An interview with Dame Sally Davies, Chief Medical Officer, England

by **Garance Upham,** Editor-In-Chief, AMR Control and Vice-President, WAAAR

25 April 2018 at the Ministry of Health, London, UK

Dame Sally was appointed Chief Medical Officer (CMO) for England and Chief Medical Adviser to the UK government in March 2011, having held the post on an interim basis since June 2010. She is an independent adviser to the government on medical matters, with particular responsibilities regarding public health.

Dame Sally advocates globally on AMR. She has spoken on AMR at numerous events including the World Health Assembly side events, the G8 science ministers' meeting in 2015, the Global Health Security Initiative in 2015, and the UN General Assembly side event in 2016. She was chair of the 2013 AMR forum at the World Innovation Summit for Health (WISH) and was for three years the chair of the WHO Strategic and Technical Advisory Group on AMR. Most recently, Dame Sally has been appointed a co-convener of the UN Inter-Agency Co-ordination Group on AMR, set up in response to the AMR declaration made at UNGA 2016.

Dame Sally was a member of the World Health Organization (WHO) Executive Board 2014-2016 and has led delegations to a range of WHO summits and forums since 2004.

She is currently a non-executive director on the boards of: The Institute for Health Metrics and Evaluation; Genomics England Ltd; The Blavatnik School of Government, University of Oxford; The Clinton Health Access Initiative; and UK Research & Innovation. She was formerly on the boards of Cumberland Lodge and Ashridge Business School.

From 2004-2016, Dame Sally was the Chief Scientific Adviser (CSA) for the Department of Health (DH), where she was actively involved in NHS R&D from its establishment and founded the National Institute for Health Research (NIHR).

Dame Sally received her DBE in 2009. She was elected Fellow of the Royal Society in 2014 and a member of the National Academy of Medicine, USA in 2015.

Garance Upham: Recently we learned that you will be leaving as Chief Medical Officer to become Master of Trinity College, Cambridge. You have been a passionate voice on AMR, so should we lament your departure or can we count on your continued involvement with AMR?

Dame Sally Davies: I will take up my new role at Trinity College, but I hope to and intend to stay active in the antimicrobial resistance field as well. We haven't solved the problem yet.

Garance Upham: You have been on the UN group on AMR, the IACG, which has just published its recommendations. In the IACG-civil society meeting I attended on 25 February, the Secretarial Lead, Dr Getahun suggested the need for a financing facility. Could this be something like the Global Fund?

Dame Sally Davies: Hum, No! The IACG has a large number of recommendations. Many relate to what countries have to do themselves and how the FAO, OIE and WHO Tripartite, as well as UNEP , should support countries. Implementation is needed; plans need to be funded.

At the Global level, and outside the IACG process, the Tripartite is looking at how to raise funds to do that. But it is different from a Global Fund-type mechanism.

Meanwhile we have what I see as being a very important recommendation: that once the IACG hands over its report, it is no more, it is disbanded, and we have recommended that a leadership group – or whatever it may be called – be set up. But we need to have a group of people who really care about AMR, who are experts and senior enough to keep the focus on AMR, keep up the momentum, and keep on top of the Tripartite, and UNEP, so the work doesn't drop down the agenda. So that's why we need a leadership group for that.

We think that, like in climate change, we need an independent scientific panel that assesses all the science across the One Health areas, and then looks at that and publishes what it means for the world, because that can drive action.

Think also that trillions of dollars are invested every year through the development banks, through loans, grants, infrastructure spending, as well as farm subsidies. What they need to do, which includes our development agencies, is look at the impact on climate change of these investments, as they do

for gender, and now start thinking how this impacts infections, infection control and antimicrobial resistance, and, if there is an impact, has it been properly addressed? We are asking for what we call an "AMR lens" by all these spenders, whether they are multilaterals, or national, or philanthropic.

We should try to get the money that's already out there, and it's massive, to work for the good of the world, by preventing infections and reducing AMR.

