Interview with …

Professor Francis Nkrumah, Chair, Project Advisory Group (PAG)

Professor Nkrumah is professor emeritus at the Noguchi Memorial Institute for Medical Research at the University of Ghana Medical School in Legon, Ghana

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Professor Nkrumah, let me start with a very basic question – how would you introduce yourself?
Simply, I am a pediatrician and a public health specialist. I did my first degree in medicine in Berlin, Germany, where I graduated in 1961 and subsequently did my postgraduate training in pediatrics at the Children's Hospital, Boston, and at the Harvard School of Public Health from where I graduated with a master's in public health, before returning to Ghana to take up an appointment as lecturer in pediatrics and child health at the University of Ghana. I later took up an appointment as professor of pediatrics at the University of Zimbabwe, where I stayed for about seven years. Then I returned to Ghana to take up an appointment as Director of the Noguchi Memorial Institute for Medical Research at the University of Ghana.

You are retired now…
Yes, I've retired now; the university accorded me emeritus status at the Institute. I still supervise some research activities at the Institute, particularly in the area of vaccine-preventable diseases and malaria.

You were retired when people approached you and asked you to become a member of the PAG, and to chair the committee. As a retired professor, you could have enjoyed life, retirement …what made you accept that extra responsibility?
Because I was and still am active, academically speaking. I am still assisting WHO/AFRO on immunization issues within the African region. I had been for 12 years chairman of the Task Force on Immunization (TFI), and so AFRO thought that since immunization was an area I had made some contribution to, that the responsibility of chairing the PAG for the Meningitis Vaccine Project [MVP] would be something I could assume. Initially when PAG was formed, there was no real chair. It was only at the last year's meeting in Malawi that PAG appointed me through WHO/AFRO to the chair.

Was it an easy decision to take?
After 12 years as TFI chairman, I thought that AFRO/WHO ought to appoint a new chairman. Chairing the PAG was more or less an extension, and after AFRO/WHO appointed a new chairman to TFI, I felt a little freer to assume this responsibility.

Why are you so interested in vaccines and vaccination?
Because of my personal interest, and my academic interest, in child health issues. Obviously, immunization is one of the simplest and one of the most cost-effective ways of preventing childhood morbidity and mortality.

Did you believe in MVP right from the beginning or were you a little bit skeptical?
I had been associated with MVP prior to my being appointed chairman of PAG because I had been also a member of the clinical advisory group, which is an international body that reviewed in detail the clinical development plans of this project. Sure, in the beginning, some of us were a little skeptical whether we could achieve the objective, and others were somewhat unhappy about the monovalency of the conjugate vaccine. They questioned the monovalent vaccine especially within the context of recent W135 epidemics.

People's opinion has changed—
Yes. Meningoccocus A is the major problem still, causing periodic large epidemics, and if we could address that very quickly, let's say, within the next ten years, eliminate it as a public health problem, we would have achieved a lot. This being said, we need to make sure that we have very sensitive surveillance systems that can predict if the epidemiology of the disease in any way changes or is affected by a mass use of a conjugate vaccine. I am sure that eventually we shall have conjugate vaccines covering the major strains. But at the moment, I think we should concentrate on eliminating [serogroup] A disease.

What kind(s) of issue(s) should MVP focus on now that the project is less into developing [a vaccine] and more into testing?
It's to make sure that the clinical trials are done properly. *Absolutely* scientifically, and ethically. This, I believe, is the major issue. In the past clinical trials have been done in Africa with questionable ethical premises, but we must make sure that the science is acceptable, and that the ethics are also acceptable. The group is there to protect the citizens and also to plan for the introduction of the vaccine once its safety and efficacy are proven beyond doubt. Those are the functions I see for PAG. Ensure that it's safe, ensure that it's efficacious, ensure that at the end the vaccine is used as widely as possible to eliminate epidemic disease as a public health problem.

This is not the first time that someone tries to develop a conjugate vaccine that could be used in Africa. Some tried and failed. What is the difference between "others and MVP," and what makes you believe that this time, it could really work?
Pharmaceutical companies are not charitable organizations, and they may start a project with an aim and a clientele in mind, and questions of cost/affordability weigh very high in their calculations. They may start a project in development but realize that the market will not bring the returns that they probably would like to see, and then they may drop it. I am sure that some of the pharmaceutical companies could develop vaccines, and there are others doing it, but at a very high cost that would not be affordable in the context of the African situation. Maybe for prevention for the Hajj and so on, but that would be for a very restricted market. For a very large market you need a very affordable vaccine, and this project by all calculations is attempting to do that. The plus of the MVP is that the project has found a company, SIIL [Serum Institute of India Ltd.], that can produce the vaccine at an affordable cost.

