EPISODE 3: COVID-19 in Africa: the role of research

Dr Tedros [00:00:01] Africa is the only region to have developed a unified continental strategy on COVID-19, and that strategy has delivered results. Although our continent has suffered, we have not yet seen the same scale of devastation in Africa as we have in some other regions. We have seen an encouraging decline in cases since the peak in mid-January, however, several countries in the continent continue to report sustained transmission and increase in some areas.

Garry Aslanyan [00:00:46] Welcome to Global Health Matters podcast, I'm your host, Garry Aslanyan. As you just heard from Dr Tedros, Director-General of the World Health Organization, Africa has not seen the same scale of devastation from COVID as a result of a unified continental response strategy. In today's episode, we explore some of the reasons why African countries have been able to deal with COVID so effectively. These reasons range from a prior experience in dealing with epidemics such as Ebola, strong subregional research networks and long-standing investments in research capacity. In today’s episode, I'll be joined by Dr Thabi Maitin. She’s the Manager of the Division for Research Capacity Development at the South African Medical Research Council, and by Dr Paul Kazyoba, who is the research scientist and director for research at the National Institute for Medical Research in Tanzania. Our guests will shed light on the COVID-19 response from each of their country’s perspectives. Welcome Thabi and Paul.

Thabi and Paul [00:01:56] Thank you,

Garry Aslanyan [00:01:56] So let's start maybe we can start, Paul, with you to let us know what has been the research response to COVID in your country and how has this developed in the last year?

Paul Kazyoba [00:02:14] Thank you, Garry. Thank you so much for the opportunity. The scientific community has a role to play and in fact, the research has a key role to provide guidance and direction, how we should go about responding. So, what we did as researchers, we convened a meeting immediately after the first announcement where we resolved to develop what we called rapid response research agenda for COVID-19. That was the very first undertaking so that we are able to contribute in the national response effort against COVID-19. So we developed a national research agenda for COVID-19, covering several aspects from epidemiology to interventions, risk communication and so forth and so forth, whereby different disciplines. We are brought together to provide input on how research can contribute to the response. The agenda was adopted by the Ministry. I remember it was in the second week of April, so it took us about three weeks to be done. The Minister endorsed it and that became the guide and one of the tools in the response against COVID-19. Immediately thereafter, I remember we had about three or four projects we were undertaking in the country, where my own institution did three and our national hospital implemented one project. So, suffice to say, we have been part and parcel of the response effort. I sat on the National COVID Response Committee. And we provide briefings every time we have a new project which is addressing COVID-19 and see how the results from there may contribute in the fight against the pandemic.
Garry Aslanyan [00:04:29] It’s impressive that you’ve been able to develop a unified national research strategy in three weeks. Thabi, was the response by the South African research community the same?

Thabi Maitin [00:04:38] You know, Garry, I find it so interesting what Paul has said, because in a way, I would say perhaps there’s an echo between the African countries. Obviously, I can’t speak for all the countries, but what Paul is saying resonates with what happened in South Africa. With South Africa, the Government took a very strong lead in making sure that information dissemination was paramount just to contain the situation, while obviously the researchers were sort of aligning their processes how they would be. But what I found interesting and extremely efficient, was how the Government formed this committee or an advisory committee. This advisory committee was formed by heads of institutions of research. So, for instance, the Medical Research Council, of which I’m part, other institutions such as the leading immunology centres in the country, what shall I say, externally funded entities. So I think that brought about a level of confidence to the populace that, OK, we’ve got, the Government is worried about this and is taking the correct steps to get experts to be the front runners in the intervention. There was this lag phase before people actually believed that this is real, this is happening. What I found interesting in the approach that the Government took is what it echoed to me what seems to be the recipe for success for doing research in Africa. If you want success, you probably have to involve the Government in a very, very strong way. And that has happened in South Africa, even though obviously the experts are given their space for advice and so on. So the experts that were in the front line were people that could just easily do a segue into the COVID space. So that’s where we are. I can safely say that there is extremely robust research that is going on. But I suppose that’s a different note to our chatting.

Garry Aslanyan [00:07:11] We have observed that many countries seem to adopt a top down response to COVID-19 in contrast to the more bottom up approach taken in Africa, which was more inclusive of researchers and communities alike. Paul, would you say this was true in the case of Tanzania?

