

Smartprescription

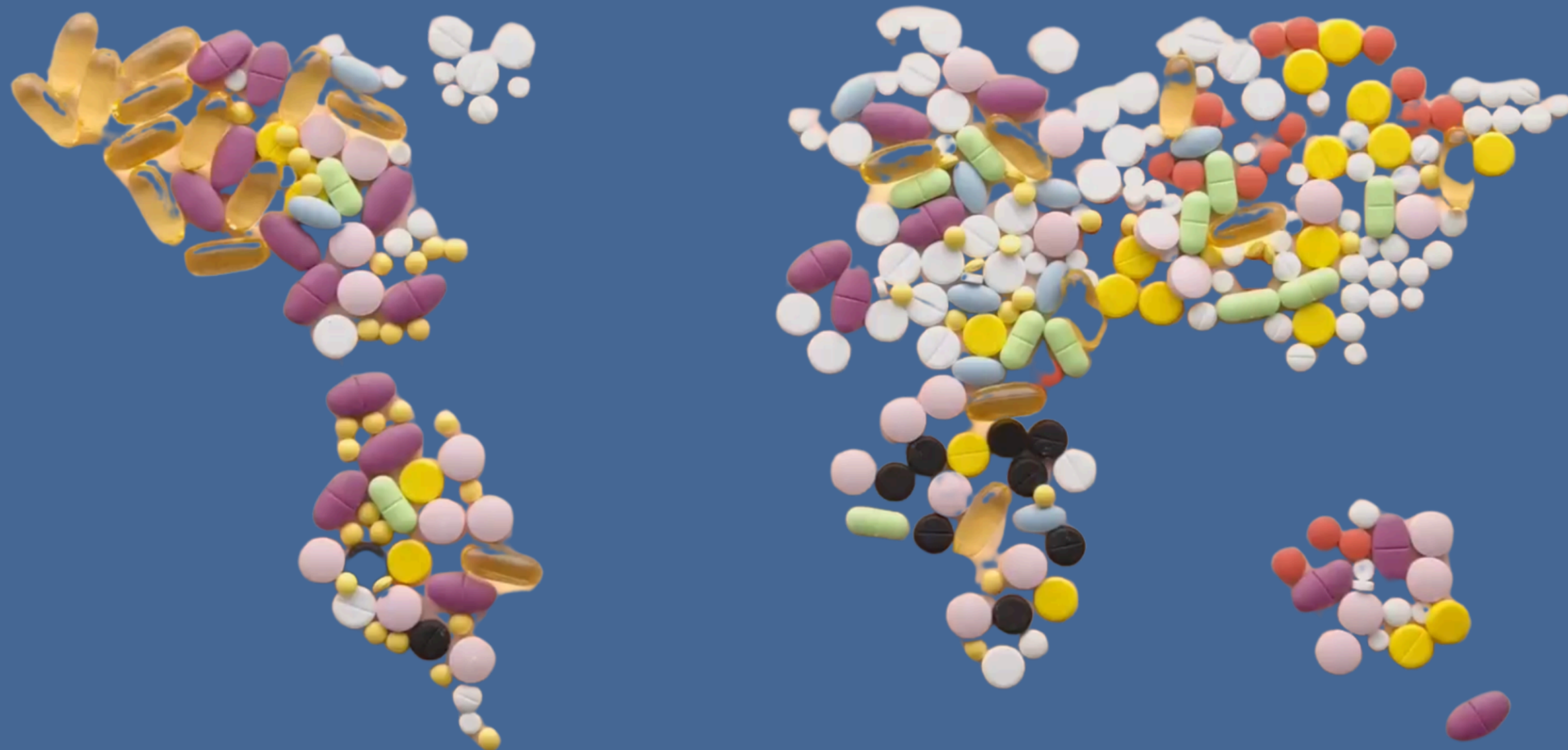
ARTIFICIAL INTELLIGENCE TO
COMBAT ANTIMICROBIAL
RESISTANCE

Presented by:
Greta Scavilla



Global Emergency

Antimicrobial resistance (AMR) is considered by the WHO to be one of the major challenges facing modern medicine.

