on early infant diagnosis. So, you can see, on the title of the slide there, that you could say that for HIV-positive women and their infants, enrolled in PMTCT programs, that a good beginning truly does make a good ending. The achievements of the PMTCT programming, in terms of positive benefits to maternal and child health in the global sphere, have overwhelmingly been positive, and much praise is owed to those who have taken part in that work. The recent information from UNAIDS demonstrates, really, the impact of PMTCT on the changing pediatric HIV epidemic. The graph on the top right, there, the small graph, shows the precipitous decline in under-15 mortality from AIDS, since 2002.

And, the graph on the left shows some of the impact that PMTCT has had on the decline in new child infections, shown in green, since 2002. And, the dramatic increase in the number of infections averted due to PMTCT, in that same time period. So, these successes, shown on the previous slide, many of them can be attributed to rapid scale up of PMTCT programming, and expansion of Option B-Plus programs, globally. However, despite this increasing coverage of HIV-positive pregnant and breastfeeding women, who received anti-retrovirals in PMTCT programs, which is shown on the small graph on the right, PMTCT programs do continue to struggle with timely diagnosis, and ART initiation for HIV infected infants.
On the left-hand side, you can see that HIV-exposed infants are not reaping the same benefits from the PMTCT cascade as their mothers. This bar chart shows data from the 21 global planned priority countries, but I know it’s a little bit small here, and the data is from – the most recent data is from 2016. But, this indicates that just under 50 percent of HIV exposed infants received virological tests by 2 months of age. And, you can see by the graph that this number, instead of increasing, has rather stalled, in the last few years. David, over to you. Do we have David on the line, or did we lose him?

Sabrina: I see that he’s still connected, and it looks like he’s speaking, but we cannot hear you, David. Nope, we can’t hear you, David.

Alex: Okay, no problem. I can continue to present the slide, until we get David back. David, we hope you’ll be able to join us. So, on the slide, you can see the WHO EID algorithm, and WHO recommends that infants exposed to HIV be tested at the first postnatal visit, usually when they reach four to six weeks of age, or at the earliest opportunity thereafter. And, that those who are infected start treatment immediately. We all know that infants infected in utero, or during labor and delivery have a poor prognosis, compared to those infected during breastfeeding, and they require urgent ART, to prevent early mortality.

However, identifying those infants using the common antibody HIV test is a challenge, due to the presence of maternal HIV antibodies, which can persist for as long as 18 months in a child’s bloodstream. So, HIV infection can only be definitively confirmed in those infants using a virologic test, which we refer to as Early Infant Diagnostic Test. So, in this algorithm, it details that the EID test can be performed on dried blood spots, or DBS specimens, which are collected at service delivery sites, and then transported and tested in large, centralized labs. Unfortunately, this process often leads to long waiting periods before the results are returned to the facility, and caregiver, leading to high rates of loss of follow up, delayed initiation of ART, or even failure to start on treatment at all, and some of the presentations later today will highlight some solutions to overcome some of these barriers, to care for HIV exposed infants.

I also wanted to highlight, on this slide, that there are, as many of us are aware, new innovative point of care virologic tests, several of which are now WHO pre-qualified, which have the potential to decentralize testing, and therefore reduce the time taken for results
to be available. On the right-hand side, there’s a hotlink to a WHO information note, on novel point.

Sabrina: You have? Yeah, I heard him too, but I don’t think you can cut in.

Alex: So, it sounds like we have David back on the line. So, David, I’ll hand back over to you for the next two slides. Thanks so much.

David: Yeah. Apologies everyone, it worked this morning at 7:30, when I first tried it. So, I have the pleasure of your company for three more slides, and then for the rest of the webinar. The slide here is commenting on the challenges that Alex delineated, in that important, if kind of crazy-disorienting roadmap of PMTCT, for those exposed infants. And, the data here are talking about how there has been demonstrable success in the early EID rates, just postpartum, but longer after that six-week test, it appears that children are getting infected during that period. Which, I realize the telephonic room is in tune with. The breastfeeding mom who passes it to her infant, after successfully giving birth. So, we look forward to colleagues today going forward, and telling us more about it. Next slide, please?

So, the – I won’t steal the thunder of those who are coming after me, but we’re going to hear from presenters, for example, from our colleagues in Cameroon, identifying and acting to improve sites where turnaround time and testing coverage were sub-optimal. Our colleagues from Lesotho are gonna talk about prompt testing turnaround time, and initiation of ART, as well as using community organizations to assist in follow up. South African colleagues will discuss EMR and critical hospital staff, utilized to facilitate linkage, and improving the continuity of care, in South Africa, for those exposed mothers. Next slide, please?

The challenges are many, in seeing the mom through to the end of all the obstacles in the PMTCT course, as we say. These can include a long turnaround time, as mentioned, poor integration of services, perhaps transport difficulties, equipment failure, maybe reagent stockouts, feelings of alienation, or not feeling welcome at clinics, for these infected moms, and their exposed, we’ll say, babies? Provider comfort in treating these children. There’s a wide range, and I recognize the expertise of everyone here, and know that it’s a privilege to work on this stuff with you, and to talk about it all today. And, important for us is to help those people get over each hurdle. Those who stumble, like the woman on the far left there, who’s fallen over the hurdle, help her get back in the race.
And, critically, for those infants who need ART, to get them on it, and this colorful graphic also demonstrates various aspects of this critical cascade. So, my final slide here takes us back to where we started. We are grateful for your attention, your participation today, and most importantly, your good work on behalf of these women, and their vulnerable infants. I will now hand over to Dr. Fick, from Vet’s Reproductive Health and HIV Institute, he’s going to talk on data-driven strategies to improve EID, and linkage to care in South Africa. Thank you very much.

Candace: Hello everyone, and thank you for the introduction. And, thanks to the organizers for the opportunity to present today. My name is Candace Fick, I’m here representing the Wits Reproductive Health and HIV Institute, as well as the pediatric adolescent [inaudible] plan, which is a multi-partner collaboration, in the city of Johannesburg, and they’re focused on pediatric and adolescent HIV specifically. And, I’m going to talk about some of the data-driven strategies that have been implemented in these programs, to improve EID.

