



## WHO Virtual Press Conference on antibiotic resistance

### **Speaker key:**

- GH Gregory Härtl, Spokesman, WHO  
MC Dr Margaret Chan, Director-General, WHO  
KF Dr Keiji Fukuda, Special Representative of the Director-General on Antimicrobial Resistance, WHO  
AG Anne Gulland, BMJ  
CS Chris Smyth, The Times (London)  
HB Helen Branswell, STAT  
NM Nuala Moran, BioWorld Today  
MB Mary Ann Benitez, The Standard (Hong Kong)  
KC Katharine Child, The Times (South Africa)

GH Good afternoon and welcome to WHO headquarters here in Geneva for the press conference on antibiotic resistance. Dr Margaret Chan, Director-General of WHO, will make some opening remarks, followed by Dr Keiji Fukuda, the special representative of Dr Chan for antimicrobial resistance. Over to Dr Chan. Thank you very much.

MC Thank you, Gregory. Good afternoon to all of you, friends and ladies and gentlemen of the media. Let me say a few words and I'll be happy to answer any questions that you may have.

The rise of antibiotic resistance is a global crisis. More and more governments recognise the importance of this issue as one of the greatest threats to health today and the threat is easy to describe. Antimicrobial resistance is on the rise in every region of the world. We are losing our first-line antibiotics. This makes a broad range of common infections much more difficult to treat and of course to cure patients from the infections and replacement treatments are more costly, more toxic and need much longer durations of treatment and may require treatment in intensive care units.

Superbugs haunt hospitals and intensive care units all round the world. Gonorrhoea is now resistant to multiple classes of drugs and an epidemic of multi-drug-resistant typhoid fever is rolling across parts of Asia and Africa. Even with the best of care only around 50% of patients with multi-drug-resistant tuberculosis can be cured. With few replacement products in the pipeline the world is heading towards a post-antibiotic era in which common infections will once again kill.

If current trends continue sophisticated interventions like organ transplantation, joint replacement, cancer chemotherapy and care of pre-term infants will become more difficult or even too dangerous to undertake. This will mean the end of modern medicine as we know it. A global action plan to tackle antimicrobial resistance was endorsed by all Member States at

the World Health Assembly in May this year. One of the plan's five objectives is to improve awareness and understanding of the problem. Today I am launching a new global campaign and it's called 'Antibiotics: Handle with care', which is aimed at changing the way antibiotics are used. See, I'm wearing a button for the campaign.

We are also marking the first world antibiotics awareness week from 16<sup>th</sup> to 22<sup>nd</sup> November and encouraging governments, human and animal health authorities and partners everywhere to work with us to reduce antibiotic resistance and this is part of the multi-prong approach needed to save our medicines and save modern medicine as we know it. Thank you.

GH Dr Chan, thank you very much and before we move over to Dr Fukuda I would like to remind journalists online and listening, if they wish to ask a question, to please dial 0 1 on their keypad to get into the queue. Thank you very much. Dr Fukuda.

KF Thanks, Gregory. Also, good afternoon, everybody, and thank you for coming. I want to complement some of the comments and points made by the Director-General but first I want to make sure that we're very clear what we mean when we talk about antibiotic resistance. When we talk about that what we're saying is that we have a wide range of bacteria and pathogens which are no longer treatable or becoming very difficult to treat with medicines. It's not that people are becoming resistant to the medicines but it's the actual infections themselves are becoming much harder to treat.

As the Director-General mentioned, we're seeing this very broadly. We're seeing this among serious infections in hospitals. We see it among common infections caught in the community so urinary tract infections, pneumonia, skin infections and also infections like tuberculosis and we're seeing this in all parts of the world.

A second part of this phenomenon which is so important to understand is, as the Director-General mentioned, by reducing the ability to handle infection we are really talking about the ability to treat many chronic diseases, diseases like diabetes, like cancer. Patients who have these kinds of diseases are susceptible to infections and so it's not just people who are coming in with pneumonia, it's really a very broad group of people and consequently people are going to have infections for longer, more people are going to die, it's going to cost more and we're going to simply be able to not guarantee that we can do things like surgery as safely as in the past.

There are a number of different reasons for why we are seeing this phenomenon but I want to maybe highlight what is the basic, fundamental reason and that's that we are both overusing and misusing antibiotics both when we treat people but also when we use them among animals. This is the fundamental issue that we are going to have to turn around and the reason why this is so important is that this overuse and this misuse of these medicines is taking what happens normally – resistance can develop normally – it's just really accelerating the process, it's really jumping it up to a much faster speed.

