# Reframing and unpacking 'irrational' antibiotic use

# IMPACT STATEMENT

Antimicrobial resistance (AMR) has been a critical area of interest to the World Health Organization (WHO), national governments, and other large multi-lateral and international institutions. AMR is named as one of the top 10 threats to global public health, and one study estimates that it is poised to take more lives than cancer by 2050. The world is entering a "post antibiotic" era where even minor infections, which were previously managed with antibiotics, can be lethal. This is particularly true in low-and-middle-income countries (LMICs), such as India, where access to healthcare is limited, urban-rural disparities in healthcare are stark, and financial and political will is fragmented.

While the leadership of the WHO in modeling and developing a global action plan to tackle AMR has been pivotal in prompting the developing of national action plans and mobilizing political will, the current discourse around AMR is framed largely around individual issues related to prescription or consumption behavior rather than systemic barriers related to accessing care. This dissertation, "*Reframing and unpacking 'irrational' antibiotic use: a structural and socio-ecological perspective on antibiotic resistance in India*," examines the futility of focusing squarely on behavioral interventions, critically examines the gap between knowledge and practices related to antibiotic use, explores the limited engagement of diverse healthcare practitioners in interventions in a limited-resource setting like India, and analyzes policy limitations and recommendations moving forward.

The current literature in the global South contains extensive documentation of interventions designed largely to improve knowledge and behavior, or clinical interventions designed to reduce antibiotic use in inpatient care. However, there is limited evidence regarding effective

interventions in the outpatient setting and most studies lack a practical and critical examination of the policy context behind the interventions.

Taken as a whole, the five studies in this dissertation add several new insights while addressing a critical gap in the literature. The role of pharmaceutical company representatives in influencing decision making is well understood in the formal medical establishment, but this research was one of the first examinations of the reach of these representatives among informal health providers. Informal providers reported relying on pharmaceutical representatives for samples of new antibiotics and as a source of knowledge, which has important policy implications for a sector that is currently still ignored in national policy making within India. The studies also elucidate how informal medical providers often prescribe antibiotics due to market-driven incentives, such as the desire to alleviate symptoms quickly and retain patients, and function as the sole point of contact for patients in rural settings. Similarly, pharmacy shops and retailers are often the primary point of contact for patients who lack time or monetary resources to seek care from qualified medical practitioners.

The papers have policy-relevant implications for designing interventions and feasibly implementing a national action plan that appears comprehensive on paper, but lacks appropriate financial allocations, enforcement, political will, and depth. In particular, the papers make a case for actively involving the informal sector in decision making and interventions regarding antibiotic misuse. Until healthcare access and public health infrastructure drastically improves, a vast segment of India's population will continue to rely heavily on informal providers for access to care and this sector cannot be ignored in the broader decision making apparatus.