Some of the interventions that I’m going to cover, the first is going to be about tracing and linking children to care, using the priority replaced results report. And then, some facility-based interventions, that can be used to support good turnover results, and of course, actions, for children needing treatment. First of all, we’ll talk about utilizing National Health laboratory services PCR results for action reports. And, what are these? So, in South Africa, the National Health Laboratory Service generates a weekly report, [inaudible] they send it out on a Monday morning, and they send a list of all the PCR results, for tests that have been done in the previous week.

So, it summarizes patient level results, and it is available at multiple levels, from national, all the way down to the facility level. And, what this really is is an opportunity for us to support recall of these results, and offer a course of action at the facility level. As well as a useful way to monitor, in terms of our testing progress, and in terms of results. And, this is something which has been pioneered by the lab, and Dr. Christy Sherman. The opportunities that we have, as I’ve alluded to, are hypothesis and indeterminate PCR results, as well as some missed diagnostic opportunities, which are usually due to clinical errors, and sometimes laboratory errors will be easily flagged, and those children can be traced, and then linked back to care, or to repeat testing, as required.

What it also allows us to do is to compare the results list to
care.net, which is the electronic ART register that we are using in South Africa. And then, what it also allows us to do is to check our results list, check our treatment list, and to see which children still need to be linked to care. One of the interventions that I’m going to describe for you now is the linkage mechanism that we have implemented, by computing this data, to identify children that need to be traced, and linked back into care. One of the key things that we have done is, we’ve developed an organized standardized operating procedure, for tracing children from these lists, and linking them back to facilities.

The list is received on a Monday. It’s emailed out every week, if you’ve registered on the Health Laboratory Services website, and then this list will be sent to clinical project managers, who are in charge of a plethora of responsibilities. And also, can be handed over to facility managers at the facilities. All of the patients will then be searched in the care.net, ART register, and a list of those that have not yet initiated on treatment will be generated. And this we hand over to tracing teams. We first do telephonic tracing, usually what we would do is three telephonic tracing attempts, this is done within one week. They would call three times within the week, on different days, at different times.

Hoping that they would be able to contact a caregiver for the child, and ask them to come back into care. Our outcomes by the end of the quarter are on a tracing tool, so that we can check our processes, and our progress, in terms of how well we’re doing with our tracing intervention. Obviously, there are some challenges, and these are linked to patients not being found in telephonic tracing. Those who are not found in telephonic tracing are then referred to the WBOT, ward-based outreach team. And they are able to do community-based checking, and they would then go to patients’ homes, and try to find them in the community, so that they can be linked back into care.

Once patients are linked back into care, or what they’ve been booked for, for a follow up visit, we would then verify, after about a week, that they have actually been initiated long treatment by again, checking our ART register, to see if the child has been linked into care, and started appropriately on treatment. Here are some of the results of the tracing activities that we have implemented in the Johannesburg health district. The line graphs that you see are really just absolute numbers. If I can direct your attention to the points that are highlighted in green, those are our linkages, from July last year, until September 2017,
72 percent on the mean. Although, of course, we would still like to increase and maximize our linkage, to 90 percent, according to targets, but really to 100 percent for these young children.

Because we know they have a very high mortality, if not started on treatment as soon as possible. So, how do we close the gap? Gaps have been identified in our intervention implementation, due to the fact that patient contact information is often not well captured. It’s not usually captured on lab forms, our clinicians rely on clinic files, and patient records. But, with a highly mobile population, and with patients having had their files for any number of years, these can be inaccurate, they can be outdated. And, patients do move around, so that information does need to be regularly updated. One of the solutions that’s being implemented by the Provincial Department of Health.

Unique identifiers for babies, to be introduced from the 1st of January, or has been introduced from the first of January, 2018. And, those are attached at the health office, for our Child Health Records. So that any child accessing key in the facility has a unique identifier already, and that results can easily be traced through multiple facilities. The other thing that we’ve worked on is improving capturing and checking of contact information, at the time when the test is done. Another intervention that is being implemented in the city of Johannesburg, central coordination at the systems level. And, in the past program, there has been a person appointed to the department of health, to support and facilitate tracing and follow up of these reports.

So that we can ensure that they are being dealt with, because as I’m sure you can imagine, with a report every week, if there’s no one to pay attention to them, it can very quickly become a heavy burden for program staff. Cross-facility linkage. So, the [inaudible] units, or the maternity, obstetric units, often we’ve found that children tested there, and then they are referred to other facilities, the results may not be followed up at those facilities, and I’m going to describe a facility-based intervention, next. So, the second component is really hospital-based champions, and those are right there.

So, one of the challenges that we’ve identified at the hospital, high levels of missed diagnostic opportunities, and, as I’ve just described, poor linkage of results across facilities. The intervention that has been implemented, are the EID nurses – that’s what they call them or EID champions. And, this intervention, in order to
decide what needs to be done, conduct a baseline assessment, identify gaps in our hospital, [inaudible] [00:21:25] interviews, document reviews, and in training hospital staff on our local PMTCT guidelines, and on dried blood spot collection.

Because one of the problems that has resulted in missed diagnostic opportunities are that whole blood was still being collected at hospital, which meant that doctors needed to draw the blood from babies, and it led to a number of professional blockages. [Inaudible] were developed and implemented to support this, and contact details verified on the spot for caregivers, so a cellphone number that was being recorded would be dialed immediately, to see if the phone rings, and they’ve got the right number written down. And then, of course, follow up of these results, and linking these children to care, for the missed diagnostic opportunities, and [inaudible]

So, these are the results that we’ve had with the city of Johannesburg, and as you can see, there has been a marked increase in linkage to care of these children, who are tested at hospitals, and subsequently sent home, and needing to initiate treatment. In the northwest province, which is a slightly different environment to the city of Johannesburg, which is very dense, urban, and highly populated, the integrations were also implemented. And, although you can see, in some of our smaller hospitals, we’ve had a reduction in missed diagnostic opportunities, we have an initial reduction in the bigger hospitals, with them slightly creeping up again. And, one of the challenges that we might find in bigger hospitals, staff rotations.

