Case Report (3)
Rabies elimination in Europe – a success story

Thomas Müller, Conrad Freuling
Rabies in Europe

2010

1983
Elimination of dog rabies

- **Pre-1950s**
  - Stray dog elimination
  - Enforcement of sanitary policy
  - Quarantine
  - Notification of rabies
  - Dog muzzling
  - Movement restrictions

- **1950s -1980s**
  - Dog registration
  - Compulsory mass vaccination
  - Movement restrictions
Elimination of fox rabies

Conventional rabies control = Decimation of fox population
- Culling
- Trapping
- Poisoning
- Destruction of fox cubs

ineffective
Oral vaccination

Immune barrier

Susceptible

Protected
Bright idea & experimental approach
Proof of concept under field conditions
Potent & safe oral rabies virus vaccines
  - attenuated - recombinant
Vaccination strategy – Basic principles
  - Timing, bait density, duration, surveillance, monitoring
Large-scale vaccination
  - Machine-made baits
  - Implementation of aerial distribution of baits
  - Computer supported automatic dropping devices
ORV strategy for foxes also effective for raccoon dogs
- Pioneering spirit of a few countries
- Strong long term political commitment
  - Legal basis
  - Involvement of all stakeholders
- Commitments of WHO / OIE
  - Rabies expert committees
  - Scientific rabies conferences
  - Informal meetings on rabies control & ORV
  - Recommendations
- Support of European Union:
  - (50%) 75% co-financing of ORV campaigns
  - Pet Travel Scheme
  - Task force rabies
Area ever vaccinated
1978 – 2010

1.92 Mio sqkm
Often questioned first: technique
- Note: A vaccine bait or vaccination strategy works or not

Human error is critical
- Can be categorized as situation assessment vs. response planning & related distinctions in
  - errors in problem detection
  - errors in problem diagnosis
  - misunderstandings
  - errors in action planning and execution

Roth et al., 1994
ORV setbacks
reasons

Management problems

- Planning
  - Special rabies situation
  - Adequate long-term funding
- Communication
  - Awareness
  - Chain of command
  - Information exchange
- Quality control
  - Aerial distribution
  - Cold-chain of vaccines
  - Vaccine production/titres

Suboptimal ORV strategy
- common strategy
- complementary measures
- cross-border activities

Epidemiological supervision
- Overoptimistic appraisal of initial success
- Rabies surveillance
- Monitoring of campaigns
- Data management

Other factors

- Increasing fox densities

Other disease priorities
Future ORV plans  
the EU-contribution

- **Western Balkans**
  - 2010-2015: 55 Mio €
  - EU Enlargement Funds (IPA)

- **Russia – Kaliningrad**
  - Since July 2008 direct financing 100% of costs
  - 2011-2013: 1.8 Mio €

- **Russia, Ukraine, Belarus:**
  - Bilateral arrangements with EU Member States
  - Co-financing of a 50-70 km vaccination zone
  - (2012): 5 Mio €/a
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