Fourth Meeting of the Quadripartite Technical Group on the Economics of Antimicrobial Resistance (QTG-EA)

29 January 2024, 12-14h CET

MEETING REPORT

Chair: Dr. Jean-Pierre Nyemazi, Lead for the Core Team on economics of AMR within the Quadripartitie Joint Secretariat on AMR

QTG-EA member participants: Amna Siddiqui, André Luiz de Abreu, Djordje Gikic, Hadeer Swedan, Josephine Gakii, Julie Robotham, Luca Guardabassi, Olga Perovic, Raymond Oppong, Rosa Rodriguez-Monguio, Wei Wang, Yasser Mahmmod, Aashna Mehta

Presenters: Federico Cairoli (Triangulate Health Ltd.), Chantal Morel

Relevant staff from the Quadripartite Joint Secretariat on AMR (QJS) and OECD: Jean-Pierre Nyemazi, Aitziber Echeverria, Holy Akwar, Alejandro Acosta, Myfanwy Hernandez, Aliénor Lerouge

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Process of the meeting: The fourth official meeting of the Quadripartite Technical Group on Antimicrobial Resistance (QTG-EA) was held virtually on 29 January 2024 at 12h Central European Time. The meeting was chaired by Jean-Pierre Nyemazi, from the Quadripartite Joint Secretariat on AMR.

1. **Progress update on Quadripartite economic work:** Dr Chantal Morel presented progress updates regarding the investment case for AMR. Key updates regarding the work of the modeling team were also discussed, including the data extrapolation process given limited country-level cost data, effectiveness data extrapolation, and selection of the elimination (rather than replacement) scenario as an assumption for the business-as-usual model.

2. **Return on investment for AMR intervention:** Dr Federico Cairoli presented the progress of the return-on-investment study, including methodological considerations and preliminary findings. Ten interventions (some with multiple components) were included in the model, across the following five categories: improve awareness and understanding of AMR; improve surveillance AMR/AMU; invest in new drugs, diagnostic tools, vaccines, and other interventions (R&D); effective sanitation, hygiene, and infection prevention measures; optimize the use of antimicrobial medicines in human and animal health (antibiotic stewardship). The analysis covered 13 different geographical regions of different income levels, over a time horizon of 2020-2050. Preliminary results for avoided healthcare costs, avoided productivity loss, the cost of the intervention package, and estimated returns on investment under different scenarios were shared. Limitations of the study were discussed, including the extrapolations conducted to

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fill gaps in costing and effectiveness data. Conclusions from this study highlighted the notable long-term costs of AMR and the positive ROI from implementing an evidence-based One Health package of interventions.

3. **Questions and discussion:** Following these presentations, questions from the expert group were fielded by presenters. Topics of discussion included the combination of input parameters, availability of country-level data, potential use of a market basket approach to better transfer prices across countries, the use of benefit/cost ratios as a more compelling figure for policymakers, alternative discount rates across different income levels, accounting for changes in productivity over time, the under-representation of data from non-human sectors, and limitations deriving from the elimination scenario.

4. **Recommendations:** Experts discussed considerations for the eventual recommendations and conclusions from this model. Conservative assumptions should be emphasized given the uncertainties in the model, and all limitations acknowledged. Inclusion of a technical annex to the report will increase transparency. More specific recommendations from the group will be discussed as results of this study are finalized.

5. **Closing of the meeting and next steps:** The model will be expanded to include high-income countries, creating a true global estimate for the cost of AMR and potential returns on investment from tackling it. Country-level ROI studies will begin with two pilot countries to supplement the findings of the model. A revised draft of the report will be sent out for review. Results from this revised report will be shared with high-level groups, as they prepare their recommendations for the upcoming UNGA High-Level Meeting on AMR in September 2024.