Clearly, if it’s an academic hospital, where students might be working and performing some of these tasks, then ongoing, cyclical assistance and retraining becomes very important. Also, in the northwest province, similar to the Johannesburg slide, showing the linkage to care. The results here are much smaller, because the northwest is a little bit less densely populated than in Johannesburg. But, you see that you can still achieve good linkage rates, although [inaudible] I must add the caveat for December, where the tracing’s still ongoing. But, I’m reasonably sure that within the next week or so, we will have found the missing babies.

So, what are the next steps, and what can still be done to strengthen EID tracing, and linkage even more in the city of Johannesburg, and then, across other areas in South Africa. From our side, [inaudible] a unique identifier. A unique identifier which really will facilitate linkage across multiple facilities. Because, for
our program, and in our concept, first tests are often done in the delivery unit, and those tests, it’s very important for them to follow up, even though women are often discharged shortly after delivery, and will follow up at other facilities, to make it easy and accessible to identify those children that need to be linked to care, and to treatment.

Also, expansion of the hospital-based EID nurse intervention. In very large hospital units, such as in the Beragwanda hospital, where hundreds of babies are born every day, our partners working in the hospital have found it necessary to implement daily reports, to make sure that they track these babies, and link them to treatment as soon as possible. Not just hospitals, but also thinking about other facilities. So, we have been identifying EID champions, in other large facilities, in Johannesburg, and that is already in progress, and we hope to see good results from that. Obviously always important is stakeholder engagement, and implementing quality improvement processes, so that we can help to build in sustainable change and ownership within the programs. And then, of course, documenting success, and failing, across multiple regions, supports or otherwise. Thank you for your time and your attention, everybody.

I would like to acknowledge colleagues who have been with us in our project, across the multiple partners in the Johannesburg Health District, and colleagues in [inaudible] [00:25:42] in particular the hospital strategy team, who has been crucial to implementing these interventions. And, to thank them also, for the great work that they are doing in supporting EID. Thank you very much. I will now hand over back to our moderator, Alex Brazo.

Alex: Thank you, so much, Candace, for that excellent presentation. I want to just remind all participants to please continue adding your questions for Candace in the Q&A box, for our discussion session, which will be at the end of the webinar, today. The next presentation is from Dr. Lucy Renocho, of Enova Health, who will discuss the use of a mother-baby pair tracking tool, in South Africa. Lucy, over to you.

Sabrina: Lucy, just checking that you are there, we can’t yet hear you. Okay, looks like we might be having a few technical difficulties, getting Lucy online. We know she’s in the presentation window, but we cannot yet hear her. Lucy, let’s just do a final check, to see if you are still on mute. Okay, shall we go ahead and move over to Dr. Ester Tomari’s presentation, from Lesotho? And, let’s see if we can get Ester, as well, on the line. Just make sure, if you are a
presenter, that you go ahead and unmute your mic. And, Ester, it looks like you’re unmuted. But, we can’t yet hear you. Oh, I think we can hear you, Ester.

Okay, do we either have Ester or Lucy on the line? Okay, well I think –

Lucy: Hello?

Sabrina: Oh, and who is that? We can hear you –

Lucy: Can you hear me now? This is Lucy.

Sabrina: Oh, hi, Lucy, wonderful. We’re so glad to see you back.

Lucy: This is Lucy from Enova.

Sabrina: Wonderful. Well, thank you all for bearing with us. I think this highlights the amazing possibilities of webinar technology, that we are all able to bring colleagues together, but it also highlights some of the challenges in getting everyone connected. So, thank you all for bearing with us, and let’s turn back over to Lucy Renocho, from Enova. Thanks, Lucy.

Lucy: Good morning, good afternoon, good evening everyone. I am Lucy Renocho, I am the Limpopo Provincial Program Manager from Enova Health Institute. Enova has been supporting Mopani in various programs, since 2004, but with intensified PMTCT support for about thirteen years now. Currently, our PCR positivity rate is less than 2 percent. During the maternal and mortality reviews in Mopani, it was found that approximately 40 percent of the maternal mortality was due to HIV related factors. One of the reasons was challenges around the follow up of HIV pregnant women, from the time of booking to delivery. When the rationalization of registers was introduced in South Africa, most of the registers, including the ANC register, were replaced by the daily PATC register. This made it very difficult to follow up a cohort of patients, tracking them from booking to delivery, as well as linking the HIV exposed babies to their mothers.

The mother mentor program was introduced, but because of the hierarchy within the clinics, there was a disconnect between the mother mentor program, and professional nurses managing the HIV pregnant women. Initially, cure.net was used, but there were challenges, as it could not identify women that tested positive while pregnant. Those were the only women that could be
identified. The ones that fell pregnant while on ART, we could not identify them on ART. So, as per requests from the district clinical specialist team, Enova worked with the team, to find a way to effectively monitor the management of HIV pregnant women, and link the exposed babies to the mothers.

The aim was to develop a simple tracking tool, that will track the mother and baby pair, from first ANC visit to 18 months of HIV testing. It was also to simply PMTCT tracking, at PHC level. It also allows easily monitoring all the clinical progress of the mother, allows linkage to care of all HIV-positive babies, and it also allows the managers to easily monitor the program. The next coming slides, three slides, show how the tracking tool looks like. The picture on your left shows the outer cover of the tracking tool. The inside of the outer cover shows the guide on how to complete the tracking tool. Each page on the left side of each page shows the mother’s details, and on the right side, shows the baby’s details. It covers – with the mother’s details, it covers all the details, for us to be able to trace the mother, including the caregiver, in case the mother is not there.

It covers linkage of mum to ART program, it also documents the gestation, at the time of booking. It shows IPP prophylaxis collection, up until completion of IPP prophylaxis. It also shows ART collection schedules of the mum, it shows a viral load monitoring schedule. The right side of each page is the baby’s section. It covers infant prophylaxis, including co-trimoxazole, at six weeks, which was difficult to monitor, because we didn’t have any register that would document co-trimoxazole at six weeks. It covers infant testing, from birth to 18 months. It allows linkage to care for all the HIV-positive babies. The outer cover of the tracking tool shows the viral load section, where you can be able to follow how to monitor the mom, the viral load schedule, according to South African guidelines.