Paul Kazyoba [00:07:28] Yeah, it’s true. As you say, when you look at the European and American, of course, and some other continents, and many nations adopted a top down approach to respond to the COVID-19. In Tanzania, if I am to speak for my country, we actually adopted a bottom-up in the beginning, bottom-up approach. And this this was deliberate because if you want to have the community or the population responding well to the preventive measures, a sense of inclusivity is key. And when you look at the bottom up approach, it means you are inviting different cycles of all groups of people with their ideas who contribute towards the fight against an enemy of the time. So that’s why the Government adopted the bottom up. We saw religious leaders playing the key role, traditional medical practitioners also had their role, scientists had their role, and so forth and so forth. At the end of the day, the impact was very positive in terms of calming down the panic, as my colleague said. That is very key if you are to win the fight. And again, that helped us a lot when it came to implementing a few projects which are focusing on community engagement, such as political communication, adherence to some of the government directives, especially on preventive measures, etc., etc. However, toward the end of May, we adopted a mixed sort of
approach and that was as a result of a reshuffle in the Ministry of Health. So the management, the Permanent Secretary changed and the Chief Medical Officer also changed. So these two guys who are the key technical leads in the health sector came in with a different thinking. So they brought some sense of top down. So we had a mixed sort of approach. When you look at the community level, it is bottom up. When you look at the technical, it became top down. So then we in the technical, we had to listen what these guys are saying and then see if it connects with what we are thinking in terms of technical. So that was the time when we were so much ready tips coming in. But I'm happy to say the community engagement remained the same. And to me that was key. For us who are on the technical arm, we had to realign with the thinking because the direction was changing. So that was the difference. But the first two months, honestly, we really enjoyed the bottom up. Researchers were busy, traditional healers were also doing their business, religious leaders were also doing their business. So combining these some sort of triangulated effort and in the middle you have the Government, we saw a lot of impact. And then all of a sudden from June, things changed. And that changed a lot of things up to early this year.

Garry Aslanyan [00:11:13] I recall from a project we worked with EDCTP after the major Ebola outbreak, how important it was to involve all stakeholders in response. Paul, how did prior epidemics prepare Tanzania to deal with COVID-19?

Paul Kazyoba [00:11:30] We have had some dengue outbreaks. We have cycles of dengue in this country; about every year or two we have a dengue outbreak. Dengue also does bring a lot of panic, especially in the community where the cases are reported. And then we have learned a lot from Ebola. You know, the Ebola outbreak contributed a lot to the strengthening of response capacities of many countries, especially for some of our countries which are in the lake region. As you remember before COVID-19 outbreak, we had Ebola in Congo and Congo and Tanzania, we are just close. So when the world was fighting Ebola in DRC, in Tanzania we were busy preparing ourselves for response. So we had drills, we had a lot of simulations and so forth, lab preparations, epidemiologists being prepared. We had also community engagement, especially the communities along the borders. And that, to be honest, contributed a lot when COVID got into the country and it was easier for the Ministry to mobilize each and every one to contribute to the effort against COVID-19.

Garry Aslanyan [00:12:58] So Thabi, I see you nodding. Was that a similar experience for you?

Thabi Maitin [00:13:02] I think for South Africa, I think the approach was very sort of a communication strategy. It became so important for some reason, which I actually now understand and I see that it's so key. It was about communication, communication, communication. Let's let the scientists do what they have to do. So, for instance, the kinds of briefs that the whole country would have would be straight from the President, you know, weekly briefs if need be. And strategically, he would address the nation on media platforms like TV and so on, as if it's a family meeting. So I think that helped to give the man in the street a sense of somebody who's got this and somebody is monitoring this. And like I said, the space of the scientists has been a protected space, which I think is very important. But now when we come, for instance, to the whole question of what made the take-off go smoothly, I think it is the experiences that have been happening in the country, the whole epidemic
management strategy, rapid response and all of that. Remember, South Africa had the world's largest or highest burden of HIV. So while this is not exactly what you think of as HIV, because HIV is whatever long term. But I think the expertise that had swelled on the ground, not just the research leaders, but all the researchers that are nested under all this value chain of HIV research were able to quickly make that switch or segue or whatever into this space. And, for instance, even in our division, people that are funded, we had to have a strategy of saying, OK, we are allowing a detour from your research to tell us what you need to do, how to and to modify your research so that you respond to this. And I think that has possibly put us in a very, very good space to provide and contribute to answers about COVID, even from the from your lowest ranks of researchers, not just the top researchers who are leading teams.

Garry Aslanyan [00:15:45] The pandemic is now entering the next phase, with vaccine rollout being under way. Thabi, how is this process supported by research in South Africa?