There was some concern among some advisors early on that the vaccine would be manufactured in India, not in Africa. Is it something that you were ever concerned about?
In Africa, I don't think we have the capacity—except maybe for South Africa. India, in the last few years, has really upgraded its pharmaceutical industry. Brazil also. And I think that's

one of the reasons that attracted MVP to go to Serum Institute. First of all, they produce large amounts of tetanus toxoid, and all they needed was the conjugation technology, which they were willing to acquire, and have acquired. So, I have considerable trust that it will be able to produce the vaccine on a large scale. India is now one of the major manufacturers of vaccines, and we should give them the opportunity to produce this vaccine. I know that at the beginning some were somewhat skeptical whether Serum Institute of India could deliver, especially at the stipulated cost per dose, but I think that they will be able to do so.

When you talk to your colleagues about MVP, what do they say?
I was glad that the 3-day meeting preceding the PAG was devoted to issues of communication. I don't think that this project has yet received the widest publicity within Africa. And we should start working on it. Many of our ministries and physicians working within the African meningitis belt are not fully apprised and aware that this development is ongoing. I think that should be corrected as soon as possible, so that demand is created and accepted by national governments. Because having 25 million doses of vaccine available, and having difficulty to really go on a massive scale of immunization serves no purpose. Those of us who are aware of the issues have to start as quickly as possible to create the demand. Most people in the meningitis belt know that epidemics bring about almost instant chaos and disruption to all health activities. We have to let them know that we are addressing that issue, and that very soon, we shall have a product that will eliminate, within a few years, these mass epidemics. But the story has not fully been communicated, I think we should make efforts in this direction, and I was glad to know that this issue came up in the 3-day meeting on communication and advocacy.

I totally agree with you. But taking into account the fact that serology and toxicology tests were not completed until recently, don't you think that it might have been a bit premature to widely advertise the vaccine when we really did not have much information about it? Wasn't there a risk of raising people's hopes too high, prematurely, and unnecessarily?
You are correct! We need to move in a systematic way, but also begin to let governments, ministries of health realize that this is coming. We should explain to them all the steps that are needed before the vaccine becomes available, so that when we have a product, they give us their full support. In Africa, to achieve 80%-plus of immunization coverage is no mean task. For more than ten years we've tried to get childhood immunization to 80% for the three important childhood immunizations, and it has been an ongoing battle in many countries.

Do you think meningitis might be different? Everyone says, "This is the most dreadful disease in Africa." Is it going to be easier to get people vaccinated for the disease and have a higher coverage?
It is, it is! It has the advantage that because people are aware of its impact, it will increase demand for vaccination and acceptability. So, I think that [that is] an advantage. It's the same as measles immunization. If you ask mothers, "Polio vaccine, DPT, measles, tetanus—choose which one you would prefer," they would all say "measles." Because they know the havoc that measles normally does to their children, so they are aware, and the demand is easy to create. The same would apply for meningitis.

There were very few women in the PAG at the beginning. Four of the nine current PAG members are women. What do you think about that?
[Laughter] Well, I don't really consider this as a gender issue very much. At the beginning, the first PAG meeting in Abuja was sort of an *ad hoc* PAG. It was not fully constituted. Then

we got to Harare, at which point the form of PAG started emerging, and I think AFRO and MVP sat down and said, "Look, let's really organize this, whether we can get the right type of people to form a more formalized PAG." Now, AFRO is a bit sensitive to gender issues, so to balance, and create gender equality … [laughter]. [editors' note : the transcript of an interview with PAG member Dr. Aissatou Touré-Baldé is available, in French, on the MVP website. The interview will be available in English shortly].

Do you think that 25–30 years ago it would have been thinkable to have a group of African scientists advise an international project such as MVP?
Thirty years ago, we did not have the capacity, we did not have the expertise in some of these areas—Africans with expertise in public health; Africans with expertise in immunology, expertise in clinical trials, expertise in ethical issues and IRB [institutional review board] issues. But now, we do. So I am not surprised that 30 years ago we did not participate in some of these trials that were initiated mainly from the advanced countries, conducted in developing countries without the fullest participation of African scientists. But things have changed considerably now.

The day before yesterday, you said that some countries, like Gambia, were suffering from too many clinical trials. Other people may argue that people who participate in clinical trials get something out of them, because they receive medical care during and sometimes after the trial, that they would not normally receive. What do you think should be done, then?
I think we should try to diversify clinical trials sites, not use certain populations all the time, and I think MVP is trying to do that. If you keep using the same population, the impression is created that you are using the population as guinea pigs, [and] that there's some indirect coercion being exerted on that community for accepting one trial after the next and after the next. We need to make sure that trial fatigue does not set in in the trial communities. We have to make sure that the scientists don't get overburdened, and that we don't have a site where simultaneously three trials are ongoing because one realizes that it is somehow easy to undertake that trial in that community for one reason or the other. Maybe there are some benefits, but definitely you have to weigh benefits against risks in these clinical trials.

You don't plan on retiring for good, do you ? ...
Somehow, I keep asking myself "what's the definition of retirement?" [Laughter] And when I find the definition, I'll decide what to do.

... because it can't be too much fun. Flying in, going to meetings, spending the rest of the time in a hotel where there's not much to do, flying out. You take it as part of your commitment to public health?
That's the way I see it. Also [the truth is,] one would get tired and bored of sitting at home doing nothing. So long as one is able to assist, give an opinion, a direction, here and there,… one feels useful.

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