



HIA & BRI projects

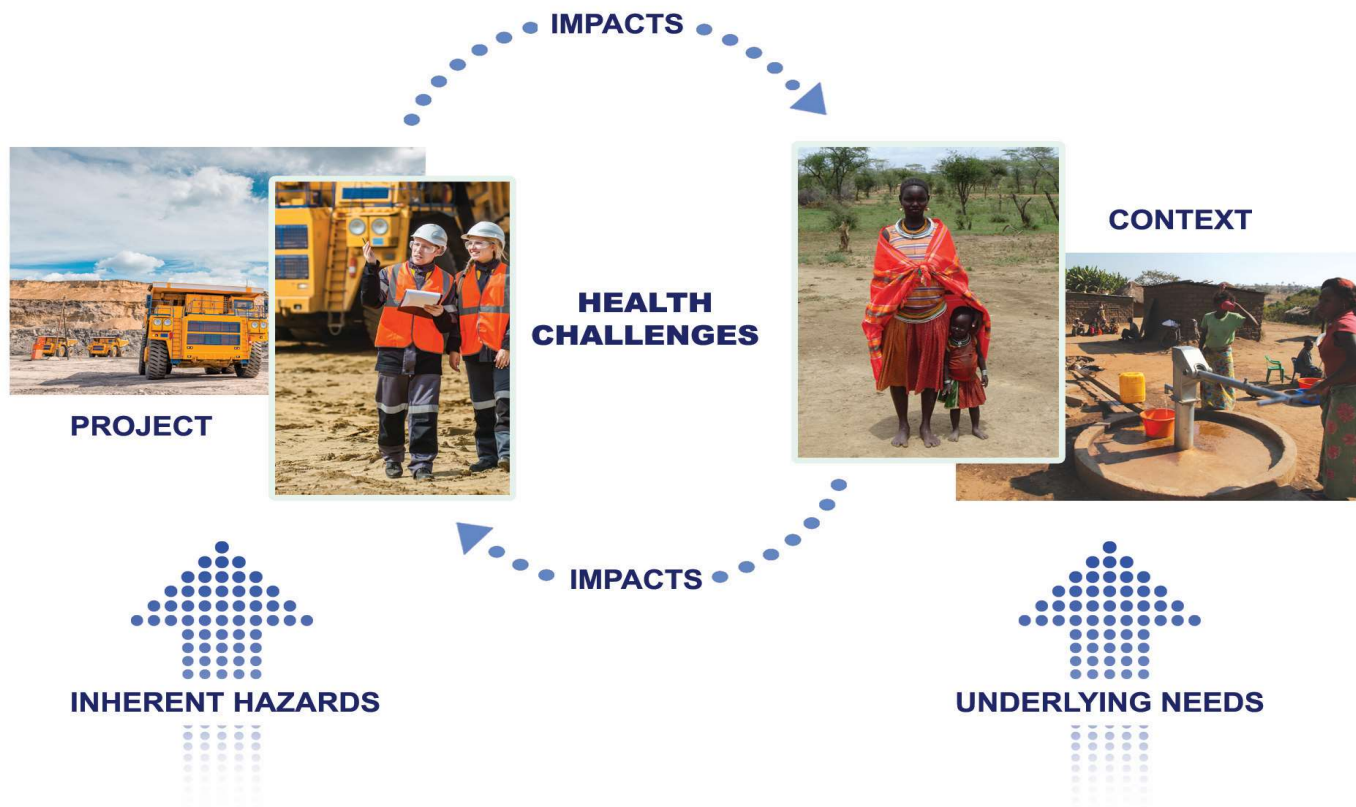
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December 2020

WORLDWIDE REACH. HUMAN TOUCH.

