OneHealth: A Paradigm for Interdisciplinary Collaboration

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Definition and History of OneHealth
OneHealth, “[t]he collaborative effort of multiple disciplines—working locally, nationally, and globally—to attain optimal health for people, animals, and our environment,”\(^1\) originated as a collaboration between human and veterinary medicine but has expanded to include many disciplines.

Broad Reach of OneHealth

<table>
<thead>
<tr>
<th>Government organizations involved in OneHealth:</th>
<th>Members of the OneHealth Commission:</th>
<th>Disciplines involved in OneHealth:</th>
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<tbody>
<tr>
<td>• Centers for Disease Control and Prevention</td>
<td>• American Medical Association</td>
<td>• Human medicine</td>
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<tr>
<td>• U.S. Department of Agriculture</td>
<td>• American Veterinary Medical Association</td>
<td>• Veterinary medicine</td>
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<tr>
<td>• World Bank</td>
<td>• American Public Health Association</td>
<td>• Agricultural science</td>
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<td>• World Health Organization</td>
<td>• Association of American Medical Colleges</td>
<td>• Public health</td>
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<td>• Association of American Veterinary Medical Colleges</td>
<td>• Environmental science</td>
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<td>• Infectious Diseases Society of North America</td>
<td>• Bioengineering</td>
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Benefits of OneHealth

- Bringing the expertise of multidisciplinary partnerships to the solution of complex problems (for an example, see supplemental digital content at http://links.lww.com/ACADMED/A231).
- Developing new scientific relationships and teams that would not have otherwise come together
- Exposing students from different disciplines to interprofessional collaboration and teamwork
- Creating centers of excellence to work on the most important global health problems

OneHealth and the Tripartite Academic Medicine Mission

- Trainees need to be aware that diseases can be transmitted from animals to humans and vice versa. The health of a family’s animals can and does impact human health.
- Climate change will have major health impacts which trainees must be ready to address wherever they practice.

Biomedical research:
- Many diseases manifest in human and animal species in similar ways, making animal models an effective ways to study human diseases.
- Diseases regularly jump from animals to humans; predicting which diseases might do so (and where) could head off future pandemics.
- Compounds found in wild plants and animals can be used to treat human disease.

Clinical service/patient care:
- A patient anywhere in the world with a new or emerging zoonotic disease is only a plane flight from the emergency department or ambulatory clinic at any academic health center (AHC).
- Weather-related disasters like Hurricane Sandy are becoming more frequent and, like Sandy did in New York, have the potential to impact AHCs anywhere in the world.

OneWorld

AHCs and OneHealth: Next Steps

The beauty of OneHealth is that universities do not need a particular set of programs or faculty to make significant contributions.

Best practices:
- Commitment from senior leadership is a necessary catalyst.
- Designation of one or more leaders for the initiative makes it someone’s job to move the project forward.
- Identification of potential collaborators is an important process; no particular set of programs, disciplines, or faculty are imperative, but those who do participate need to be willing to work together.
- Institutional policies that encourage and reward collaboration are important.
- Agreement on how funds will flow and credit will be apportioned are best worked out in advance.
- Having designated research space to allow interprofessional interaction is ideal.

Challenges:
- Resources are necessary to pay for project leadership and staff support.
- OneHealth is such a big, all-encompassing idea that some may struggle to operationalize it in tangible projects.
- Interprofessional educational collaborations face logistical and scheduling constraints.
- Researchers working on projects that cut across multiple disciplines may have trouble identifying funding agencies to support their work.

Reference:

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