Synthesising the empirical evidence to map pathways for HIV prevention planning

**BACKGROUND**

New trial data has begun to provide empirical support for innovation in the use of antiretroviral (ARV) drugs for HIV prevention. However, there has been little synthesis of the full breadth of individual, clinical, social, political, and economic impacts of ARV-based prevention strategies, and the evidence for them.

**METHODS**

The Mapping Pathways study has developed and synthesised the evidence base for ARV-based prevention, and the implications for India, South Africa, and the United States. A structured literature review mapped and analysed published empirical data on four ARV-based prevention strategies: testing, linkage to care plus (TLC+), pre-exposure prophylaxis (PrEP), microbicides, and post-exposure prophylaxis (PEP).

A Delphi-based ExpertLens identified fault-lines in the evidence for implementation of the strategies as perceived by HIV-ARV experts. ExpertLens harnesses the wisdom of groups and can bring geographically dispersed participants together.

**RESULTS**

The literature review retrieved 5,811 articles from a keyword search and 302 abstracts were mapped for their methodology and relevance to efficacy, cost-effectiveness, indirect outcomes, and epidemiological impacts (Figures 1 and 2). One hundred articles were fully analysed. There is a relatively sparse evidence base for the efficacy of ARV-based prevention. Modelling and cost-effectiveness studies revealed optimism for effectiveness of TLC+, and PrEP strategies, although concerns about adherence, risk compensation, and drug resistance exist. Overall, there are gaps in the evidence base in the following areas: examination of indirect effects of ARV-based prevention strategies; clinical trial data for microbicides and ‘treatment as prevention’ strategies; and divergent, context-dependent evidence about the epidemiological implications of different strategies.

1. Empirical evidence base map by relevance to key questions

2. Empirical evidence base for ARV-based prevention strategies

3. ExpertLens comparative assessment of biomedical prevention strategies

4. ExpertLens comparative assessment of factors affecting implementation

**CONCLUSIONS**

There is little published, systematic analysis of the full evidence base for ARV-based prevention to utilize for policy development. Existing data is inconsistent with regard to efficacy and effectiveness, varies by country, and expert perspectives are divergent and dynamic. Critical gaps exist in the evidence base and the need for policy-relevant and robust evidence remains.

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