Thabi Maitin [00:15:55] I think it has put us arguably in one of the serious front runners to the potential of producing answers. And that is because, I think, of the highly structured way in which research is happening in South Africa. For instance, one of the notes that is part of what is basically research and COVID is coming out of a note of environmental health researchers who are partnering with biotechnologists to look at how can we develop an early warning system about COVID from the water storage and all of that. And that, to me, is just showing the amazing way in which scientists can use a skill that we have been working and doing just biotechnology in a lab for X number of years, but now here it is, you are able to identify people who are also scientists in the environmental space and create something unique for the country, possibly for the world, because if we can develop that early warning system for COVID from waste water, I mean, that's a stroke of genius right there. But that is happening because we have these sort of distinct areas of scientists that are organized into expert areas which, in our organization we call research units, but obviously they are even in the universities. But at this stage, everybody was pulling together to see who to collaborate with to develop something unique to the answer to this question. So I do think that a very organized structure of a lot of scientists in South Africa has put us in a good space at this stage.

Garry Aslanyan [00:18:18] It looks like it's critical to have that capacity there ready, that is able to quickly mobilize. Is the same in Tanzania, Paul, in terms of, I'm sure some of the COVAX vaccines are arriving and how about Tanzania? Is the research community and research institutions going to support the process in rollout?

Paul Kazyoba [00:18:51] That is our number one goal now. We have a shift after having a new President and she informed the country or the nation that she would form a technical committee, which is going to look into the various aspects of COVID-19 interventions. And then the key one is vaccines. We as a national, actually we are the research arm of the Government in health. We do believe that vaccine, especially when it comes to viral infections, vaccine is one of the powerful bullet to stop the disease. So we’ve been preparing ourselves since last year because it’s our duty as researchers and my office has to coordinate to keep on track and record on what is coming out at the global level, who is developing what? We are ready for vaccine. Once the Government gives it the go-ahead, I know we are going
to play a key role in the assessment of these technologies and to decide which one fits our context.

**Garry Aslanyan [00:20:16]** Thabi, is that resonating with you?

**Thabi Maitin [00:20:19]** Yeah, it's resonating with me, and there has been very strong communication, which is very reassuring, coming out of the council, the Medical Research Council. But that still does not mean that the work is done for those behavioural scientists who are holding hands with us. They have to really make sure that people still stand ready to participate in these investigative trials. You know, there's just so much interest and I hate to sort of take some kind of an excitement out of this, because actually there's nothing exciting about this situation, it's actually very dire, but I find it interesting that at this stage, South Africa is standing at 53 000 deaths out of about 60 million plus people. So something obviously is holding. The centre is holding.

**Garry Aslanyan [00:21:22]** Thabi, South Africa has such a robust research capacity, but how is it supporting neighbouring countries during this time?

**Thabi Maitin [00:21:30]** When you look, for instance, how the what shall I call it, the immigrants, or the refugees, and all of that, that just forces South Africa to engage with the neighbouring countries, because there's no point in insulating South Africa from the rest of the region, because in any case, there's all this traffic happening at any given point. So to me, it's exciting in a point because it is consolidating that we do have these artificial borders and viruses don't know those borders, so they are reminding that actually we do have to collaborate and make sure that we treat this as, at the least, regional consensus rather than country concerned. I think, for instance, our partnership within the BRICS is playing a very, very big part to make sure that expertise is not just coming out of South Africa. This is actually global and South African researchers are just part of a global consortia, not just with the BRICS, but also with the other notes of research that, like I mentioned, the wastewater, which is going to be regional possibly in the coming years because you've got to export that kind of expertise. If we crack it, then we'll be in the front news, South Africa will have done something. So that's what I'm celebrating about this. It is confirming to us that actually sitting in a corner alone, whether as a researcher or a country, is not going to be the answer to this question that we are having, as the world, as the globe.

**Garry Aslanyan [00:23:21]** And Paul, how is the East African research community collaborating across borders?

**Paul Kazyoba [00:23:25]** You know Garry, if you are to be successful in research, you must be a partnership. From the time I started working as a researcher, I've come to learn, unless you have partnership, your research won't be impactful. If you want your research to have impact, partnership is very important. So, as Thabi said, within the East African region, we do have very strong research partnerships. When you look at COVID there were some initiatives last year within the East African Health Research Commission, and each country was asked to contribute in the effort. Although it was the time when we had some restrictions to do certain type of research in Tanzania, but we had to provide what we know, and then our colleagues
did some work. Suffice to say that we made habitually and discussed these matters together. What is working in Tanzania and what is working in Kenya might be different so it’s important that we share experience, but also we share the direction because we design research questions in Tanzania based on the context of Tanzania, probably the same package of questions might work very well in Kenya or Uganda as well. So, we are working very closely and we will continue working very closely. But again, you know, Tanzania is like a bridge. We also work very closely with South Africa, through the SADC (Southern African Development Community) platform. We have partners in South Africa, we have partners within the East Africa community, but also, we are working very closely with colleagues from the north and I believe from this month going forward then to see a lot of projects mushrooming, or coming up, with the partnerships from South Africa, from America, from Europe, because of the removal of restrictions. We want to know a lot of things related to COVID-19.

