Zoonotic disease transmission risks in displacement

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Background:
The novel coronavirus pandemic reiterates the risk of zoonoses - diseases transmissible between animals and humans - to global health. Meanwhile, climate change and conflict increasingly cause human and animal movement, affecting interspecies, intrahuman and interhuman barriers to disease. The dynamics and risks of zoonotic diseases among naive (host) populations and displaced communities are not well understood. This study aims to determine how displacement affects the vulnerability of displaced populations to zoonotic disease transmission, to improve policy development and humanitarian responses.

Methods:
Following a literature review, countries for fieldwork were selected and visited based on zoonotic disease risk, livestock dependency and population displacement. Expert interviews were conducted in Jordan and Pakistan with policy makers and responders in public health, livestock and disaster management, and household interviews conducted with displaced. Data was analyzed using a conceptual framework considering biological, environmental, technological, social and political processes at national, local and individual level.

Results:
Poverty and low socio-economic status are considered main determinants of people’s vulnerability to disease, while disasters affect health services and staff, as well as disease pathogen, vector and host environments. Displacement exacerbates these risks, including the availability of water and sanitation, shelter and population density. The formal or informal status of refugees and internal displaced people influences their access to services, further affecting their health. Meanwhile, zoonotic disease dynamics are not sufficiently understood among stakeholders, and animals remain an afterthought in many humanitarian responses.

Conclusions:
Zoonoses in displacement settings need to be addressed using a transdisciplinary, multilevel approach, addressing disease as well as underlying political, social and economic risk factors.

Key messages:
- Zoonotic disease transmission depends on complex ecological, political and socio-economic drivers, therefore zoonotic disease risk in displacement requires a multilevel, transdisciplinary approach.
- Among rural populations dependent on livestock, the presence of endemic zoonotic pathogens is likely to be constant. Displacement may increase disease risk by affecting animal and human immunity.