The prevalence of zoonotic diseases in the Manyeleti area, Mpumalanga province

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Presentation Outline

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Background

- Manyeleti game reserve shares a fenceless border with the Kruger National Park, Sabi Sands Game Reserve and Timbavati Game Reserve, forming an integral ecological unit
- The ancestral grounds of the mnisi people
- Perimeter of 85.5 km of which 69 km border conservation areas
- Area of 29 500ha with a population of 35000 people
- livestock (rounded for end of 2007) include about 11500 cattle, 5700 goats, 2 sheep, 250 pigs and an unknown number of chicken and donkeys.

Map of Manyeleti and the surrounding game reserves

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Cases of zoonotic diseases reported in Mpumalanga province since 2005.

- 2005
  - Outbreak of anthrax in sheep at Standerton, Lekwa sub-district, 17 humans exposed and received prophylaxis.
- 2006
  - One human rabies death at Standerton, Lekwa sub-district
  - Outbreak of anthrax in sheep at Ermelo, Msukaligwa-sub-district 70 humans exposed and received prophylaxis.
- 2007
  - One case of human brucellosis at Piet Retif, Mkhondo sub-district.
- 2008
  - Human rift valley fever cases: one in Nelspruit, Mbombela sub-district, 2 in Shongwe sub-district, 4 in White river, Mbombela North (Kabokweni) sub-district.
  - one case of Congo fever at Ermelo, Msukaligwa sub-district.
  - one case of human brucellosis at Ermelo, Msukaligwa sub-district
  - one rabies human death at Shongwe sub-district.
- 2009
  - Two suspected human rabies deaths, one at Bushbuck ridge and the other at Mbombela North (Kabokweni) sub-district.

Aim

- Manyeleti area has an existing human, livestock and wildlife interface, therefore a potential for outbreaks of zoonotic diseases
- The study looked at the presence and extent of zoonotic diseases in the area in order to provide data for planning prevention and control programmes.

Methods

- Notifiable diseases records and hospital morbidity data at the area hospital (Tintsoalo hospital) and local clinics were reviewed
- Data available at the regional sub-district communicable diseases office at Hoxani also assessed
- All Cases of zoonotic diseases recorded since the year 2005 were identified and documented
- Information on zoonotic diseases documented in animals in the Bushbuck ridge sub-district was obtained from the Bushbuck ridge sub-district veterinary officer, for comparison.

Results

- No human case of zoonotic disease was documented from the Manyeleti area between 2005 and July 2010.
- Three cases of human rabies were documented from the entire bushbuck ridge sub-district
- A total of 121 confirmed cases of rabies in animals in the Bushbuck ridge sub-district, nineteen from the Manyeleti area.

Confirmed animal cases of rabies in Bushbuck ridge, 2005-2010.

Animal type	Confirmed rabies cases		Human exposures	
	n	%	n	%
Canine	97	80.2 %	35	94.6%
Bovine	15	12.4 %	2	5.4%
Caprine	8	6.6%	0	0
Porcine	1	0.8%	0	0

Discussion

- Although cases of a zoonotic disease have been reported in animals in the Manyeleti area, no human cases have been documented over the last five years.
- May be a high level of awareness with regard to rabies and therefore timely treatment of human exposures resulting in a small number of human infections.
- Many cases of zoonotic diseases in humans not documented
  - the common practice of patients in rural areas seeking treatment from traditional healers
  - Lack of knowledge of medical practitioners and nurses on zoonotic diseases resulting in under-diagnosis and under-reporting
  - lack of diagnostic capacity

Limitations of study

- Relied on routine health data which in many establishments was incomplete
- Many of the healthcare workers were not well versed with zoonotic diseases even though they were generally aware that patients exposed to dog bites were at risk of developing rabies
- The communities experiences of patients dying following animal bites or some other unexplained illnesses was never sought

Recommendations

1. Educate health professionals in the area about potential zoonotic diseases
2. Set up zoonotic diseases surveillance systems in the area
3. Provide ready access to diagnostic facilities, encourage a high index of suspicion and confirmation of patients' diagnoses
4. Investigate cases of death due to unusual diseases
5. Improve health data management in the local health facilities