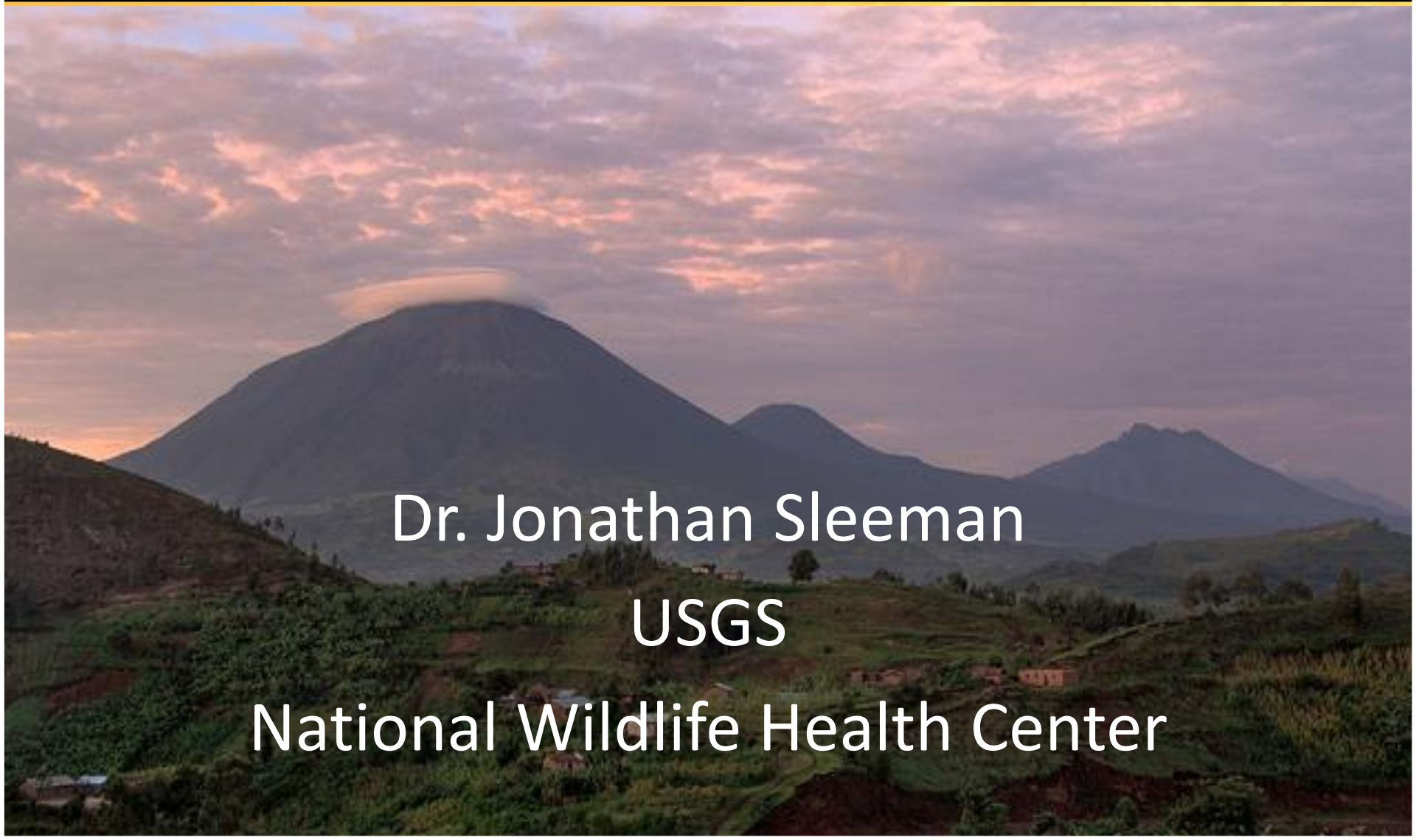


Integration of Wildlife and Environmental Health into a One Health Approach

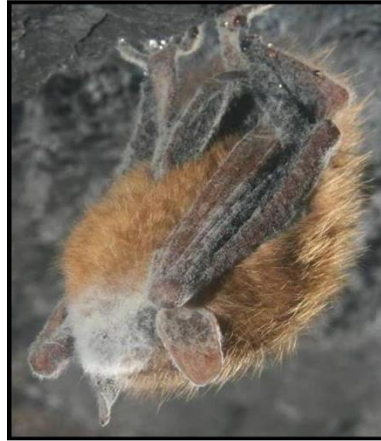
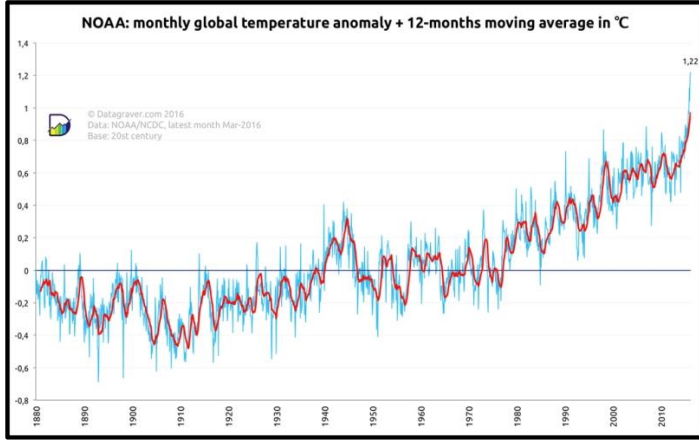