Garance Upham: Since you mentioned climate change, I wrote a memo with people at WAAAR on climate change and AMR for COP21 highlighting that extreme weather raised the spectre of massive flooding with the related risk of AMR spreading into the soil via the water supply . Shouldn't we pay more attention to the environment as a source of AMR? My sense is that the environment has been somewhat neglected.

Dame Sally Davies: Indeed, it is neglected. And the British government has offered secondment to the Tripartite to start to work on AMR in the environment, and we have also offered secondment to UNEP as well, on AMR.

Garance Upham: Extreme weather also means more disease outbreaks especially where infection control is weak. At the last WHO experts meeting, it appeared that all Member States have National AMR Plans, or just about all, in which IPC is mentioned, but isn't implemented or financed?

Dame Sally Davies: That is one of the very big risks and one of the reasons why we are very keen on having this "AMR lens" focused on all the money that is already being spent. Because you can have a bigger impact with that. But you also need to educate people. And it is not enough to have a plan, which can take a lot of work.

In Britain, we have the Fleming Fund which supports low-income countries with surveillance and in many countries we find that we also need to help them draft the plan. So, this can be a long haul.

Garance Upham: Recently the ECDC with Dr Monnet and Dr Cassini published official figures for AMR infections in the EU and Euro region calculated for 2015, and it appears that 426,000 AMR infections were hospital-acquired infections (HAI)?

Dame Sally Davies: ou have a better memory than me. laughing

Garance Upham: I thought it was remarkable reason to do more on IPC, on surveillance and on recording.

Dame Sally Davies: I absolutely agree, we need to be more vigilant than we are. So, interestingly, right before you came in, I was talking to a colleague who leads on AMR infection prevention and control for the Royal College of Nursing. She is doing wonderful work with our Chief Nurse on infection prevention and control. So, we have all sorts of people involved, and the nurses are leading, and they are makin the doctors improve.

Garance Upham: At the last WHO Executive Board, Dr Mike Ryan shocked the Member States as he said that "86% of Ebola cases in Beni in the DRC were acquired in healthcare settings". And that when mothers brought babies to healthcare centres for other ailments, many babies contracted Ebola there. Today Ebola continues to flare up. And tomorrow untreatable AMR infections will also spread in healthcare settings, don't you think?

Dame Sally Davies: Absolutely, we need more attention on infection prevention and control, and clean water and good sanitation as well.

If you look at the number of babies in low-income countries that are born and which develop sepsis, it is horrid, and much comes from the healthcare facilities they were born in.

And then if you look at AMR, in India alone, the data provided by Dr Ramanan Laxminarayan , reports that 60,000 babies die every year of AMR infections. So good infrastructure and good infection prevention and control; that's where it starts. And then vaccinations a bit later to prevent infections!

Garance Upham: The IACG insists on us all working together: national authorities, private sector, not-for-profit. Recently Lord Jim O'Neill, of AMR Review fame, has been questioning industry's willingness, saying some leading companies have invested more in stock buybacks than would have been necessary for the 23 measures laid out in his Review. He called for public authorities to step in.

Dame Sally Davies: Nationalization is not an answer. Academics have never been good at developing drugs. So we have got to get the private sector into it, whether we do it through partnerships, or through incentivization models, I don't mind, but we got to get them working on it.

In this country, the UK, there is a pilot that should start before the summer of two new antibiotics one in pre-licensing, and one just licensed and, in partnership with industry, we are going to try to pay on almost a subscription model, but basically for the value of what the antibiotic would bring and not by volume.

So we are trying, in this country, Some experimentation to see what we can do. But clearly, we need pharma to do more.

And we need investors to put money in the small biotechs, and the SMEs that are developing new antibiotics. There are some that are beginning to come through, but pharma is not always picking them up because they won't make enough profit.

Garance Upham: Among my close friends, Professor Jacques Acar is an adviser to the Fleming Fund and perhaps the oldest antibiotic researcher still active and travelling worldwide, and he was telling me that, in his view, WHO is prioritizing bacteria for AMR, which is

good, but some countries may have different priority pathogens. Any thoughts on that?

