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## ANTIMICROBIAL RESISTANCE AND ITS IMPACT ON ONE HEALTH

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### ABSTRACT

Antimicrobial resistance (AMR) will represent a critical challenge to global health, significantly impacting the One Health framework, which will integrate human, animal, and environmental Health. This chapter will focus on elucidating the multifaceted implications of AMR across these domains, highlighting its relevance in future public health discourse. The primary objective will be to synthesize anticipated literature on AMR trends, mechanisms, and control strategies, particularly in developing regions where the burden will likely be most acute. Methodologically, the chapter will adopt a systematic review approach, analyzing data from various studies to identify key themes and gaps in understanding AMR. Key findings will likely reveal alarming trends in resistance among pathogens, particularly in low-resource settings, where the overuse of antimicrobials in agriculture and healthcare is expected to exacerbate the problem. Furthermore, the chapter will emphasize the interconnectedness of AMR across species and environments, highlighting the future need for integrated surveillance and stewardship programs. In conclusion, the chapter will advocate for urgent collaborative efforts to mitigate AMR, including the development of enhanced regulatory frameworks, public awareness campaigns, and investment in research for novel therapeutics. These recommendations will inform policymakers and stakeholders about the critical need for a unified response to combat AMR effectively.

**Keywords:** Antimicrobial resistance, One Health, public health, surveillance, stewardship, global health.