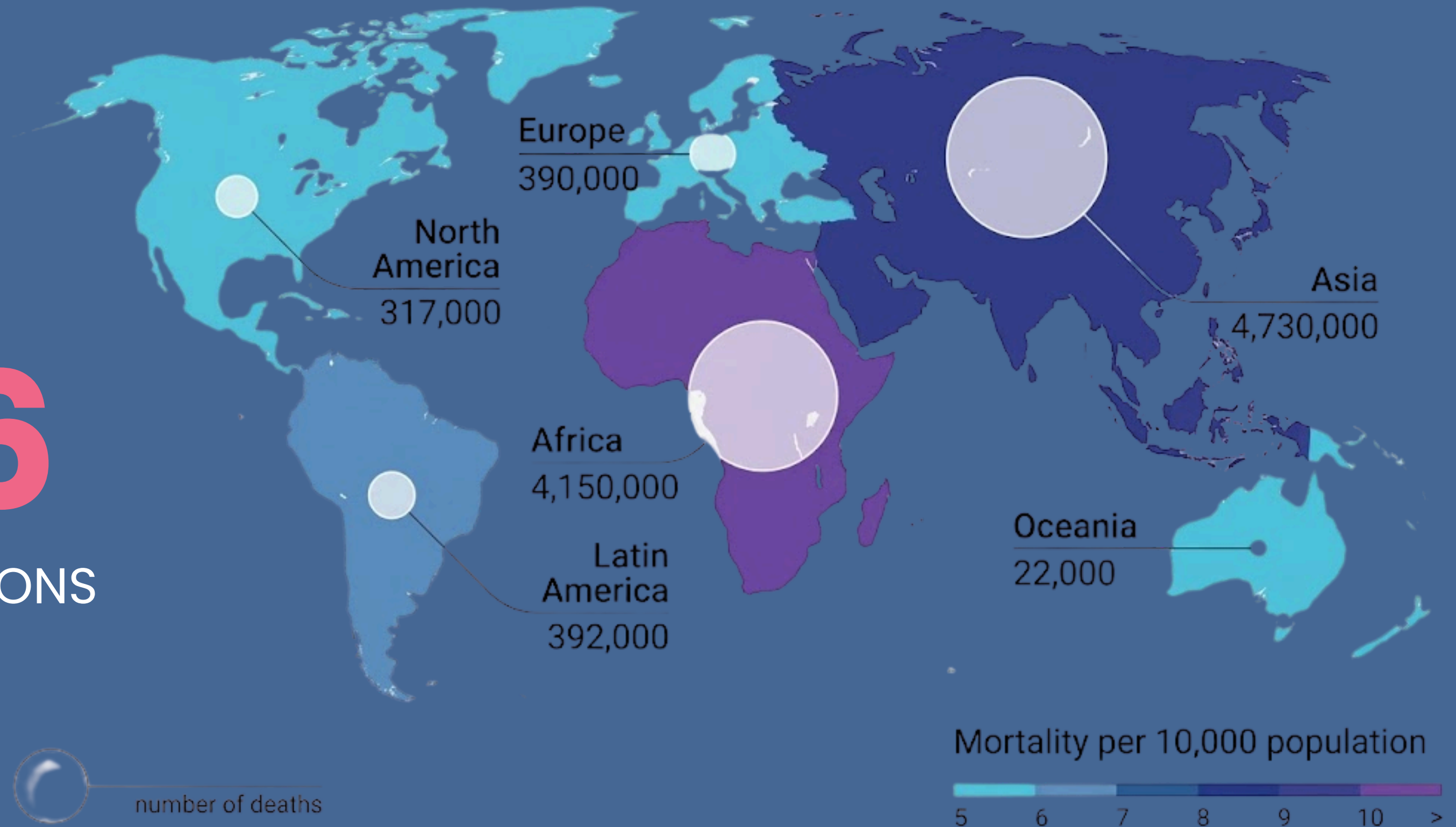


The Impact of AMR

Today

1 su 6

RESISTANT INFECTIONS
WORLDWIDE

