

The Collective Antimicrobial Resistance Ecosystem

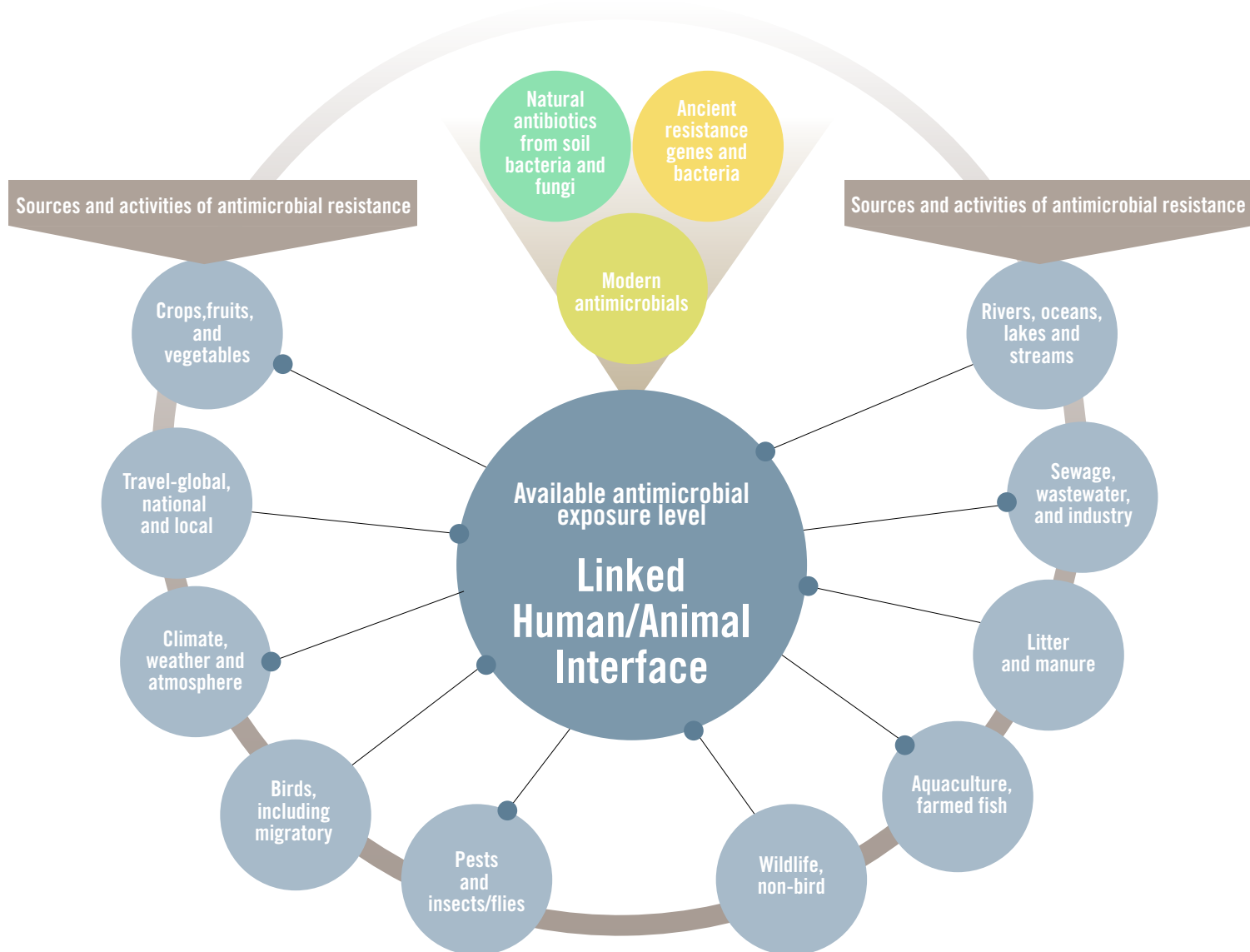


FIGURE B

As described in figure A, the available antimicrobial exposure will affect the bacterial populations humans and animals are exposed to both in the absence and presence of antimicrobial use within the veterinary and medical disciplines.

Unlike previous depictions, which typically show a circular continuum with uni- and bi-directional flows of resistant bacteria impacting certain outcomes and in particular humans and animals, this diagram links humans and animals under the One Health concept as both are impacted by the available antimicrobial exposure levels as well as the contribution(s) to the resistance issue afforded by each surrounding circle. Contributions may consist of direct sources of resistant bacteria or resistance genes or indirect sources via vectors that serve to move resistant bacteria or deposit feces containing resistant bacteria in distant places. The curved line interconnects each circle as no one source/activity within a circle is independent of the other.

Collectively the human/animal/available antimicrobial exposure level/circular sources and activities of antimicrobial resistance comprise the global ecosystem that continues to add and delete antimicrobial resistance attributes over time.