

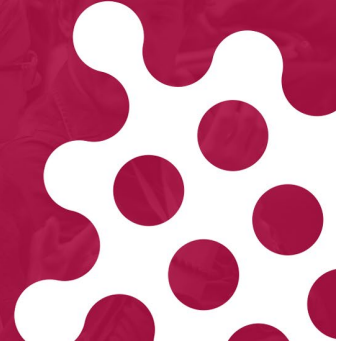


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ABSTRACT



04143 Economic impact of inappropriate antibiotic use: the example of upper

respiratory tract infections in Ghana

05. New Antibacterial Agents, PK/PD & Stewardship

J. Janssen ¹, S. Afari-Asiedu ², A.A. Monnier ³, M. Ali Abdulai ², T. Tawiah ², K.P. Asante ², R. Baltussen ¹, H. Wertheim ³

¹Department for Health Evidence, Radboud University Medical Center - Nijmegen (Netherlands), ²Kintampo Health Research Center, Ghana Health Service - Kintampo (Ghana), ³Department of Medical Microbiology & Radboudumc Center for Infectious Diseases, Radboud University Medical Center - Nijmegen (Netherlands)

Background

Antibiotic consumption is increasing worldwide, particularly in low and middle-income countries (LMICs). However, studies assessing the economic impact of inappropriate antibiotic use in LMICs are lacking. The aim of this study was to explore the economic impact of inappropriate antibiotic use using the example of upper respiratory tract infections (URIs) in Ghana. This study is part of the international ABACUS (AntiBiotic ACcess and USe) project.

Methods

A top-down, retrospective economic impact analysis of inappropriate antibiotic use for URIs was conducted. Two inappropriate antibiotic use situations were considered: 1. URIs that were treated with antibiotics, against recommendations from evidence-based clinical guidelines; and 2. URIs that should have been treated with antibiotics according to evidence-based clinical guidelines but were not. The analysis included data collected in Ghana during the ABACUS project (i.e., household surveys and exit-interviews among consumers buying antibiotics), scientific literature and stakeholder consultations. Included types of cost related to health care-seeking behaviour for URIs (Table 1). In addition, cost saving projections were computed based on potential effects of future interventions to improve antibiotic use.

Results

Inappropriate antibiotic use for URIs was estimated at around 975 million (M) USD annually including 689 M USD for situation 1 and 286 M USD for situation 2 (Table 1). In both situations, productivity losses accounted for $\geq 95\%$ of the total cost. The incurred health care cost were estimated at around 20 M USD. Possible future cost

savings ranged from 69 to 482 M USD for situation 1 and from 29 to 200 M USD for situation 2.

Conclusions

Inappropriate antibiotic use for URIs in Ghana has a substantial economic impact. Understanding both economic consequences and community antibiotic consumption practices is crucial to mobilise key stakeholders and design sustainable strategies to improve antibiotic use. Following-up on previous research findings, the ABACUS project is currently exploring the case for an international system to facilitate the identification of antibiotics. This health economics study should support this endeavour by providing baseline data to inform future studies on the cost-effectiveness of strategies to improve the identification of antibiotics.

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Table 1

Table 1. Economic analyses of inappropriate antibiotic use: outcomes for the year 2020.

Situation 1			Situation 2		
Type of cost	VALUE (USD)	% of CC	Type of cost	VALUE (USD)	% of CC
Health care cost	17,758,000	3	Health care cost	1,606,000	1
Productivity loss	654,044,000	95	Productivity loss	276,852,000	97
Travel cost	17,094,000	2	Travel cost	7,236,000	3
Cumulative cost (CC)	688,896,000		Cumulative cost (CC)	285,694,000	
Cumulative per capita cost	22.25		Cumulative per capita cost	9.23	