Now, to turn this around, one of the key things is that we want and we need to have everybody understand we're dealing with a major issue and also to understand what are some of the right things to do and so to help this what WHO has recently done is conducted a large survey and so basically we asked about 10,000 people from around the world, from 12 countries around the world some basic questions related to their awareness about antibiotics

and so we asked people in basically all regions of the world and I think the findings are quite important.

On the good side we find out that the majority of people, about two-thirds of people said that they know about antibiotic resistance and they know that it's an issue that could affect them and their families, so that's the good news; the level of awareness is relatively good.

But there were a lot of misconceptions among the people in this survey. About three-quarters of the people, about 76% thought that antibiotic resistance meant that people were becoming resistant to the medicines and so I just want to be very clear again; it's the infections which are not becoming treatable.

A second misconception is that about 64% of people felt that antibiotics could be used for illnesses for which antibiotics are not really very helpful; so for example the common cold, things like flu; these are typically caused by viruses and they can't really be helped by antibiotics. So when we take antibiotics for those kinds of illnesses we help increase resistance but we don't get any gain from treating the illness itself. That's the second important point.

Another misconception is about one-third of people said that they thought that once they started feeling better if they were taking antibiotics that that was the time to stop. But this is exactly the time not to stop. When a doctor gives you a full course of antibiotics you ought to take the full course. This will make it least likely to develop resistance and so when your doctor gives you a course please follow the directions he gives to you.

And then finally the last misconception I want to just highlight is that about 57% of people said that they didn't feel that there was very much that they could do to stop antimicrobial resistance or antibiotic resistance; and I want to emphasise, this is very much not true. We firmly believe that everybody has a role in helping to reduce antibiotic resistance. And so for example one of the things that anybody can do; if you go to your doctor and your doctor says, we think you ought to take antibiotics, you can ask him, is this really true, do I really need them? And if the doctor says yes then take the full course, take them as they are prescribed to you.

So in ending, I just want to emphasise again that antibiotics are really one of the miracles of the time that we live in, they are a global good and they are also a global good that we cannot take for granted. It's clear that we're beginning to lose these and this is really an urgent global health issue. So these are a global good that we need to handle with care and that is why we are emphasising that theme for antibiotic awareness this week.

And so in closing, again we just want to emphasise that we believe that everybody – this means the general public, health workers, farmers, policy-makers – everybody has a critical role in turning this around. Thank you.

GH Dr Fukuda, thank you very much. Before we go to questions I'll just remind journalists once more that if you wish to ask a question please dial 0 1 on your keypad to get into the queue. The first question is from Ann Gulland – excuse the pronunciation of your name – from the BMJ. Go on, please.

AG Okay, thanks very much. I just want to say, I think, I just wanted to check who the campaign is aimed at. I mean, you said earlier that it was for public and health professionals but are there any particular sort of messages for doctors in the campaign that you want them to be aware of?

MC Thank you, Ann, for asking that question. Doctors, you know, need to treat antibiotic as a precious commodity and, you know, try to resist the pressure from individual patients who come in with a cold or flu or a viral infection asking for antibiotics. And it would be important for doctors, who are very trusted by their patients, to explain to them the reasons why for any viral infection antibiotics are not needed.

And of course another thing doctors can do is when they prescribe a full course of antibiotics they need to remind patients because it's not automatic that patients will take the full course and, you know, our survey have indicated that when people begin to feel better with antibiotics they stop halfway. So it is important that doctors also give a word of advice to the patients. So these are just a couple of very concrete, specific things that doctors can do; do not overuse it, over-prescribe it and give appropriate advice to the patients. Thank you, Ann.

KF And, Ann, if I can just add to what the Director-general said, we are aiming this campaign very broadly. I think one of the key things about this phenomenon, what we're trying to do is that we need doctors on board, we need health workers on board but we need a very board range of people on board. We need people who handle food, who handle agriculture, we need policymakers, we need the financial sector to be aware that this is a very broad issue affecting, you know, society broadly and all of their help is going to be needed. So this is really a general wake-up call for everyone.

GH Thank you. The next question comes from Chris of the Times of London. Go ahead, please.

CS Thank you. I just wanted to ask how direct a connection you are drawing between the opinions of the general public that you found in your survey and the rise of antibiotic-resistant, you know, infections as opposed to the impact of prescribing policies, control policies of governments.