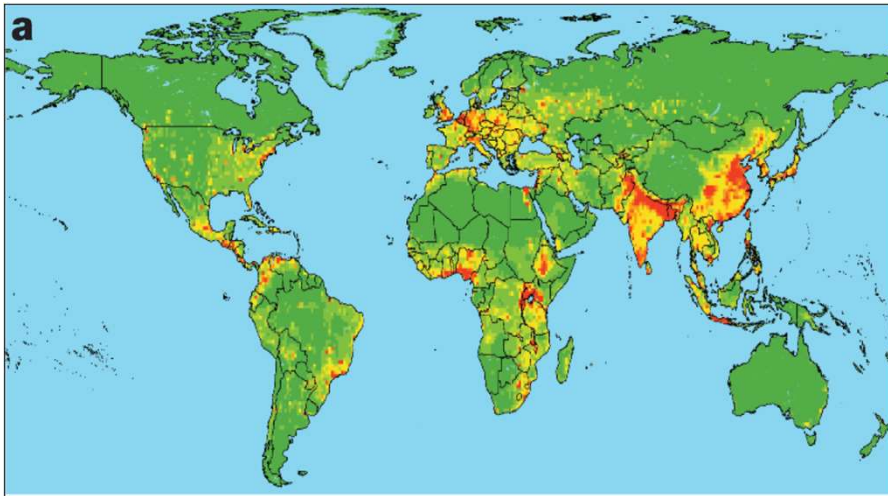
Projects and health



From F. Viliani and P. Harris (2020) "Assessment Of Health Impacts On Local Communities Is Fundamental For Sustainability". Paper submitted at the "SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility" in Colombia Bogota.

What are EID and what we know?

- 3/4 of zoonotic emerging disease threats arise from wild animal reservoirs
- The “human-animal-ecosystem interface” is at the center of new disease emergence
- Emergence is closely linked to geographic “hot spots”



Jones, K., Patel, N., Levy, M. et al. Global trends in emerging infectious diseases. *Nature* 451, 990–993 (2008). <https://doi.org/10.1038/nature06536>

