



GOVERNMENT
OF MALTA

MINISTRY FOR AGRICULTURE,
FISHERIES AND ANIMAL RIGHTS
PARLIAMENTARY SECRETARIAT
FOR FISHERIES, AQUACULTURE
AND ANIMAL RIGHTS



Antibiotics in Animal Products

Veterinary Medicines Section

Bernard Soler (Senior Pharmacist)

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Agenda

- Anti-microbials vs antibiotics.
- The importance of antibiotics in animals.
- How do we ensure that antibiotics are not present in animal products?
- How are antibiotics used incorrectly?
- What is the work carried out by the Animal Health and Welfare Department?
- The Legal Framework.
- The risk of use and misuse of antibiotics.
- The 'One Health' approach.
- How can AMR spread?
- How do we reduce the use of antibiotics?

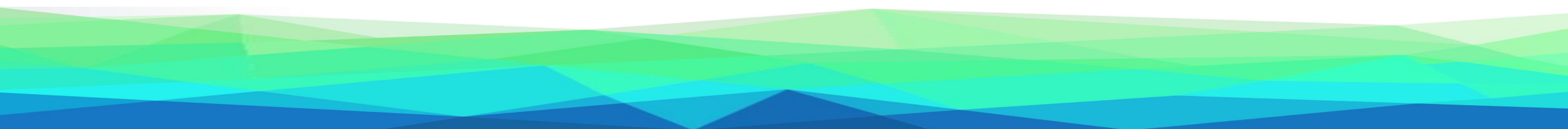


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ANTI-MICROBIALS VS ANTIBIOTICS





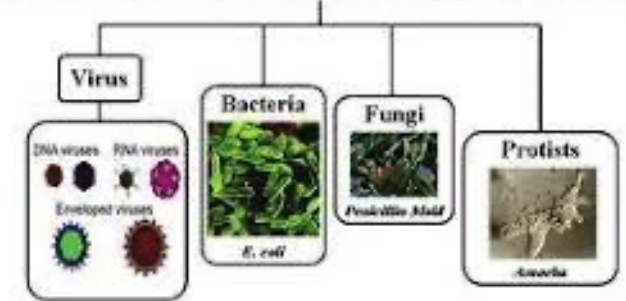
Antimicrobial VS Antibiotic

Antimicrobial: “Any Substance with a **direct action on micro-organisms** used for the treatment or prevention of infections, including antibiotics, antiviral, antifungals and anti-protozoals”.

VS

Antibiotic (antibacterial): “Any Substance with a direct action on **bacteria** that is used for treatment or prevention of infections” as defined in Regulation (EU) 2019/6.

MAJOR GROUPS OF MICROORGANISMS



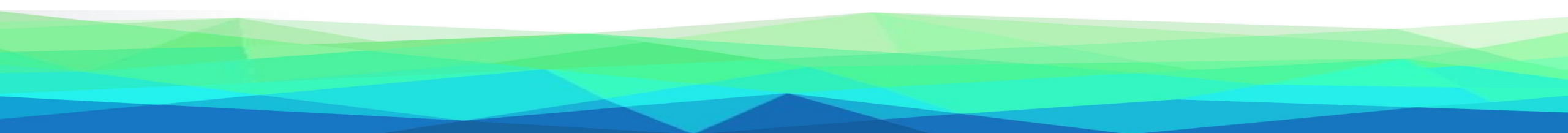


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THE IMPORTANCE OF ANTIBIOTICS IN ANIMALS





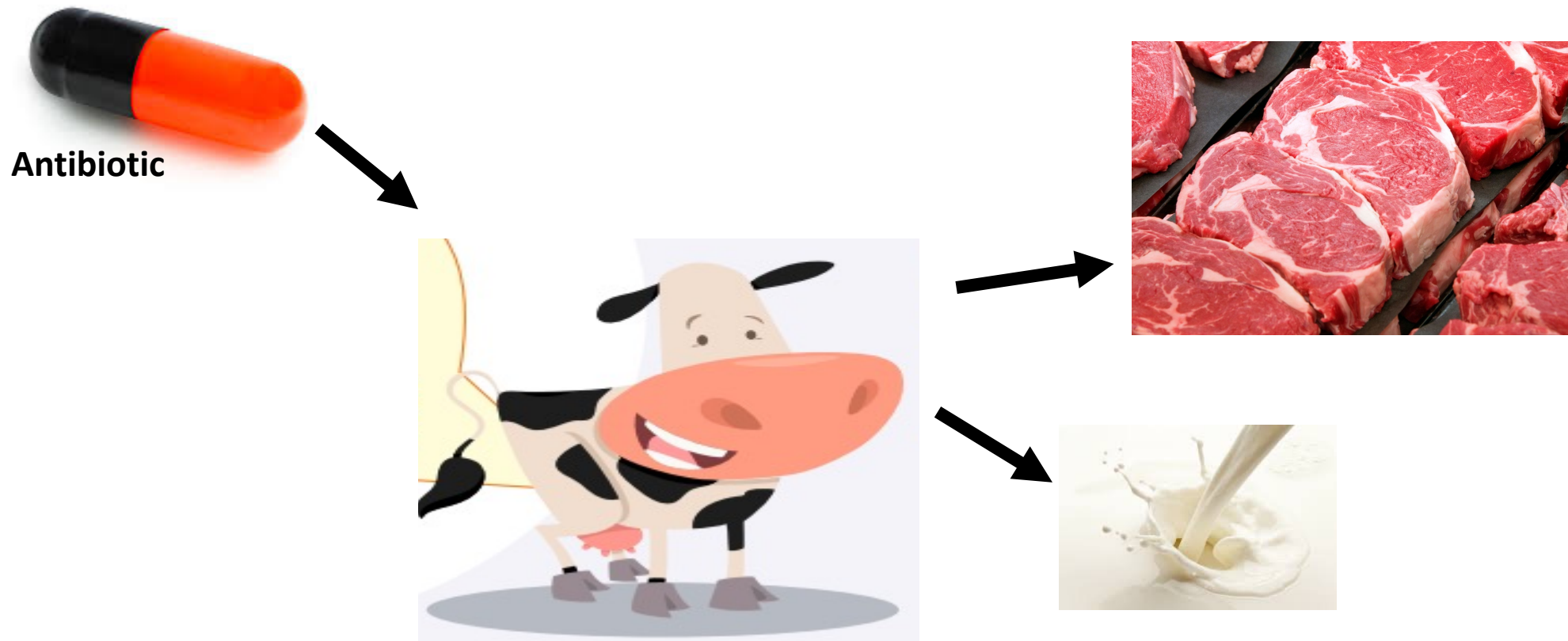
Why is the use of antibiotics important in animals?

