

Fighting antimicrobial resistance

A guide for **aquatic animal
health professionals**



Imagine a world where infections and diseases in animals, humans and plants cannot be treated. This worst-case scenario could become a reality as some bacteria, viruses, fungi and parasites develop resistance to the drugs we use to fight them. Antimicrobial resistance, or AMR, has become one of the most pressing health issues of our time.

Solutions exist and you have a role to play to address this global threat.



World Organisation
for Animal Health
Founded as OIE

As an **aquatic animal health professional**, you are at the forefront of the fight against antimicrobial resistance. Misuse and overuse of antimicrobials in aquatic animals can lead to the development of resistant pathogens and undermine global health. As you have the power to prescribe and use antimicrobials, you have an essential role to play. Let's preserve the efficacy of antimicrobials by using them responsibly and only when necessary.

Here is what you can do every step of the way.



Advocate for preventive measures

Educate aquatic animal producers on good biosecurity and husbandry practices to reduce the disease burden in aquatic animal populations and, therefore, the need for antimicrobials.

Steer aquatic animal producers towards vaccination to help reduce the need for antimicrobials globally.



Make a proper diagnosis

Collate the full history of the aquatic animal population.

Conduct a thorough clinical examination.

Take samples from animals showing signs of disease for further testing.

Prescribe responsibly

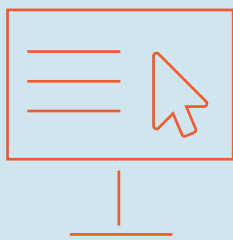
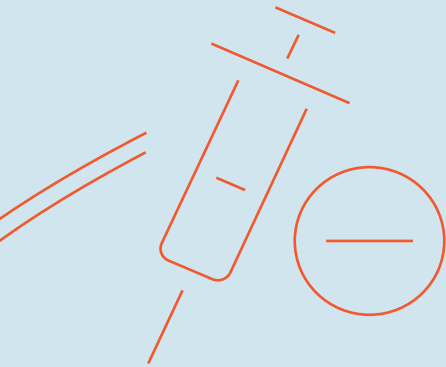
Evaluate corrective management measures on water quality and all the therapeutic alternatives to antimicrobials. **Prescribe antimicrobials only when necessary**, when no other treatment is possible or when it is the best possible option.

Think ahead before prescribing antimicrobials: using antimicrobials when unnecessary (i.e. to compensate for inadequate aquatic animal husbandry practices) is a quick-fix today with serious long-term consequences.

Check local guidelines to select relevant drugs for use in aquatic animals before prescribing antimicrobials.

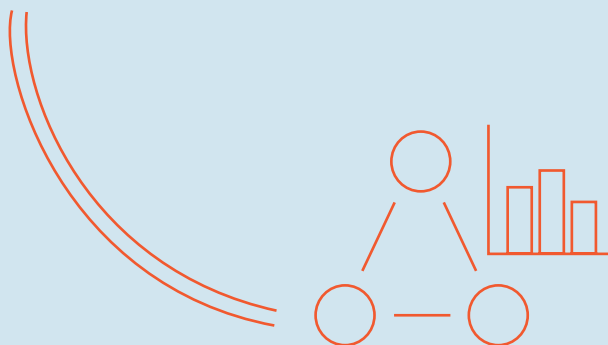
Perform an antimicrobial susceptibility test before prescribing critically important antimicrobials.

When prescribing antimicrobials, always **indicate dosage regimen** (dose, treatment intervals, duration), **withdrawal periods, and total amount of antimicrobials/medicated feed** to be delivered. Guide aquatic animal producers to a **reliable procurement source of antimicrobials or medicated feed** to avoid the use of substandard or falsified products.



Maintain your knowledge

Keep up-to-date with information and recommendations on antimicrobial use and the fight against antimicrobial resistance.