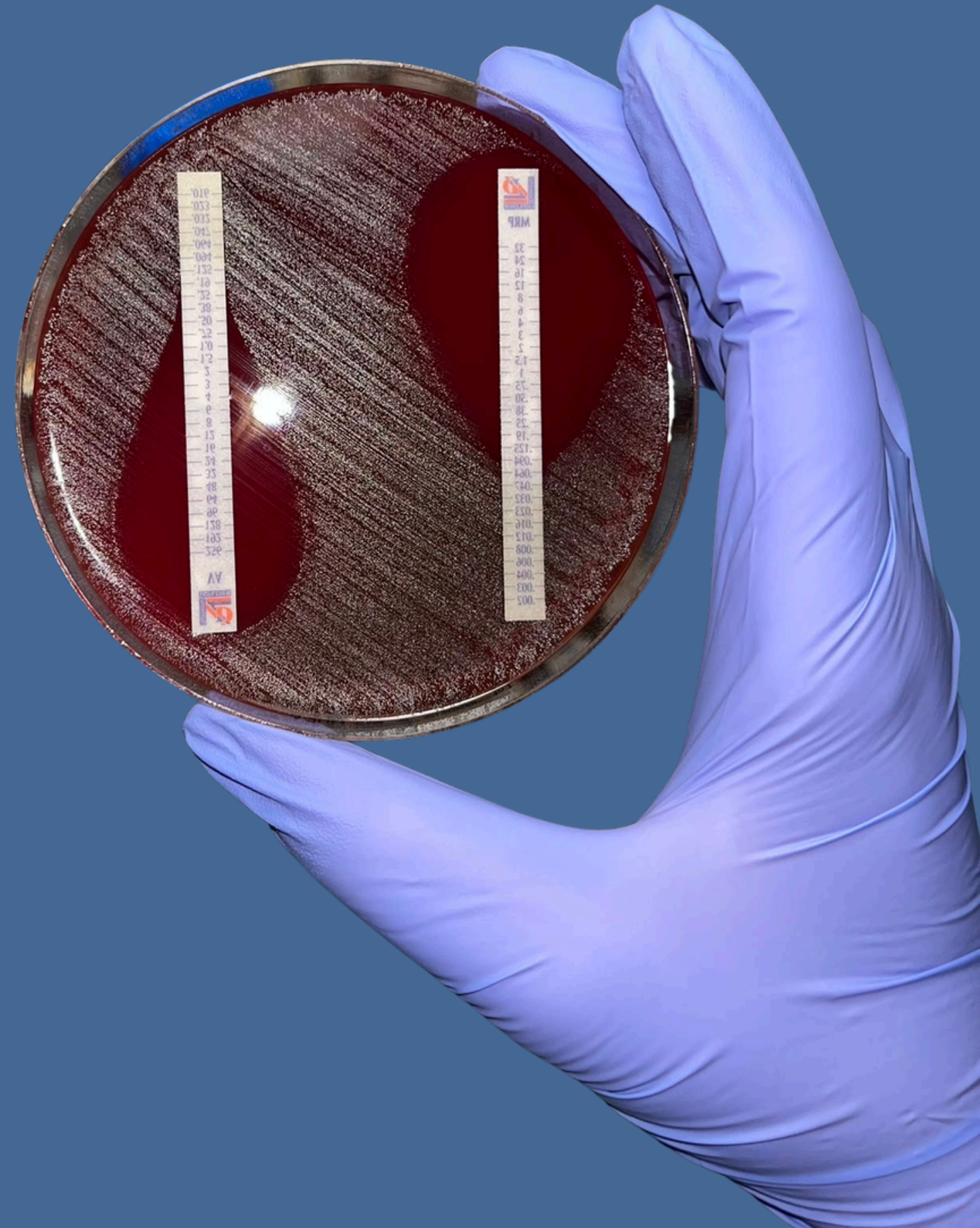


THE PROBLEM

Empirical Prescribing

DECISION-MAKING UNCERTAINTY

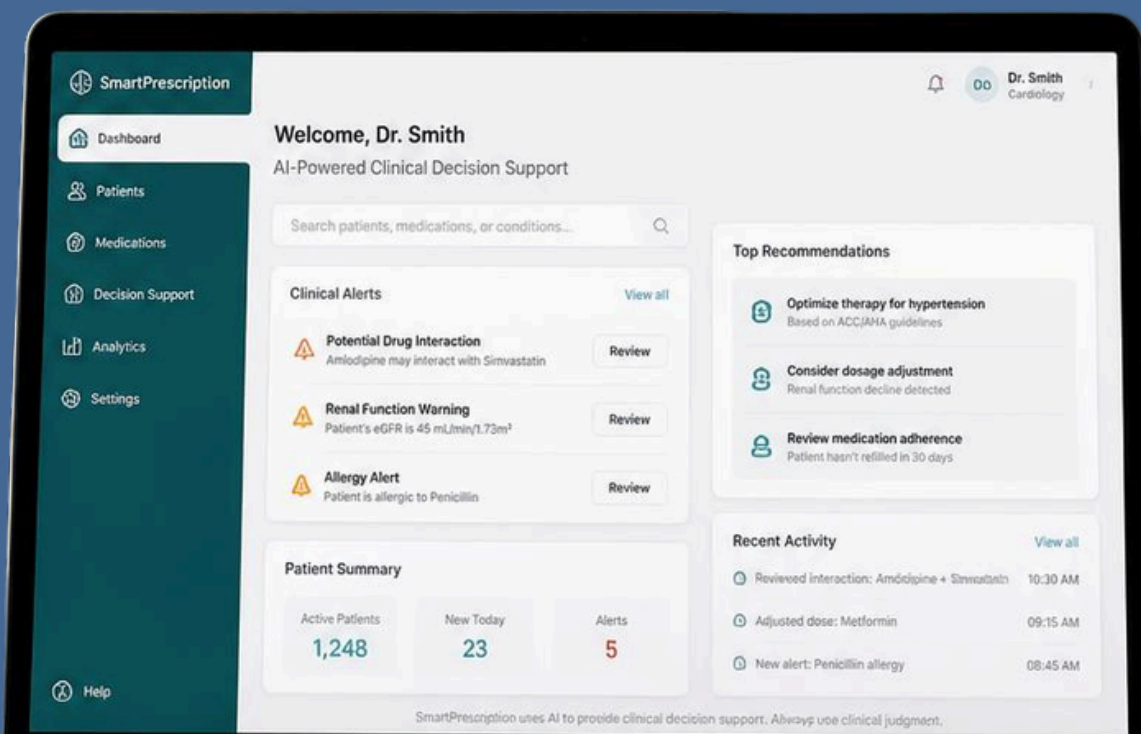
Doctors often choose an antibiotic before the antibiogram results are available, relying on symptoms and clinical experience.