- Antibiotics are used in livestock to treat bacterial infections.
- Many of the antibiotics administered to animals are identical to or closely related to those administered in humans.
- Sick animals should not inhumanely suffer from infections which can be treated by antibiotics.
- Antibiotics stop disease outbreaks from spreading.
- This leads to healthier animals which will result in safer animal products such as milk, meat and eggs.





What happens to the antibiotics in animals?

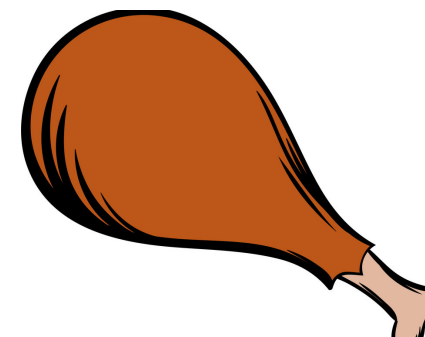
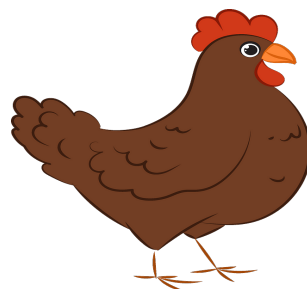




What happens to the antibiotics in animals?



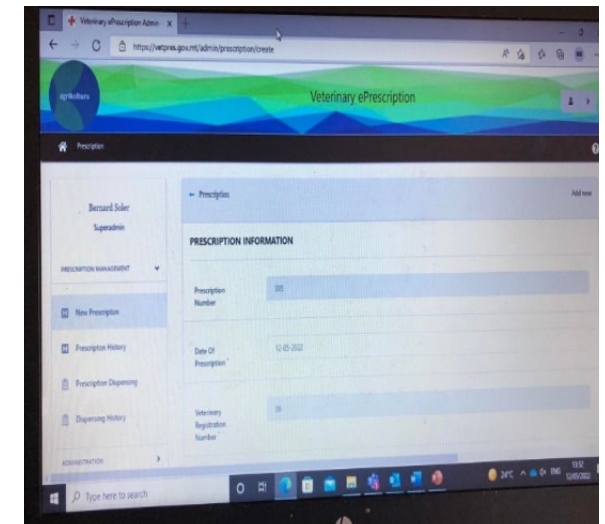
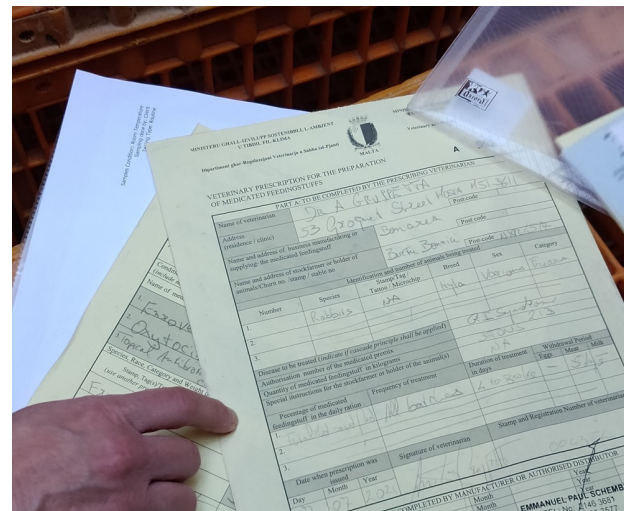
Antibiotic





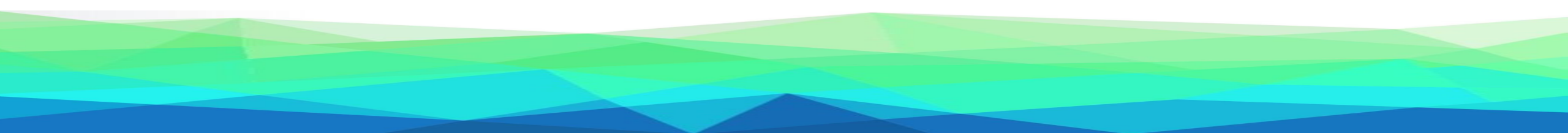
Which antibiotics do we use?