Dr. Jonathan Sleeman

USGS

National Wildlife Health Center

Global Health and Environmental Challenges



Emerging Infectious Diseases

Global environment favoring the emergence of infectious diseases

Many emerging disease threats to human, animal and ecosystem health are of wildlife origin



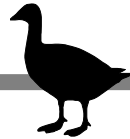
Emerging Diseases Investigated by the US Geological Survey

1970s



Inclusion Body Disease

Avian Cholera



Newcastle Disease



Duck Plague



Hawaiian Forest Bird Diseases

Sea Otter Mortality



Avian Botulism

1990s



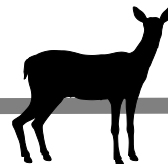
Amphibian Malformations

West Nile Virus



Monkeypox

Coral reef health



Chronic Wasting Disease

Avian Influenza



White-Nose Syndrome

Snake fungal disease



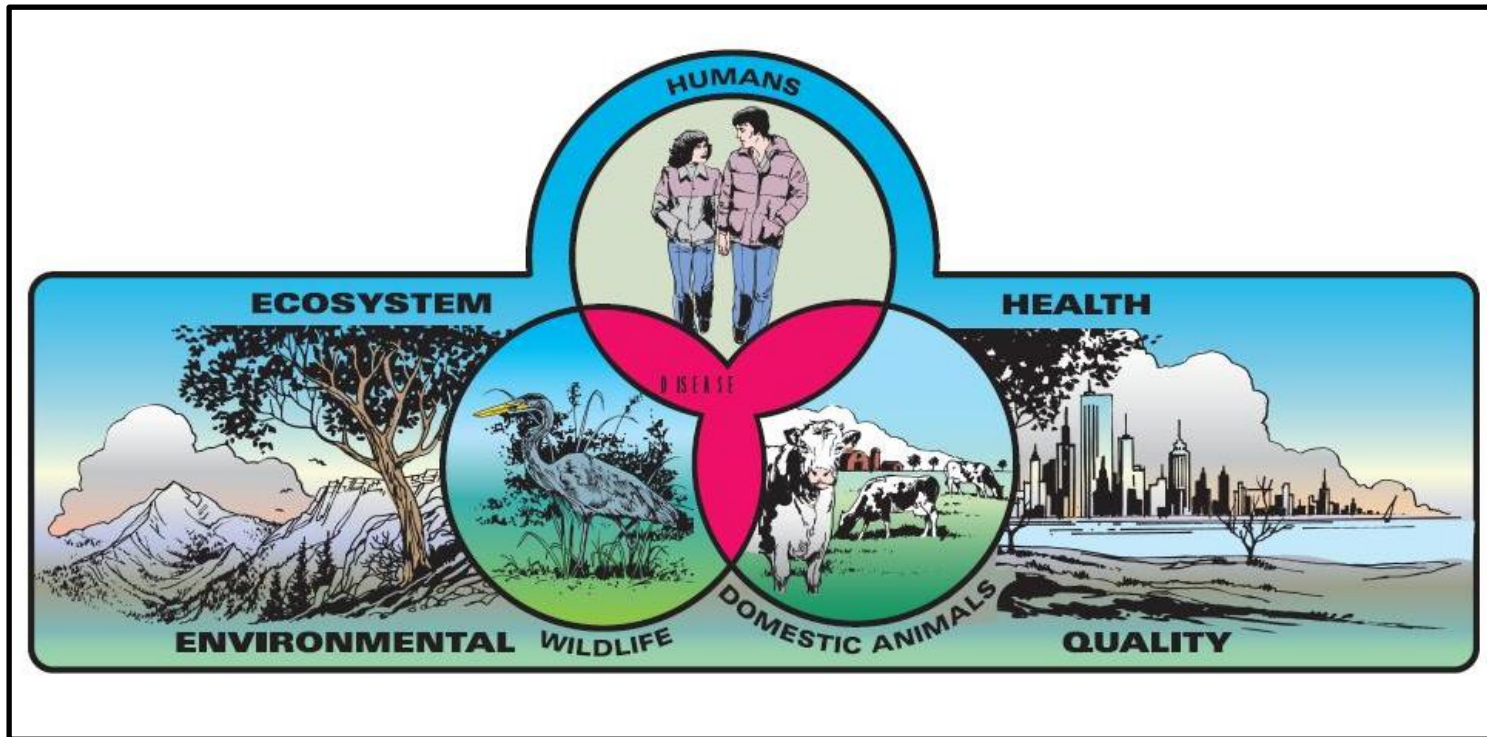
2018+



Bsal



One Health



One Health defined as "the collaborative effort of multiple disciplines and sectors – working locally, nationally, regionally, and globally—with the goal of achieving optimal health outcomes recognizing the interconnection among people, animals, plants, and our shared environment ”