THE IDEA

AI as a Clinical Assistant

SmartPrescription is an AI-powered clinical decision-support platform that helps doctors choose the most appropriate antibiotic



HOW IT WORKS

The 3-Phase Process



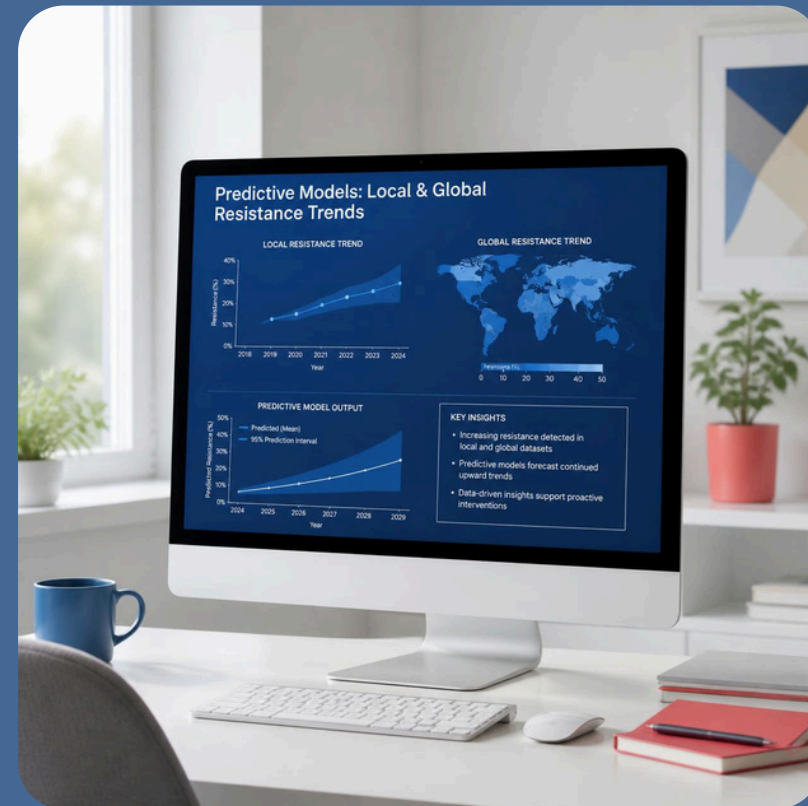
AI Analysis

Input of symptoms, vital signs, and the patient's medical history.



Data Collection

Processing through predictive models based on local and global resistance trends.



Prescription

Recommendation of the drug with the highest probability of success.