- Antibiotics should only be used if they are prescribed by a veterinary surgeon.
- Antibiotics should only be bought from pharmacies against a veterinary prescription.





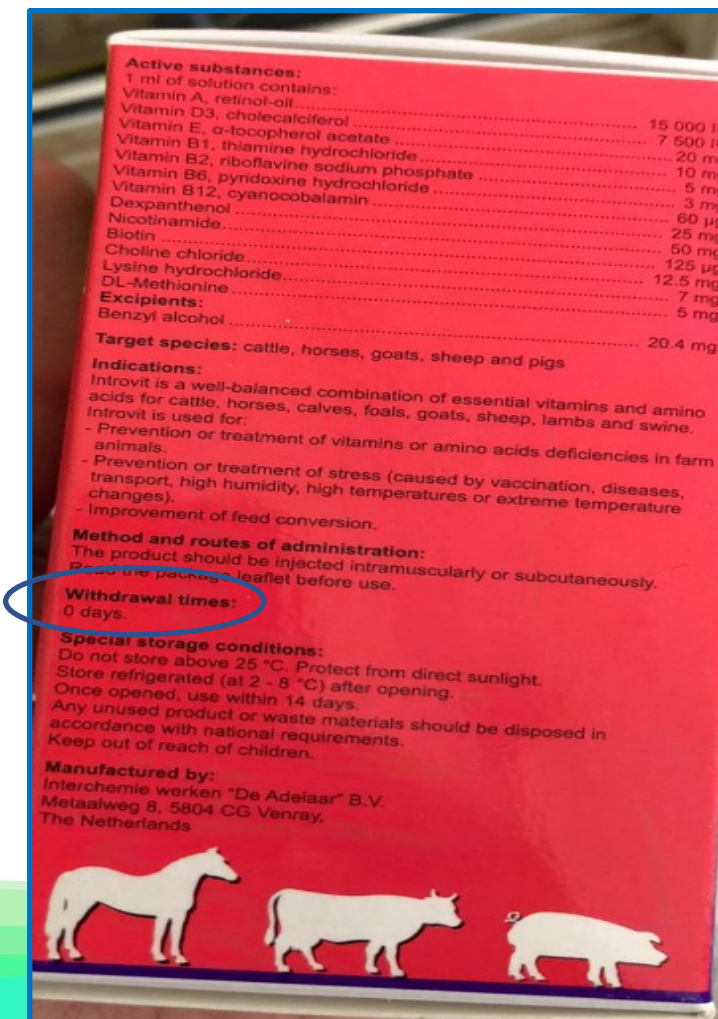
How do we ensure that antibiotics are not present in animal products?





Following the Withdrawal Period

- A farmer should ensure that the relevant **withdrawal period** is observed.
- The withdrawal period is the time taken for a veterinary medicinal product to be metabolised in an animal.
- This is important to make sure that the animal product does not contain any antibiotics.





Regulation (EU) No 37/2010

- **Commission Regulation (EU) No 37/2010 of 22 December 2009** on pharmacologically active substances and their classification regarding **maximum residue limits** in foodstuffs of animal origin.
- This regulation **banned** the use of certain antibiotics such as **metronidazole (Flagyl®)** and **chloramphenicol (Posifenicol®)** since the **MRL (maximum residue limit) could not be established**.



Ensuring that the right dose is used

- The weight of the animal is very important to make sure the right dose is given.
- This will decrease the risk of over or under dosing.
- The weight of an animal can be more easily calculated by using the weight tape.

PIGS / PORCS	Circumference / Circonférence		CM	76	78	80	82
	Dead weight / Poids mort		KG	41	43	45	47

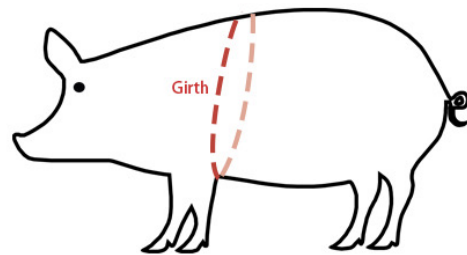


Photo adapted from; https://www.amazon.com/WIN-TAPE-Professional-Weightband-Measure/dp/B07XYNQNZC/ref=psdc_553284_t1_B08X7JJWX7



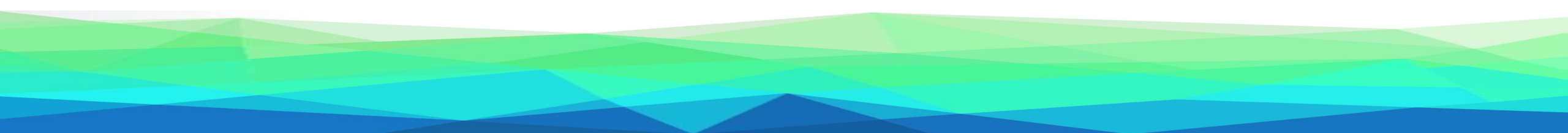
What can you do to decrease the risk of the presence of antibiotics in animal products ?