The implementation of the tool started in June, 2017, in 105 PHC facilities. To evaluate the implementation, the plan was to do an assessment before and after the rollout of the tool. We attempted to collect baseline data, but it was virtually impossible, as we had to search through multiple records, in some instances those – some of those records were missing, so we could not get much from the baseline data. From the tracking tool, we evaluated the implementation from July, up until November, 2017. The data sources that we looked at, we used the District Health Information System, to get the number of HIV-positive pregnant women that were booked between July and November, 2017.
We used the HCT register to identify newly diagnosed HIV-positive pregnant women. We used the PHTCT register to identify known positive pregnant women, and we used the tracking tool, to compare the HIS, HCT register, the TIC register, with what’s documented in the PMTCT tracking tool. We also looked at the long retrieval tracking of mother and baby pairs. The key results, the slide that you’re looking at right now, on your left, it’s a bar graph. The grey graph shows all of the number of HIV-positive pregnant women that were recorded on DHIS. The dark blue shows 57 percent of those that were recorded in DHIS were actually recorded in the tracking tool.

The light green shows that 83 percent of those that were in the tracking tool had documented viral load in the tracking tool. The graph on the right side, the pie graph, shows viral load suppression is documented in the tracking tool. Of the 103 women we found in the tracking tool, 72 percent of them were suppressed, and 28 percent of them were not suppressed. So, the PMTCT tracking tool has been implemented for four months, now. It usually takes time for a new tool to be implemented, so 57 percent of women that are documented in the tracking tool, it’s actually a success to us. Because it shows that if we implement it longer, we can be able to document all our HIV-positive pregnant women, and it will then be able to follow them up.

The tool makes it easier to also follow the viral load results, as before, you had to go through the ART file, page through the ART file, so that you can get a series of viral loads for one patient, and that was tedious, it took time. The graph on the left shows alt prophylaxis, co-trimoxazole prophylaxis for the infant, it also shows infant feeding, as documented in the PMTCT tracking tool. The number of women, HIV-positive documented in the tracking tool were 104. 73 percent of those had a delivery date documented, so we could only follow 73 percent that they actually delivered, as they had a delivery date.

63 percent of those babies had ART prophylaxis given at birth. 54 percent of those were given co-trimoxazole at six weeks. And, infant feeding was recorded for 60 percent of those. The pie graph on your right shows the different modes of feeding, within six days of delivery. We can easily see that about 8 percent of the babies were exclusive formula feeding, about 3 percent of them were mixed feeding, and 87 percent of those babies were exclusive breast feeding. Initially, we couldn’t have this information in one document, you had to go through a series of records for you to get
infant feeding, if you’ll get it at all. Most of them were recorded in your Road to Health cards, or in your ANC cards, that are patient held. You could not find them at the clinic.

This slide shows tracking of early infant diagnosis, it also shows lots of follow up of these infants. After 76 entries that we found that had a date of delivery documented, those 76, we expect them to be eligible for a back TCR. 95 percent of those babies had a TCR recorded in the tracking tool. 60 of those babies, their results were recorded in the tracking tool, and they were all negative. At 10 weeks, we had 67 of them that were eligible for TCR. 84 percent were taken, were collected TCR at 10 weeks. And 45 percent of those collected had a negative TCR. When you look at our 18 weeks, it’s quite low, because not everybody is eligible for that, but of the ones that are eligible, 49 of them were collected, which is 64 percent. The 18 months testing, we don’t have it here, because the cohort has not reached 18 months yet, the tracking tool is only four months in the facilities.

So, you can see, the tool makes it easier to trace the babies and the moms, if they did not come for TCR. As we showed initially, we’ve got details that would trace the moms, and would also trace the caregivers, if the babies did not come for testing. So, limitations to the evaluation tool. Tracking of the babies beyond 18 weeks, like I said, wasn’t possible, because the tool is just recently being introduced. Most deliveries are done in hospitals, and some of the clients are lost in between the hospitals and the PHC facilities. So, this tells us that we now need to strengthen the referral pathways, between the hospitals and the clinics, so that we don’t lose any babies or any moms in between.

In the new tool, we can see that a lot of women were not documented, almost 43 percent. Like I said, it’s a new tool, we still need to strengthen the referral pathways between the hospitals and the clinics. What we have learned from this is, the tool is easy, and very efficient, it can be used by all the healthcare workers in the facilities, including non-clinical stuff. Your lay counselors, your mother mentors. The tracking tool promotes continuity of care for both mom and baby pair in one register. It improves clinical care of the mother, hence low risk of HIV transmission to the baby. It improves guidelines to early infant diagnosis.

Our recommendation is the development of an electronic record, and where you have cure.net PMTCT modules, which will link the mom and the baby pair, you’ll be able to draw up reports that you are able to monitor and check if the babies have been tested
according to the schedule. For those ones that are positive, you are able to put them on treatment, for those ones that are lost to follow up, you are able to trace them immediately. And, we also recommend the implementation of the unique identifier, for both mother and child, to strengthen tracking. And, we would like to acknowledge USID, Limpopo Provincial Mopani District Department, and the Enova team, thank you. I’ll now hand the presentation back to our moderator, Alex.

Alex: Great. Thank you so much. That was a fantastic presentation. I want to encourage everyone to keep on adding their questions for Lucy, and the Enova Health team into the discussion box, please. And now, we will go ahead and turn it over to Ester Tomari, who will be presenting on EGPATH efforts to optimize early infant HIV diagnosis, and ART initiation for HIV exposed infants in Lesotho. So, Ester, over to you. Okay, it looks like we might still be having a bit of trouble in having Ester join. Let’s see if she is able to join in the next ten seconds or so. And, while we are waiting for Ester to join, I’ll just check that Jillian and Tinje are cued up to present, in the event that we can’t connect with Ester. So, we’ll just give it a couple more minutes. Thanks everyone, for your patience.

Alright, Ester, I don’t think we’re hearing you, unfortunately. We’ll try and connect with you for the last presentation. Tinje and Jillian, are you there?

Male Speaker: Hello?

Alex: Hi.

Male Speaker: Ester is trying to connect.

Alex: Oh, she is. Wonderful.

Ester: Hello. Maybe I can speak from the Skype, and you can advance my slides for me.

Alex: Yes. Hi, Ester, we can hear you loud and clear. Very happy to have you back.

