

NCDs & long-term antimicrobial therapy

In an increasingly comorbid world, antibiotics will be critical for managing non-communicable diseases (NCDs), but long-term use represents a major antimicrobial resistance (AMR) risk.



1 in 4 people globally are already affected by NCDs. **By 2030**, NCDs will cause **55 million deaths per year** under 'business as usual'.^{1,2}



Effective antibiotics are **critical to manage and protect** these patients, but widespread use will accelerate AMR – we need to **act now to secure the future**.

Antimicrobial therapy is a key tool in NCD management:



Suppression: Long-term suppressive therapy for infections from invasive procedures used to manage NCDs.

Prophylaxis: Prevention of initial infections in at-risk patients or the recurrence/reactivation of a previous infection.

Immunomodulation: Reduction of inflammatory response in NCDs characterized by chronic inflammation.

Despite their therapeutic value, chronic use of antimicrobials has limitations

1

AMR is spreading

The **increasing chronic use** of antibiotics to manage the rise in NCDs will **exacerbate the spread of AMR**, putting all patients at risk.

2

Side effects of chronic antimicrobial use are poorly understood

The side effects of chronic antibiotic use, which might include gut microbiome changes, neuropathy, and **life-threatening arrhythmias**, are **poorly understood**.

Optimal treatment durations are not well defined

Both **underuse and overuse** of antibiotics can **promote the spread of resistance**; overuse also increases the **risk of side effects** while underuse can **limit the patient benefit**.



Antibiotics must be used **rationally**, considering the **overall risk-benefit trade-off**. However, even with good stewardship, the **increasing prevalence of NCDs will accelerate the development and spread of AMR**.

Manufacturers should leverage these considerations as part of their strategy to **communicate the urgent need to support development of novel antimicrobials**.



Payers need to consider the urgent requirement for new antibiotics when determining price and access outcomes.



Policymakers need to acknowledge the critical need for manufacturing incentives and pricing & reimbursement reform to support development.



Clinicians should be familiar with the range of arguments available to effectively advocate for antibiotic development when consulted in decision-making.

CRA's in-house anti-infectives experts are available to guide your asset through the changing anti-infectives landscape, with expertise across Pricing & Market Access, Commercial Strategy & Business Development, and Policy. Contact Steve Kelly (skelly@crai.com, Initiative Lead) or Hannah Armstrong (harmstrong@crai.com, Policy Lead) to learn more.