Garry Aslanyan [00:25:47] Do you think the role of researchers or their status within societies has changed in the last year in your country?

Paul Kazyoba [00:26:00] People are demanding for more research than before and it is during this outbreak I’ve had ordinary people demanding answers from research. Never before. So the importance of keeping the game up or strengthening research activities in the country, building more capacity for research and responding to real issues facing our communities has even increased. So now people are asking questions: Why do we have this? Why do we have that? So researchers please help us get the answers from these problems. You know, in the past people thought we are doing research because we just have passion for research and share information in the West. You know, this was the feeling. Yeah. But now everyone has seen to it that, yeah, we need to do research and then get the answers to the problems facing our community. So I think our role has even grown bigger. Has grown bigger and it will keep on expanding, even the demand for investment in research is now increasing. The voices are coming left-right, so for me and for my colleagues, we are happy that now everyone can see the importance of research.

Thabi Maitin [00:27:38] You know, for me, Garry, I keep apologizing for I am excited about the research that is going on here, but for me, sitting in the position in which I am, I find it so interesting that for the first time, that whole thing that when we were just students, masters, teaching, whatever, and we were taught about the health team, that the health team has to involve a doctor, a nurse, a community worker, an environmental person, etc., etc. Today, that is real because I don’t know how to put a needle in anybody’s arm. So you need a nurse to do that. For the first time that health team is being elevated to the correct position, I feel. for instance, one of our research units is actually headed by a nurse and that excites me because she’s a researcher, but professionally she’s a nurse. But for the first time, everybody is now realizing that, oh, indeed, the strength of public health is in the strength of a proper health team. So that’s why I say to an extent, I think there are very good lessons that COVID is bringing, and while we seem to be in a not so dire space in terms of deaths, I think we should capitalize on that and make sure that all those people in the whole value chain of what makes a person healthy, not just medication, but the environment, the association and so on, really show up in that health team and give us answers as researchers from behavioural scientists to medical doctors, scientists, pharmacists to environmentalists and so on.
Garry Aslanyan [00:29:37] So it’s clear from so far what we’ve discussed that neither Tanzania nor South Africa would have been able to react with such strong research response and engagement if it wasn’t for many years of research capacity that have been built in both countries. So if we were to look at the biggest lesson or a learning from the pandemic and the role of research capacity from this most recent experience with pandemic, what would that be? Paul?

Paul Kazyoba [00:30:17] I think the very first lesson is that research is part and parcel of the response to any outbreak. This is the biggest lesson I’ve learnt because in the past, you have researchers involved but not to the extent to which one feels that these guys are there. But this time around, I think we can confidently say now everyone appreciates the importance of incorporating a research component very early in the response so that as you go along, as you make progress in the response, the research keeps on bringing answers to your questions. That’s one. And secondly, as countries, we need to continue investing in research. We have to invest in research and there are some deficits which we need to really invest heavily. For instance, the implementation science. One of the challenges which affects a proper response is how we implement the interventions, timely during the outbreak. You have the disease spreading so fast and then you are racing against the speed of transmission and you want to stop it. So we have to strengthen the act of implementation, implementation of interventions. And I think this doesn’t need long training, but we have to invest in what we call continuous professional development courses, especially for guys who are doing field epidemiology and epidemiologists in general and other researchers as well who are interested in the outbreak response. That is another lesson I’ve learnt. And the third lesson is sometimes in the medical research there is some sort of conservatism. (LAUGHS) Because we are doing medical research or health research, there is a lot of that conservatism. But COVID-19 has taught us a lesson. You are doing medical research, you need a behaviouralist to do the job. You need the sociologist to do the job. You need the guys who are into communication strategy, and then they are doing research on communication, mass communication and so forth, to come on board. So I think a multisectoral approach towards addressing an outbreak is key. So I think researchers from different walks of life, we should be coming together and then addressing some of these challenging diseases of our times.

Garry Aslanyan [00:33:25] Thabi, anything you want to add to?