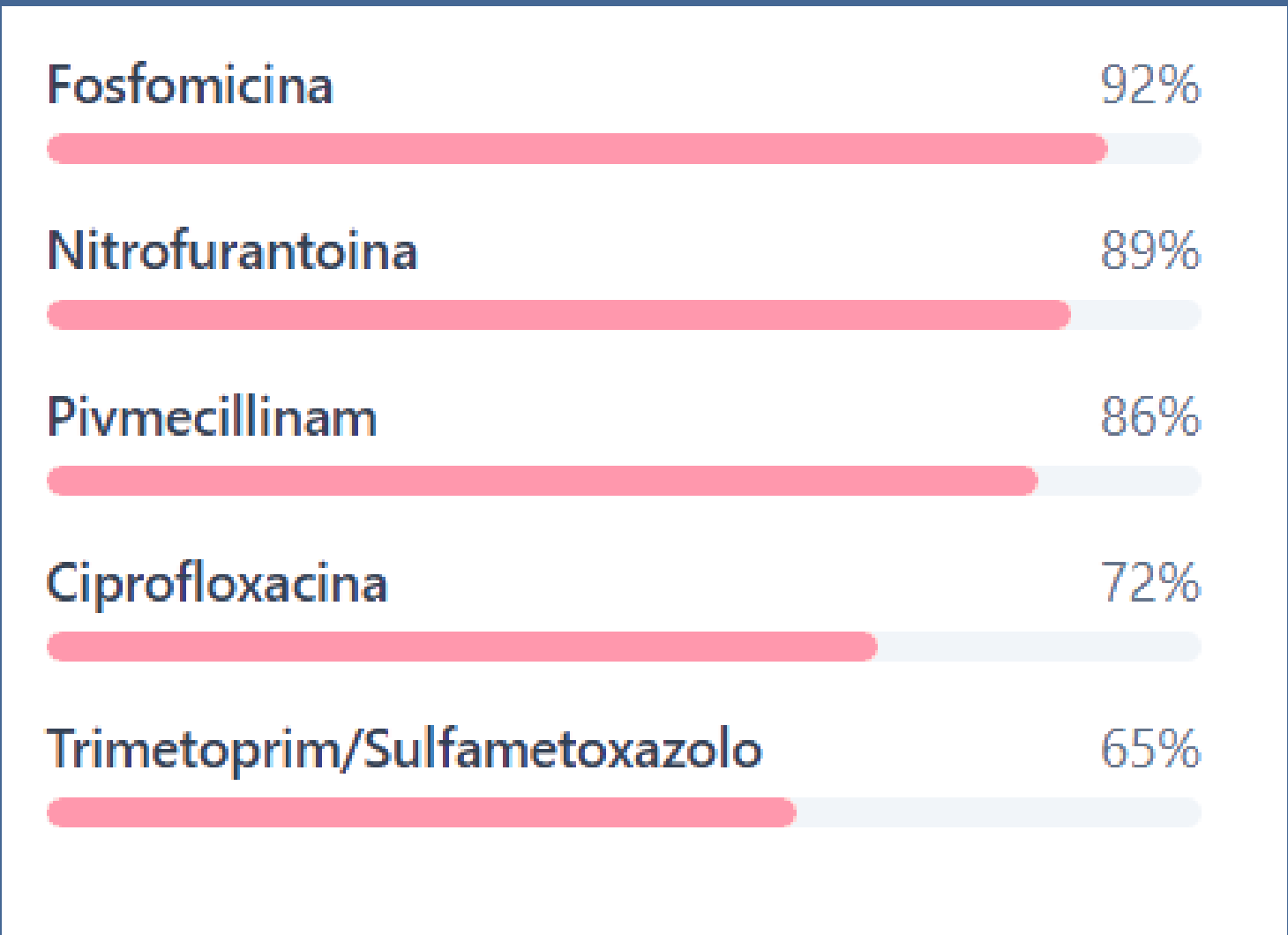
Scientific Architecture

PREDICTIVE MODEL

Supervised ML trained on clinical records, WHO GLASS microbiological data, and WHO AWARE guidelines.