One Health

One Health Challenges:

- Lack of clarity on mission and goals, especially regarding wildlife and ecosystem health
- Lack of tools and enabling environment for it to succeed

Proposed solutions

- Define the core values, vision, mission and goals for One Health
- Provide tools for success
 - Harm reduction approach
 - “One Health Impact Pyramid”
 - Systems approach
 - Governance and leadership

One Health Core Values, Mission, and Goals



P L A N E T A R Y
H E A L T H
A L L I A N C E



ecohealth international

What are Core Values?

- Core values are the essential, authentic, and enduring guiding principles which prescribe and drive the conduct of individuals and organization and help guide daily work and decision making

Core Values



LOYALTY



PASSION



HONESTY



EFFICIENCY



RELIABILITY



DEPENDABILITY



OPTIMISM



POSITIVITY



COMMITMENT

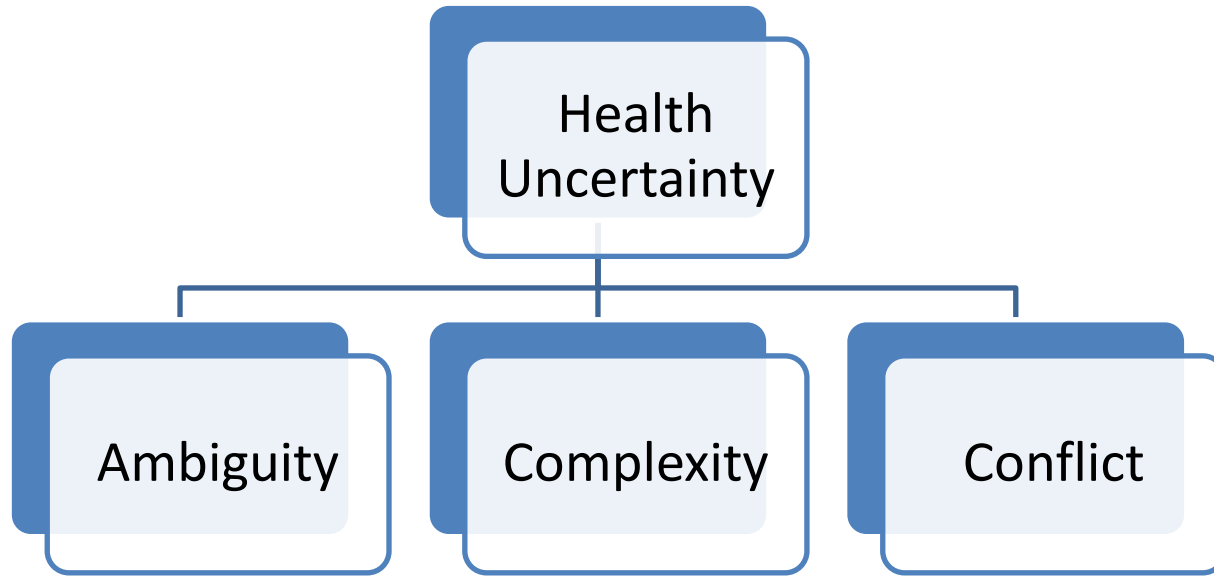
One Health Global Agreement



UN Sustainable Development Goals



Harm Reduction Approach to One Health



Conflicting information
Missing information
Imprecise information

One Health challenges engage a number of stakeholders, there are different opinions, and solutions are not obvious