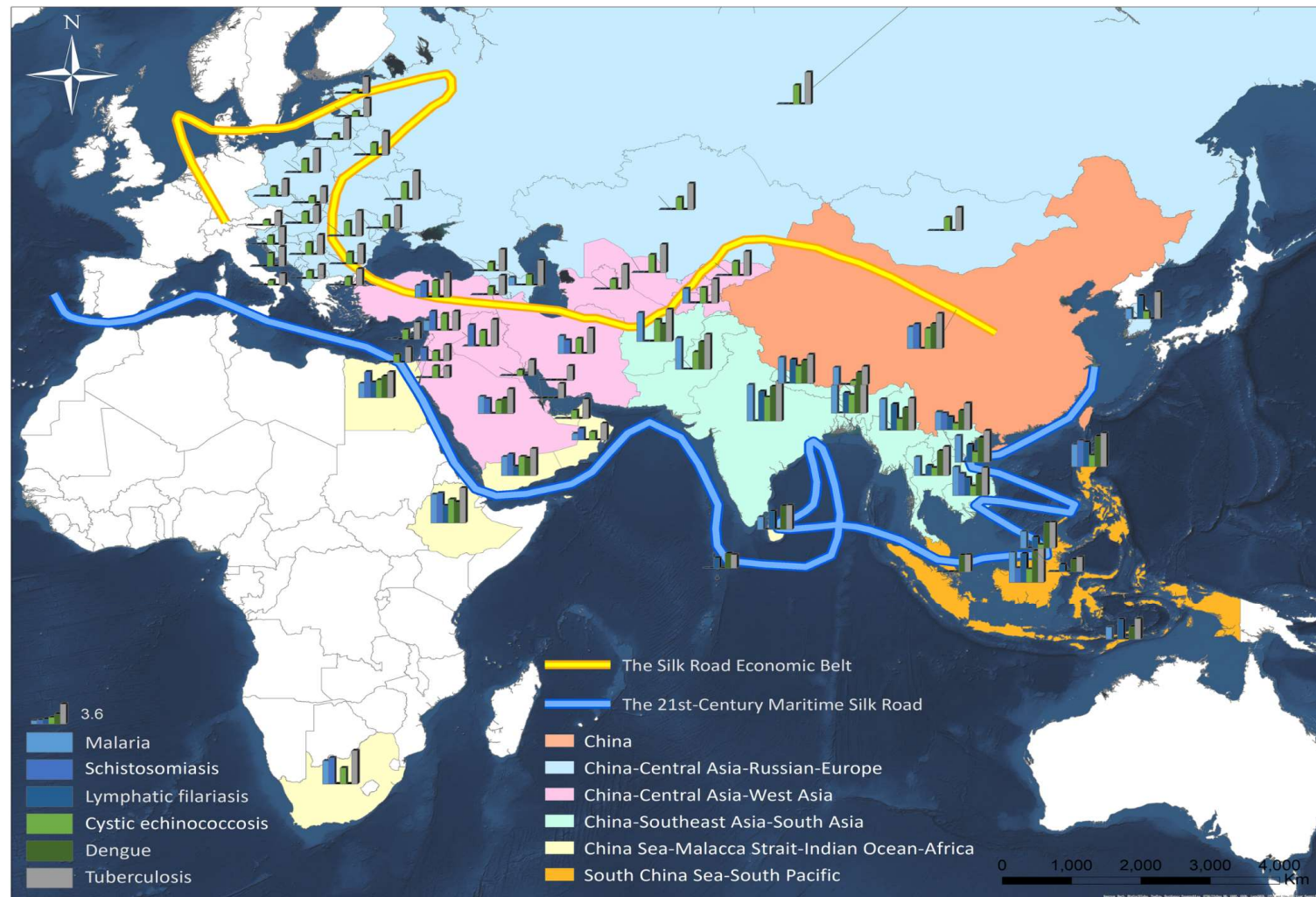
Top 10 risks in terms of Impact

- 1 Water crises
 - 2 Spread of infectious diseases
 - 3 Weapons of mass destruction
 - 4 Interstate conflict
 - 5 Failure of climate-change adaptation
 - 6 Energy price shock
 - 7 Critical information infrastructure breakdown
 - 8 Fiscal crises
 - 9 Unemployment or underemployment
 - 10 Biodiversity loss and ecosystem collapse
- A red arrow points to the second item, 'Spread of infectious diseases'.

The World Economic Forum's (WEF)
Global Risks Report 2015

The spectrum of six infectious diseases in the Belt and Road countries

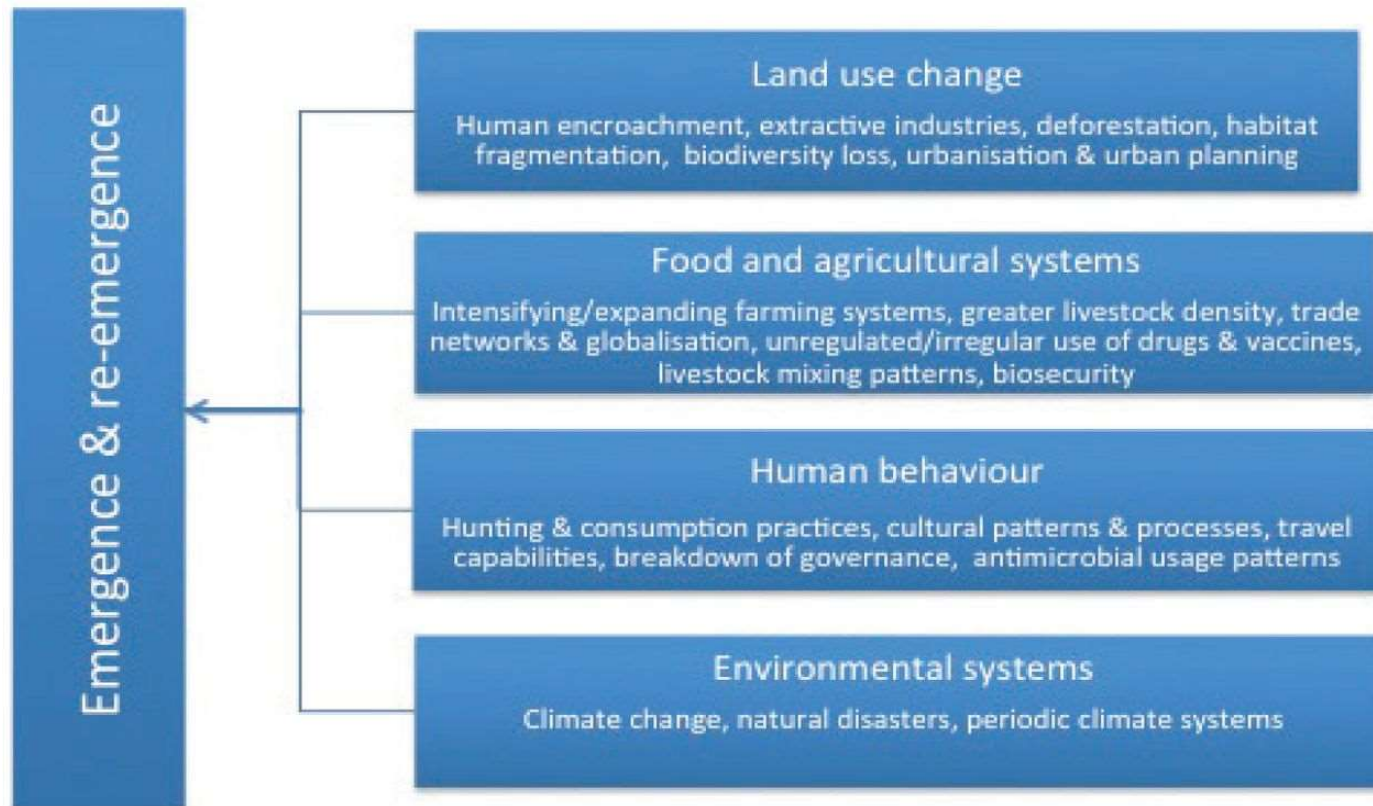
<https://doi.org/10.1371/journal.pntd.0007107.g002>



