

The pitch.

New tools to uncover the real AMR problem in East Asia



Associate Professor Tanya Applegate
The Kirby Institute, UNSW Sydney, Australia

Presenting a concept to **improve AMR surveillance**, on behalf of a team of amazing people

The background: Antimicrobial resistance is a global healthcare priority



Drivers of AMR

- Overuse + misuse of antibiotics
- Poor sanitation
- Poor infection control



Societal and economic impact

- Fewer effective antibiotics
- New mechanisms of resistance
- Return of older pathogens
- Decrease in drug development



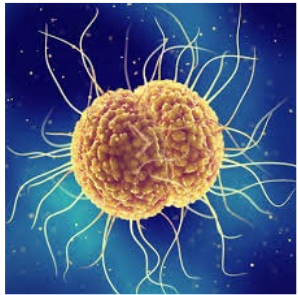
Effective AMR surveillance is essential to detect resistance strains early, to inform treatment guidelines and public health strategies



Many countries have limited resources to monitor, or manage, emerging AMR

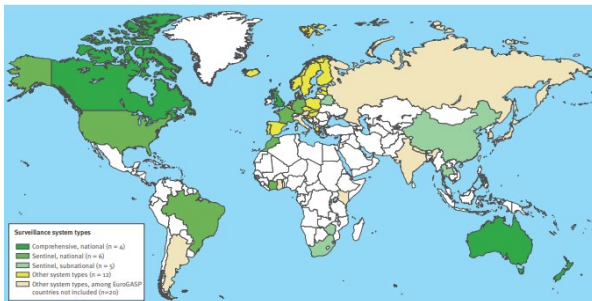
The problem: Very little knowledge on true burden of AMR in the region

An example: Resistant *Neisseria gonorrhoea* high priority pathogen (WHO Top 10)

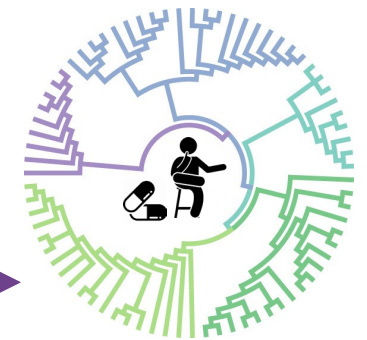


- Top 3 most common sexually transmitted infections
- High morbidity, maternal and reproductive outcomes, largely asymptomatic
- Highly resistant strains to the last first-line antibiotic
- Only 1 promising new candidate
- Most countries treat without testing → leads to overuse + also misses asymptomatic infections

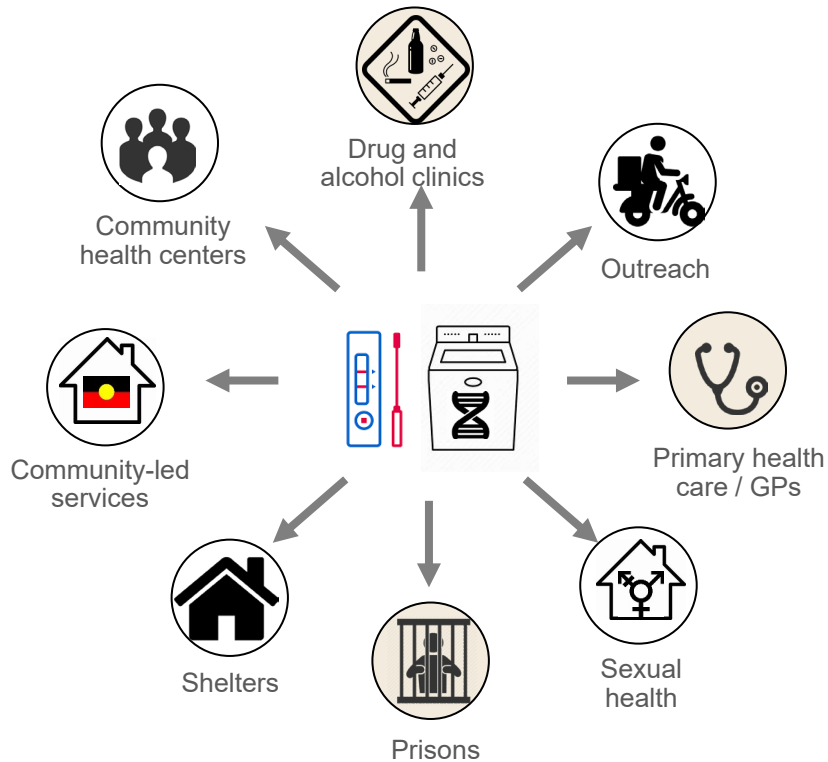
N.gonorrhoea AMR surveillance relies on culture and doesn't represent true burden