- Give antibiotics to your livestock **only if** prescribed by a veterinary surgeon.
- Always take/give antibiotics in a timely manner.
- Remember to **finish the entire course of antibiotics** prescribed by the veterinary surgeon even if symptoms subside before.
- Practice **good food hygiene**. Wash your hands before touching any food. Make sure to always keep raw and cooked meat separate.
- **Dispose of medicines in an appropriate way**. Waste bins for expired/unused VMPs are present in pharmacies.





HOW ARE ANTIBIOTICS USED INCORRECTLY?





How are antibiotics used incorrectly?

Antibiotics should not be used routinely to compensate for poor hygiene practices and poor animal husbandry. Antibiotics should not be used as a **PREVENTION**.





How are antibiotics use incorrectly ?

Antibiotics should **NOT be used as GROWTH PROMOTERS** or in animals for which the product is not indicated for.





How are antibiotics used incorrectly ?

A **lower, higher or inconsistent** dose can result in an incomplete resolution of the disease.



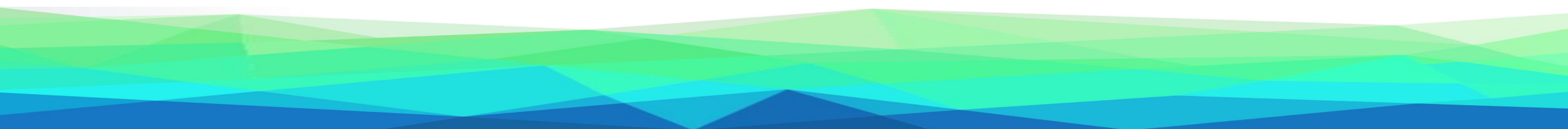


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Work carried out by the Animal Health and Welfare Department





Work carried out by the Veterinary Medicines Section to improve the prudent use of antibiotics

- Development of the Electronic Prescription.
- Participating in policies.
- Collobarating with the Health Ministry in the implementation of the National Strategy and Action Plan against antimicrobial resistance (2020-2028).





Work carried out by the Veterinary Medicines Section to improve the prudent use of antibiotics

- Rigorous evaluation of applications for Veterinary Medicinal Products under the updated legal Framework.
- Many VMPs containing antimicrobials or combinations of antimicrobials have not been renewed or removed from the market.
- Updating the dossiers for existing products.





Work carried out by the Veterinary Medicines Section to improve the prudent use of antibiotics

- Inspections and their follow ups on stakeholders, including joint inspections with official veterinarians.
- Ensuring that all VMS stakeholders are implementing and following EU Regulations and National Legislation.
- Collecting and collating data for antimicrobial sales and usage.



Inspections carried out by VRD (Veterinary Regulatory Directorate)

- Official controls are carried out by Veterinary officers to verify the compliance of farms and other stakeholders with National and EU legislation.
- VRD officers regularly take samples from farms and other establishments in order to be analysed by the National Veterinary Laboratory or to be sent abroad for further analysis.
- The VMS also collaborates with the VRD by doing joint inspections on farms and pet shops.





The National Veterinary Laboratory - Increase in Surveillance

- Upgrade of the National Veterinary laboratory (new building).
- To establish diagnostic services and increase sensitivity tests, making them available to the local stakeholders.
- Expanding the AMR (Anti-Microbial resistance) monitoring programme.
- NVL (national veterinary laboratory) already carries out AMR tests as required by the EU legislation. To mention one recent legislation: Regulation (EU) 2022/1646 of 23 September 2022 on uniform practical arrangements for carrying out official controls.





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Tests carried out at the National Veterinary Laboratory (video)





Stewardship

- Several guidelines, official circulars and leaflets issued regularly which target different strata of stakeholders.
- Themes vary, e.g. on the changes in legislation (e.g. 3rd generation cephalosporins), EU recommendations for treatments (EU Commission guidelines), biosecurity, disposal of medicines and good farming practices.

Laboratorju Veterinarju Nazzjonali

L-Użu tal-Antibijotiċi

fir-Razzett



X'Inhi r-Reżistenza għall-Antibijotiċi (Antibiotic Resistance)?

Qed jiġri li l-bnedmin u l-annimali qed idumu iżjed biex ifiċju minkejja l-użu tal-antibijotiċi. Qed ikollhom jintużaw dozi dejjem akbar ta' antibijotiċi u li xi drabi xorta ma jahdmux sew.

Minn fejn tiġi r-Reżistenza għall-Antibijotiċi?
Għalkemm ir-reżistenza għall-antibijotiċi huwa fenomenu li jiġri b' mod naturali dan il-fenomenu jista' jżded b' dawn il-fatturi:

- Bl-użu bla bżonn tal-antibijotiċi.
- Bl-użu mhux skont il-kwantitajiet neċessarji (inqas jew iżjed milli support).
- Bl-użu fuq annimali mhux indikati mill-prodott.
- Bl-użu preventiv biex ipatti għal mard ikkawżat minn problemi li jistgħu jiġu solvuti, pereżempju nuqqas ta' ndafa u ventilazzjoni, u shanat.
- Bit-tixrid tal-antibijotiċi fl-ambjent, anke permezz tal-hmieg tagħhom.
- Bil-kontaminazzjoni mill-mikrobi rezistenti tal-prodotti tal-ikel gejjin mill-annimali waqt il-produzzjoni, l-ipproċessar u l-konsum tal-ikel.