BRI and health

- China commitment to synergize efforts in medical emergency response and epidemic prevention
http://en.nhc.gov.cn/2017-08/18/c_72298.htm
- This was reinforced by the COVID-19 pandemics. China has taken leadership position with production and distributions of personal protective equipment, medical devices, medicines, and not least vaccines. China has also dispatched medical teams and committed to provide vaccine to low and middle income countries. We can therefore expect a new role in Global health.
- However, it is not only infectious diseases that we should be concerned about in relations to BRI:
 - Occupational health and safety
 - Health regulations and prevention activities
 - Altering ecosystem services and connectivity
 - Chronic conditions and all their risk factors
 - Accidents and injuries
 - Changes in social determinants of health
 - Health system strengthening and major challenges that the BRI countries are currently experiencing in achieving Universal Health Coverage

Focus on project development and EID



Dixon, MA., Dar, OA., Heymann, DL. (2014) Emerging infectious diseases: opportunities at the human-animal-environment interface *Veterinary Record* **174**, 546-551.

Ebolavirus Ecology

Enzootic Cycle

New evidence strongly implicates bats as the reservoir hosts for ebolaviruses, though the means of local enzootic maintenance and transmission of the virus within bat populations remain unknown.

Ebolaviruses:

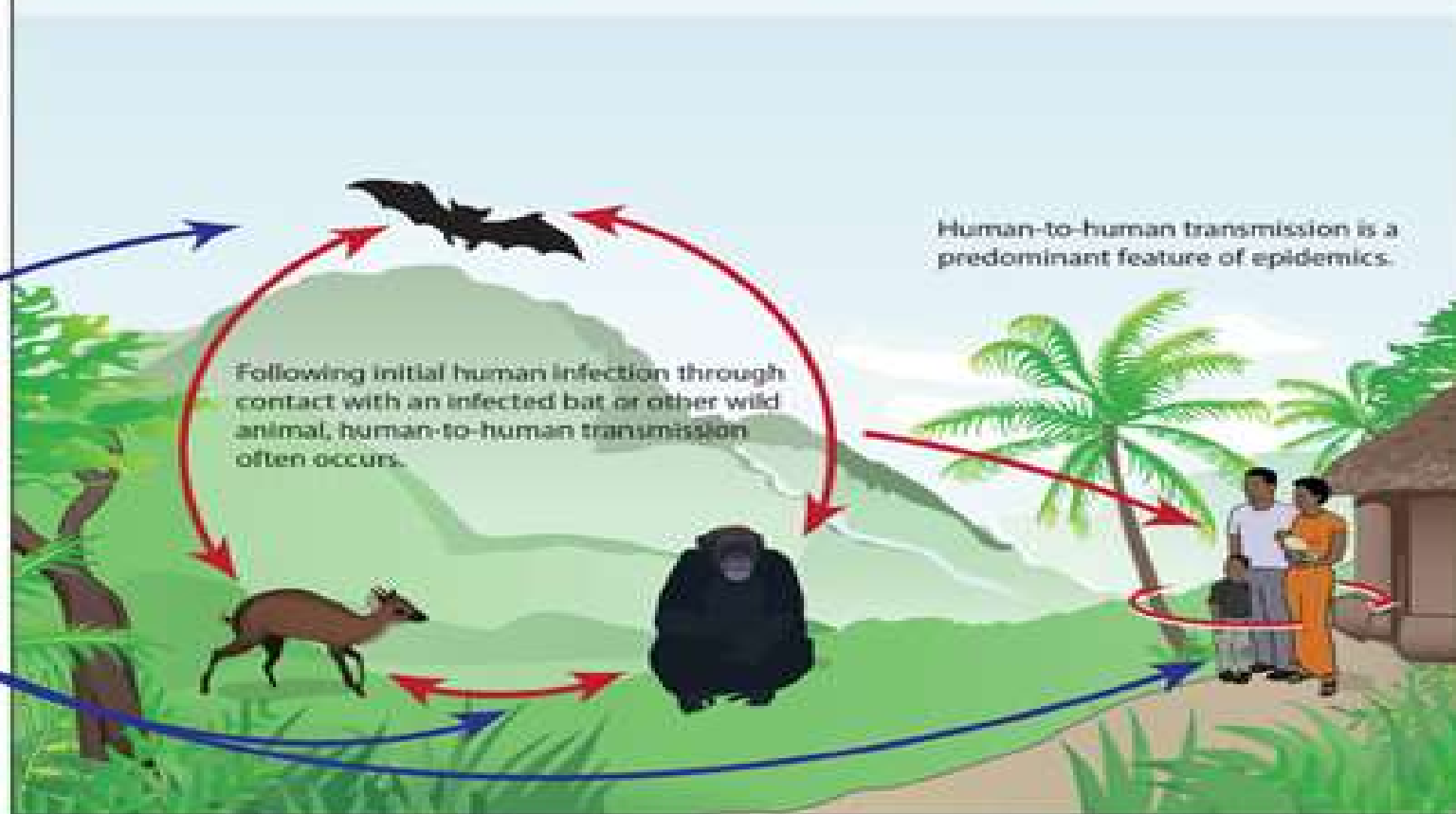
- Ebola virus (formerly Zaire virus)
- Sudan virus
- Tai Forest virus
- Bundibugyo virus
- Reston virus (non-human)



