

The fight against **Antimicrobial Resistance** supports efforts towards **Child and Adolescent Health**

Why pay attention to antimicrobial resistance (AMR)?

Antimicrobial agents like antibiotics are essential to treat some human and animal diseases. Microbes, such as bacteria, can develop resistance to antimicrobials meaning that a drug such as an antibiotic is no longer effective in treating the infection. The development of resistance is caused by the incorrect use of these drugs, for example, using antibiotics (which help to treat bacteria) for viral infections like flu, or as a growth promoter in agriculture.

Because of this the world is running out of effective antibiotics to treat infectious diseases, and unless appropriate action is taken, decades of progress in health and medicine risk being undone. AMR not only costs a lot of money but also generates a lot of suffering.

In May 2015, the World Health Assembly (WHA) endorsed a global action plan on AMR and urged all Member States to develop national action plans. WHA72 (May 2019) called for an accelerated implementation.

Why pay attention to Child and Adolescent Health (CAH)?

Most children and adolescents in the WHO European Region have a happy and healthy childhood; however, widespread inequalities remain within and between Member States. The health of children and adolescents needs to be prioritized as many health problems persist, and newly arising problems need to be addressed.

To ensure that every child has every opportunity to live a healthy and meaningful life, European Member States adopted “Investing in children: the European child and adolescent health strategy 2015–2020”. The strategy recommends adopting a life-course approach which recognizes that adult health and illness are rooted in health and experiences in previous stages of the life-course.

How can both issues benefit from each other?



The risk of acquiring, and dying from, infectious diseases is highest among children. As a result, they are frequently treated with antibiotics. In this case, effective antibiotics are important. However, antibiotics are used too much on them, often for mild bacterial or viral infections that don't need antibiotics. This overuse leads to problems: In addition to the development of resistant bacteria, they can also have severe side effects. One long-term side effect may be weight gain, which happens when antibiotics destroy good bacteria in the gut. Children with obesity are more likely to develop diabetes, asthma, heart disease, and other health problems as they grow up.

Healthy children do not need antibiotics. Children with severe bacterial infections need effective antibiotics. Therefore, strategies to tackle AMR and to improve CAH must go hand in hand.

What are WHO/Europe's priorities regarding AMR and CAH?

Guidelines for the treatment of children

Children typically have several episodes of respiratory tract infections and diarrhoea before their fifth birthday. 75% of these respiratory tract infections and over 90% of the diarrhoeal infections are unnecessarily treated with antibiotics.

Better guidelines must be set to increase evidence-based practice and decrease incorrect prescription.

In addition, children are hospitalized up to 20 times more frequently in some countries than in others in the WHO European Region. Hospitals are the perfect breeding ground for the spread of dangerous antibiotic-resistant bacteria. Clear criteria must define when to refer and admit children. It must be avoided that children are hospitalized simply because the hospital benefits financially.

Water, Sanitation and Hygiene (WASH)

Clean water, safe sanitation and good hygiene are essential for everybody's health. Inadequate WASH contributes to the spread of diseases, such as diarrhoea, but also to the emergence and spread of AMR. Infants and children under the age of 5 are particularly vulnerable to diarrhoea as a leading cause of malnutrition and death.

WHO/Europe supports the implementation of the Protocol on Water and Health. The Protocol is the first and only international legal agreement linking sustainable water management with the prevention, control and reduction of water-related diseases in the European Region. The Protocol entered into force in 2005, becoming legally binding for the ratifying countries. Furthermore, WHO/Europe promotes improving WASH in schools – by publishing an information package (2019) for school staff, for example – and health care facilities.

Antibiotic Stewardship for a prudent use of antibiotics

Antibiotic Stewardship refers to interventions designed to promote the optimal use of antibiotic agents, including drug choice, dosing, route, and duration of administration. To address AMR, all clinicians must become stewards of antibiotics by prescribing them appropriately. The distinctive nature and importance of the impact of AMR in children must be taken into account. WHO/Europe has developed a massive open online Antibiotic Stewardship course for a competency-based approach. It is free and accessible on OpenWHO (<https://openwho.org>).

Achievements so far

WASH in the WHO European Region:

63 million people gained access to drinking water services between 2000 and 2017. Two out of three countries (35 of 53) reported 100% of their homes connected to the water supply system, but a number of Eastern European countries still have gaps in their drinking water supply.

84 million people gained access to sanitation services between 2000 and 2017. Most countries reported a high percentage of their population having access to sewage systems, with an average of 95%. Turkmenistan (63%), Russian Federation (72%), Republic of Moldova (76%) and Romania (79%) still need improvement.

26 countries have ratified the Protocol on Water and Health, covering about 60% of the population of the WHO European Region.

Stewardship Online Course:

23 000
enrolled learners from

174
countries after 1.5 years



Guidelines for the treatment of children:

In the WHO European Region, evidence-based guidelines, such as WHO Integrated Management of Childhood Illness (IMCI) and the Pocket Book of Hospital Care for Children (2nd edition, 2013), have been contributing to:

1. improved quality of care by promoting evidence-based standards;
2. improvements in the rational use of antibiotics in 14 countries; and
3. the reduction of unnecessary hospitalization.

Simon died because of a simple bacterial infection



Everly Macario's son, Simon, was a happy, healthy baby until, at around 18 months-old, he came down with a fever.

"We took him to the hospital in the evening and by the following morning he was gone. Simon died from a rapid onset infection. Months later, we learned from the autopsy results that the cause of his death was *Staphylococcus aureus* resistant to the antibiotic methicillin, known as MRSA—a 'super-bug'. At the time, neither my husband nor I had ever heard of it. We've since learned that, because of the over-prescription and misuse of antibiotics, as well as the use of antibiotics in animals we eat, we've created an environment that causes 'weaker' bacteria to die off, allowing stronger competing strains to survive. It's ironic to me that the same advances in science that led to healthier and longer lives have resulted in the unintended consequence of the creation of bacteria that no longer respond to antibiotics.

I can't believe I had to go through what so many families experienced 50 years ago: The death of a child caused by a simple bacterial infection."

"Please think about what you can do today to raise awareness and combat antibiotic resistance – Simon's death will not have been in vain and future generations will thank you."

The fight against AMR requires everyone's commitment. Support us by giving this important issue the high priority it deserves, by taking the appropriate decisions and implementing effective measures – and always in line with CAH!

Resources and contact

www.euro.who.int ► Health topics ► Antimicrobial resistance
www.euro.who.int ► Health topics ► Child and Adolescent Health

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