

Building Resilience Against Outbreaks & Pandemics

Research to identify
sustainable solutions

The 3rd Global Research and Innovation
Forum



Research to address gaps in One Health knowledge, prevention and integrated strategies

Key research achievements / Progress update

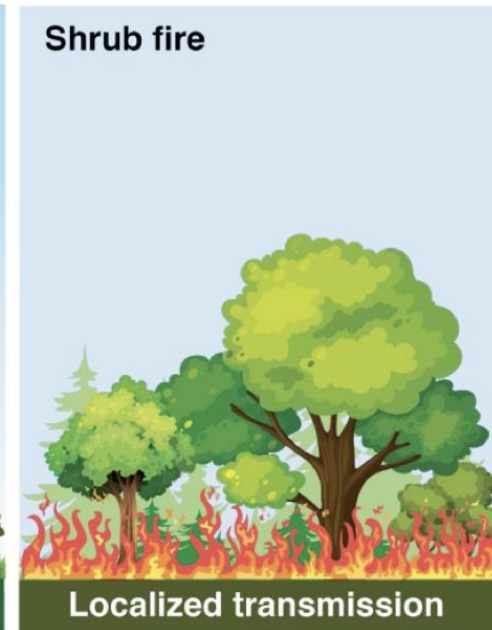
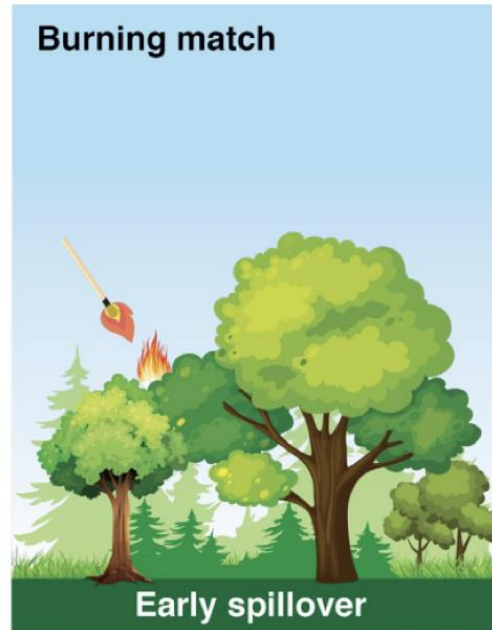


Benjamin Roche, IRD/PREZODE

Primary prevention

Reducing the likelihood of human exposure

- A necessary combination of prevention, preparedness and responses
 - (Primary) Prevention is transversal, do not to target a specific pathogen but rather the broad risk factors of emergence



Future research priorities



Identifying the drivers

How can we manage them?

- Not necessarily a mechanistic understanding, but rather an impact of emergence risk
 - Identifying these factors need to adopt a macroscopic point of view
- Factors generally involved are very transversal (i.e., not only health-centered)
 - Real necessity of a co-design with all stakeholders from all sectors

Comment

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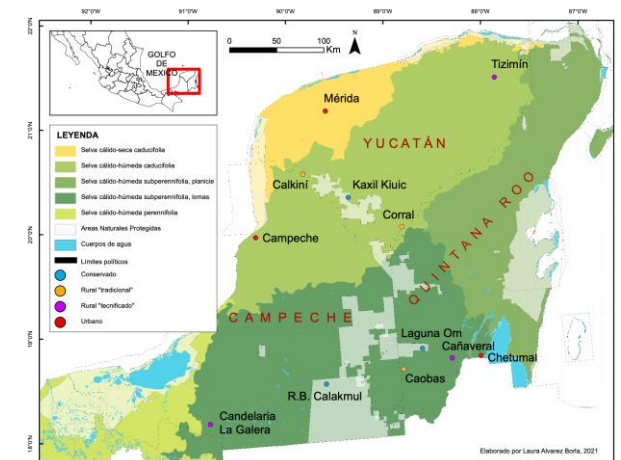
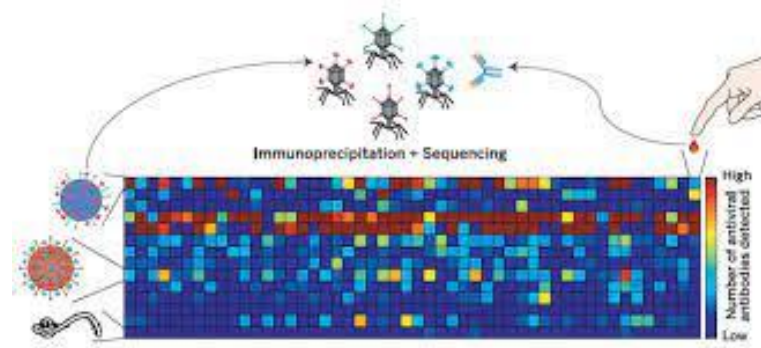
The *Lancet*-PPATS Commission on Prevention of Viral Spillover:
reducing the risk of pandemics through primary prevention



