The One Health Workforce: Reconciling Competencies with Opportunities

Systematizing the One Health Approach

Forum on Microbial Threats

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Objectives

1. Review recent progress in building a One Health Workforce

2. Exploring the most pressing needs remaining in education and the gap linking these needs with practical field applications

3. Recommend transformative changes to address these issues that can be accomplished right now

"Leadership is the ability to reconcile opportunity with competency" - Admiral Thad Allen

Are We There Yet? Progress in Building a One Health Workforce

45 academic degree-granting US programs (Togami)

Advances globally are even more robust

Substantial progress in defining an effective workforce and essential competencies – USAID projects (RESPOND/PREDICT); CDC, WHO, One Health offices across many agencies and international organizations; OIE day 1 competencies

Increase in the number of scientific papers

Increase in meetings, websites (50 in US); online offerings and assessment tools (JEE and PVS)

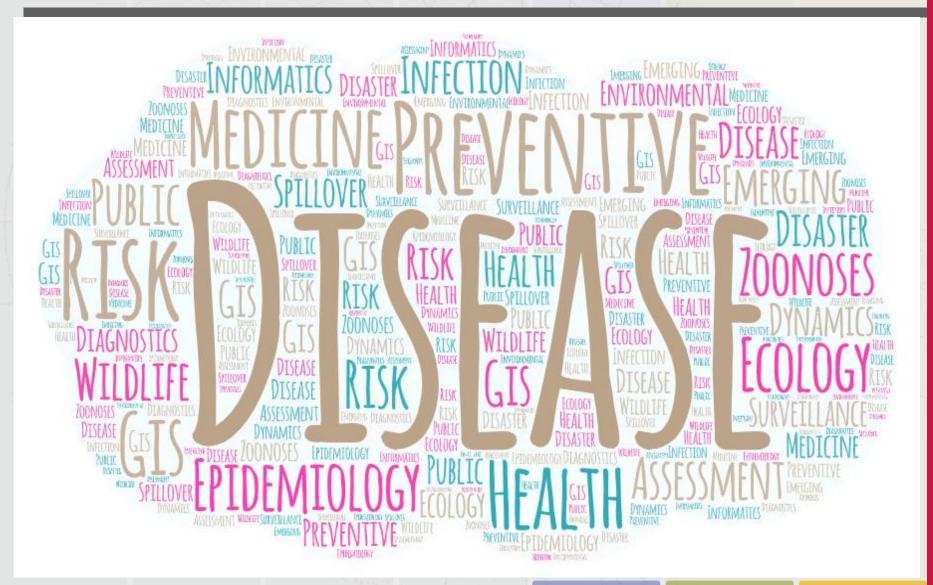Interest and building efforts in social sciences etc.

One Health Workforce Competencies

Competency = an observable capability that integrates knowledge, skills, values and attitudes; it is the HOW things are effectively performed; there are core, sub & advanced competencies; continuum

Skill = a specific ability when applied to a specific setting leads to accomplishing predetermined results; it is the WHAT and may lead to proficiency; skills are often categorized - technical and "soft"/interpersonal

Milestones = operationalizing and measuring; students moving along a continuum of professional skills and core competencies – novice; adv beginner, competent and proficient

ONE HEALTH KNOWLEDGE

ONE HEALTH SKILL SETS

Building the O.H. Workforce for a World of VUCA, Wicked Problems and Trust Deficient

*Time of globalization, speed and connectivity

*O.H. is a holistic and integrated approach trying to be retrofitted into vertically oriented and siloed systems; trained workforce needs right environment

*Volatile, Uncertain, Complex and Ambiguous

*Wicked problems where old interventions don't work

*Economic, health, trade, immigration/diaspora shifts and where complexities lead to no one being in charge yet complex work remains

Shifting from independent to inter-connected to inter-dependent; meet together vs. change outcomes

The Pedagogy Spectrum for One Health Learning

*Inter-trans-disciplinary teams and settings

*Experiential; summer institute, global health projects

*Case Studies – need to be relevant; AMR; EID

* Create and nurture collaborative networks

*Twinning programs/immersion, regional consortia

*Competency-Based, learner-centered and flexible

*Inter-Professional Education and Practice (IPE); 140 national programs with goals and competencies matching One Health (improved outcomes and decisions, reduced costs; better communications, teaming and mutual respect); One Health-Surrogate?

