# Protecting Pharmaceutical Supply chains in LMICs

Anthony McDonnell

# Lack of access is a big problem

# In 2019:

All bacterial infections 8.9 million

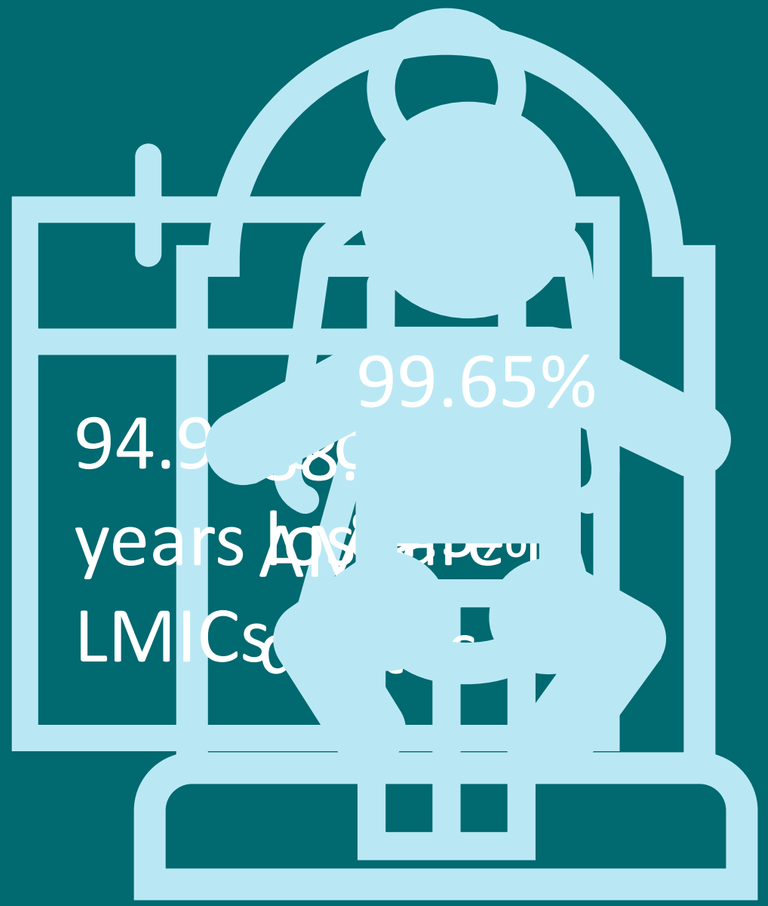
Antibiotic resistance killed 1.27m people