Epizootic Cycle

Epizootics caused by ebolaviruses appear sporadically, producing high mortality among non-human primates and duikers and may precede human outbreaks. Epidemics caused by ebolaviruses produce acute disease among

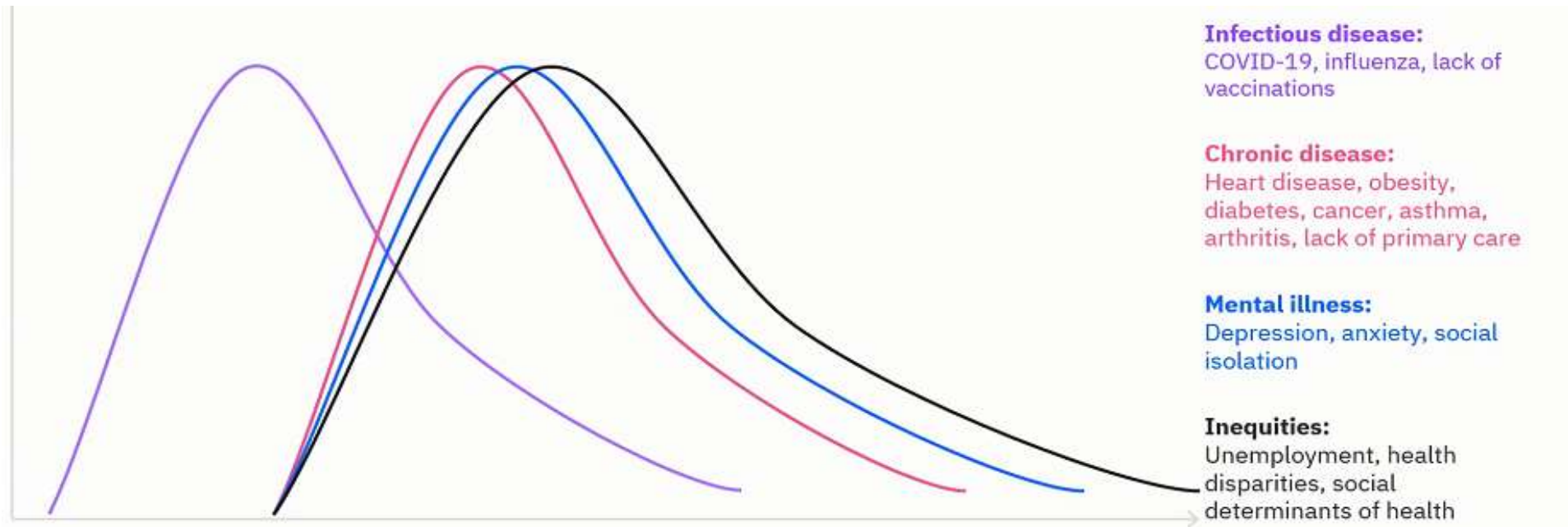
humans, with the exception of Reston virus which does not produce detectable disease in humans. Little is known about how the virus first passes to humans, triggering waves of human-to-human transmission, and an epidemic.