And then connected to that and the point about how much can individuals can really do, how much difference would it realistically make if patients did challenge their doctors when they were offered antibiotics and say, do I really need this; how much difference can that make to this global struggle?

MC Thank you for that question. I will make some comments and of course I will invite Dr Fukuda to make further comments. Now, I always feel that the power of individuals is huge. It is important that we provide them with the knowledge and the know-how. As an individual, speaking as a mother and as a teacher myself before I became a doctor, when I get sick I always, before I became a doctor, asked for the miracle medicine and this is a temptation patients should also try to resist and it is important that, you know, another important point is self-medication.

In some countries it's not too difficult to get antibiotics without a proper prescription so it is on the individual that they should seek proper attention and medical advice before they embark on self-medication with antibiotics. And as you clearly pointed out, it needs policy-

makers who make sure that the availability of antibiotics is properly regulated, you know, either at the pharmacists' level with prescription, at the doctors' level and, you know, also not just in the health sector, in hospitals and clinics, but also in the agricultural sector.

Far too many countries use antibiotics as growth promoters. I think it is recognised that we do need antibiotics to treat sick animals, like to treat sick patients, but using, a very liberal use of antibiotics as a growth promoter should not be encouraged and we are working with OIE and FAO colleagues to encourage governments to, you know, put in place the right kind of policy to use antibiotics only on a need basis. So I'll stop here and ask Keiji to come in.

KF Thank you, DG. I think, Chris, just to amplify on one of these points here, we think that changing the behaviour and the expectations in the general public would be a huge, huge influence. I mean, if we look at what happens in doctors' offices, oftentimes patients will go in asking for medicines, basically demanding medicines and we know that this can very much influence the prescribing behaviour of doctors. But particularly if we look at countries which do not have strong regulatory approaches and in which the access to antibiotics can be much easier than it is, for example, in Europe, we know that people just going in can ask for antibiotics for, you know, a very wide range of illnesses, many of which are not going to get treated.

And so I think that having the public understand that kind of action can in fact in the long run really hurt them, hurt their families, hurt the communities is a huge point and very much we would like to see that change.

GH Thank you again, both of you. Next question is from Helen Branswell. Go ahead, please, Helen.

HB Hi, thanks very much. Dr Fukuda, earlier you were talking about the fact that the threat is not just that we won't be able to resolve infections but chronic diseases and other ailments will also be more difficult to treat because if resistance rises and these drugs are lost; is anyone doing modelling to give the world a sense of how imminent the problem is? I mean, is there a point after which you think life expectancy may start to decline again because of the failure of antibiotics?

KF Helen, thanks for the question. I think it's a really important question looking forward. You know, right now we have rudimentary information, rudimentary knowledge that, you know, in some parts of the world like North America and in Europe and in Thailand what the direct impact of antimicrobial resistance is on life expectancy and on cost. But we really don't have that much information on the longer-term and wider implications of it.

For example, even though we know that many people will die from it, in the future if these trends continue the number of deaths will increase and what kind of impact will we see more broadly on life expectancy potentially, what kind of impact will we see on productivity of societies, particularly if we have younger people who become disabled or sick or die from these infections? And so I think that this is an area which we're going to have to understand more and we're going to have to do some, much more analysis in this area.

MC But Helen – it's Margaret Chan, Helen – I think, you know, in Europe and also in North America we have pretty good statistics pointing to the fact that antimicrobial resistance is costing, you know, many, many more infections and the cost of a hospital stay and longer

and more costly. And those data we would be happy to provide, you know, they are readily available. But Keiji is correct in saying that we need more and better data in countries that have yet to begin to collect those data.

And, you know, with more data we would be able to do the kind of modelling that you're talking about. What is the impact of not taking action? Already, you know, we feel that the actions should have been taken longer and we know that in some Nordic countries clearly they took very prompt actions and being able to contain the problems and I can give you a specific example like the Netherlands, Denmark and a few. They have stopped the use of antibiotics as growth promoters and of course the agricultural sector and the private sector would be afraid that they're going to lose their business. And on the contrary, the meats they produce fetch premium price and in fact there is no economic loss and it is good for public health and good for everybody.

So that kind of experience; we need to make it more aware to other countries and share with other countries, especially countries that are big producers of, you know, all sorts of meat.

GH Thank you. Before we go to the next question, just to ask journalists if they have a question they'd like to ask to dial 0 1 on their keypad to get into the queue. We move next to a journalist from BioWorld. Go ahead, please.