Ester: Okay, thank you. Can I start?

Alex: Please, go ahead, and just indicate next slide, when you’re ready for the next slide, thank you,
Ester: Awesome. Okay, first slide. So, it's my pleasure to give this presentation on the efforts being done by EGPATH to optimize early infant diagnosis in Lesotho. And, ART initiation for HIV exposed infants. Next slide? I will just start by giving a brief overview of the epidemiology of HIV in Lesotho. We have a population of slightly [inaudible] of about 300,000 people living with HIV. And, 13,000 children living with HIV. Adult occurrence currently stands at about 25.6 percent, and for pediatric patients, at about 2.1 percent. According to the UNAIDS 1999 targets, the listeria results that were done recently show that we are currently at 77 for the first 90, 90 percent for the second one, and 88 percent for the third 90.

We have about slightly over 8,000 women, receiving PMTCT services annually, and we've done pretty well with maternal to child transmission rates, and it currently stands at about 4 percent, at six weeks. Next slide, please. And so, as far as our support from EGPATH is concerned, EGPATH has been in Lesotho since 2004, and is the main clinical partner to the Ministry of Health, and our current focus is in all ten districts in the country, where we are providing direct service delivery for comprehensive TB and HIV services. With funding coming in from USAIDS, CDC and Unite.

As far as EID is concerned, we do track all infants who are HIV exposed, as well as collection and submission of early infant diagnosis samples for processing, through a centralized conventional map system, as well as point of care infant diagnosis. We also provide return of results, and ART initiation, for infants who test positive. Next slide, please. This next slide just basically shows what was happening between the years of 2014 and 2016, as far as turnaround time for early infant diagnosis is concerned. This is data from CHILD, with a sample size of about 18,700 infants. And, as you can see from the slide, the turnaround time was quite long, ranging from about 30 days to 94 days, between the time the sample was collected, and the time the results were returned to the health facility. Next slide, please?

So, going on to the point of care early infant diagnosis project, the goal of this project is to increase the number of HIV exposed – HIV positive infants, whose HIV status is known, and to facilitate early ART initiation in these infants. The purpose, of course, is to ensure that at-risk infants have timely access to HIV testing, a true scaleup of point of care early infant diagnosis, in the context of optimizing already existing national EID networks. And, this is a project that is being run by EGPATH in nine countries, including Lesotho. It started in 2015, and is due to end in 2019. Next slide,
And so, just to describe this project, we did start with site selection, with sites located in all ten districts in the country. We looked at sites that have access to ART initiation, because we did want these infants to then be immediately linked to ART initiation, if they were found to be positive. And, also sites that have a relatively large number of infants, HIV exposed infants being seen, at least 0.5 or 1 test to be done every two days. We were opting for the hub and spoke model, which I will describe in future slides, and we matched these slides to either the LR-2 model, or the USAIDS experts model. We were planning on doing a phased and monitored implementation, with a six-month pilot phase, which was then followed by implementation, and evaluation of key clinical and service delivery outcomes, comparing what was being seen to point of care, compared to conventional EID.

And so, the data that I’m presenting today incorporates data starting from January of this year, of 2017, to October of 2017, next slide please? This slide basically just shows you where exactly this benefit from the 29 test machines that will be deployed in Lesotho will be situated. And, as you can see from the slide, this is all over the country. For the pilot sites, we were looking at five pilot sites, in different districts. Two of the machines are going to be standalone machines, whilst the other three were going to be But, ultimately, the country would be able to reach 155 sites through the hub and spoke model. Up to date, about 14 of the 29 machines expected in the country are already operational. Next slide, please.

So, this slide just basically describes what a central model would look like. It would process samples that are coming from the facilities, waystations, whereas the hub and spoke model would include samples coming in from the site, as well as surrounding health facilities in the nearby vicinity of the site. Next slide, please? The baseline – before we started the pilot, we actually did a baseline, just to see what was currently happening in the country at the time. And, as you can see from the slides, looking at tracking 269 samples, that were being processed through the normal, conventional lab system, 82 percent of the results from these babies would actually reach the caregiver.

The median turnaround time was quite long, it’s about 63 days, but ranging from 13 to 161. In seven out of eight infants who were found to be HIV infected were initiated on treatment. What was good was that all those that were initiated on treatment
that was done on the fifth day was that the caregiver came to the healthcare facility, to collect the results. Next slide, please. When we look at the results for the primary outcomes, as you can see from the slides, as I said, this is a result ranging from January to October of 2017, with 31 unique health facilities, we had – we tested slightly over 1,800 tests, and 1,500-plus infants. Of course, some of these tests were for infants – were repeat tests, for infants, according to our national guidelines.

And, looking at the actual results, the return of results was quite high, it’s almost 100 percent, 99.9 percent. With a median turnaround time of zero days, a range of zero to 38. In 31 of the 33 HIV infected infants who were initiated on treatment, the median number of days between receiving the results to the caregiver, and initiation of treatment for the baby was also zero days. So, these are quite good results. The next slide just basically shows how many of the tests that were done reached the caregiver on the same day, and on subsequent days. And, as you can see from the slide, the great majority of results were given to caregivers on the same day. About 64 percent, and the rest of the 36 percent of the results that were not given on the same day, are results that were coming in from the spoke sites, rather than the standalone or the hub sites. But, all in all, all of the results were actually given to the caregiver. Next slide, please?

Going on to talking about tracking of results, [Inaudible] of Lesotho of AIDS Services Organization is a civil society organization, who is a sub partner of EGPATH, and the two [inaudible]. And, they’re also supported by AIDS Free, for technical organizational capacity building, and are mandated to do community linkages and community mobilization in the community. So, they routinely track all infants who are – who miss their appointments for early infant diagnosis in the community. And, as you can see from the slide, the tracking, successfully tracked outcomes are quite good, it’s almost 70 percent of the infants that they tracked, between the period of April to September of 2017. Next slide, please?

The next slide just basically shows some of the data that is coming out of the five standup districts, supported by PETFAR, that EGPATH is supporting. And, as you can see from the slides, we were two goals. The point of care in infant diagnosis, and the routine [inaudible] were able to reach our target for virological testing of infants within the first 12 months of life. It’s 92 percent achievement of the target. And, of those expected to be positive, we also reached 90 percent of that target, with a positivity of about
1.5 percent overall. Next slide please?