Bi prattiċi żżiena msemmija hawn fuq, mikrobi li huma b'mod naturali rezistenti għall-antibijotiċi qegħdin jikkatru, jinfirxu u jgħaddu din ir-reżistenza lil hafna mikrobi oħra.

MINISTERU GĦALL-AGRIKOLTURA,
SAJD U DRITTIJET TAL-ANNIMALI

Laboratorju Veterinarju Nazzjonali
Dipartiment għas-Saħħa u l-Marsien tal-Annimali
Triq il-Bliċċerġa, Albertain, Marsa, MRST123 - Malta

Tel: 356 2292 5100 Free Phone: 8007 2240



MINISTERU GĦALL-AGRIKOLTURA,
SAJD U DRITTIJET TAL-ANNIMALI



Collaboration with stakeholders

- With farmers co-operatives and veterinary surgeons' unions (both local and EU).
- Joined educative efforts and some published material. These collaborations gives us essential perspectives.
- Active participant in the World Organisation for Animal Health (WOAH) and the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) project.
- Malta is committed to give its contribution in the 2024 UN General Assembly High Level Meeting on AMR.





Seminars to key stakeholders

- Seminars are organized from time to time. The themes vary but an emphasis is always placed on good prescribing and dispensing practices.
- Surveys to understand the local landscape are sent regularly.





Training, education and awareness campaigns

- Lectures to post-graduate students and also to professionals are delivered on a regular basis.
- Regular participation on TV and radio programs, sometimes jointly with human health representatives in the spirit of 'One Health'.
- Several articles on AMR were penned for popular magazines which have wide readerships.





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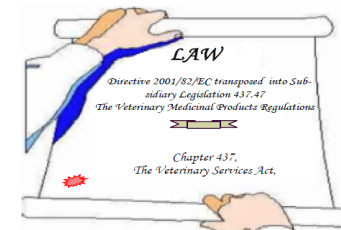
LEGAL FRAMEWORK





S.L 437.47 amended by LN 179/2021

- S.L 437.47 amended by LN 179/2021 includes the new legal requirement for an **Animal Health Programme** in all establishments where animals are kept.
- The keeper/owner/carer of animals **must keep proof of purchase of all products administered or intended to be administered** to the animals for the treatment or prevention of disease or, if he did not buy them, documentary evidence of how he acquired them.
- Metaphylactic or prophylactic antimicrobial treatment maybe allowed with conditions.
- **Preventive use of antimicrobials** veterinary medicinal products or medicinal products is **not allowed**.





EU regulation

- Regulation (EU) 2019/6 of the European parliament and of the council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC.
- The legislation came into effect on 28 January 2019 and was applied in all EU Member States from 28 January 2022.
- This Regulation aims in guaranteeing the highest level of public and animal health and environmental protection.

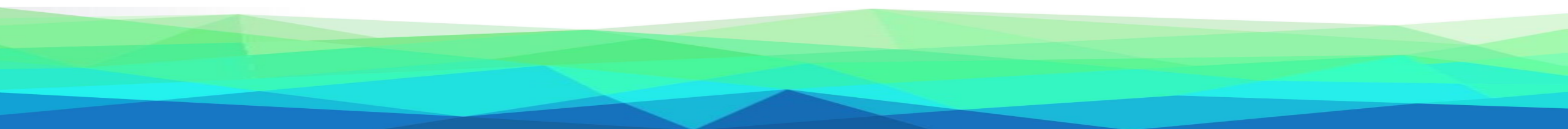


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The risk of USE and MISUSE of Antibiotics





What is Antimicrobial Resistance (AMR)?


“The ability of micro-organisms to survive or to grow in the presence of a concentration of an antimicrobial agent which is usually sufficient to inhibit or kill micro-organisms of the same species”

