

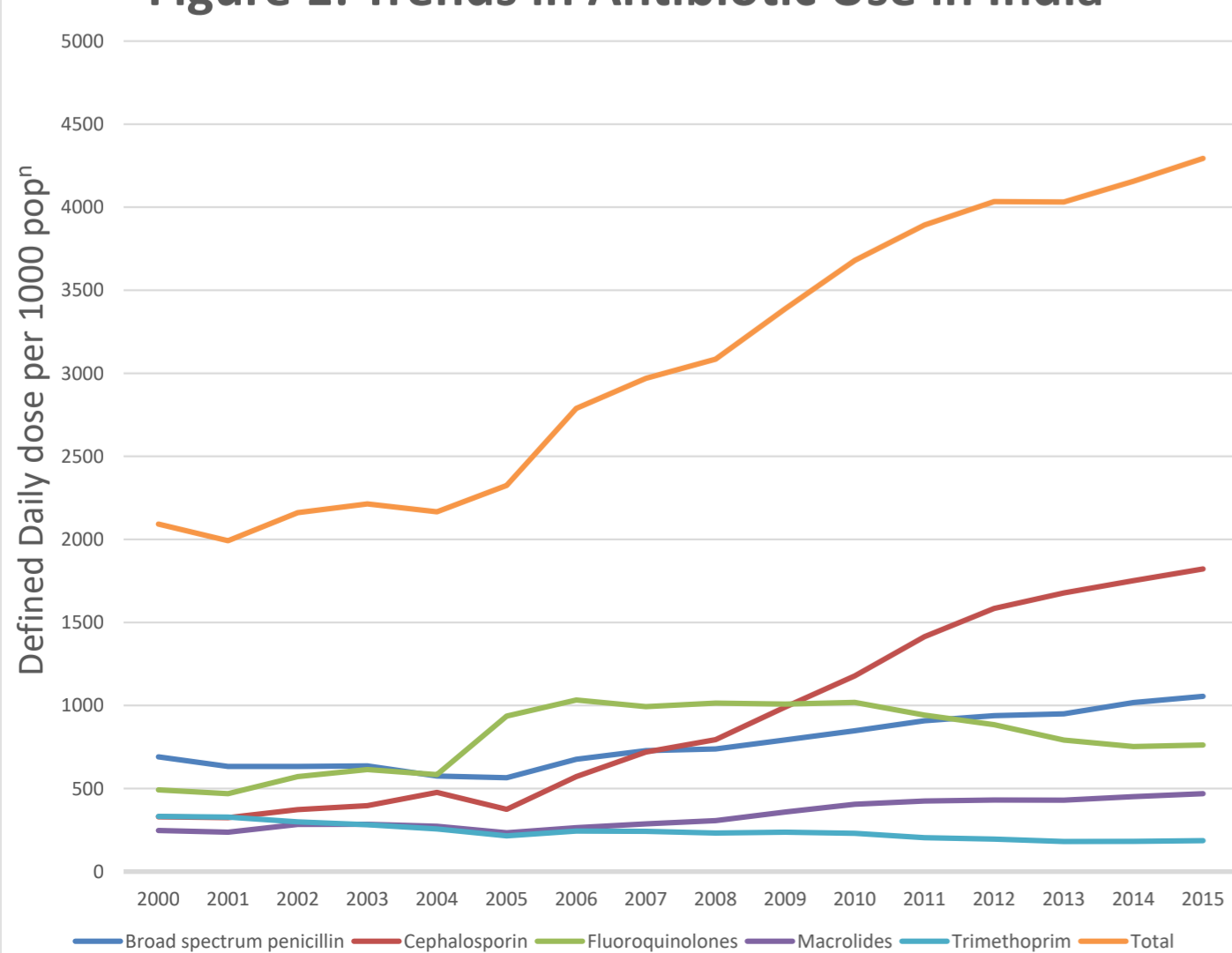
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Background

- Antimicrobial resistance (AMR): the ability of a microorganism to grow/persist in the presence of an antimicrobial (drug) that would normally kill them or limit their growth¹. It is driven largely by widespread over-use of antimicrobials, poor infection control and limited new drug development²⁻⁵.
- AMR will be disproportionately felt by developing countries, with unique challenges in terms of burden of illness, distribution of infective risks, constrained access to healthcare services and (often) ineffective governance.
- There are already indications of the rapid escalation of AMR in India, with resistance of the *Klebsiella pneumoniae* bacteria to carbapenems ('last resort') antimicrobials increasing from 29% in 2008 to 57% in 2014⁶.
- If AMR continues to progress at current rates in India it is estimated that by 2050, AMR will cause India's GDP to drop between 3.76-6.27% and claim one million lives per year in the subcontinent⁷.
- AMR is a distinctly social and cultural problem. However sociological explorations of the global antimicrobial crisis have thus far almost exclusively centred on economically wealthier nations.
- To address AMR in India we need to better understand the social and cultural contexts that underpin the use, dispensing, prescription and regulation of antimicrobials.
- We aim to draw on sociology concepts including Bourdieu's ideas of habitus, Beck's and Giddens' work around risk and uncertainty, Farmer's structural violence, Stovel's work on brokerage and Marx's work on commodity fetishism to explore antimicrobial use and resistance in India in a novel and unique way.