Social needs
Legislation
Ethics and values

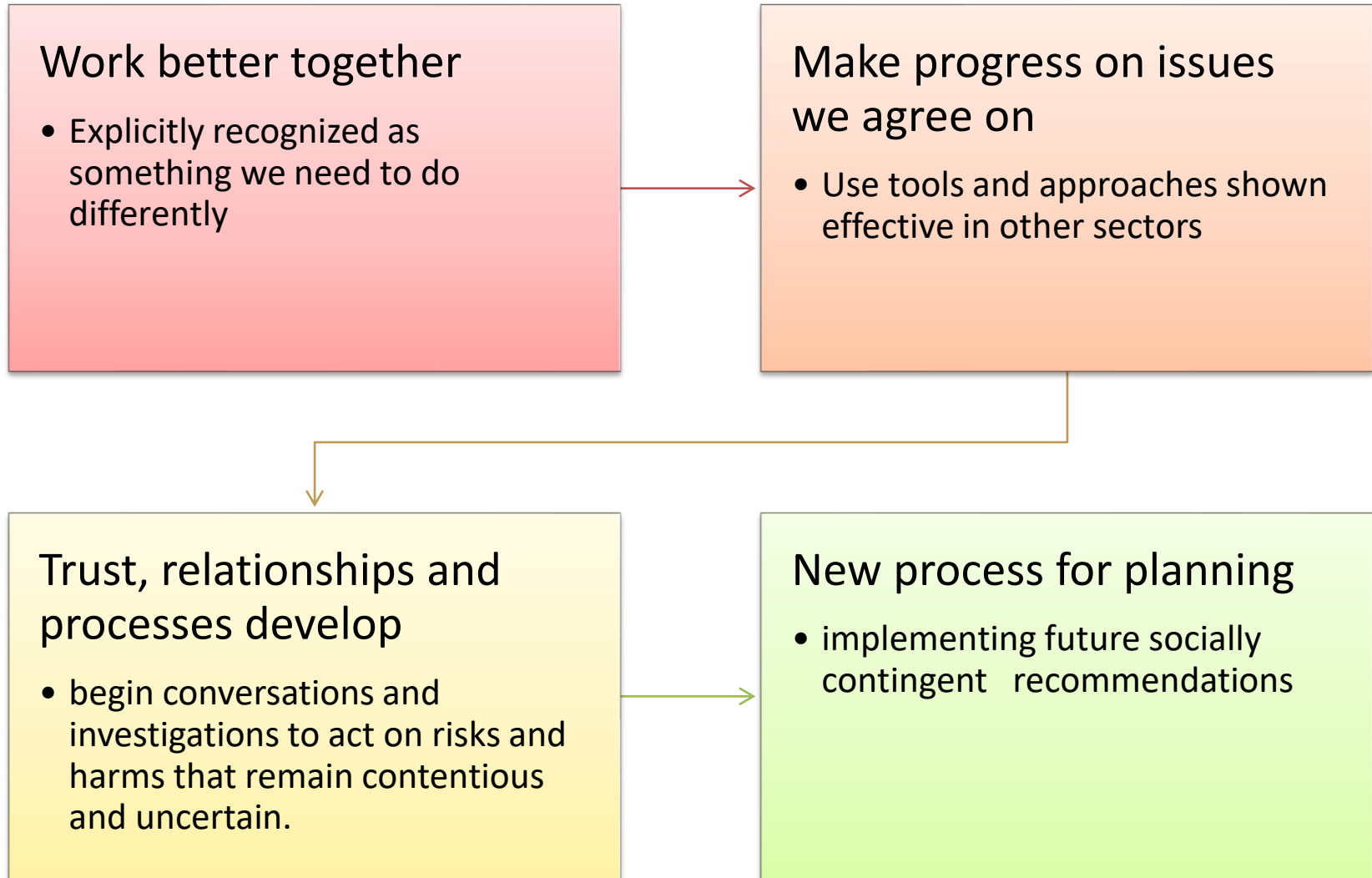
Harm Reduction Approach to One Health

Harm reduction recognizes that solutions to complex problems require a broad societal response and that elimination of risk is not feasible for most issues