And so, looking at the remaining challenges, as far as point of care, as far as early infant diagnosis is concerned, because of limitations of funding that we have from UNICEF, we are only able to service some of the existing sites in the country. The country does have over 250 sites where HIV services are provided, but from previous slides, you can see that we are only going to be able to service about 115 of these sites. The turnaround time for infant diagnosis does remain quite long, in some of our health facilities, because of the centralized processing of samples through the national reference labs, and collection of the samples from the health facilities is also problematic, as the transport mechanism only collects samples on specific days of the week. Maybe once or twice per week. Menasa does track infants through the forced infant diagnosis.

But, sometimes, even when the infants are found in the communities that do not present for testing, and the caregiver cites all sorts of challenges, such as transport problems, and the unavailability of the legal parent, that’ll provide consent for testing. Some of our parents do still refuse, for their infants to be initiated on treatment, despite extensive counseling, that is provided, and there is some worry about the sustainability of the point of care early infant diagnosis, following the end of the Unite grant. We have been having discussions with Global Funds, to see if this can – Global Funds can take on the supply and maintenance of the machines, as well as provision of the consumables, following 2019, after the end of Unite.

We also consistently find that we’re only reaching 70 percent of our population level coverage with PMTCT. We are not sure what is happening with the other 30 percent, whether they’re being seen in private health facilities, or crossing over the border, to South Africa. But, over the years, we have remained – our PMTCT coverage of only 70 percent, and this is quite concerning. So, looking at the conclusion, I think it’s fair to say that point of care does show improvement over conventional centralized testing, in service delivery outcomes, such as a greater proportion of infants obtaining their results. The results were received for the majority of infants on the same day, rather than having to wait for prolonged periods. A large portion of HIV-positive infants were also started in ART.

In [inaudible] [00:58:12] were still maintained without any delays, even at point of care. The cost that is calculated is also
almost the same, if you compare conventional EID with a point of care EID. And, finally, we demonstrated that the use of CSOs, working in collaboration with other community-based organizations is an effective way of increasing EID uptakes for HIV exposed infants. Thank you so much for listening, I’ll hand over back to the moderator.

David: Thanks, everyone. Some excellent presentations thusfar, from South African colleagues, and colleagues from Lesotho. The combination of technology, and really persistent people to get a job done, I think is demonstrated by today’s webinar, and the men and women on the call. So, to borrow a phrase from our next presenters, Tinje and Jillian, from Cameroon, en est ensemble, we are together. We go north to our colleagues from Cameroon, thanks.

Tinje: Thank you, Alex, hello? This is Tinje.

Alex: Hi, Tinje, we can hear you, please go ahead.

Tinje: Okay. So, we are going to be doing a presentation on the early infant diagnosis quality improvement cooperative, implemented in Cameroon. Quickly, we are going to walk through the outline, which consists of why Cameroon selected a quality challenges in early infant diagnosis. We are going to see what the quality improvement collaborative approach is. Its design, the approach, the process, the results, and we’ll see a conclusion. So, we found that these services were launched in Cameroon in 2007, and [inaudible] base package of services. And, [inaudible] many of Cameroon health facilities. [Inaudible] compliance with national guidelines was often suboptimal.

At many health facilities, fewer than half of children were tested, and this was due to programmatic barriers, such as work load, staff training on the [inaudible] and other service delivery challenges, in addition, the National AIDS Control Committee survey, which reported that the [inaudible] of HIV/AIDS in fact was weak countrywide, in 2012, followed the implementation of quality improvement projects. And, this time we found out that only 12 percent of youth HIV [inaudible] HIV testing at the recommended six weeks of age.

So, ICAP [inaudible] and the results revealed that the average turnaround time for this assessment was [inaudible] six weeks [inaudible] [01:01:34] With a median turnaround time of up to three to four months, which was far longer than the national
standard of four weeks. So, there was clear evidence, [inaudible] in what could be done, and what was actually done at Cameroon Health Systems. So, [inaudible] in 2015, ICAP launched a quality improvement collaborative focused on improving early infant diagnosis. [Inaudible] of Cameroon. What is the quality improvement collaborative approach? It’s an organized network of sites, which can be made up of districts, facilities or communities, that work together on a focused program for this area, using quality improvement methods and tools.

In our concept, our first grand focus area was early infant diagnosis. [Inaudible] sites worked together within the limited time of 12 to 18 months, during which [inaudible] and measurement processes within experience. They also organized regular call ins for better review, short learning, and better tool change ideas. And, these regular calls are usually organized on a quarterly basis. One part of the quality improvement approach is the final [inaudible] meeting of successful intervention and tools, as well as the service.

This is a schematic representation of the quality improvement collaborative approach, adapted from the [inaudible]. So, it starts with deciding on an aim, and our aim was to improve early infant diagnosis. Now later on, we call in an all-staff meeting to identify best practices, developed in treatment, [inaudible] and better SOP. Sites are later on selected and prepared. Which is followed by [inaudible] which is a crucial [inaudible]. The first one, and [inaudible] were two sites that are regarded as [inaudible].

After each one of them, we have what we call an action period. Which usually lasts three months. So, each one [inaudible] for six weeks, and the quality’s rated. And, during the action period, we start some quality intervention activities, based on the plans we study. Which we can also safely call CBSA models. And the quality improvement interventions are documented, on quality improvement, CBSA worksheets that were handed out to each quality improvement team. So, in our first quality improvement collaborative, we see that we have five learning stations, and at all of the learning stations, we have a hard list of successful change ideas, successful QI interventions, and [inaudible], which was based on scientific analysis.

After the successful interventions have been identified, [inaudible] the other side, and spread to [inaudible] and many other submission venues. So, the design of a quality improvement collaborative by selecting a site, selecting a quality challenge.
Developing an [inaudible] selecting the indicator one would pick for the end treatment, developing a data management system, collecting baseline data, and analyzing data, and conducting – convening a baseline meeting, where we will present to stakeholders what has been found at the baseline, and what we are aiming to achieve, after quality improvement interventions have been implemented. [Inaudible] these sites were identified as sites using mainly a higher volume of HIV exposed infants.

