



CONCEPT PAPER
for the
Establishment and Operation
of an
Institute for Antimicrobial Resistance Research and Education

INTRODUCTION

Since their discovery, antibiotics have been an important ingredient in the treatment of human and animal disease. However, as the use of antibiotics has proliferated so too has the emergence of drug-resistant bacteria which has narrowed the potential effective uses of some antibiotics for either disease prevention or treatment in both humans and animals. Antimicrobial resistance is a complex issue but one that has garnered significant attention from the human health community nationally and internationally with a number of nations, including the United States, taking definitive action to regulate the use of antimicrobials in the expectation of slowing the advances of resistant bacteria.

At the same time, there remain many challenges to be addressed: the development of better management practices in production systems that will reduce the need for antimicrobial resistance administration; the improvement of antibiotic resistance surveillance systems; research for new vaccines, antimicrobials, and alternatives; and, the education of both health practitioners and the general public. This work is more than any one governmental agency, university, commodity group, or industry partner can undertake. Rather, a partnership that engages a wide range of stakeholders and interested parties, both national and international, is needed to accomplish this work with the efforts sustained over an extended period of time.

VISION

The vision of the Institute is based upon a shared commitment to a long-term partnership of its members to embrace multidisciplinary approaches for fundamental, translational, and applied research; implement and evaluate education and training efforts to address the challenges associated with the emergence and dissemination of antimicrobial resistance, and identify effective interventions to reduce or prevent antimicrobial resistance among people, animals, and our environment.

To achieve this aspiration, the Institute will operate as a national leader and as a consortium with key academic, governmental and private leaders, and experts on a broad range of topics and domains and provide a collaborative and integrative environment to conduct its work. One Health will be foundational to the Institute and an essential driver to determine its membership

and programmatic direction. As a part of its vision, the Institute will be committed to a national strategy yet open to sharing knowledge and results with other global expert and interest groups.

Inherent with the success and vision of the Institute, its membership will be characterized by the acceptance of the following values:

- Ethical
- Transparent
- Science- and evidence-based
- Innovative
- Synergistic
- Trans- and multi-disciplinary
- Collegial
- Efficient and effective in its management and administration

MISSION AND ROLE

The mission and role of the Institute is to foster and coordinate research and education in antimicrobial resistance, under the direction of the Institute's Board of Directors using a One Health approach. The Institute will consider economic, behavioral, and social issues in developing evidence-based recommendations.

PARTNERS AND COLLABORATORS

Collaborative efforts between industry and academic research organizations with government research and development and support can have many benefits that accrue to each of the partners and serve to integrate disparate pools of intellectual capital and funding to address common challenges with a shared vision.

The Institute will bring together traditional and non-traditional agricultural industry partners, agricultural producers, university scientists and educators, medical and veterinary medical practitioners, other health scientists, government agencies (federal, state, regional, and intergovernmental), pharmaceutical industries, philanthropic organizations/foundations, and commodity organizations that will work culturally and collaboratively to achieve the mission. Multi-institutional partnerships among and across these will be encouraged.

LOCATION

Although much of the work of the Institute will be virtual and with limited staff, the Institute itself will be physically located at a comprehensive university that can provide a One Health

approach with a range of expertise in human health, animal health, and environmental-health disciplines (most often framed through programming in schools or colleges of agriculture, public health, veterinary medicine, medicine, pharmacy, and appropriate interfaces with economic, behavioral, and social sciences). The Institute should be located at a university selected through a competitive process but will have an independent governance structure. The hosting institution will house the Institute's Executive Director. The hosting institution should exhibit a deep commitment by its leadership and have the critical assets and services to support the Institute.

MEMBERSHIP AND FUNDING

The Institute will be funded through grants and membership fees. The membership will thus be subscription-based for: universities and their component parts; food and pharmaceutical companies; commodity, industry, and professional organizations; agriculture and public health organizations; foundations; government organizations and agencies; and, independent research organizations; A membership commitment to the Institute must be for a minimum of three years and is renewable.

The Institute will have three membership categories. These categories are broken down accordingly: **Level I** – research-intensive institutions and organizations; **Level II** – industry partners; and, **Level III** – professional organizations, smaller non-profits, and government agencies and departments. The annual contributions will differ based on the categories and the fees will be established by the Institute's leadership and approved by its Board of Directors. The Institute will be committed to recruit and include all types of organizations and will understand that partners will have different financial capabilities. The membership fees are necessary to ensure the sustainability of the Institute and to, eventually, become self-supporting. However, the Institute also will pursue additional funding through federal, state and non-profit foundations, and international channels. In return for their membership investment, organizations will be included in the governance, management and decision-making in the operations and planning of the Institute. The Institute's funding plan will be incorporated into an overall organizational business plan which will be developed and implemented by the Institute's leadership and approved by the Board of Directors.

GOVERNANCE

The Institute will be governed by an independent Board of Directors comprised of senior leaders from the member institutions (research vice presidents, deans, etc.). The Chair of the Board will be chosen from the Board membership by the host institution and approved by the Board of Directors. The Board Chair will serve a two-year term with renewable appointment. The Vice Chair of the Board shall hold a leadership position within the hosting institution and should be selected by the host institution.

The Board will consist of members from each of the three tiers. The Board will employ an Executive Director of the Institute (CEO) and appropriate levels of staff. The Vice President for Food, Agriculture, and Natural Resources of the Association of Public and Land-grant Universities (APLU), the chief executive officers of the Association of American Veterinary Medical Colleges (AAVMC), and other funding consortia or their designees will serve as *ex officio* members of the Board. A significant number of the Board of Directors may come from individual funding entities or consortia. APLU, AAVMC, and the hosting institution shall agree on the remaining members of the Board of Directors. The APLU, AAVMC, other funding consortia, and the hosting institution will consult among themselves on the appointment of all Board members for the Institute.

The Board will establish and oversee the strategic direction of the Institute, approve the annual work plan and budget, and serve as the ultimate decision-making authority for the Institute. The Board will develop guidance and procedures to ensure transparency and avoid conflicts of interest. The Board also will establish processes for the distribution of funds to consortium members to implement research grants, projects, and programs. The Institute's Board of Directors may wish to establish and appoint members to fund a development committee or some such entity to aid in obtaining resources for the Institute.

SCIENTIFIC COMMITTEE

Under the direction of the Board and the Executive Director, a Scientific Committee (scientific advisory committee) will be established and comprised of representatives from academia, industry, and commodity interests. After consulting with the Institute's donors (as to their various needs), the broader scientific community, and the Institute's Board of Directors, the Scientific Committee will establish the Institute's research and education priorities and provide guidelines for a competitive process for the distribution of the Institute grants.