Critical Gaps in Workforce Today and Tomorrow

*Scalability – substantially enlarge the workforce

*Expand training and education across life sciences

*Strongly embed workforce and concept into national security agenda and efforts addressing health equity

*Impart key competencies into non-OH workforce

*Implement more effective pedagogy options

*Focus on shifting from knowledge to application

*Expand One Health understanding and utility across other professions, employers and the public

*Identify and impart new relevant (sub)competencies

One Health Future Work Skills: Institute for the Future (2020); 35% Change in Skills in 5 Years

Artificial Intelligence

*Sense-Making

*Adaptive Thinking

New Media Ecology

*Social Intelligence

*New Media Literacy

Globalization/Connect

*Transdisciplinary

("T"-shaped worker)

Supersized Social Org.

*Cross Cultural Comp

*Virtual Collaboration

*Design Mindset

Computation World

*Computational Thinking

* Cognitive Load Mgt.

*Predictive Modeling

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Imagine Big Solutions for Big Problems: Power of Ideas, Coalitions; Systems Thinking
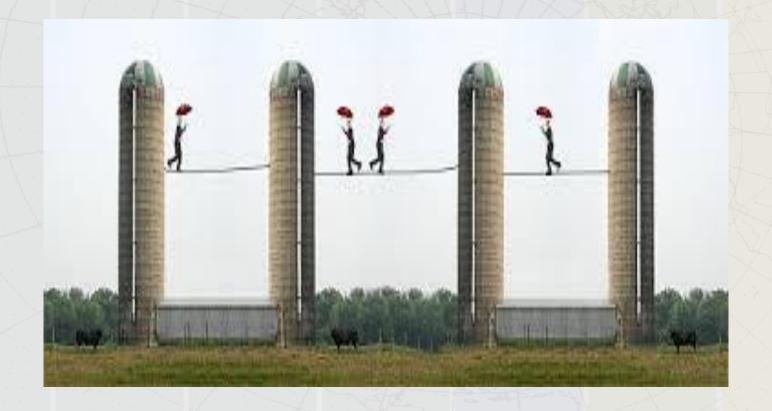

"Never, ever, think outside the box."

Old organizational design and reticent leaders can't grow OH; use collaborative teams and networks

Think outside the building.

"De-Siloing" Through One Health: Holistic Dialogues "Outside the Building"

Breaking down academic, medical and agricultural silos may best begin with connecting them together.

One Health Education Translated to Work: An Intellectual Cross-Pollination

The essence of One Health is, more and more, being recognized as a convergence science (and vice-versa) – creating a new culture, ecosystem and incentives to bring relevant sectors together and establish new frameworks that integrate knowledge from many disciplines. One Health isn't just about meeting together but rather promoting a true exchange of mindsets leading to fundamental different approaches to understand and respond to contemporary problems and health challenges. Life sciences merging with the physical and social sciences. This reflects the difference between being interconnected and interdependent.

"We Must Do and Apply"

*Execution; a discipline; aspirations vs results

*Implementation Science; art of possible

*Mgt people & projects

*Outcome Research

*Compelling Value Proposition

* Ag dictum "can't plant seeds without soil prep"

Knowing
is not enough;
we must apply.
Wishing is not
enough; we must do.

Johann Wolfgang Von Goethe

Workforce Development
From Incremental to Transformative

"Never waste a good crisis" $14 trillion; new thinking

World Bank - $1.9 – 3.4 billion per year for infrastructures in LMIC for zoonotic diseases – HR

Build the workforce of tomorrow don't look backward

Leadership – Harvard's Meta-leadership model with an emphasis on leading across without authority

Relationship Building - #1 skill for this decade; build within OH community, between health sciences, governments, NGOs and with our natural systems

Develop workforce pipelines but need to emphasize recruiting from existing workers and decision-makers

Recommendations and Actions for Today

Reform/Transformation

* Competency-based Curriculum

 * Global Certificate Program

 * Adjusting standards for accreditation

 * Embedding OH curriculum in best pedagogical options

 * Public awareness

Relationship Building

* IPE & health sciences

* Collaborative network

* Planetary health and convergence science

* AMR teams/practices

* Link w/health systems

* Associated workforce

* Sustain & protect our natural systems

Recommendations and Actions for Today

Upskilling

* Leading across organizations/agencies

* Cultural awareness

* Innovation

* Implementation skill, Project mgt; execution

*Leadership

* Countering VUCA

*"T-Shaped" experts

Capacity

* Create new positions for advanced OH expert

* Expand to include food & ag, national security climate, nutrition poverty alleviation, biodiversity

* Include prep for plant and animal ID outbreak

Nat'l Center Foresight, Prediction, Preparation

Greatest Barrier to Systematizing O.H. and the Acceptance of a O.H. Workforce

Trying to reconcile technologic changes, economic and global integration and emerging health threats with traditional political structures, institutional arrangements and habitual ways of doing things is our greatest challenge; (language, culture and turf ($))

(Paul Kennedy)

In designing and preparing the One Health workforce, you cannot forget about preparing an enabling and knowledgeable One Health Workplace.