NM Oh, hello, good afternoon. It's Nuala Moran from BioWorld Today. I wanted to ask you, how can the obvious need to reduce the use of existing antibiotics be balanced against the need for the pharmaceutical industry to have a commercial incentive to develop new ones? Because obviously if you're saying, limit the use of these products, you're going to be limiting the size of the potential market.

MC Well, thank you for that question. In fact antibiotics are not a very profitable business, so to speak, to the big pharmas. You know, we have discussions with them and the reason why there is a very, pretty empty pipeline and yet they are not investing in the R&D to produce new antibiotics is because the business case is not good, not strong. So on the contrary, antibiotics, unlike other more expensive medicines like, say, for cancer and for other conditions, is not seen as a profitable product line for the pharma companies.

And we are now, I mean, in discussion with them and of course through the G7 leaderships of countries and for your information, the German leadership for this year when they have a G7 health ministers' meeting in Berlin, one of the important discussions is on antimicrobial resistance and we discuss about, you know, what is the incentive for big pharmas to invest in antibiotics and what are the other policy mechanisms that can be there to make sure a precious commodity like antibiotics is conserved so that its usefulness can be stretched for as long as we could and by appropriate regulations.

But on the other hand, also encourage countries whose scientists are working – instead of separately, they should come together and share some potential molecules and to reduce the cost of R&D and bring on the pipeline, effective antibiotics for various diseases. Thank you for that question.

GH Thank you. At the moment we don't have any more questions in the queue. However we see that quite a few journalists have just come online so we'd like to give them a minute

or two in order to dial 0 1 and to get into the queue and it looks like we have now Mary Ann Benitez from Hong Kong. Mary Ann, if you could go ahead please.

MB Hi, Dr Chan, Dr Fukuda. Nice talking to you again. I'd like to ask you, how does Asia stack up in terms of the other countries and why was it that the US and some Western countries like Germany weren't included? Especially as, in Hong Kong, as you know, China is the biggest food importer into Hong Kong, what is the antibiotics level, use of antibiotics in animal husbandry in China, would you know that? Thank you.

KF Mary Ann, maybe I can get started here. We know that, you know, Asia has very high levels of resistance, basically in all of the countries. You know, the use of antibiotics is high and the levels of resistance again across the kinds of bacteria that we're seeing in all parts of the world, the infections in hospitals, the ones gotten in communities, that levels of resistance are very high in Asia. And so I won't single out individual countries for what we see here but it's, you know, it's not doing any better than any other part of the world, to be very blunt.

GH Okay, thank you. Next question is a follow-up from Chris of the Sunday Times. Go ahead, please.

CS Yes, I just wanted to ask about how you convince individuals that this is something that affects them, particularly when, you know, the rhetoric around this is quite heated and there's sort of really no room left to go and you're really saying, you know, this could lead to the end of modern medicine as we know it. Is there a danger that people will sort of switch off and think that's hyperbole and how do you convince them that this is something that can directly affect them?

KF Well, Chris, I think the key here, like all of these difficult public health problems – and we know that we face many of them – is really what can be done about it. What we need to do in order to not have people turn off is to understand that there are a lot of steps that can be taken. So for example, we know that increasing the understanding about the situation is one of the actions that can be taken. Improving how regulation of these medicines takes place is one of the things that can be done.

Changing how we prescribe and use these medicines both in human health as well as in the agriculture sector is another thing which can be done and as the Director-General mentioned, changing those behaviours in some of the countries in Europe has dramatically reduced the levels of antibiotic resistance in some of these countries so we know it's not just theoretical, that it can really be turned around.

And, you know, improving, working with the private sector as well as the public sector to make sure that we have the right initiatives, to make sure that we have the right incentives and factors to stimulate research and development of new medicines on a long-term basis, not just a one-time effort but on a long-term basis and making sure that we have the right ways to distribute these medicines so they're not just, you know, sold in an uncontrolled way or distributed in an uncontrolled way.

All of these things can be done and it's really finding ways to do that which all countries can do, you know, not just the richest countries but all countries can do. I think that by taking these kinds of actions, making these kinds of possibilities real and practical for people, for

communities, for countries; this is what's going to allow people really not to turn off but to say, okay, this is something that we will engage on.

MC Chris, I want just to supplement what Keiji has said. Sometimes, you know, for doctors the language we use may be difficult to understand, to empower individuals that they can take action. You know, I know that the Chief Medical Officer from the UK and also the Minister of Health from the Netherlands take it upon themselves to introduce very simple language, easy, you know, things for people to understand and we are also learning from those books that they have developed and will work with the community precisely as what you said; how can we make sure that we can convince people that every individual, something can be done?