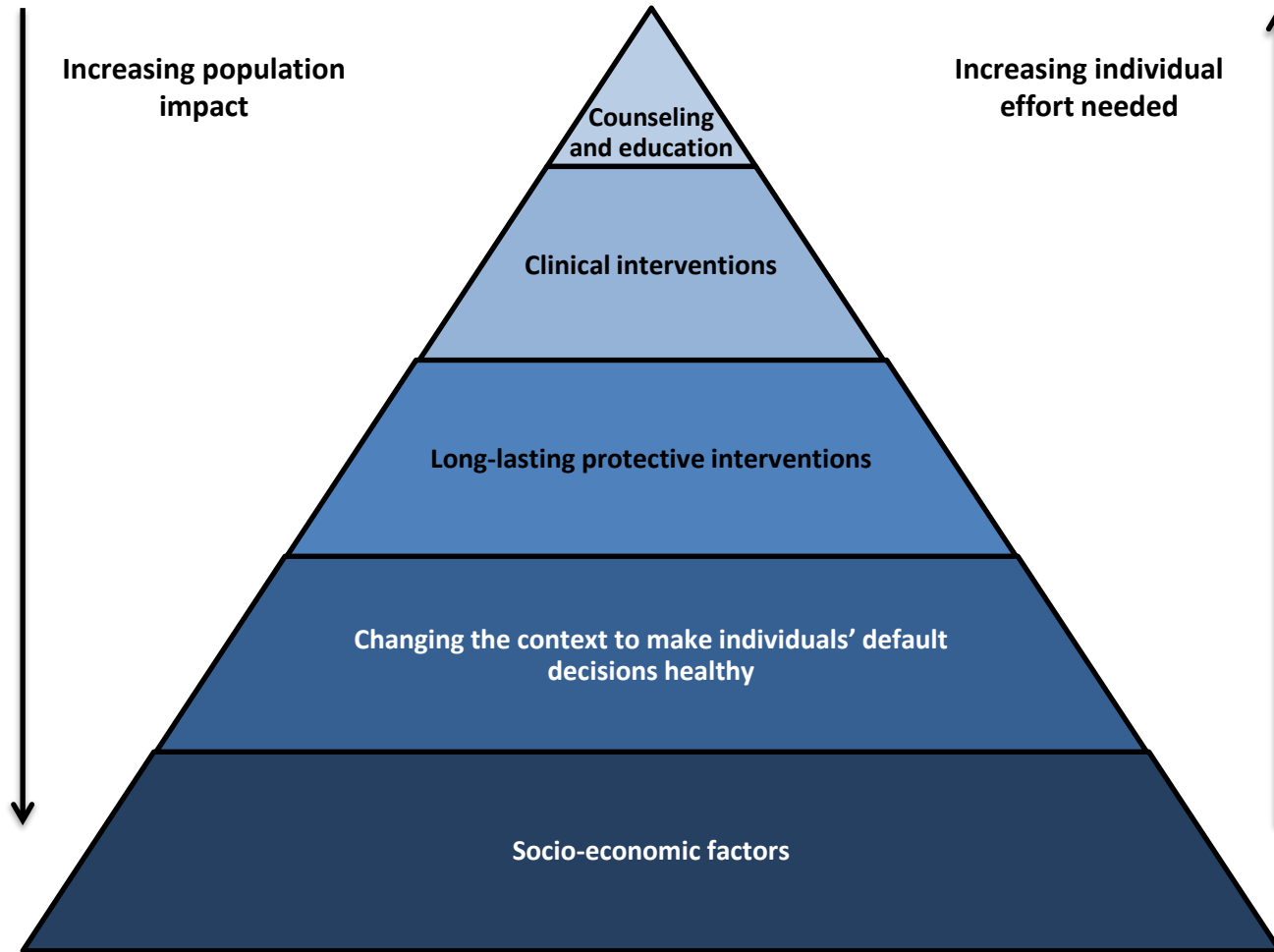
It promotes collaborative, multisectoral approaches whereby reducing harm is valued over inaction spurred by a desire for a perfect outcome