Ecosystem management and pathogen ecology

Understanding the modification of transmission networks

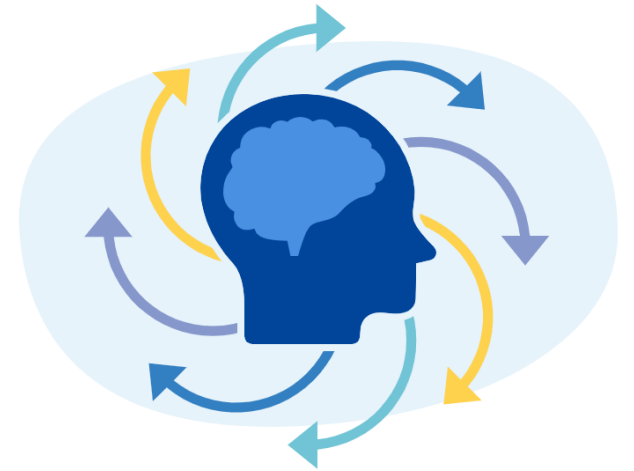
- For many pathogens, very little is known about transmission in ecosystems
 - Requires comparison between comparable sites, but with different ecosystem management
 - Requires also broad diagnostic tests to quantify infection intensity
 - Requires methodological improvements to infer transmission networks



Human behavior

And how to manage the hazard

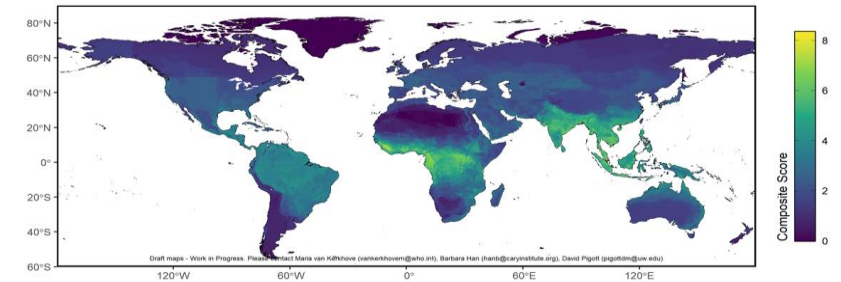
- COVID-19 has highlighted how much human behavior is important regarding infectious threats (and how poorly we understand it)
- Crucial to understand how human behavior shapes the human-animal interface
 - With livestock, which could be based on surveillance and economic assessments
 - With wildlife, which requires a much deeper sociological and anthropological understanding, often in remote and rural areas. Cultural background is essential



No prevention without metrics

A crucial need of quantification for policymakers

- One Health research, and thus prevention, has still to demonstrate its concrete added value for human well-being improvement
- A lot of (scientific) disputes occurs because a lack of standardized metrics
 - A clear need for a recognized (set of) indicator(s) to quantify the risk reduction
 - An incremental process to consider the new threats, new data sources and new data analysis methodologies



Big Research Idea

Implementing science

Co-designing multi-actors/multi-sectors strategies

- Researchers have to understand they don't have all the answers...
 - Important to identify the trade-offs and tensions (especially the economic ones) to implement SUSTAINABLE prevention strategies
 - Crucial to involve all the actors/stakeholders in the design process in order to connect the needs with the answers and the capacities
- (Primary) Prevention will never be 100% efficient. How can we combine surveillance and prevention?



Connecting local and global scales

Actions are locally designed, but need to be coordinated at a global scale

- A space to connect all the efforts to improve significantly our knowledge
- If crucial to develop local solutions, a global coordination is required to avoid duplicated efforts and blind spots
 - A mechanism between the Quadripartite, countries and One Health initiatives, is still missing



STOP *Spillover*



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