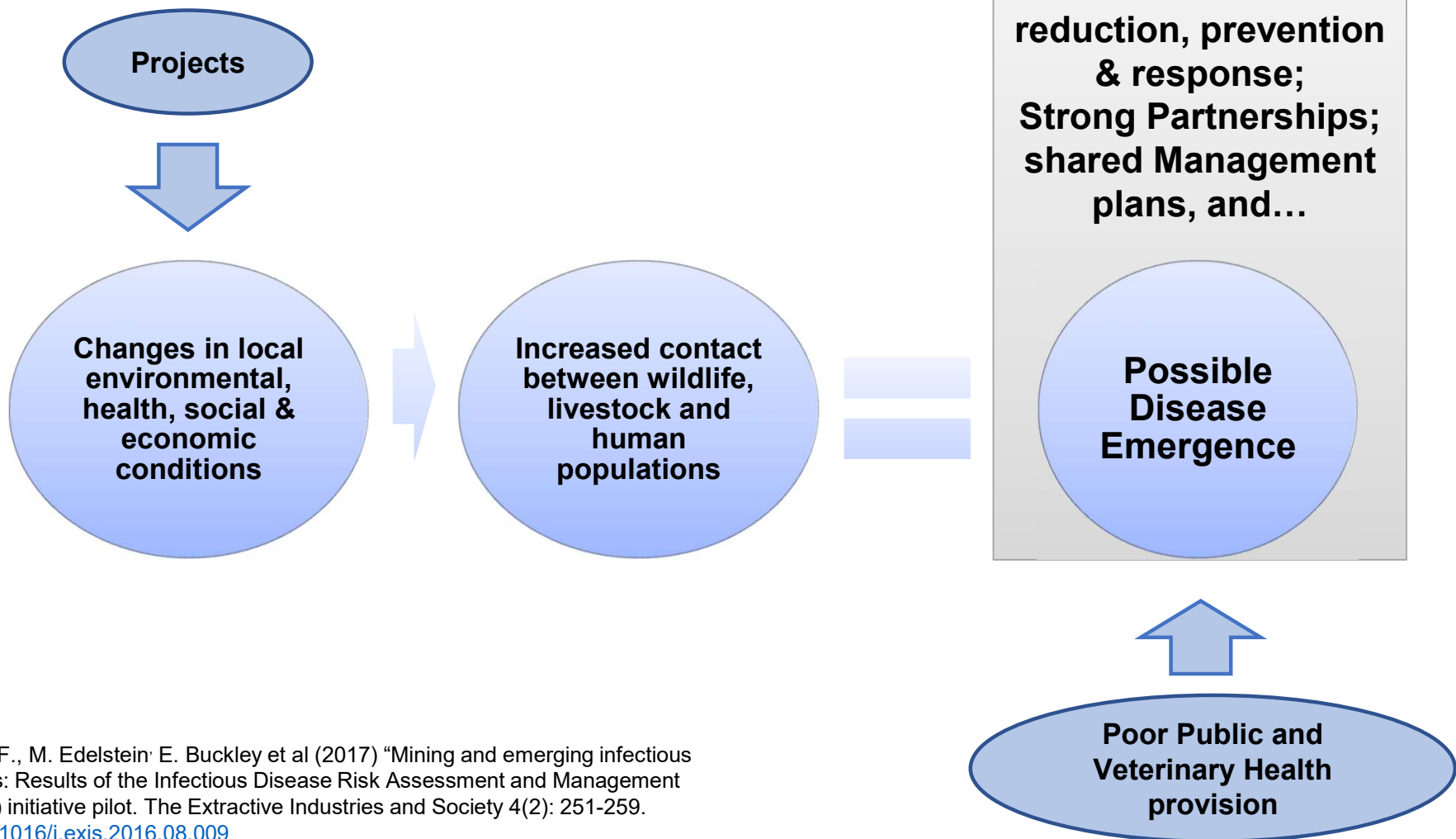
FUTURE HEALTH CHALLENGES



- 'Long COVID' in people will continue to need proactive management and support
- Immediate effects: lack of exercise, sleep disturbance, nutrition, job insecurity, ergonomics
- Long-term impact NCDs: cancer diagnosis, mental ill health, cardiovascular disease
- Long-term impact on infectious disease : TB, malaria, polio, measles, dengue