The early statements of the quality improvement collaborative Cameroon were in two parts, were defined in two parts. The first part was at the tail end of March, [inaudible] March 2017. And, the first stated aim consisted of improving our infant diagnosis from baseline to more than or equal to 50 percent of HIV exposed infants, who had a dry blood spot test results documented and [inaudible]. The second thing was to review the average time when samples were collected, to when these results were documented and sent to [inaudible] up to two weeks. After implementing our interventions, five months into the quality improvement collaborative, we realize that these first set of inputs achieved sustainability in the seven and a half months, by March 2017, we achieved all the aims, and so – which led to the adjustment of [inaudible] in April of 2017.

So, inside of 50 percent BBS PPR [inaudible] we now balance the adjusted to 90 percent, and we set our turnaround time to under six weeks. Which was adjusted to a turnaround time of under two weeks, or 14 days. [Inaudible] which was a success in that they’re having a better collection element. So, the conceit of the [inaudible] Firstly, the baby arrives at the clinic, identified as an HIV exposed infant, then the sample is collected, the blood study is sent to the virtual lab, the results are received from the virtual lab, to the partnership lab, then shared with a caregiver, and based on the results that are sent to the partnership lab, this is an HIV-positive, infected infant, and the infant is going to be initiated with anti-retroviral treatment, in the care and treatment unit of the facility.

So, we also have one of the keys to our early infant diagnosis improvement collaborative, the time indicators. Which enables us to make sure the times of the different steps of the early infant capture process. [Inaudible] and when data was collected by the QI teams at a number of the sites, we entered the data directly into DHIS [inaudible] IT devices. There on the left side of your screen, you see the data entry form capture on DHIS. One of the big [inaudible] is the DHIS form, where they enter the data, and
publish it automatically. On the right side of your screen, you see how the dashboards were generated automatically, and this enabled the team to have quality improvement [inaudible] [01:09:50] they were able to analyze the data, and decide whether the quality improvement intervention was actually bringing an improvement or not in early infant diagnosis.

[Inaudible] quality improvement collaborative starts by designing a baseline training package on quality improvement methodology. Followed by trainings, and a [inaudible] After the learning session, the initial learning session, when the [inaudible] implement quality improvement interventions based on the methodologies that were [inaudible] during the training. Then launch QI activities at each site. Monitoring of participation were conducted during the action period to [inaudible] in identifying the changed quality improvement change intervention, and during the learning session, where they came back and shared the change intervention after every quarter.

Five learning sessions were conducted, during the implementation of the quality improvement collaborative, and the main activity consisted of five level data reviews from each of the 17 health facilities. Change ideas for quality intervention [inaudible] and there was also an opportunity to refresh the QI teams, that were coming for the first time, or ones who had some changes in personnel, and QI methodologies. And, this was the case of the February learning session, February 2017 learning session. [Inaudible] Ministry of Health staff, and the QI team, recorded since interventions, [inaudible] on the right side of your screen.

So, our top team at Cameroon [inaudible] level compiled the five report findings, and shared with the team at New York headquarters, [inaudible] QI teams conducted 146 [inaudible] cycles and identified approximately 30 [inaudible]. QI staff made 276 [inaudible] in which they provide coaching, mentoring to the site level, to our teams. The learning session participation work was high, in general, you had between 56 and 69 participants attending each learning session, weekly.

You have more and more HIV exposed infants who are affected at the recommended age, according to national – the national standard, and guidelines. So, [inaudible], you see how they were after baselines – [inaudible] we have more HIV exposed infants that start before eight weeks of age. [Inaudible] results documented and shared with caregivers, also improved, almost immediately after QI activities were launched in February, 2016.
From baseline, you can see how low this proportion was, and after QI activities were launched in February 2016, it improved in the month of April, and the target was achieved. And, this continued to, through May 2017. [Inaudible] [01:13:50] there was a drop in this trend in May 2017, it was because in the EID process, there was a breakdown at the level of the [inaudible] One of the [inaudible] in our supply chain went down in power supply due to a storm, and the other facility had a breakdown in equipment. So, there were [inaudible]. In the moth of May, there was little documentation and sharing of results with caregivers within this month.

In the time [inaudible] of the EID process, with the [inaudible] when the samples were collected to when they were sent to the virtual lab. So, the two [inaudible] over time [inaudible] or as time went on, and the red bar which represents the time when samples were received at the virtual laboratory, and processed, before coming to the facility labs. As you can see, in February 2016, the trend, the sizes of the red bar reduced, allowing time to achieving the progress. And, the green bar, which is when the time from when the results were received at the facility lab, to when they were shared with the caregiver, and this also improved remarkably, as QI interventions were ongoing.

EID quality improvement collaborative brought sustained improvement, as time went on. 60 of the 75 [inaudible] of 50 percent and more. And, on average, this took only two and a half months to achieve, on average. All the 75 reached and exceeded the turnaround time target of less than two days, and even when this target was rised to 14 days, they continuously improved the turnaround time. In conclusion, the quality improvement collaborative addressed a critical quality challenge, which was, align national and [inaudible]. It was directly relevant to the first line, to align with the monitoring and [inaudible]. So, our reports were systemic and rigorous, inclusive of multiple stakeholders, [inaudible] processes, with the innovative use of DHIS managing [inaudible].

[Inaudible]. I’m nor a doctor, but there is some [inaudible] EID quality improvement activities that were implemented at the level of the facilities, [inaudible]. And so, thank you for your kind attention, I now hand over to Alex, for the next presentation.

Alex: Great, thank you so much Tinje for that wonderful presentation. It’s fantastic to see some of the improvements from the quality and improvement collaboratives that you highlighted in Cameroon. So,
we will now use the rest of the time today for discussion. As you can see, we only have about ten minutes remaining for today’s discussion, but we have a lot of questions in the chat box. So, the questions that we are not able to get to, in the time that we have remaining, we will collect, and we will ask the speakers to share their responses. The responses will be posted on the AIDS Free website, with the recording and the slides, following the webinar.

So, if you have a question, and you haven’t yet entered it into the Q&A box, please do so now. So, Sabrina, I think you’re going to pose the first question.