Help monitor antimicrobial use

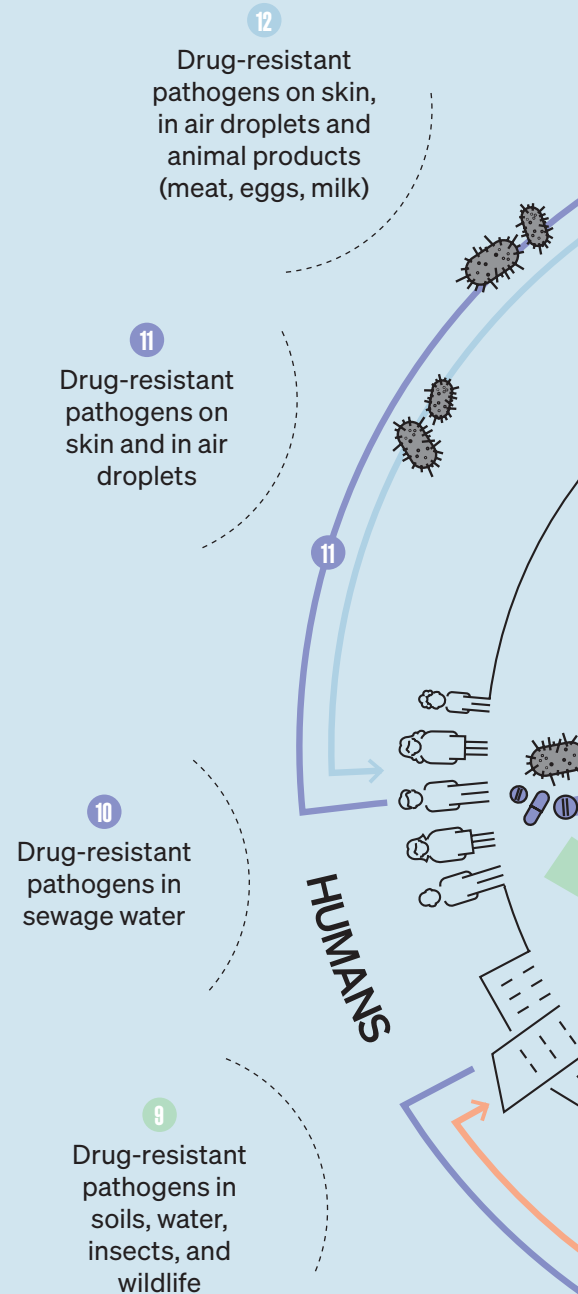
Record the amounts of antimicrobials you use and report them to your country's Veterinary/Aquatic Animal Health Services.

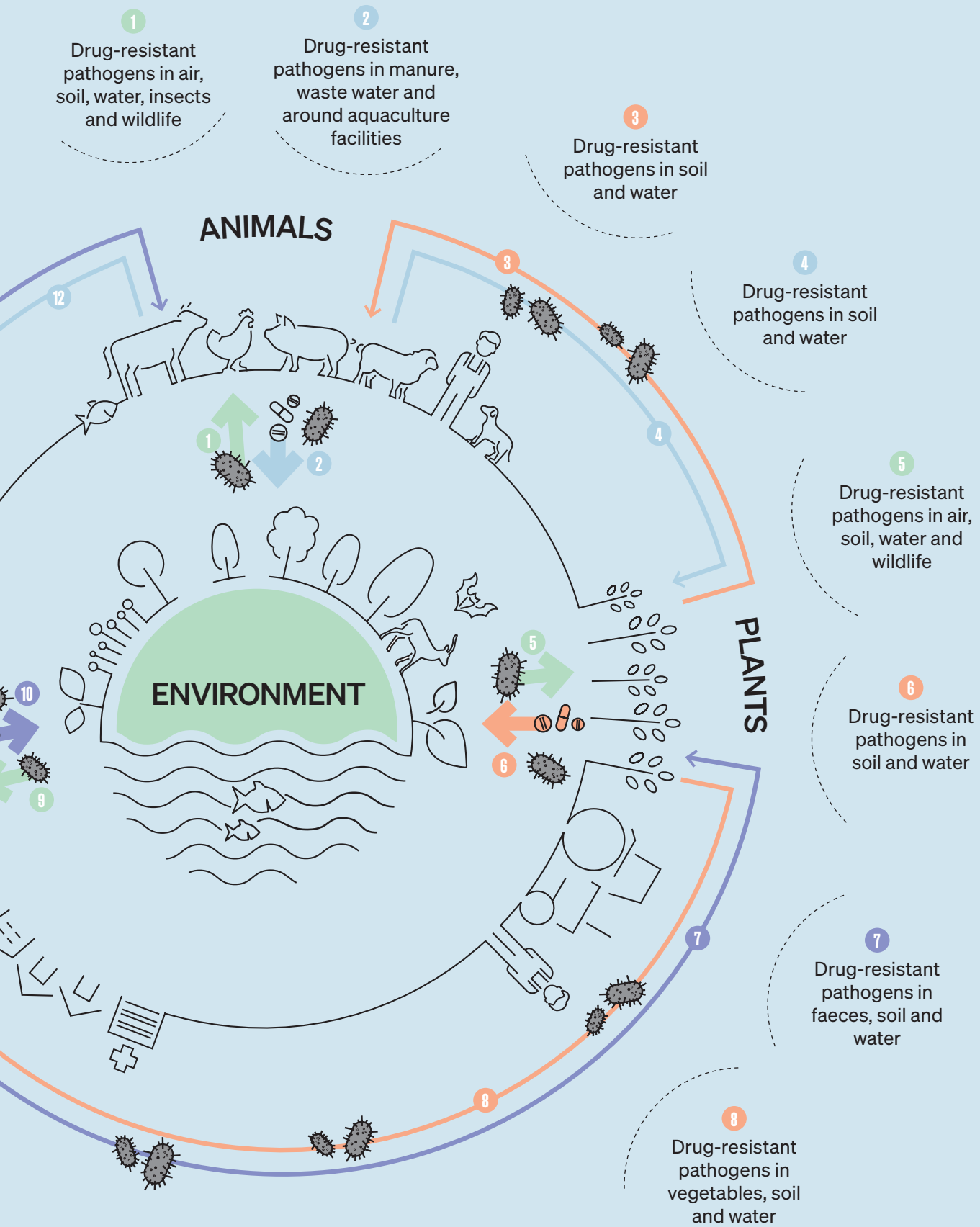
ONE HEALTH: COLLABORATING TO PRESERVE GLOBAL HEALTH