Projects and Impact Assessment



Viliani F., M. Edelstein E. Buckley et al (2017) "Mining and emerging infectious diseases: Results of the Infectious Disease Risk Assessment and Management (IDRAM) initiative pilot. The Extractive Industries and Society 4(2): 251-259. DOI: [10.1016/j.exis.2016.08.009](https://doi.org/10.1016/j.exis.2016.08.009)

COVID-19 THREATENS ALL THE SDGS GOALS

| SDG | Status | Example of target(s) affected |
|---|----------------------------|---|
| Goal 1: No poverty | Threatened* and mitigates* | Target 1.2: halve proportion of people living in poverty by 2030 Target 1.4: provide equal access to basic services |
| Goal 2: Zero hunger | Threatened | Target 2.3: double agricultural productivity and incomes of small-scale food producers |
| Goal 3: Good health and well-being | Threatened and mitigates | Target 3.8: achieve universal health coverage |
| Goal 4: Quality education | Threatened | Target 4.1: provide free, equitable and quality education for all children |
| Goal 5: Gender equality | Partially threatened* | Target 5.4: value unpaid care and domestic work by providing public services and policies |
| Goal 6: Clean water and sanitation | Threatened | Target 6.1: give access to safe and affordable drinking water for all |
| Goal 7: Affordable and clean energy | Threatened | Target 7.3: double global rate of improvement in energy efficiency |
| Goal 8: Decent work and economic growth | Threatened | Target 8.1: sustain per capita economic growth |
| Goal 9: Industry, Innovation and Infrastructure | Threatened and aggravates§ | Target 9.4: upgrade infrastructure and retrofit industries to make them sustainable |
| Goal 10: Reduced Inequalities | Threatened | Target 10.1: sustain above-average income growth of the bottom 40% of the population |
| Goal 11: Sustainable cities and communities | Threatened | Target 11.2: give access to safe, affordable and sustainable transport systems for all |
| Goal 12: Responsible consumption and production | Partially threatened | Target 12.5: reduce waste generation through prevention, reduction, recycling and reuse |
| Goal 13: Climate action | Threatened | Target 13.A: mobilize US\$100 billion annually by 2020 for the Green Climate Fund to address the needs of developing countries |
| Goal 14: Life below water | Partially threatened | Target 14.1: by 2025, prevent marine pollution of all kinds |
| Goal 15: Life on land | Threatened and mitigates | Target 15.7: end poaching and trafficking of protected species and address demand and supply of illegal wildlife products |
| Goal 16: Peace, justice and strong institutions | Partially threatened | Target 16.1: reduce all forms of violence and related deaths everywhere |
| Goal 17: Partnerships for the goals | Partially threatened | Target 17.2: developed countries should commit at least 0.7% of gross national income in overseas aid for developing and 0.15% to least-developed nations |

<https://www.nature.com/articles/d41586-020-01999-x>

Conclusions



- Health and wellbeing consideration should be included in the early inception of the design process

This should be further supported by conducting:

- HIA or ESHIA to assess impacts of BRI projects, and
 - sHIA or SEA for assessing sector wide development or regional impacts.
- A comprehensive management of health and safety risks and opportunities needs to be dynamic. Risks are interdependent and, often, mutually inclusive risks. A balanced risk management approach is the key to resilience and long-term sustainability, and it is also dependent on shared values and enhanced opportunities for all.
 - Many risks and opportunities associated with BRI are transnational and would require a collaboration across countries and sectors. Defining policies, guidance, safeguards, operational procedures would ensure that risks are avoided or mitigated, and opportunities enhanced.
 - The national health systems should be strengthened and empowered to provide UHC, including a leadership role in pandemic preparedness but also HIA capacity building as per SDG3.

Thank you!

Questions?

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