Joint Action
Antimicrobial Resistance and
Healthcare-Associated Infections

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EU-JAMRAI-2 WP9 (Access)

Antibiotic assessment guide

This guide together with the "EU-JAMRAI 2 WP9 antibiotic assessment template" (Excel-file), is a practical tool based on a methodology that was developed in early 2024 and used within work-package 9 (WP9, Access) in EU-JAMRAI 2 during spring 2024. It has since been updated based upon feedback from WP9 participating countries and may be used by any country/organisation interested in facilitating a similar process. The aim of the template is to support a process of identifying and assessing antibiotic products that are:

- clinically important for human health
  and
- are considered to have a national vulnerable supply (by being unavailable, withdrawn, or never made available on the market)

The methodology was developed to reflect the specific considerations and specificities to take into account when assessing antibiotics. Antibiotic products that meet both these criteria may be in need of targeted interventions to strengthen access, which was the next step of WP9. This guide describes how to use the "EU-JAMRAI 2 WP9 antibiotic assessment template" (Excel file). You are welcome to add other criteria that better suit your national context.

Identifying antibiotics of clinical importance with a national vulnerable supply

The process contains collecting and analysing qualitative and quantitative data to make an overall assessment of the clinical importance and the national vulnerability of the antibiotic product. Hence, the products should reflect your national context in terms of clinical needs, availability and resistance situation. The products should ideally have a positive impact on stewardship (such as moving to a narrower spectrum or securing access to paediatric formulations etc.).

To identify antibiotics that would be good candidates to assess, a good starting point could be to identify important first-line treatment options, including those classified as "access" antibiotics on WHO's AWaRe list. It is encouraged to consider older antibiotics with a narrow(er) spectrum. It is also encouraged to consult a broad representation of relevant stakeholders including clinicians, health professionals, regulators, and others. (Please note that the pharmaceutical industry, although an important stakeholder, should not influence what products that may be in need of targeted interventions and should not be involved in this step). Indeed, one of the key goals of this process is to facilitate in country dialogue amongst appropriate national stakeholders working on access to antibiotics. It should be noted that this process should be considered iterative, as there will be a need to update the assessment as the circumstances change over time.

For orange questions **(2-6)** we suggest to reach out to your regulatory agencies and other relevant stakeholders.
For green questions **(7-8)** we suggest a consultation with relevant clinicians, health care professionals and/or specialist organisations.

1. Antibiotic product

   State the antibiotic product. A an antibiotic product is a dosage form that contains one or more active ingredients, for example fenoxymethylpenicillin, oral suspension. Common dosage forms include tablets, capsules, solutions, suspensions and syrups. State the ATC5-class in *1a. ATC5-class* (helpful for analysis purposes) and if known the strength(s) in *1b. Strength(s)*, and the formulation(s) in *1c. Formulation(s),*. Formulations may be different from the dosage form, for instance, the formulation of fenoxymethylpenicillin, oral suspension may be *granules or powder for oral suspension.*

   Different strengths and formulations of an antibiotic may have different clinical indications and their national vulnerability may differ too. Therefore; ***try to answer question 2-9 for each formulation+strength combination of each product, if applicable and possible.***

2. National authorisation status

   Indicate if the antibiotic product have marketing authorization in your country. Alternatively, state if the desired formulations and strengths have been deregistered or never marketed.A product that have a market auhtorisation could still be unavailable if it is not marketed nationally, which could be indicated in *2b. If YES (2), is the product marketed nationally?*. It may also be authorised and marketed but unavailable due to no national sales, which could be indicated in *2b. If YES (2a), have the product had any national sales?*. If the following applies to the product,inthe previous year/-s, it could indicate a clinical need. For instance it may have been prescribed on a named-patient basis*: 2c. If deregistered (or never marketed), has there been any national consumption?*

3. Low sales value nationally

   Low sales is usually an important predictor of a product having a high risk of being deregistrered or withdrawn from a market and reflects the national consumption. A Swedish government assignment[1] showed a direct relationship between sales value and a pharmaceutical product (substance, formulation and strength) disappearing (deregistered

[1] The Dental and Pharmaceutical benefits agency of Sweden (TLV) (2017). Tillgänglighet till antibiotika, Delrapport 2: Ekonomiska ersättningsmodeller för nya antibiotika samt äldre förskrivningsantibiotika. https://www.tlv.se/download/18.36e5d52515ff45d25e39ec8a/1512121229637/delrapport_2_tillgangli ghet_antibiotika.pdf

or had no sales) from the Swedish market, and the likelihood increased when the annual sales value was below 1 million SEK (approximately €90,000). Conducting a similar analysis may be helpful to understand what consists a low sales value for a pharmacetical product in your context.

4. Low unit or package price

   Could be an indicator of a product having a high risk of being deregistrered or withdrawn from a market, especially combined with a low sales value. If *4a. Parallell imports?*, are marketed, it could indicate an acceptable price for continued marketing.

5. Single (or very few) MAH:s (Market Authorization Holders) nationally?

   One or two MAH:s could indicate a national vulnerable supply.

6. Shortages according to national data

   If a product is or has been subject to repeated and/or pro-longed shortages in the recent years it may suggest a vulnerable supply. This could be investigated through national data (if available).

7. Known for critical shortages by healthcare professionals?

   May suggest a vulnerable supply as well as the clinical importance of the antibiotic, far from all shortages will become critical for patients. This could be investigated by asking relevant healthcare professionals (including pharmacists). *7a. Does not having sustainable access affect certain population groups? (Y/N)) and 7b. If YES (7a), which?* could be used to assess the clinical consequences for certain patient populations if the product is not reliably available or unavailable. Also consider where the antibiotic is mainly being used in question *7c. Which part of your healthcare system is affected by not having sustainable access to the product? (Primary care/hospital care (ambulatory/surgical/medical/intensive care, other).*

8. First line (or important second-line) treatment according to national treatment recommendations? *8a. Is there an appropriate treatment alternative available? 8b. If YES (8a), is it another strength, formulation with the same active ingredient or another ATC-class? Please describe. 8c. Will a lack of access affect the clinical outcome?*

   To examine the national availability of suitable treatment alternatives as well as the place of the antibiotic in treatment guidelines could help assess the clinical consequences if it is not available on the market. In *8d. Will a lack of access affect the development of AMR?*, please feel free to reflect upon how unreliable access to the antibiotic may influence AMR in your country.

9. Overall assessment - is the antibiotic clincially important and have a vulnerable supply?

   Make an overall assessment of the background data and stakeholder input to conclude and describe why the antibiotic was identified as clinically important ***and*** to have a national vulnerable supply, and therefore may be in need of targeted interventions to strengthen access.