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
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

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

  • With livestock, which could be based on surveillance and economic assessment
  • With wildlife, which requires a much deeper sociological and anthropological analysis, 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