Did you know that your choice to prescribe antimicrobials can affect animal health, but also human and plant health? In a world more interconnected than ever, your decisions can benefit from collaborating with other sectors in a One Health perspective. To curb AMR, we are stronger together.

Building stronger networks of aquatic animal health professionals

Veterinarians and other aquatic animal health professionals are essential in maintaining aquatic animal health and welfare. All members of the aquaculture workforce should work together and collaborate to ensure knowledge on the fight against AMR and prevention practices are shared and promoted everywhere.





FIGHTING AMR ON A DAILY BASIS: THE FAQ

When should I prescribe antimicrobials?

- After conducting a clinical examination and further testing of aquatic animals showing clinical signs for establishing a medical diagnosis, and considering other options or alternatives.
- Never in replacement of good animal husbandry practices, hygiene, biosecurity and vaccination programmes.

How should I prescribe antimicrobials?

- By basing my choice of antimicrobial agent on clinical experience and diagnostic laboratory information.
- By taking into consideration the [WOAH List of antimicrobial agents of veterinary importance](#), in particular the appendix for aquatic species.
- By providing aquatic animal producers with detailed information on treatment protocols and withdrawal periods.

What should I consider in order to choose the appropriate antimicrobial?

- Farm records of previous antimicrobial use and epidemiological history of the aquaculture establishment and neighbour establishments.
- Clinical experience and diagnostic insights.
- Diagnostic laboratory information when available (culture and antimicrobial susceptibility testing).
- Pharmacodynamics (activity against pathogens involved).
- Pharmacokinetics (tissue distribution, efficacy at infection site).
- Characteristics of the aquatic species and their aquatic environment.
- [WOAH list of antimicrobials of veterinary importance](#).

What should I do if first-line treatment fails?

- Report lack of expected efficacy to the national competent authorities.
- Base the second-line treatment on diagnostic test results, including antimicrobial susceptibility testing.
- When available, use a different class or sub-class in the absence of test results.
- Only use combinations of antimicrobials if supported by scientific evidence.

What should I write on my prescriptions for antimicrobials?

- Label of the drugs (active ingredient, commercial name).
- Dosage (antibiotic/kg of fish).
- Formulation (antibiotic/kg of feed).
- Feeding rate (kg of medicated feed/day).
- Duration of the treatment.
- Withdrawal period.

This is a simplified prescription content, assuming that antimicrobials are provided orally in medicated feed.

When can I use extra-label or off-label antimicrobials?

- In agreement with national legislation.
- When appropriate registered products are not available.
- With my client's informed consent.

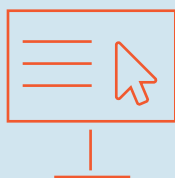
What else can I do on a daily basis to help curb AMR?

- Educate myself on the AMR situation, on good practices and on the use of scientifically proven alternatives to antibiotics.
- Educate people around me on AMR, it is a global challenge which concerns us all.
- Advocate for alternatives to antimicrobials such as vaccination.
- Advocate for prevention measures such as biosecurity and good husbandry.
- Collaborate with other sectors to address this as a One Health challenge.

Your tools in the fight against AMR

We have produced several tools to help you in your daily fight against AMR. From prescription to advocacy, here are a few essentials you should use regularly:

- Our [Standards on AMR](#)
- Our [List of antimicrobials of veterinary importance](#)
- Our Guidelines on How to talk about AMR



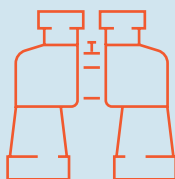
BROWSE

[our portal on AMR for information
on the responsible use of antimicrobials](#)



DISCOVER

[our Global Strategy on Antimicrobial Resistance and
the Prudent Use of Antimicrobials in Animals
and our Aquatic Animal Health Strategy](#)



HELP MONITOR

[antimicrobial use and antimicrobial resistance trends
in animal populations in your country](#)

Use antimicrobials with care.

Because animal health is our health, it's everyone's health.



World Organisation
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