



Antimicrobial Resistance in the European Union and the World

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**The EU's contributions to the solutions of the global antimicrobial resistance problem
Keynote address at the conference on Combating antimicrobial resistance: time for action**

**Copenhagen, Denmark
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Your Royal Highness Crown Princess Mary, excellencies, distinguished delegates, experts, representatives of regulatory authorities, agencies for disease control, and civil society, ladies and gentlemen,

You are meeting to explore what EU Member States can do to solve what you rightly recognize as a serious, growing, and global threat to health.

Drug-resistant pathogens are notorious globe-trotters. They travel well in infected air passengers and through global trade in food. In addition, the growth of medical tourism has accelerated the international spread of hospital-acquired infections that are frequently resistant to multiple drugs.

Let me acknowledge the work of the European Centre for Disease Prevention and Control, or ECDC, in so quickly conducting risk assessments of the spread of NDM-1-producing bacteria within Europe.

Surveillance is on your agenda. This kind of rapid response to an emerging threat speaks well of the EU's capacity to protect its citizens. It also demonstrates the EU's capacity to generate models, useful elsewhere, for combating antimicrobial resistance on multiple fronts.

The EU has its eyes wide open to the problem. This is readily seen in the number of recent policies, directives, technical reports, strategies, and regulatory decisions designed to reduce antibiotic consumption, in humans and animals, ensure the prudent use of these fragile medicines, and protect specific agents that are critically important for human medicine.

You have moved forward in remarkable ways, as reflected in several EU-wide networks for surveillance of both resistance and consumption, and for susceptibility testing.

Thanks to this surveillance, we know that consumption patterns and resistance levels vary greatly across Europe, pointing to a clear need to share experiences and harmonize best practices.

The EU's progress is also reflected in success stories in individual countries. Worldwide, the fact that greater quantities of antibiotics are used in healthy animals than in unhealthy humans is a cause for great concern.

This makes it all the more an honour to speak to you in Denmark. Like several other EU nations, Denmark has achieved low domestic antibiotic consumption through multisectoral collaboration and a range of targeted measures.

In particular, Denmark has tackled the problem of antibiotic use in food-producing animals in a pioneering way. Recognizing the potential for a health crisis, this country progressively ended the administration of antibiotics as growth-promoters in the late 1990s, well before the EU-wide ban.

An international review panel, set up by WHO at the request of the Danish government, concluded that the ban reduced human health risks without significantly harming animal health or farmers' incomes.

In fact, Danish government and industry data showed that livestock and poultry production actually increased following the ban, while antibiotic resistance on farms and in meat declined.

What began as the Danish "experiment" became the Danish "model".

The termination of the use of antibiotics as growth promoters had a voluntary component on the part of industry, strongly motivated by consumer concerns. I congratulate industry for its responsible actions.

There is another lesson here. Never underestimate the importance of consumer groups and civil society in combating antimicrobial resistance. They are important movers, shakers, and front-line players, especially in this age of social media.

Ladies and gentlemen,

The antimicrobial threat is easy to describe. It has an irrefutable logic.

Antimicrobial resistance is on the rise in Europe, and elsewhere in the world. We are losing our first-line antimicrobials. Replacement treatments are more costly, more toxic, need much longer durations of treatment, and may require treatment in intensive care units.

For patients infected with some drug-resistant pathogens, mortality has been shown to increase by around 50%. Let me give an example of what this means for a disease of global significance.

Among the world's 12 million cases of tuberculosis in 2010, WHO estimates that 650,000 involved multidrug-resistant TB strains. Treatment of MDR-TB is extremely complicated, typically requiring two years of medication with toxic and expensive medicines, some of which are in constant short supply. Even with the best of care, only slightly more than 50% of these patients will be cured.

Many other pathogens are developing resistance to multiple drugs, some to nearly all. Hospitals have become hotbeds for highly-resistant pathogens, like MRSA, ESBL, and CPE, increasing the risk that hospitalization kills instead of cures. These are end-of-the-road pathogens that are resistant to last-line antimicrobials.

If current trends continue unabated, the future is easy to predict. Some experts say we are moving back to the pre-antibiotic era. No. This will be a post-antibiotic era. In terms of new replacement antibiotics, the pipeline is virtually dry, especially for gram-negative bacteria. The cupboard is nearly bare.