As defined in Regulation (EU) 2019/6



Symbol for AMR

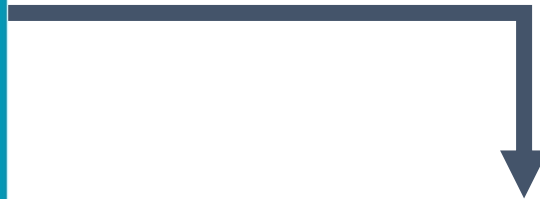
THE CONCEPT



Capsules
set the theme

Hearts
tell us we need to care

Band-aids
tell us we need to fix it

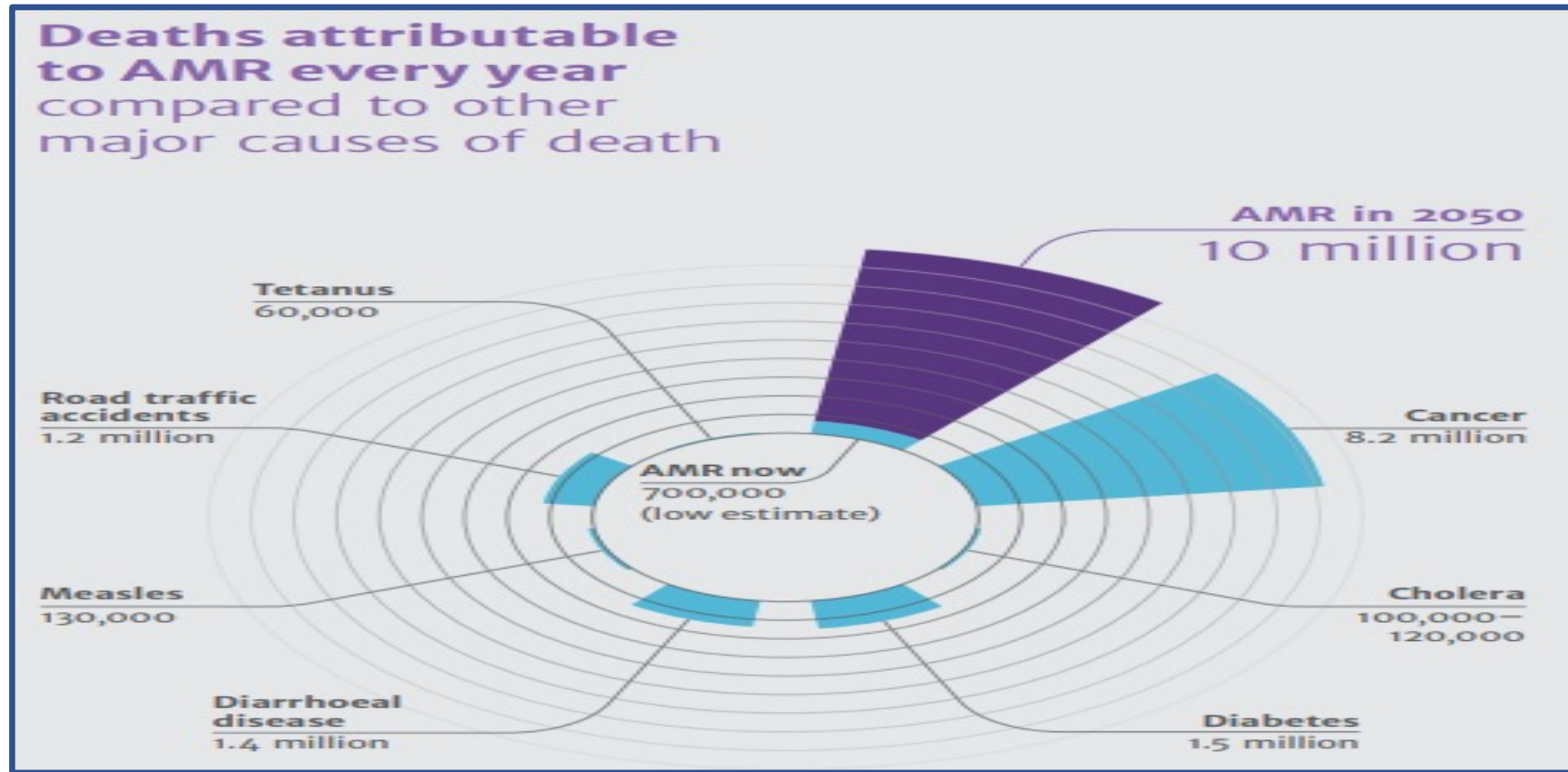


ANTIBIOTIC
RESISTANCE
SYMBOL

JAMRAI. 2022. *Antibiotic Resistance Symbol* -
JAMRAI. [online] Available at: <<https://eu-jamrai.eu/antibiotic-resistance-symbol/>>
[Accessed 7 February 2022].



Number of Deaths caused by Antimicrobial Resistance



From the Review on Antimicrobial Resistance - Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations, Chaired by Jim O'Neill, 2014.

