Conclusion: This is the first report of a systemic surveillance of respiratory viruses with seasonal correlation and prevalence rate from Eastern India. The two year study confirmed feasibility of using Q-PCR in developing countries, which will not only improve scope for prevention of epidemics but also provide crucial epidemiological data from the tropical regions.

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57.024
Sampling considerations for Flavivirus arthropod vectors in Western Canada — Making sense at a data collection level
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Background: West Nile virus has displayed a remarkable geographical expansion in North America during the last ten years, with peaking numbers of diagnosed cases in 2003 and 2007, entailing numerous arthropod and vertebrate host monitoring programs throughout Canada. Culex tarsalis has been identified as the main vector for West Nile Virus transmission in Western Canada, however, other arthropod species are also discussed as potential vectors.

Methods: The presented work outlines factors that influence the spread of West Nile virus and epidemiological and ecological considerations to be taken into account to ensure appropriate data collection for the assessment of West Nile arthropod vector dynamics in the province of Alberta. The main factors that result in a change in vector composition and abundance are likely to be climate and habitat changes. The dynamics of successful viral transmission are subject to the suitable arthropod vector and vertebrate host communities, introduction of previously non-indigenous insect species, changes in mosquito habitats, genetic adaptations of the virus, and changes in insect biting behavior.

Results: Considering previously collected data in Canada, we propose weekly CO2 trap sampling for a minimum period from June to August in five of the six distinct geographic regions of Alberta (Boreal Forest, Canadian Shield, Foothills, Parkland and Grassland). The boundaries between Grassland and Parkland as well as Parkland and Boreal Forest are to be especially emphasized in the sampling. Vector speciation in conjunction with assessment of biting behavior of individual arthropod species on a molecular level is necessary for examination of variations in vector and vertebrate host interaction between these regions. Screening, characterization and phylogenetic analysis of variable regions (NS5 protein gene) of mosquito borne Flaviviruses from insects collected allows implementation of molecular epidemiologic relationships with preexisting data and assessment of possible routes of virus spread in relation to vector and host ecology and distribution.

Conclusion: Taking into account the complex ecology of West Nile virus spread, the importance of appropriate sampling is evident. The outlined experimental design covers virological, epidemiological ecological and entomological aspects in the context of the unique landscape of Alberta.

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57.025
Crossborder infectious disease surveillance in the Netherlands, Germany and Belgium
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Background: The Euregion Meuse-Rhine (EMR) covers an area of 10,478 square kilometres with 3.9 million people and includes the Provinces of Limburg-South (Netherlands), Limburg (Belgium) and Liege (Belgium), Region Aachen (Germany) and the German-speaking community in Belgium. The heavy daily traffic of goods, services and people across the borders poses a serious threat in respect of infectious disease control. The recent pandemic influenza experience has re-emphasised the urgent need for improved collaboration and integration of surveillance and response systems especially in crossborder countries where political systems, medical infrastructures, economies, and cultures are varied. Challenges include the handling of differences in legislation for sharing data and resources, surveillance algorithms, communication with the public and response protocols.

Methods: This paper discusses an EU funded project by the Euregion Meuse-Rhine (EMR) to enhance crossborder cooperation on infectious diseases surveillance and response. The project included the customization and subsequent implementation of two secure web-based decision support applications for the management of pandemic flu (FluZone) and general infectious disease control (HPZone). FluZone and HPZone were developed and successfully deployed nationally in England.

Results: The implementation of FluZone and HPZone in the EMR has yielded the following outcomes:

- Formalised approach to synthesising and exchanging experiences on pandemic flu preparedness and securing a consolidated plan allowing local nuances and including:
  - Preparing for an emergency
  - Surveillance, case investigation and treatment
  - Preventing spread of disease
- Real-time surveillance dashboard on sources, cases, contacts, enquiries and outbreaks
- Consolidation of continuously changing case definitions, protocols and triage methods
- Rapid exchange of epidemiology and laboratory data
- Geographical mapping of cases, contacts, and contextual locations such as schools and care homes
- Secure communications between health protection professionals and the crossborder community.

Conclusion: Cross-border collaboration on infectious disease surveillance is complex but essential. Using a common, real-time and secure web-based system has significantly streamlined the management of cases and outbreaks, facilitated realtime crossborder surveillance and improved communication and cooperation.

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