- Relies on culture, with very poor yield
- Samples from symptomatic men only
- Sampling from urban hospital settings
- Surveys small and infrequent
- No surveillance means resistance will spread! →

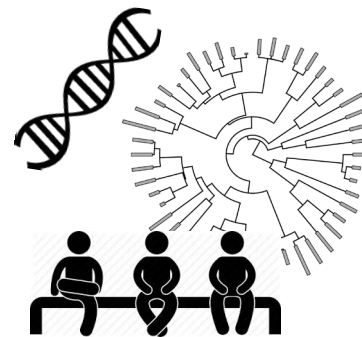


The opportunity: Low-cost diagnostic tools to enhance global AMR surveillance



Patient centred, decentralised point of care testing

- Commonly used in primary health care and community services
- Increase reach, including key populations at risk
- Also includes people without symptoms
- Reflex testing positive samples enhances culture yields



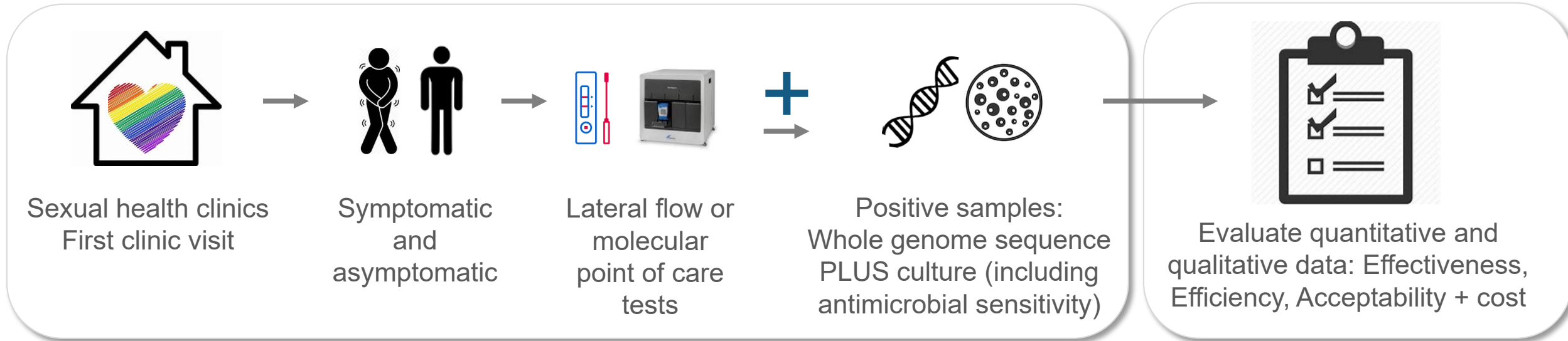
Whole genome sequencing

- Reducing in cost and complexity
- Directly measure markers without culture
- Enhances molecular epidemiological data

How can we leverage new tools and increased capacity, developed during COVID-19 ???

The goal: Evaluate a novel hybrid molecular-enhanced pathway

Clinical study to recruit key populations at risk of *N.gonorrhoea*



We will.....

- Use mixed methods to evaluate new tools, including acceptability and costs
- Synthesise the findings and prepare an investment case report
- Provide evidence to advocate for investment in improved AMR surveillance systems

The outcomes: A new paradigm for regional AMR surveillance and collaboration

1. Public health research platform

- A new surveillance model for many settings and pathogens.
- Multi-country clinical and surveillance collaboration building on individual strengths

2. Increased AMR surveillance capacity and knowledge

- Improved ability to track AMR, including key populations and regions
 - Economic evidence base for global investment in new model
 - New knowledge through whole genome sequencing to inform new resistance guide tests
 - Evidence to inform local clinical guidelines
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