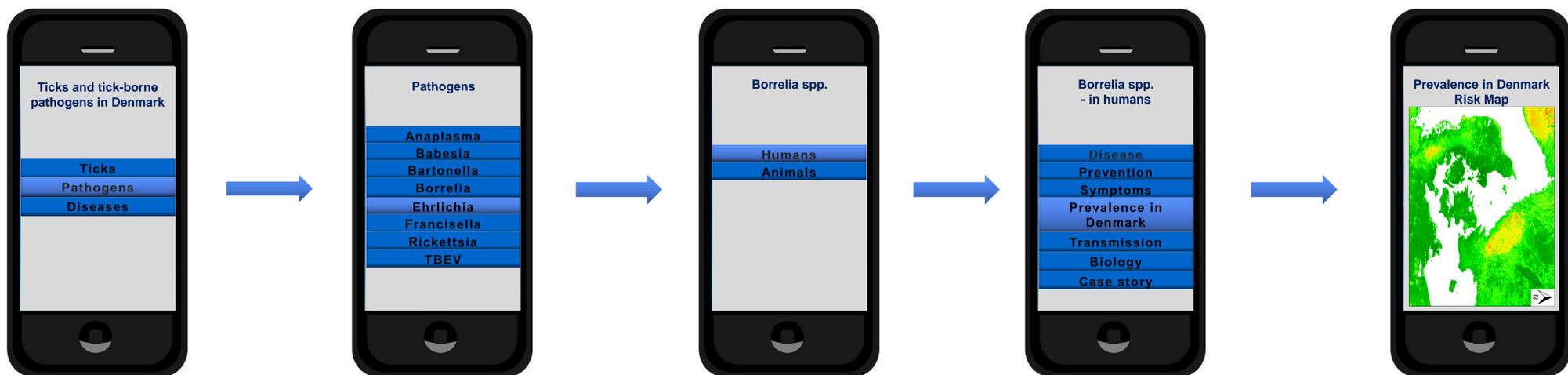# DTU Vet
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Communicating spatial risk of tick-borne infections

Creating a ScandTick Innovation website based on surveillance data

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Phone screen 1: Ticks and tick-borne pathogens in Denmark — Ticks, Pathogens, Diseases

Phone screen 2: Pathogens — Anaplasma, Babesia, Bartonella, Borrelia, Ehrlichia, Francisella, Rickettsia, TBEV

Phone screen 3: Borrelia spp. — Humans, Animals

Phone screen 4: Borrelia spp. - in humans — Disease, Prevention, Symptoms, Prevalence in Denmark, Transmission, Biology, Case story

Phone screen 5: Prevalence in Denmark Risk Map

Introduction

On a new informative website we illustrate the <u>spatial prevalence and variation of tick-borne pathogens</u> in Denmark, which has been largely unknown until now. By <u>increasing awareness</u> of this variation, we aim to ensure <u>early diagnosis</u>, more <u>effective prevention</u> of tick-borne diseases and to provide <u>quantitative risk estimates</u> to health professionals.

Risk map

Map illustrating the probability finding a positive pool (N=15) of *Candidatus Neoehrlichia mikurensis* throughout Denmark (green → red : increasing probability). This model was made using remote sensing and is based on preliminary data.
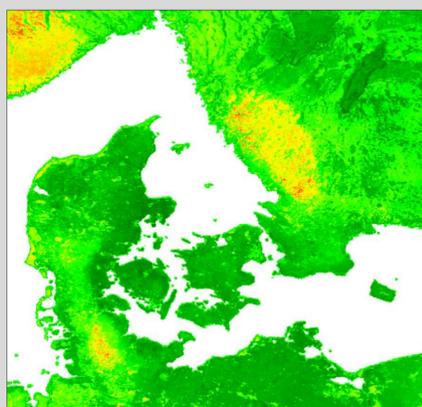

Website

The aim is to communicate quantitative and targeted information on ticks, pathogens and the risk of infection and illness. The website is directed towards the public, veterinarians and general practitioners and be quickly accessible from a smartphone.

Data

Average prevalence in Denmark
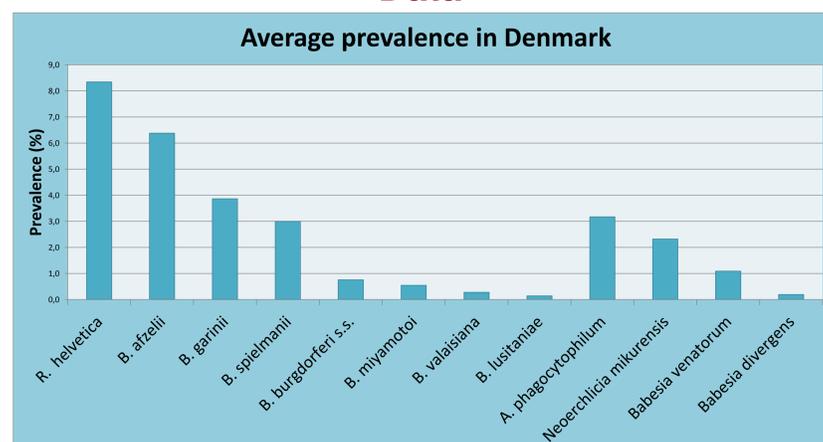
The average prevalence of tick-borne pathogens throughout Denmark makes it possible to rank the pathogens in order of abundance. *B. lusitaniae* is the least and *R. helvetica* the most prevalent tick-borne pathogens in Denmark.

Range of prevalence in Denmark
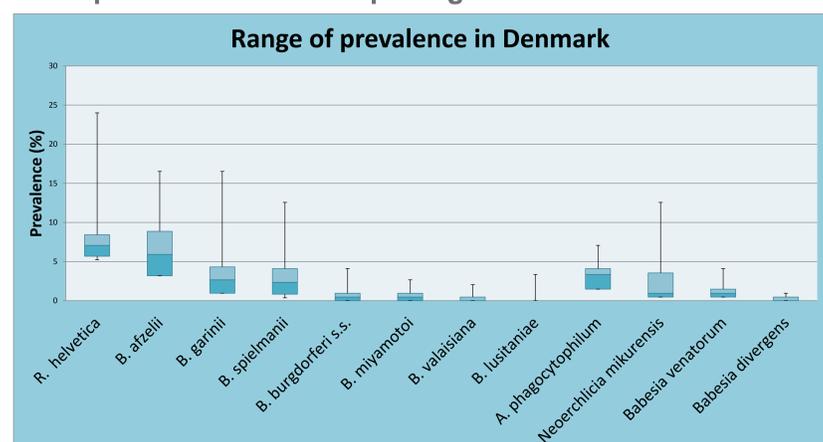
Illustrating the range of data for each pathogen reveals a geographical variation in the prevalence of tick-borne pathogens in Denmark. Fx. the prevalence *B. miyamotoi* ranges between 0% - 2,6%, indicating that the risk of infection will vary between geographical areas. This information can be helpful in the assessment of potential infection risks.

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