Global pandemic

A climate change aproportionate crisis of the health world

Antibiotic residues have contaminated the environment—our food, our water...
Why a book on AMR?

• Simple infections are now life threatening. Back to pre-antibiotic era

• Resistance will undo the gains made by modern medicine. Will make treatment expensive and force people into extreme poverty

• Can reduce global GDP by 1.1 to 3.8 per cent by 2050

• Environmental contamination due to overuse and misuse of antibiotics. This is the biggest driver of AMR

• We know little about what is happening in Indian context

• Brings together all the elements of One Health approach promoted by WHO, FAO and OIE
Crisis of resistance

- Stories of how AMR affects people; how treatment is becoming impossible; how resistant microbes are turning hospitals into death beds...
- Longer stays in the hospital
- Higher costs; higher mortality
- Difficult to meet disease eradication targets
- Used to mask the absence of healthcare infrastructure
Hospital acquired infections

- Hospital acquired infections are rampant—10 out of every 100 patients hospitalized in India will catch an infection.

- Microbe exposed to a variety of antimicrobials develop resistance. Lack of sanitation and poor hygiene practices

- Most policies and guidelines are voluntary. Surveillance is poor
Residues around us

- AMR in environment neglected by policy makers
- Triggered by presence of antibiotic residues, resistance genes and resistant microbes
- Released into environment from pharma industry, animal farms, crop fields, feed factories, hospitals, waste, sewage...
- Regulatory and research gaps exist
Antibiotics on the plate

• Used in animal farms and crop fields for non therapeutic purposes

• Used to compensate lack of good practices in infection control; good farm and waste management practices

• Antibiotic residues present in honey, chicken, fast food, milk, eggs…

• Some policies have been put in place but more is needed
Policy for change

• Problem exists despite a decade of campaign to promote rational use of antimicrobials

• Multiple declarations, policies and guidelines have been developed. Many of these are intersectoral too. Poor Implementation

• More focus needed on keeping the environment clean; reduce disease burden; reduce triggers of AMR
Body of evidence

• Data is not available; makes decision taking difficult

• Effort to put together Indian data and global data

• Status of bacterial diseases like TB, cholera, typhoid…

• Profiles and spread of troublesome pathogens
Take home message

• Worse is yet to come. Climate change will increase the infections and also make it difficult to treat them

• Controlling antibiotic use is difficult as it is driven by profits: pharma industry, health industry; food animal industry, agriculture

• Need to use judiciously; use less; find safer alternatives

• Policies that ensure the above are needed
Body Burden series

1. Body Burden 2015: State of India's Health
   - Ecology of diseases

2. Lifestyle Diseases
   - Body Burden
   - State of India's Health

3. Antibiotic Resistance
   - Body Burden
   - State of India's Health
   - Human and economic cost of antibiotic resistance
   - Antibiotic residues in food and environment
   - Antibiotic-resistant hospital infections