Important diseases and pathogens in wild animals

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Why are we interested in diseases of wild animals?

• Diseases affecting only wildlife

• Diseases transmissible between wildlife and domestic animals

• Diseases transmissible between wildlife and humans (zoonoses)
Different types of wildlife diseases

- Wildlife can be symptomless carrier/ reservoir for diseases
- Wildlife can be involved in disease outbreaks wildlife/domestic animals
- Epizootic outbreaks of diseases in wildlife
Diseases of wildlife

- Tuberculosis
- Anthrax
- Salmonellosis
- Dengue
- Nipah
- Yellow fever
- SARS
- Malaria
- Bilharzia
- Leptospirosis
- Brucellosis
- Marburg
- Rabies
- EBOLA
- Bluetongue
- African swine fever
- CWD
- Mange
- Anthrax
- Tularemia
- Lyme
Diseases of wildlife

A majority of all contagious disease in humans have an animal reservoir - zoonoses
Diseases of wildlife

Affect wild animal populations

Threat to biological diversity

Transmission wildlife ↔ domestic animals

Directly transmitted zoonoses

Food borne zoonoses
Managing diseases in wild animals?

Why?

Surveillance

Possible?

Which diseases?

How?

Does it matter?
Why manage wildlife diseases?

• Diseases may have an impact on population size
• Diseases may impact biological diversity
• Wildlife can be a reservoir for domestic animal diseases
• To reduce risk for transmission to domestic animals
• To reduce risk for direct transmission to humans
• Food safety game meat
• To reduce density and by that mortality
Manage wildlife diseases

Which diseases?

• Rabies
• Classical Swine Fever
• Tuberculosis
• Anthrax
• Footh and Mouth Disease
• Avian Cholera
• Botulism
• Duck Plague
Manage wildlife diseases

How?

• Reduce animal population
• Restrict movements
• Restrict hunting
• Stop contacts domestic animals - wildlife
• Vaccination
One Health in Action

Source: Karesh et al. 2012. The Lancet & WHO
<table>
<thead>
<tr>
<th>Species</th>
<th>Domestic Diseases</th>
<th>Wildlife Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>28 diseases</td>
<td>19 diseases</td>
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<tr>
<td>Avian</td>
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<tr>
<td>Sheep and goats</td>
<td>11 diseases</td>
<td>7 diseases</td>
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<td>Swine</td>
<td>6 diseases</td>
<td>3 diseases</td>
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<tr>
<td>Hares/rabbits</td>
<td>3 diseases</td>
<td>All 3</td>
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<tr>
<td>Horses</td>
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<td>2 diseases?</td>
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<tr>
<td>Multiple species</td>
<td>39 diseases</td>
<td>27 diseases</td>
</tr>
</tbody>
</table>
OIE list Notifiable diseases

Wildlife list 52 diseases

Some infecting only wildlife,

Some infecting both wildlife and domestic animals

A total of 126 diseases of importance
Important Diseases of wildlife

Ungulates

Bovine tuberculosis - Worldwide

Anthrax – Africa, America, Asia

FMD – Africa, Asia

Bluetongue – Africa, Europe
Important Diseases of wildlife
Carnivores

Rabies – Worldwide
Canine distemper – Worldwide
Bovine tuberculosis - Worldwide
Echinococcus - Worldwide
Important Diseases of wildlife

Wild boar

African Swine fever – Europe

Classical Swine Fever – Asia, Europe

Aujeszky's diseases – America, Asia

Bovine tuberculosis – Europe
Thank you for your attention