One Health: Its impact on biosecurity procedures

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"Between animal and human medicine there is no dividing line – nor should there be. The object is different but the experience obtained constitutes the basis of all medicine."

RUDOLF VIRCHOW (1821-1902)
What is “One – Medicine/Health”?

- William Osler - A Canadian physician
- Daniel Salmon
- Theobald Smith
- Leaders in public health
What is “One – Medicine/Health”?

• Many definitions and interpretations of this concept have been generated and/or used in the last few years.
One Health Initiative - One World One Medicine One Health
The One Health Initiative, a movement to forge co-equal, all inclusive partnerships between physicians, veterinarians, and other scientific-health related ... www.onehealthinitiative.com/ - Cached - Similar

MyGreatWest.com - Great-West Healthcare Member Site
Important Changes on the Road to CIGNA: MyGreatWest.com has a new address. It's now myCIGNAforhealth.com (MyGreatWest.com is still available) ... www.onehealthplan.com/ - Cached - Similar

One World One Health
Website for One World One Health, a symposium held in September 2004 by the Wildlife Conservation Society and Rockefeller University. www.oneworldonehealth.org/ - Cached - Similar

One Health
One Health: A New Professional Imperative. One Health Initiative Task Force: Final Report ... Appendix C: One Health Initiative Draft Proposal for Funding ... www.avma.org/onehealth/ - Similar

One Health
One Health logo The One Health concept arose from the realization that human health and animal health are inextricably linked and that a holistic approach ... www.doh.state.fl.us/.../One_Health/OneHealth.html - Cached - Similar

Great-West Healthcare - Great-West Healthcare
Same site, different names. Our member website (MyGreatWest.com) is now myCIGNAforhealth.com (although MyGreatWest.com is still available) and ... www.greatwesthealthcare.com/ - Cached - Similar

Medcenter One
Online services. Awards » Foundation » Leaders » Mission » History » Newsroom » Contact us » About Medcenter One Health information ... www.medcenterone.com/ - Cached - Similar
Biosecurity and One Health!!
WHAT IS THE LINK?
Biosecurity: A new look at an old concept

Courtesy of Dr. K. Pabilonia
Current Perspective

• A few years ago use of the term ‘biosecurity’ was uncommon other than in a few select circles.

• Recent events have brought attention to the concepts of biosecurity
  – BSE
  – FMD in the UK
  – SAR
  – 9/11
Important Definitions

• Biosecurity
  – The result of disease agent’s exclusion activities
  – Often at the perimeter
  – Not just a quarantine or isolation
  – Not limited to infectious agents (also potential toxicants)
Important Definitions

• **Bio-containment**
  – Pertains to microbiology laboratories in which the physical containment of highly pathogenic organisms is required;
  – Usually by isolation in environmentally and biologically secure cabinets or rooms;
  – *Prevent accidental infection* of workers or release into the surrounding community during scientific research.
All bio-containment measures are part of Biosecurity
Important Definitions

- **Infection Control Strategies**
  - Actions to achieve biosecurity
  - Relies on understanding of the epidemiology of the agent
    - Agent characteristics
    - Disease transmission
    - Incubation period
    - Host shedding
    - Susceptible species
Principles of Infection Control

- Big Picture
  - Minimize exposure
  - Optimize resistance
- Not new concepts
  - But not necessarily used
Triad of Infectious Disease

**Agent factors:** Infectivity and pathogenicity

**Environmental factors:** exposure to agent, weather, housing conditions

**Host factors:** natural barriers, competitive exclusion, immune response
Biosecurity Plan

• Assess public concerns = risk perception
• Assess environment and management practices = risk assessment
• Target management = risk management
• Provide education and awareness = risk communication
• Monitor!!
One Health-- Concepts

• Consider the big picture;
• Integrate several disciplines in the approach;
• Focus on source of the problem – preventive measures;
• Maintain the principles of exclusion of the agent from the environment.
Global Health Issues and Biosecurity

- SAR
- Anthrax
- H5N1
- H1N1
Avian Influenza
How can Biosecurity contribute to One Health?

- Biosecurity should be a component of the One Health approach;
- Biosecurity would require multi-disciplinary approaches that engage professions within the One Health spirit;
- One Health term should be used as a way to promote preventive measures of diseases and NOT as another way for treatment.
How can Biosecurity contribute to One Health?

- Emphasis should be on preventive measures and less on treatment;
- Global health should be the focus but local action should be implemented.
Conclusions

• One Health should attempt as much as possible to integrate other related disciplines in their approaches for the wellbeing of humans and animals including preventive measures of animal diseases.

• Education in veterinary and human medicine should integrate the principles of preventive medicine with emphasis on the importance of biosecurity.
Conclusions

• Both the medical and veterinary professions should emphasize preventive measures and place less emphasis on treatment.

• This new emphasis would require integration and synthesis of measures and other actions to reduce the disease impact in both animal and human populations.

• There is a need to join forces to combat adverse health events in society.