Sabrina: Yeah. Our first question is directed towards Candace, who did the first presentation, from South Africa. The question is in regards to, what is the selection criteria for the EID champions? So, Candace, please take it away.

Candace: Thank you, Sabrina. So, the selection criteria usually, we would select someone who is a professional nurse, working in the postnatal ward, especially with infant care, because these nurses will be having some EMTCT exposure, or responsibilities anyway. But, I think probably the most important selection criteria, among this group of professionals, is someone who is passionate about EID and someone who is willing and able to take on some of this responsibility. In terms of their allocation, in terms of their time. So, we have had our EID champions, being senior nursing staff. We have had some more junior nurses, who just feel like it’s really important, and that that’s something that they should be doing.

So, but, the real most important selection criteria, and I would say, is someone who’s passionate about EID, and who’s willing to put in some extra effort, to make sure that the children are linked to care and treatment. Thanks very much.

Sabrina: Wonderful, thanks so much Candance. Second question goes to Ester. This question is from Fatima Soros in ICAP Columbia University. Fatima’s question is, did you see an increase in EID coverage with rollouts of POC, i.e., did the number of expected HIV exposed infants who were tested improve? There is some concern that while POC has improved the turnaround time for results, and timely ART initiation, overall testing coverage is only improving slightly, indicative of more upstream challenges, such as poor retention in pregnant women, and subsequent enrollment of HIV exposed infants. So, Ester, over to you, please. Thanks.

Ester: Okay, hi, thanks for that question. Actually, we have seen a huge
increase in the coverage for testing for infants, and for timely initiation on ART. The fact that we have point of care early infant diagnosis machines in some of the sites has reduced the load for the national research lab, for processing samples. Even from the results that I shared, looking at the targets that we’ve set, and how we’ve achieved the targets, we’re seeing a huge increase in coverage for EID. As far as population level coverage is concerned, I think that’s just something that we still have to investigate, and find out where these pregnant mothers are. But, as far as mothers coming to the health facility, to access PMTCT, I think, as far as EID is concerned, we’re doing quite well.

And the fewer numbers of infants that are testing positive because of the successes of PMTCT are being timely initiated on ART, with same-day initiation. Did that answer that question correctly?

Sabrina: Thank you, Ester, yes, that was very helpful. There are a few more questions still remaining. Let’s turn over to a third question. So, the next question is for Dr. Lucy. This question comes from Rachel Abenakio, and Rachel’s question is, Dr. Lucy, what suggestions would you give to countries, in your experience, where most deliveries are out of the health facilities, and babies only get a chance to contact the health facility after they’ve had an episode of illness? Rachel also mentioned that some mothers opt to deliver from their homes for several reasons. So, I’ll pass that over to Dr. Lucy, thank you.

And, I hope we still have Lucy on the line. I know we have been bearing with a couple of technical challenges, during our webinar today, and everyone’s been bearing with us very nicely.

Lucy: Hello?

Sabrina: So, I don’t seem to hear Lucy, so why don’t we – oh, hi Lucy, go ahead. Lucy, are you there? Would you like to answer that question? Okay, I think we might’ve lost Lucy again, but Lucy, we’ll make sure to send you that question, so you can answer it, and your answers can be posted online. So, I think let’s go over to another question. This one also for Tinje. We have a couple questions around the quality improvement initiative. David Jamison asks –

Lucy: Hello?

Sabrina: Tinje, did you experience any resistance to change at the facilities? Over to Tinje.
Lucy: Can you hear me?

Tinje: Can you call me; the network was cutting –

Lucy: Can you hear me?

Tinje: Yes, hello. I can hear you, yes. Hello?

Sabrina: Okay, is that Tinje or Lucy, hi?

Tinje: This is Tinje.

Sabrina: Oh, hi, Tinje. Please go ahead. Did you – could you please answer the question, regarding whether or not, from David, regarding whether or not the quality improvement collaborative experienced any resistance to change at the facilities, and I think this will be the last question before we wrap up, thanks Tinje.

Tinje: Thank you for that great question, David. I would say that we didn’t really experience any resistance to change with the authorities, because the approach of the quality improvement methodology consisted of buying in the leadership before any quality improvement interventions were implemented. So, you see at the beginning, we started with the stakeholders meeting, presenting to them why it’s important for us to bring about improvement, and quality improvement interventions. And, throughout the process, they were very involved, and I think this addressed the risk of facing any resistance, at the level of the leaders, at the central level, as well as at the facility level.

I hope I answered the question.

Alex: Yes, that’s great, thank you so much, Tinje. Over to Sabrina.

Sabrina: Yeah, thank you Tinje, and thanks very much, Alex, for moderating those questions. As Alex had mentioned, there were a number of questions that we received in the Q&A box, and so, thanks to all of you for asking those questions, and we will be filtering out the questions that didn’t get answered today, we’ll be sending those out to the appropriate presenters, getting their responses, and then posting those on the website afterwards. You’ll get an update when the recording, the slides, and the responses to questions are up on the website.

So, before we wrap up today, we wanna thank, first of all, the
speakers, who have shared their time, and their expertise today. I think we can all agree that we heard some excellent presentations today. And thanks to everybody, also, for being patient, and very calm during all of our technical challenges. And, thank you, most of all, to the participants, for attending, and for your questions, and for the discussion. One thing I’d like to ask of folks, before everybody signs off. Please take a moment to fill out the pull questions that you now see on your screen. The feedback on those questions will help us to improve future webinars, and determine topics, and make sure that these webinars are really responsive to your needs. So, please do take another sort of minute, maybe even 30 seconds, to fill that out.

Please also today, and in the future, you’re encouraged to go ahead and visit the AIDS Free Viral Load and Early Infant Diagnosis Knowledge Base. We have over 180 tools, publications and other resources that can help you scale up viral load testing and EID. You can sign up on the AIDS Free website as well, if you’d like to receive updates on the knowledge base, and we update that pretty regularly, on a monthly basis, actually. And, as I mentioned, you’ll be getting an email today, when the recording and slides and the question responses are available on the AIDS Free website. Thank you again everybody for joining, and sharing your knowledge today. And, have a great day.

[End of Audio]

Duration: 90 minutes