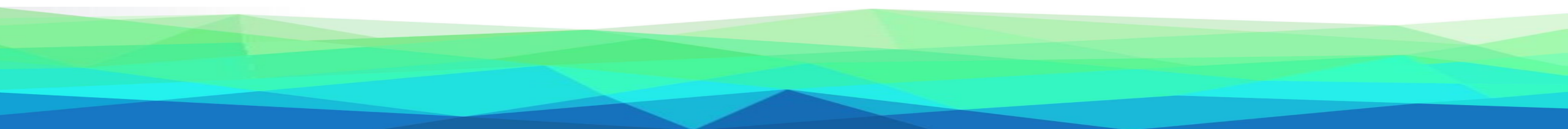


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THE 'ONE HEALTH' APPROACH





The 'One Health' Approach

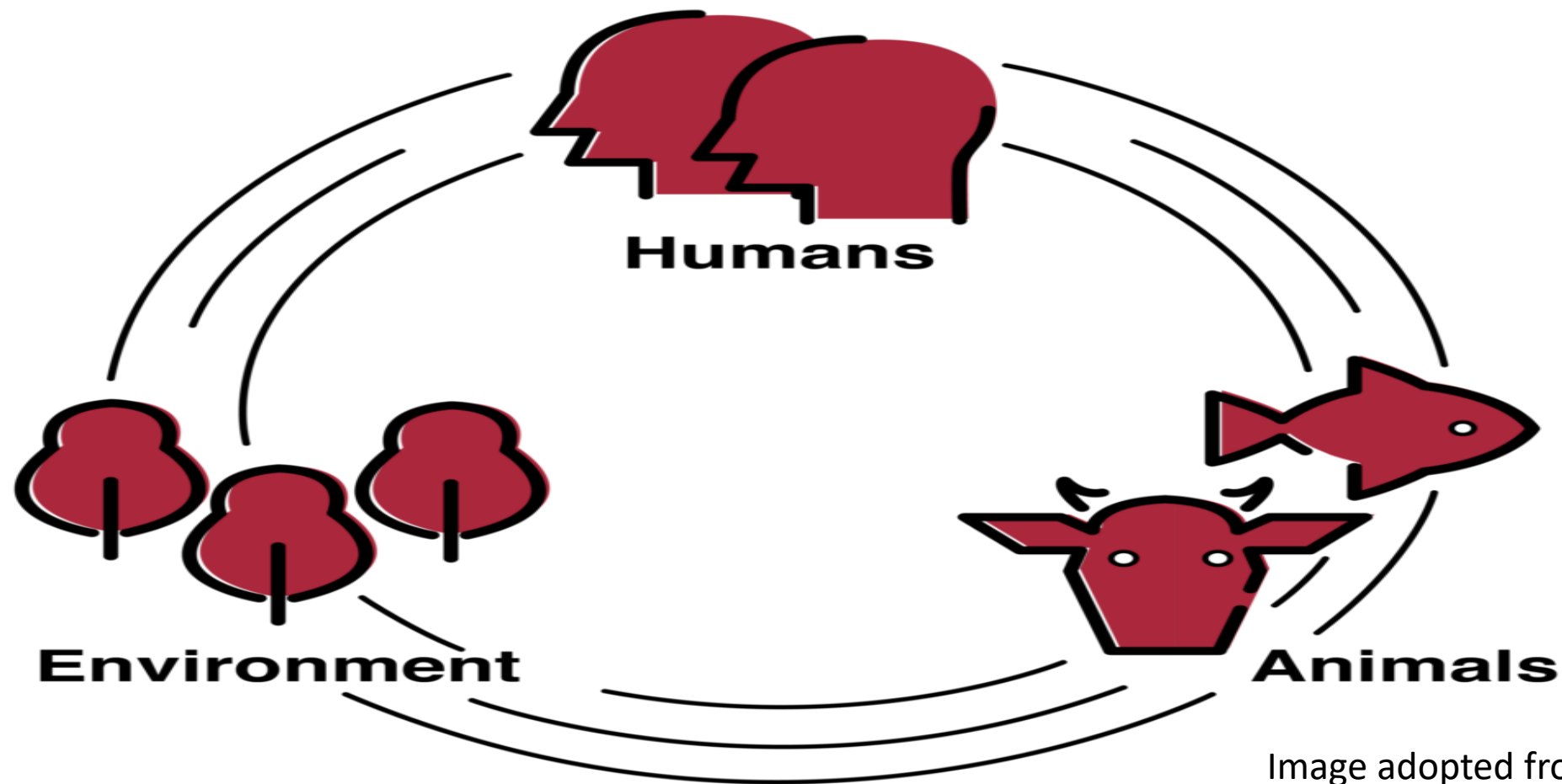


Image adopted from:
<https://www.woah.org/en/what-we-do/global-initiatives/one-health/>



The 'One Health' Approach

- Antimicrobial Resistance has progressively raised concerns in many countries, including Malta, as many antimicrobials are losing their effects on bacteria and infections are increasing.
- Both **Ministries for Agriculture, Fisheries and Animal Rights** and the **Ministry for Health** have jointly embarked in a strategy and action plan to counteract the progress of Antimicrobial Resistance.
- The Strategy and Action Plan against Antimicrobial Resistance spans 8 years (2020-2028). Good progress has been achieved notwithstanding significant challenges such as resistance to change, cultural shifts and availability of antimicrobials.

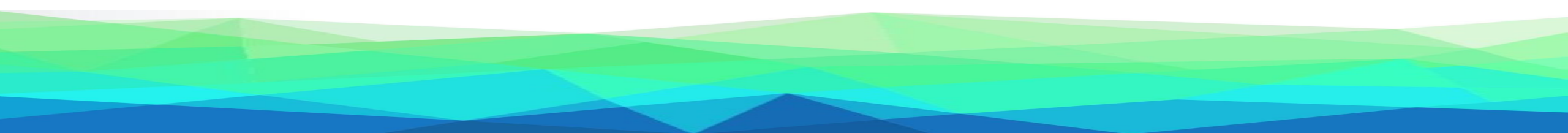


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HOW CAN AMR SPREAD?