Breast cancer 701k

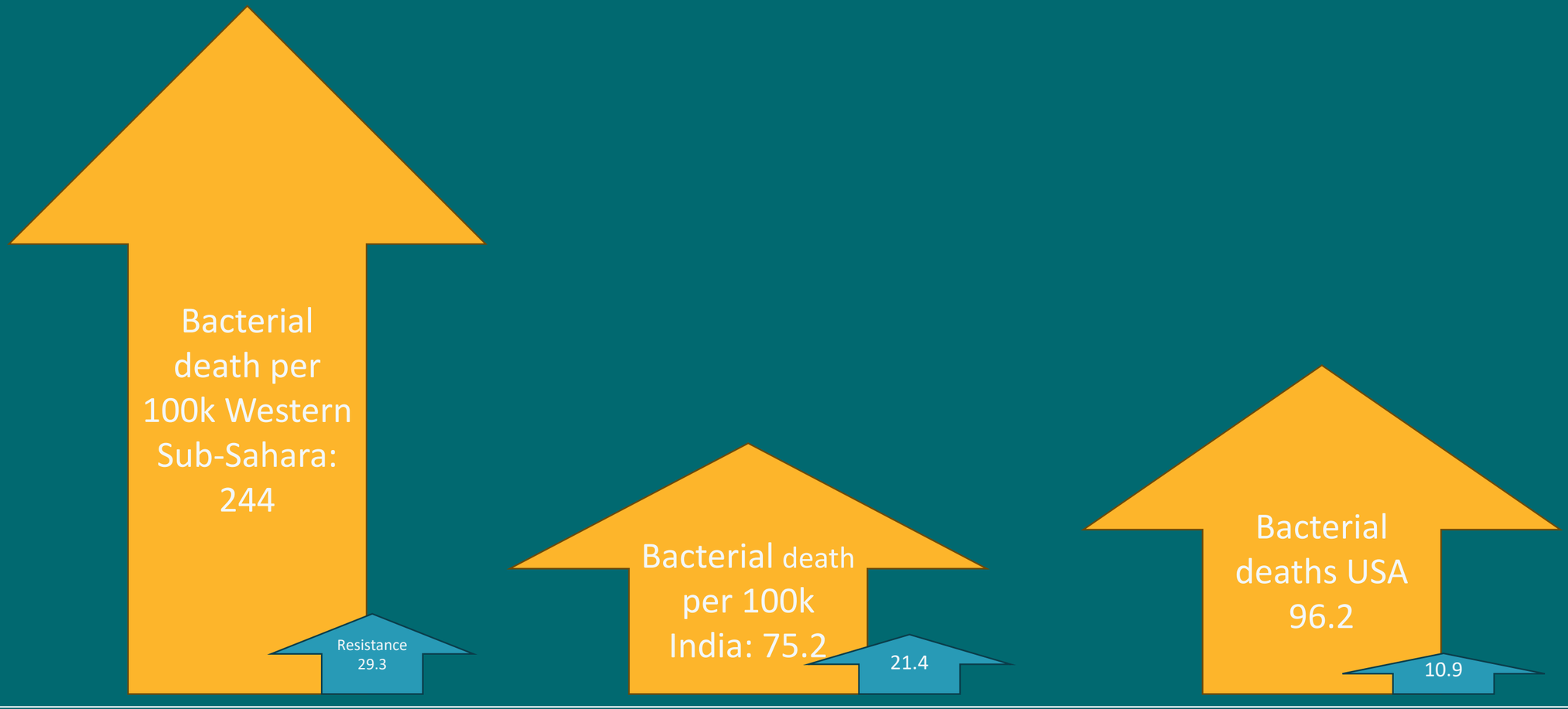
Malaria 644k

Source: Institute of Health Metrics and Evaluations, and GRAMS study

# Resistance burden is particularly high in LMICs




# Access to antibiotics is a big driver




Source: Institute of Health Metrics and Evaluations, and GRAMS study

# What causes access issues

# General reasons for procurement shortages

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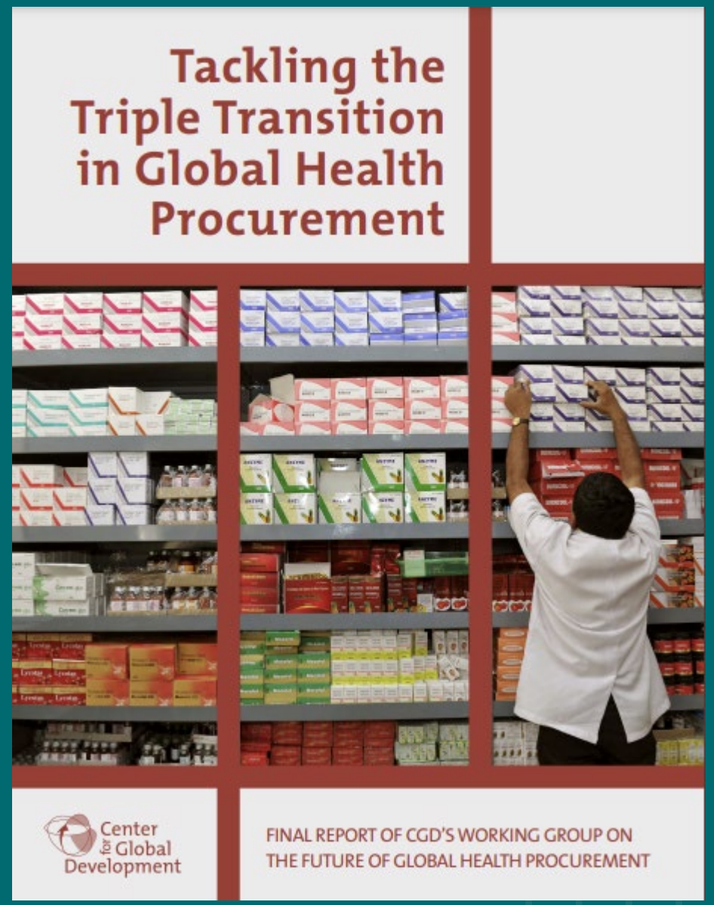
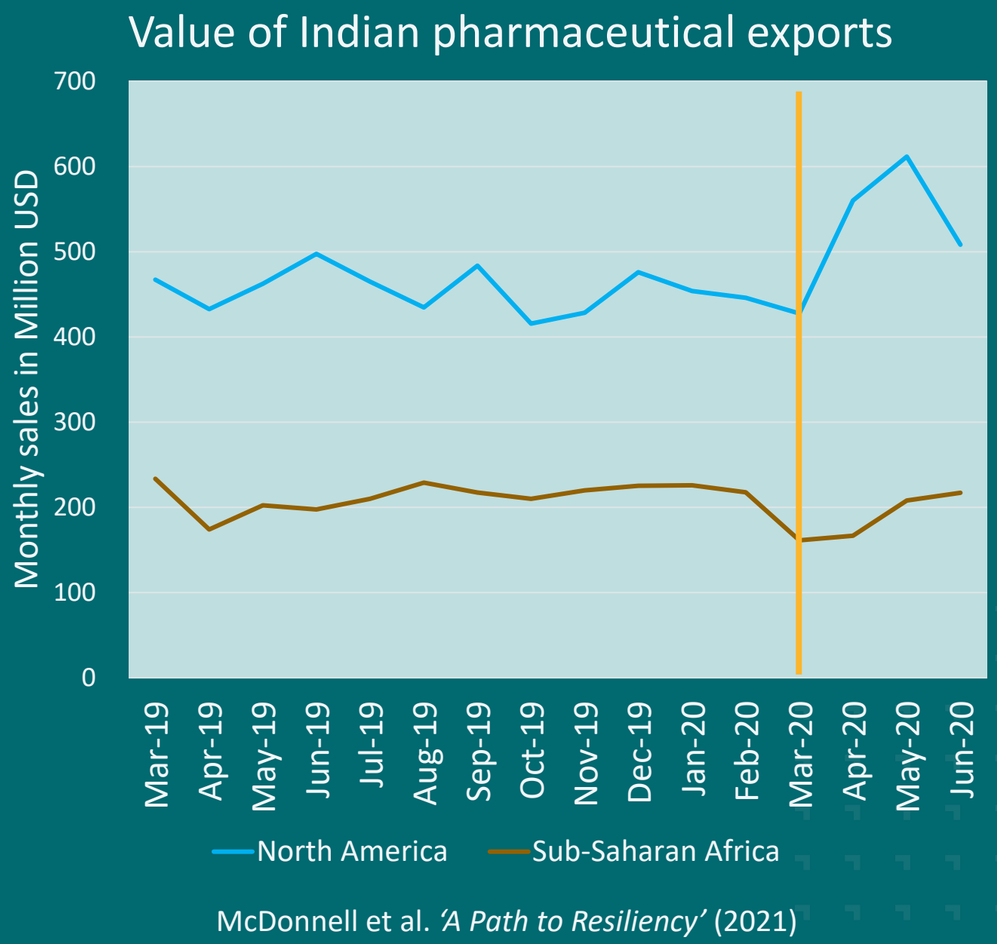
1. **Limited Competition**: Markets often dominated by a small number of suppliers.
2. **Institutional Inefficiencies:** such as cumbersome registration processes and inefficient local purchasing preferences.
3. **Market Failures:** such as imperfect information about product quality and barriers to entry.
4. **Fragmentation of demand:** high transaction costs are often passed down to purchasers.