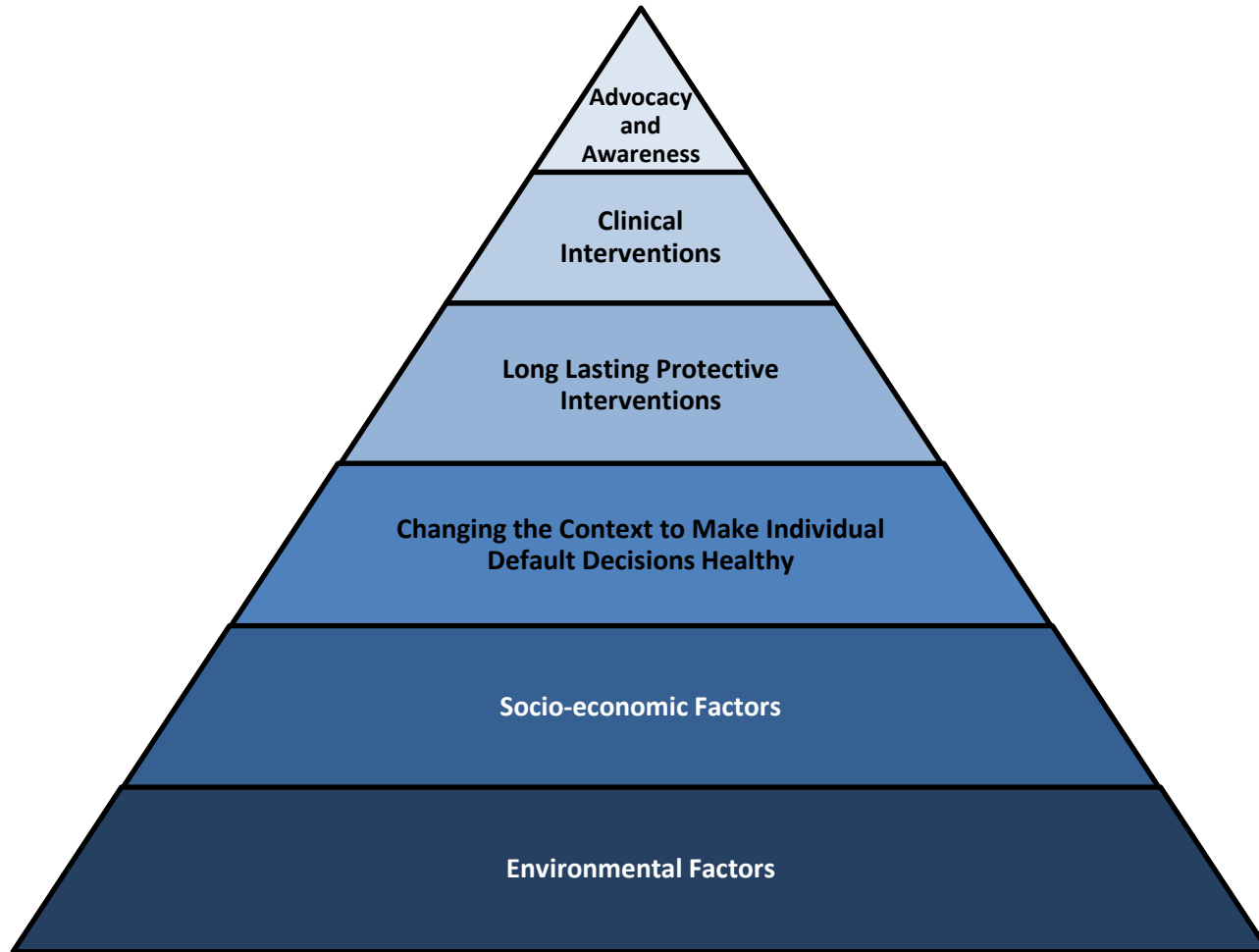
Harm Reduction Outcomes



Health Impact Pyramid

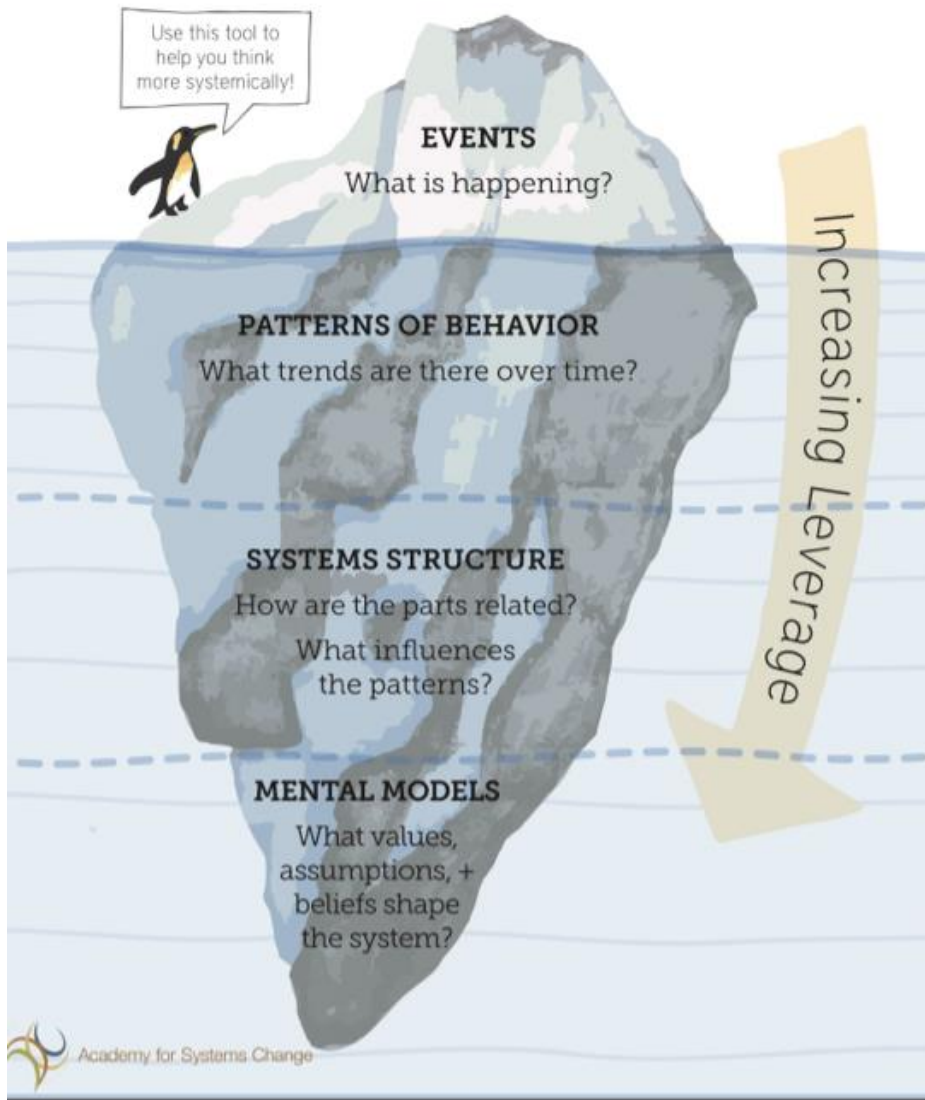


One Health Impact Pyramid



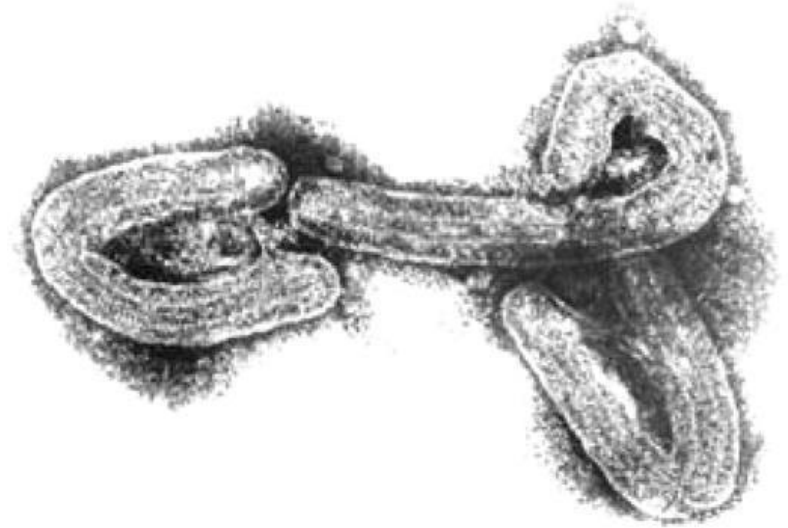
Systems Thinking

THE ICEBERG MODEL

