Bibliometric mapping of the wild-domestic animal interface and pathogen spillover research

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Zoonotic spillover risk emerges as wildlife, domestic animals and humans share environments more frequently at the wildlife-domestic animal interface. Here we analyse research on the wild-domestic animal interface to identify unifying themes and metrics, examining temporal and collaboration trends and highlighting research priorities revealed by a bibliometric analysis. Bibliometric mapping analyses the structure of scientific literature using information on authors, citations, and focus topics shared. Specifically, we asked two questions: 1) How has the scientific production around the investigation of the wild-domestic animal interface related to infectious disease spillover risk changed through time? 2) How has the wild-domestic animal interface been discussed and what does it say about biosurveillance? Four databases (CAB, PubMed, MedLine, Google Scholar) were searched using the terms *<interface> AND <animal> AND <domestic> AND <wild>*. After manual screening, publications were reviewed throughout a supervised text review via programming custom functions in R, *pdftools*, *rcrossref*, large language models and researcher-validated data. From the review of 270 eligible publications, there were 252 indexed and traceable for bibliometrics (93%). Our findings highlighted that from 1993-2025 there was a general yearly increase in publications and an expected decrease in citations for recent years. The majority of publications (N=233, 86%) were journal articles, followed by book chapters (N=18 indexed), and other posted content (N=20 non-traceable local journals, proceedings, and preprint repository). The average yearly number of indexed citations since publication was 5 citations/year ranging from zero (N=14) to 246. The global average was 35 citations/publication (median=15) and a maximum of 648 total citations for a single publication. Top journals where articles were published were *Transboundary and Emerging Diseases* (N=24), *Frontiers in Veterinary Science* (N=13), *Preventive Veterinary Medicine* (N=10), *Viruses* (N=9) and *One Health* (N=7). Top words from titles, excluding our focus terms (interface, wildlife, livestock, domestic, wild), were influenza (N=38), virus (N=38), disease (N=36) and transmission (N=36). Surveillance was a main focus for only 3% of articles (N=10) but with a higher number of citations (48/publication) compared to the global average (35/publication). Moreover, journal articles were cited 4x more than book chapters. We found an increase in the number of authors per publication through time, estimated at 10 authors per publication for 2025 (above the mean of 7 authors/publication). Collaboration size did not seem to influence the number of citations a publication received, but care should be taken when considering only the number of citations as impact. The five most cited articles had between 4-15 authors. Our results highlight how surveillance has not been integrated in spillover risk research at the wild-domestic animal interface and draws attention to research opportunities, including knowledge synthesis of definitions applied. The metrics provided by our bibliometric mapping can help researchers, funding agencies and governance to tailor projects that reach intended readership and impact for actionable science. Our findings can help stakeholders to integrate biosurveillance implementation and One Health operationalization at the wild-domestic animal interface.

Keywords: zoonotic risk, infectious disease surveillance, research collaboration, research impact, knowledge synthesis.