Prospects for turning this situation around look dim. The pharmaceutical industry lacks incentives to bring new antimicrobials to market for many reasons, some of which fall on the shoulders of the medical and public health professions. Namely, our inability to combat the gross misuse of these medicines.

From an industry perspective, why invest considerable sums of money to develop a new antimicrobial when irrational use will accelerate its ineffectiveness before the R&D investment can be recouped?

A post-antibiotic era means, in effect, an end to modern medicine as we know it. Things as common as strep throat or a child's scratched knee could once again kill.

Some sophisticated interventions, like hip replacements, organ transplants, cancer chemotherapy, and care of preterm infants, would become far more difficult or even too dangerous to undertake.

At a time of multiple calamities in the world, we cannot allow the loss of essential antimicrobials, essential cures for many millions of people, to become the next global crisis.

Ladies and gentlemen,

As a follow-up to last year's World Health Day, on antimicrobial resistance, WHO has just launched a new document setting out options for action to combat antimicrobial resistance. As that document notes, much can be done to limit selective pressure on bacteria to develop resistance.

Namely: Prescribe antibiotics appropriately and only when needed. Follow treatment correctly. Restrict the use of antibiotics in food production to therapeutic purposes. And tackle the problem of substandard and counterfeit medicines.

The EU is doing many of the right things well.

You have a five-year action plan with twelve lines of action, underscoring the need for a broad-based, multi-pronged response. There is a strong convergence between these actions and those in WHO's European strategic action plan on antibiotic resistance, launched last year. This sets the stage for many jointly-undertaken activities.

Last year, the WHO Regional Office for Europe also issued a guide to options for the prevention and containment of antibiotic resistance from a food safety perspective.

The EU is making good use of regulatory tools, and has solid technical backing from agencies like the European Food Safety Authority and ECDC.

You have launched an unprecedented collaborative R&D effort to bring new antimicrobials to market. You emphasize the need to prevent infections in the first place, whether through vaccines or better hygiene, also in animals.

And you recognize that new point-of-care diagnostic tools are another way to improve prescribing practices and promote prudent use. Your European Antibiotic Awareness Days keep the public alert to the threat and their role in diminishing it.

But the threat, as you have noted, is indeed global, extremely serious, and growing.

Political will at the highest level is essential. Over many years, WHO and the EU have repeatedly drawn attention to this threat in appropriately dramatic statements, as during last year's World Health Day.

Yet attention is still sporadic, and actions are far too inadequate. In my personal view, one problem is that the threat of antimicrobial resistance is competing for attention in a world beset by one global crisis after another. These days, doomsday scenarios are a dime a dozen.

To underscore the severity of this global threat, let me briefly remind you of the daunting challenges facing developing countries.

Many countries are crippled by lack of capacity, including laboratory, diagnostic, quality assurance, regulatory, and surveillance capacity, and control over how antimicrobials are obtained and used.

For example, anti-malaria pills are sold individually at the local marketplace. Counterfeit and substandard antibiotics abound. In many countries, the pharmaceutical industry is the principal source of prescribing information for doctors.

Good public health practices are undermined by utter poverty. When resources are extremely limited, will a doctor use precious money to treat as many patients as possible, or invest in diagnostic tests?

When people travel very great distances to reach a health post, they want something in return. They demand something: an injection or some pills. They do not take “no” for an answer.

WHO is aware of these challenges and is addressing them, also through strategies for combating antimicrobial resistance adopted by other WHO regions. Recent WHO-coordinated initiatives are described in the new document I just mentioned. Building capacity, including regulatory capacity, is a built-in component of these initiatives.

WHO work, aided by international partners, including the EU, pioneered the way forward through laboratory and surveillance networks set up to track multidrug-resistant TB and HIV-associated drug resistance.

Again, we have a good model for moving forward and are building on this success.

Ladies and gentlemen,

I thank Denmark for raising the profile of antimicrobial resistance during its EU presidency. I thank the EU for its collective progress, and striking progress within individual countries. I thank you for your unwavering support to WHO.

We have many challenges ahead, and a long way to go. But we have solid success to build on. And we are steadily on our way.

Thank you.