Dame Sally Davies: It is quite useful that WHO has drafted a priority list, but it is different from the CDC one, and that's why the Fleming Fund is working on this, as it is so important that low-income countries know where they are in their country, and what needs updating. We can update the list as we progress. I believe the UK government will continue to support the Fleming Fund.

Garance Upham: I followed your intervention in Parliament via the web. You had proposed that hospitals record patients who died from AMR Infections. In France, WAAAR also organized a session for Parliamentarians, but we got essentially assistants...

Dame Sally Davies: I've had that too, don't worry! Depending on what is going on that day!... Laughter...

Dame Sally Davies: My concern is that we don't have a public face for AMR. People don't know when they or their relatives have an AMR infection and what they hear instead is: "Oh well you have not responded well to this antibiotic, we will change it". But no one stands up and says: This bug is resistant to the treatment we gave you. We are going to try another one. So the concept of AMR and drug-resistant infection is not registered.

Meanwhile when a patient dies, if you did your investigating properly, you could record AMR, I have never heard a patient's relative say: "Oh my aunt died of AMR", but, rather: "She died of pneumonia whicht was difficult to treat"

So we need to change the conversation somewhat to give it a face.

Garance Upham: One of the ideas at WAAAR was to have antibiotics declared part of the UNESCO Human Heritage to be preserved. Dr Jean Carlet initiated that campaign. Any thoughts on that?

Dame Sally Davies: Well they are a Global Good and that would be one way of doing it. It's so novel, but I am not sure we are get here just yet. But I like the fact that you are even raising this, because we have got to get people to understand somehow how important they are: antibiotics are Global Goods and the short-term view that, well I'll feel better if I take them, has got to be balanced against a long-term view. So your suggestion is one way. I'm not sure we can achieve that, but I'm delighted you are pushing that because it makes the conversation happen!

Garance Upham: There are, in my experience, problems with the choice of the term "AMR". I hear people say for example: Oh I eat biofood and never take antibiotics. And they think that means they, on an individual basis, cannot be affected by AMR. They think it is their body that's resisting, instead of the bacteria responsible for the infection. In the early years there were discussions in the WHO on how appropriate the term "resistance" was...

Dame Sally Davis: Yes! They need to reflect on their microbiome and what they have got in there…

I'm with you on this. People don't understand – there is a need for a lot of explanations. The Wellcome Trust did a study on that some years ago. A lot of people think it's them being resistant to antibiotics, instead of the bug becoming resistant to the antibiotics. I'm with you.

If we were starting again, we would not use the term AMR would we? We have to find something better. But now the politicians and the politics understand AMR, so we can't change it there, but we need to talk to the public.

Garance Upham: On the one hand we try to reduce individual antibiotics prescribing, which is very high in France, WAAAR drafted an "Implementation Manual" in France on what each segment of society can do (as a Parliamentarian, as a patient, etc). But there are overlaps. Like AZT which is an antibiotic.

Dame Sally Davies: And now 70% of HIV+ patients have resistance to AZT…

We would argue that we should not use antibiotics when it's a viral infection, BUT, as common as the flu among the elderly, or children… Flu vaccination is important. Vaccination is important to prevent infections, both directly – because it is against bacteria or against viruses which predispose you to contract bacterial infections and indirectly to prevent outbreaks in communities.

Garance Upham: In your opinion, will Brexit lead to the United Kingdom having to forgo EU meat protection when it is obliged, through trade agreements, to purchase meat from the US or Brazil whch has less safeguards and more antibiotics?

Dame Sally Davies: My understanding is that the UK government said that when we move to developing trade agreement we will continue to work according to European standards.

Garance Upham: ou have been famous in the field for the work accomplished in AMR at all levels: in WHO, the UN, in the media, in every field. You told me at the beginning of this interview that you intend to stay active. How can you combine that with Trinity college?

Dame Sally Davies: Trinity college is very well organized. It is a great honour to be going there. But my government is very happy if I continue work on global AMR. And we haven't won the fight yet! I don't want to give up until we have!