Call: 7th Call - 2018 Network Call on Surveillance

Title: KlebNet: a One Health network bridging science and surveillance on antimicrobial resistant Klebsiella

Acronym: KlebNet

Network composition

Type	Name	Institute	Country
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Partner	Iren Hoyland Löhr	Stavanger University Hospital	Norway
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Partner	Nick Thomson	Wellcome Trust Sanger Institute	UK
Partner	Sara Monteiro Pires	Technical University of Denmark	Denmark
Partner	Willem van Schaik	University of Birmingham	UK
Partner	Christian Giske	Karolinska Institutet	Sweden
Partner	Thierry Naas	Univ. Paris 11 Medical School	France
Partner	Neil Woodford	Public Health England	UK
Partner	Matthew Avison	University of Bristol	UK
Partner	Stephen Baker	The Wellcome Trust Asia and Africa Programme	Vietnam
Partner	Jean-Marc Collard	Pasteur Institute	Madagascar
Partner	Nilton Lincopan	University of São Paulo	Brazil
Partner	Sam Kariuki	KEMRI	Kenya
Partner	Jean-Yves Madec	National Agency for Food, Environmental and Occupational Health & Safety	France
Partner	Francesco Pomilio	Istituti Zooprofilattici Sperimentali	Italy
Partner	Philippe Glaser	Institut Pasteur	France
Partner	Eva Møller Nielsen	Statens Serum Institut	Denmark
Partner	Dearbhaile Morris	National University of Ireland Galway	Ireland
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Partner	Nicola Holden	The James Hutton Institute	UK
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Abstract

Klebsiella, particularly *Klebsiella pneumoniae* (hereafter, collectively called *Kp*) is an opportunistic pathogen of humans and animals that now tops the 'urgent threat' lists of CDC, ECDC and WHO due to high rates of multidrug resistance. *Kp* can also play a pioneer role in the amplification of novel AMR mechanisms acquired from environmental microbes, which can then spread to other important bacterial pathogens, as exemplified with KPC-2 or NDM-1 carbapenemases. Despite this, *Kp* does not currently feature as a target of surveillance efforts. Although *Kp* is generally viewed as 'ubiquitous', data on its distribution in healthy people, the environment, animals and the food chain are scarce, and the transmission of *Kp* and its AMR gene cargo between these potential sectors and hospitalised individuals is poorly understood. The KlebNet network is dedicated to identifying key knowledge gaps relating to *Kp* ecology and transmission, and to developing a One Health strategy for *Kp* surveillance.
Strategy: Research on ecological distribution of *Kp* and on its transmission routes should, to be actionable, be guided by expected impact on implementation into surveillance and control programs. An optimal *Kp* surveillance strategy must be defined based on (1) Most advanced knowledge on the ecology, population biology and epidemiology of the pathogen, combined with (2) Actionability and practical aspects of the implementation of surveillance, in high-income as well as in low- and medium income countries (LMIC), and across sectors (clinical, animal, food).
Objectives: (1) To review current knowledge on *Kp* reservoirs, population biology and transmission dynamics, and to identify and prioritise gaps where further research is required; and (2) To issue recommendations on how *Kp* surveillance should be implemented and harmonised across environment, animals, food and hospitals, including both technical and strategic considerations.