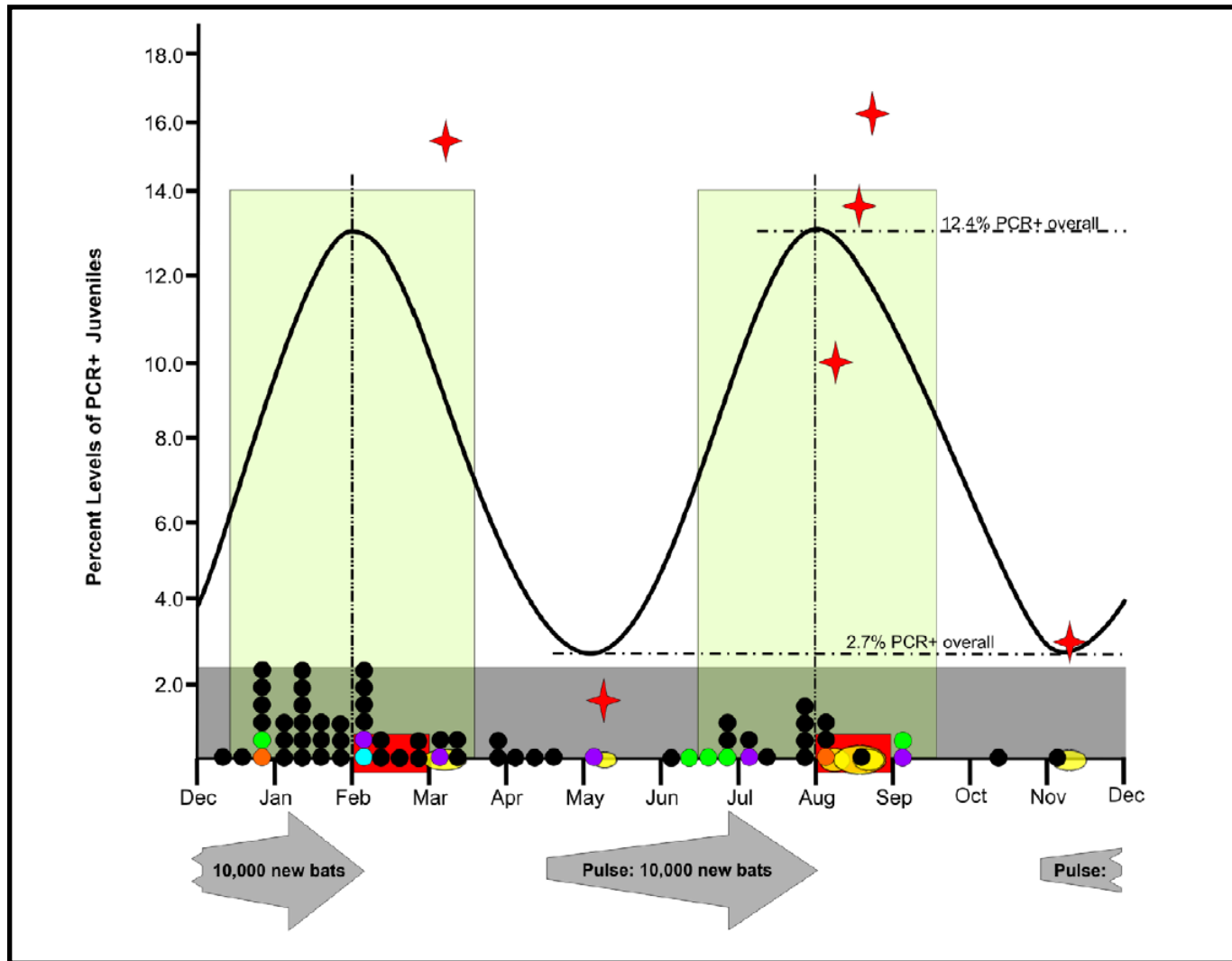


Systems Thinking is a way of making sense of complexity by looking at the whole system, the relationships among the parts of the system, and how the system works over time and within the context of larger systems