# AMR specific reasons

5. Demand for antibiotics fluctuates.
6. In a shortage poor countries suffer most.
7. Often low volume treatments have large societal challenges.




McDonnell et al. *'A Path to Resiliency'* (2021)

# How and why to fix it

# Lack of access causes sub-standard treatment

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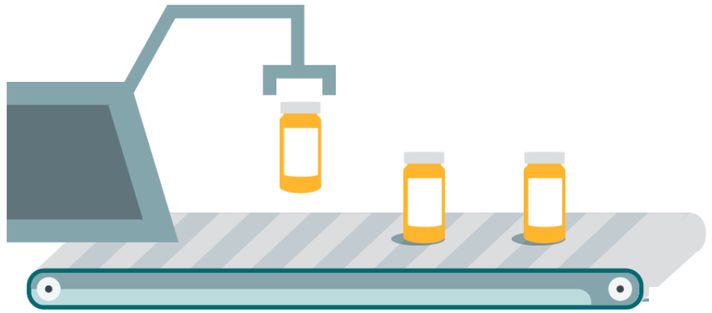
- This causes unnecessary deaths.
- When Access treatments aren’t available: Clinicians will use Watch or Reserve drugs, risking resistance.
- When Watch and Reserve drugs aren’t available, pathogens resistance to access treatment have a greater selective advantage.

# A Sustainable Access Hub

that ensures reliable access to and stewardship of essential antimicrobials and diagnostics where the market currently fails



**Manufacturers**

**Patients**

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# Thank you!