Thabi Maitin [00:33:28] I have to agree with Paul. I certainly am going to do my bit from my sphere of influence, because I see now that science communication is just as important as a degree in medicine, because you can have all that knowledge, or even as a scientist, but if it cannot be communicated to the populace, you run a risk of not meeting your intended destination. And that’s so, so important. And it has been sort of under the radar in our country until a panic happened. And that’s why I say there are good things that have come out of this, because now nobody wants to die. The communication was so effective that that whole thing of, oh, it’s a foreign kind of disease, was dispelled. So imagine if that machinery was not as perfect as it could be. But now we’ve got to make sure that us who are funding health and clinical research take that seriously, too, and develop an exquisite cadre of science communicators, you know, intentionally. And I’m also brought to the whole value chain of
what produces an answer to a serious thing, which is catching you unawares, a pandemic and epidemic and all of that. It asks, how prepared are you? And I'm humbled to say I think South Africa could say that we were fairly prepared, if not, you can brag, but I think it could have been worse if we're not as prepared at the level at which we are, because it asks, for instance, something that looks like it's a remote kind of question: What are your financial administrators of your grants look like? What sort of expertise do they have? What's the confidence that funders will have in putting money to deal with this? They are certainly going to be hesitant if your financial management systems are not up to par. So it means somebody has to take that up and say it's not about sitting in the lab and looking under the microscope. It's also about research management, financial management of research grants, which some people could argue that maybe that's the most important thing because nothing's going to happen without money, you've got to put the dollar on the table before anything happens. So I've been scratching my head to say I wonder how I can introduce this into our funding streams of the products that we have, because I don't think we can leave this until we have another something like this COVID. And then again we wake up and say, oh my goodness, I was just going to rely on Government to manage these funds. Government has to have the confidence that we have institutions in the country with sound grant management systems that can report with integrity so that the funds keep flowing in and confidence is built up and people in the field know that they are being monitored. So I think it's also asking us who are in the offices, such as myself and Paul, to say who are you funding and why? I think it's exciting times ahead, I feel.

Garry Aslanyan [00:37:20] COVID has led to recognition that research has no borders and doesn't know any borders. The research capacity that exists in Africa and support for it in South Africa and Tanzania has really been able to help in the response and learnings that are emerging, can even support countries beyond Africa. We also clearly see that the importance of building capacity for research should go across different sectors, across different skill sets that are needed, and we also realize that the future of research capacity should be in more innovative and new ways. I'd like to thank both Paul and Thabi for joining the episode.

Thabi Maitin [00:38:15] For me, this has been an amazing, amazing spotlight that has been shone on what we in the space of research capacity building development have been talking about and we have almost been under the radar because granted, research capacity is a huge elephant. Nobody can tackle it in any one time. But now today in this COVID time, nobody can say with a straight face that this is not an urgency for us to put resources, put time, put minds in and developing our research capacity in all these countries. So I'm not going to say thank you to COVID, but I'm going to say thank you for the lessons that COVID has made us, forced us to learn.

Paul Kazyoba [00:39:15] As you have summarized it. Probably one key message is that as we continue to respond to COVID-19 and keep on perfecting the art of response, we should keep on noting the gaps. In our discussion today, we have heard so many gaps that we see in science communication, in multi-sector approach and so forth and so forth. So I think we should continue noting down the gaps and invest in strengthening capacity to address those gaps. We live in a world where anything can happen at any time. As Thabi said earlier on, we shouldn't be saying, oh, I wish we did this when we were responding against COVID-19. So
this is one of the biggest lesson in the message. But let us note the gaps and then invest in strengthening or building capacity in the areas where we are going to be able to address those gaps. Thank you so much, Garry.

Garry Aslanyan [00:40:21] We want to thank our audience for listening to today’s show. It was wonderful to have you engage with us in social media with our previous episode on Women in Science. We want to continue the conversation with you and hear of your country experiences in response to the pandemic and the lessons learned. Do get in touch with us through social media. Notes are available on our website, where you will also be able to access more information about this topic. In our next episode we will be traveling to Latin America and learning about how researchers have been engaging in social innovation. If you like this podcast, give us a five-star rating.

Elisabetta Dessi [00:41:04] Global Health Matters is produced by TDR, the Special Programme for Research and Training in Tropical Diseases. Garry Aslanyan, Lindi van Niekerk and Maki Kitamura are the content producers and Obadiah George is the technical producer. This podcast was also made possible with the support of Chris Coze, Elisabetta Dessi and Izabela Suder-Dayao. The goal of Global Health Matters is to provide a forum for sharing perspectives on key issues affecting global health research. Send us your comments and suggestions to tdrpod@who.int and be sure to download and subscribe wherever you get your podcasts. Thank you for listening.