Probability of success

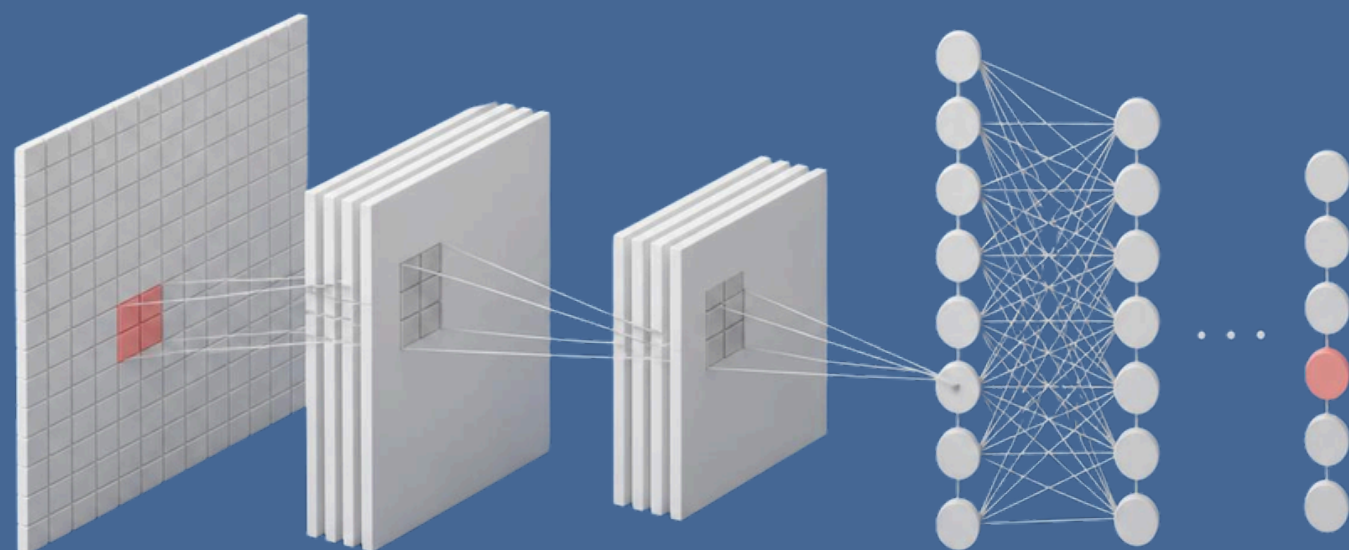


Direct Genomic Analysis



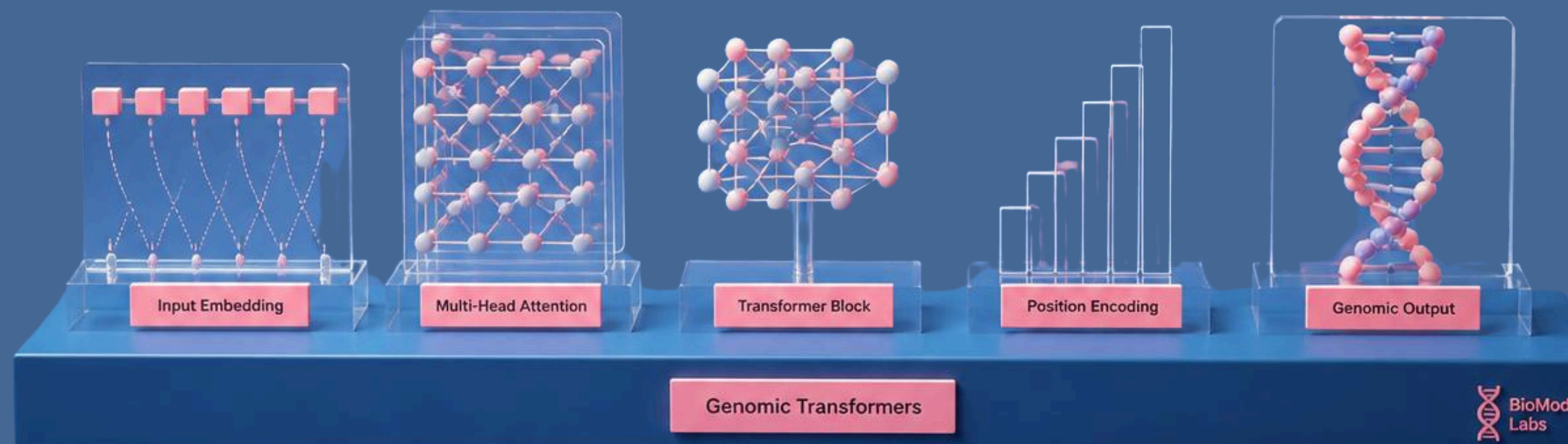
CNN 1D

Convolutional Neural Networks designed to directly analyze the pathogen's nucleotide sequences.



GENOMIC TRANSFORMERS

Advanced models that interpret the order and position of mutations to predict the resistant phenotype from the genotype.



SmartPrescription

SUPPORTING THE NATIONAL HEALTH SERVICE (SSN)



EHR INTEGRATION

Integration with the Electronic Health Record (EHR).



PNCAR ALIGNMENT

Aligned with national AMR prevention goals..



COST REDUCTION

Fewer hospital admissions and less use of second-line antibiotics.

**Preventing antibiotic
resistance today means
saving millions of lives
tomorrow.**