Let me, at the risk of repeating – I don't know whether you were joining us at the beginning – on an individual level if you do need to take a full course of antibiotics don't stop halfway. That is already a very powerful message that can be conveyed by doctors to the patient because without taking the full course of antibiotics you run the risk of getting (sic)\* resistance and it's not good for your health. So this is something that, you know, individual, governments and business as well as, you know, the animal sector and the health sector can do something. Thank you.

GH Thank you. Next question is a follow-up from Nuala of BioWorld. Go ahead, please.

NM Thank you. I just wondered how you're going to measure the success or otherwise of this campaign.

KF Well, I think it's much more than the campaign that we're focussed on. I think that what we're really focussed on is how we're going to measure actually making a difference, you know, and so what does making a difference mean? Well, I think that over the next five to ten years we really need to begin to see that the right practices and the right mechanisms are put in around the world and we're also going to want to make sure that we begin to see some of the results of putting those right practices and mechanisms in the world.

So we hope to see a turn-around in the increase and begin to see at least a decrease in some of these areas. We want to eventually begin to see a decrease in the number of hospitalisations and deaths associated with this and we want to see that there is a really practical and sustainable way for new technologies, you know, the new medicines that we need, the new tests that we need to come on board and they're not just available but they're really accessible to, you know, all countries.

So these are some of the things that we're going to want to see a difference in over the next five to ten years but it's not going to turn around very quickly, I want to be very clear about that. We want to begin to see that reversal in many parts of the world but to turn this around in all parts of the world is going to be, you know, it's going to take us decades and it's not going to simply be a one-time action, we're going to have to sustain it. It's basically a race against the pathogens that we deal with.

GH Thank you very much. We're doing a final check on questions. If any journalist has a question please dial 0 1 on your keypad. In the meantime, just to remind you that this press conference is being taped and the audio file will be up on the website, [www.who.int](http://www.who.int) shortly after the end of this press conference and there will also be a written transcript.

We do have one more question from Katharine of The Times, if we can read it correctly. Go ahead, please.

KC Hi, this is Katharine from South Africa. One of our leading doctors here who works with antibiotic resistance was saying that sometimes doctors give antibiotics for too long, the course is too long and it's a myth that you need to finish your course. And I know the central message in your campaign is that people must finish the course of antibiotics that the doctor has prescribed. I mean, is this something that is actually being debated? Because, I mean, he said this whole idea of having to finish your antibiotics is not actually true because the more you take them the more the pathogen is exposed to them and the easier is it for it to become resistant.

MC Katharine, let me say something and then as you were speaking, asking the question I know what you're saying because if somebody has a course of, needs a course of antibiotics, say, for seven to ten days, you finish it, it's easy. But that does not necessarily apply to other diseases. For example, somebody has a tuberculosis infection and you may need to take medicines for a longer period in order to get cured and that is precisely – you know, I'm talking about tuberculosis – if you do not finish the full course of treatment that can be as long as several months the consequences are dire because, you know, you may, number one, may not be cured and then you may need to go on to much more toxic second-line medicines.

And we are – this is precisely what we are seeing. Worldwide we are seeing a multi-drug-resistant tuberculosis, MDR/XDR-TB, and this is going to be extremely challenging for many ministries of health, not only from the perspective of treating these patients but on the individual it's much more difficult to get well and also the healthcare costs. So all in all, depends on the type of the diseases we're talking about. The duration of a full-course treatment varies.

KF Katharine, let me also add on again to what the Director-General said. When we look at people getting treated for infections it's very clear that there's an extremely wide range. I mean, some people get treated for a day or so for urinary tract infections, up to months or years if they have a severe bone infection. And I think that depending on the kind of infection that you have, the duration that you should be treated is going to vary.

And again it can be very wide but, you know, these are very difficult issues for an ordinary patient to guess at and, you know, this is really, you know, where doctors have spent decades, doctors and scientists, trying to work out and so I think our basic point here is that your doctor is going to be the person who best knows for your infection what is the appropriate treatment, what's the appropriate length of treatment and really not to try to second-guess that. It's kind of like betting against the house. Thank you.

GH Dr Fukuda, Dr Chan, thank you very much for your presence here today at the beginning of antibiotic awareness week. For those of you listening in, the transcript and the audio file will be available on the WHO website, [www.who.int](http://www.who.int). Thank you.

\* Word should be: 'contributing to' resistance