Figure 1: Trends in Antibiotic Use in India

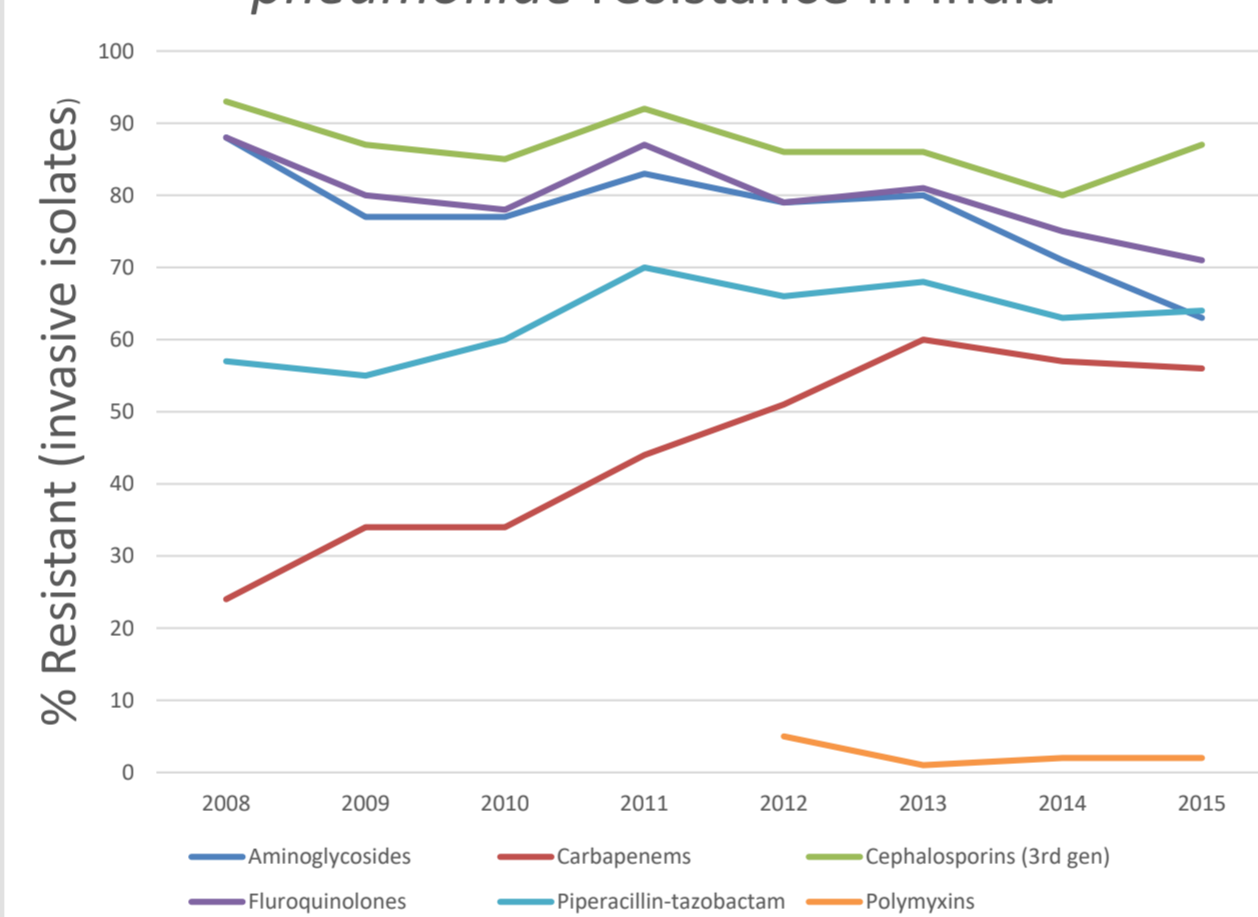


Data used to create figures 1 & 2 can be accessed at the Center for Disease Dynamics, Economics & Policy (CDDEP) ResistanceMap website at <http://resistancemap.cddep.org/resmap/in/india>

Aims

- To document the experiences and perspectives of doctors, community health practitioners, pharmacists and pharmacy employees, community members, hospital regulators and pharmaceutical company representatives in Hyderabad, India.
- To explore the social dynamics of antimicrobial use in the Indian context and gain a better understanding of why there is such high use of antimicrobials in India.

Figure 2: Trends in *Klebsiella pneumoniae* resistance in India



Design and Setting

- Qualitative study involving ethnography and semi-structured interviews in Hyderabad, India.
- Ethics approval obtained from Institutional Ethics Committee at the Indian Institute of Technology, Hyderabad (IITH/2018/03/11) and from the Human Research Ethics Committee of The University of New South Wales (HC180253).
- Purposive and snowball sampling will be used for recruitment with emails sent to potential participants from each of the interest groups.
- Data collection will occur across 2 two-month periods of fieldwork. A gap between the periods of fieldwork will allow the first stages of data analysis to occur, then theoretical sampling will be used to guide further data collection, aiming to increase the depth and precision of our categories and knowledge of participant's situations.
- Data from semi-structured interviews and ethnography will be analysed with a constructivist grounded theory approach.

Discussion

- The findings of this study will add to our knowledge about the social and cultural factors influencing antimicrobial use, dispensing and prescription, and therefore AMR in India.
- The main focus will be on gaining an understanding of how enduring and emerging inequalities, infective risk and uncertainty, labour risks and precarious work, improvisation and self-medication, and informal and formal pharmaceutical economies shape antimicrobial use in the subcontinent.
- By utilising a critical sociological lens we hope to better understand the social, cultural and economic drivers of antimicrobial use in India (and beyond).



Figure 3. Street side pharmacy in India

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