Systems Approach to “Win-Win-Win” Solutions



Seasonal Shedding of Marburg Virus by *Rousettus aegyptiacus* Bats



Amman, et al. PLOS Pathogens, 2012

One Health and Governance

- Improved governance is also key to strengthening One Health capacity
- One Health is hindered, at times, by dysfunctional governance, including institutional proliferation, fragmentation, competition for scarce resources, lack of clarity on authorities, among other factors
- Establishing multisectoral coordination mechanisms at various levels is essential to ensure good governance and effective collaboration in achieving One Health goals

One Health and Governance

- Multisectoral coordination mechanisms should have both leadership and technical coordination functions:
 - Inter-Ministerial leadership, which supports coordination, collaboration, and communication among sectors at the leadership level, and advocates a multisectoral approach to policy-making, strategic planning, decision-making, and resource allocation
 - Technical coordination of activities to ensure that a multisectoral approach is implemented.



Why are Interdisciplinary Teams Challenging?

- Each discipline has a unique culture, language and a mental model in how to approach a situation
- Assumption that everyone is working towards a common goal without defining it
- Not sure of the unique knowledge, skills and abilities that each discipline brings to the team
- Not valuing everyone as equal players and or seeing the need for everyone to be involved and participate

One Health and Governance Principles

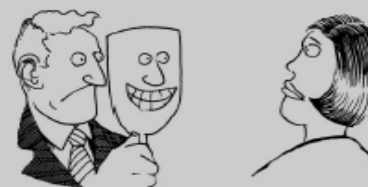


EQUITY?

What does 'equity' mean in a relationship where there are wide divergences in power, resources and influence? Equity is not the same as 'equality'. Equity implies an equal right to be at the table and a validation of those contributions that are not measurable simply in terms of cash value or public profile.

TRANSPARENCY?

Openness and honesty in working relationships are pre-conditions of trust - seen by many as an important ingredient of successful partnership. Only with transparent working will a partnership be truly accountable to its partner donors and other stakeholders.



MUTUAL BENEFIT?

If all partners are expected to contribute to the partnership they should also be entitled to benefit from the partnership. A healthy partnership will work towards achieving specific benefits for each partner over and above the common benefits to all partners. Only in this way will the partnership ensure the continuing commitment of partners and therefore be sustainable.

One Health Federal Interagency COVID-19 Coordination

23 federal agencies representing multiple departments

Chaired by CDC

Coordination with over 150 US Government partners

Purpose: Bring together representatives from key federal agencies representing multiple departments to collaborate to address One Health aspects of COVID-19



Zoo and Wildlife Subgroup

Focus Areas:

- Guidance development and review
- Technical assistance from subject matter experts
- Synthesis and dissemination of key findings
- Identify research needs, mechanisms to address and coordinate
- Point of contact for partner organizations
- Facilitate joint outbreak investigations
- Training and education



Highly Pathogenic Avian Influenza

Interagency Steering Committee for Surveillance of Avian Influenzas in Wild Birds

To facilitate a coordinated and cooperative approach among federal and state agencies and other cooperators in the surveillance of wild birds for the presence of avian influenza viruses of concern in the US



What Makes a One Health Project Successful?

Sense of urgency and common purpose

Delegated authority or mandate to conduct the work

Good governance: An interagency steering committee or working group is formed to oversee the work

Foundation of trust exists among key individuals in different agencies, built on a willingness to acknowledge the other agencies' concerns

Mutually agreed-upon outcomes are science based

Clearly defined roles and responsibilities

Leadership rotates rather than being monopolized by one sector

Making One Health a Reality—Crossing Bureaucratic Boundaries Rubin, Dunham and Sleeman. 2014

Conclusions

- One Health recognizes the interdependence of humans, animals and their shared environment
- Need to define One Health core values, goals, and objectives
- Application of harm reduction and system approaches; look for the pragmatic, “win-win-win” solutions
- Focus on the base of the One Health Impact Pyramid
- Ensure good governance and effective leadership

Conclusions

- These actions will maximize the opportunities to develop solutions to global health and environmental challenges
- Assist in fully integrating wildlife and environmental health and optimize outcomes for human, animal, and environmental health so that One Health realizes its full potential



Earthrise, 1968

Thank You
Questions