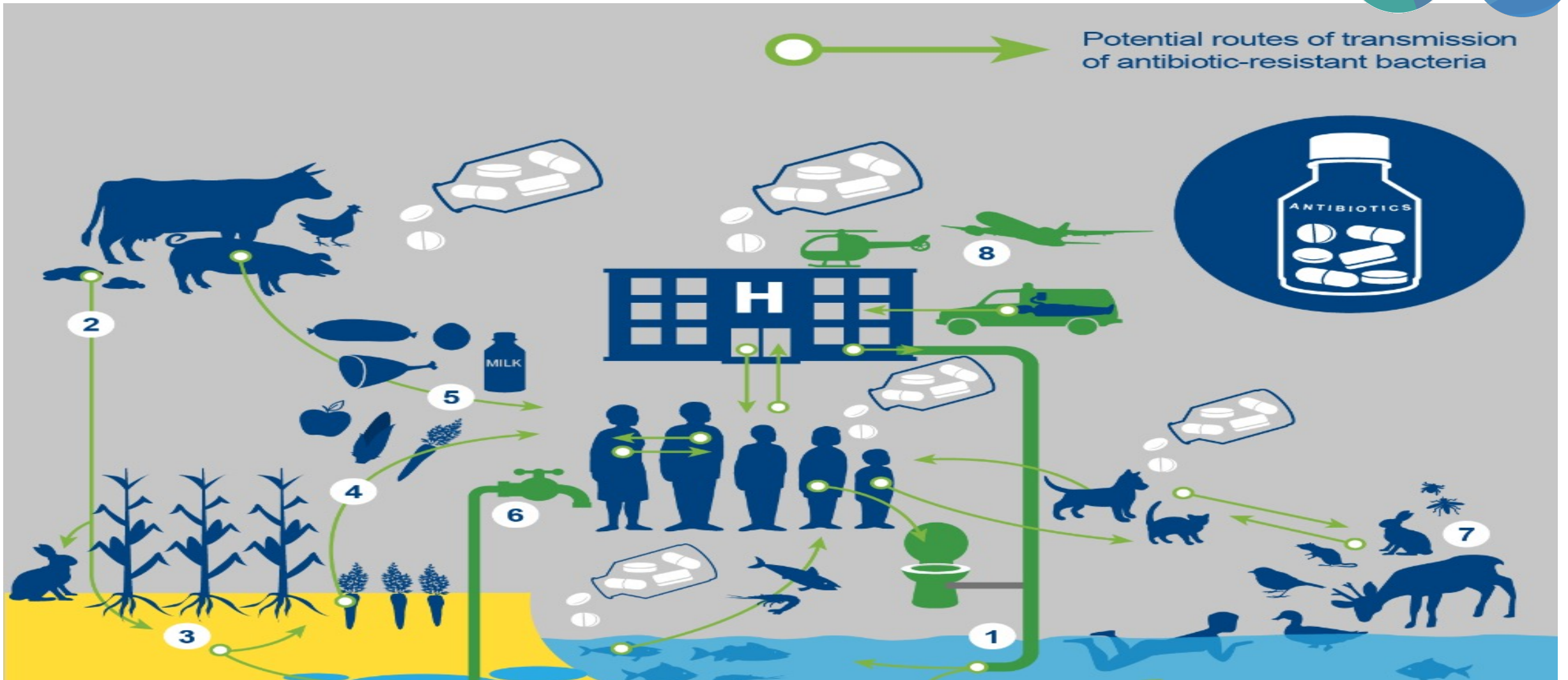


Image adopted from;
<https://amr.biomerieux.com/en/challenges/from-farm-to-food-to-people-one-health/>

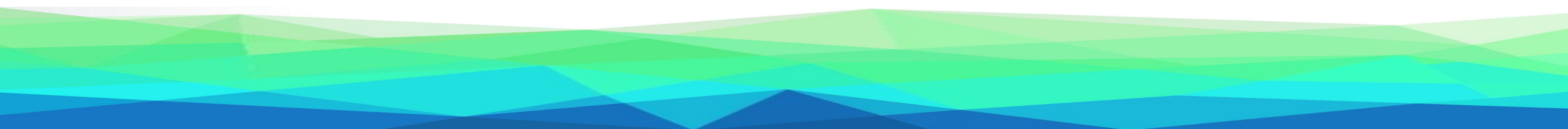


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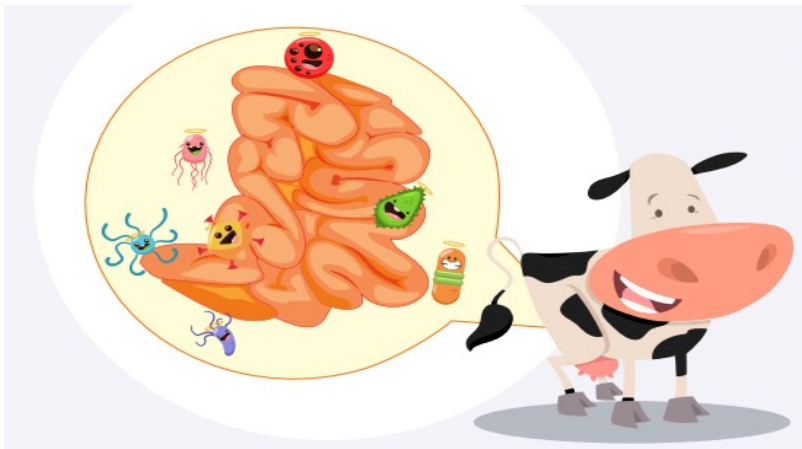
HOW DO WE REDUCE THE USE OF ANTIBIOTICS?





Steps which can be taken to reduce the use of antibiotics

- Following biosecurity measures.
- Using vaccines to prevent certain diseases.
- Using pre and probiotics.





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Questions?



References

- REGULATION (EU) 2019/6 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0006&from=EN>
- Guidelines for the prudent use of antimicrobials in veterinary medicine (2015/C 299/04): https://ec.europa.eu/health/sites/health/files/antimicrobial_resistance/docs/2015_prudent_use_guidelines_en.pdf
- List of registered medicines in Malta: <https://agrikoltura.gov.mt//en/nvl/documents/authlicschemes/listvetmeds.pdf>
- List of stakeholders: <https://agrikoltura.gov.mt//en/nvl/documents/stakeinfo/mainstakeholders.pdf>
- Veterinary Medicines Section website: <https://agrikoltura.gov.mt//en/nvl/pages/usefulinfo.aspx>



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Thank you for your attention 😊

