

In This Issue

PLANNING FOR HEALTHY COMMUNITIES AND ECOSYSTEMS IN RURAL GHANA

The relationship between the determinants of human health and ecological sustainability is brought to the fore in rural settings where the drivers of hazardous environmental exposures and socioeconomic welfare are closely coupled with local natural resources. In these settings, the imperative for coordinated intersectoral and multistakeholder public health action becomes critical. Drawing on the findings of a participatory transdisciplinary study in rural Ghana, **Dakubo** highlights the potential of ecosystem approaches to human health to identify and institute sustainable ecosystem management strategies that can preserve the health of both the ecosystem and its inhabitants.

WEST NILE VIRUS IN AMERICAN CROWS: RELEVANCE TO EXISTING MONITORING PROGRAMS

Emerging infectious diseases don't just affect humans, but also wildlife, sometimes with devastating consequences (witness the population declines of amphibians due to a globally emerging fungal disease, chytridiomycosis). In this issue, **Hochachka et al.** test the widely held hypothesis that West Nile virus is likely to have a significant impact on susceptible bird populations in the United States. Surprisingly, their analysis shows that although West Nile virus may have caused an order of magnitude drop in crow populations in New York City, its impact on other crow populations was not observable.

EMERGENCE OF A MODEL FOR HENIPAVIRUSES

Zoonotic pathogens (those transmitted between humans and other animals) are responsible for 75% of the emerging diseases affecting humans. **Hyatt et al.** review a group of zoonotic viruses (Henipaviruses) that have recently emerged in Australia and Southeast Asia from fruit bat reservoirs. They emerged via domestic animal amplifier hosts (pigs, horses) to cause lethal infections in humans. An holistic model is proposed based on Paramyxovirus virology and the epidemiology of the outbreaks that explains their emergence. The model is intended as a basis for predicting and controlling the future emergence of unknown zoonoses.

GLOBAL TRADE AND INFECTIOUS DISEASE

Science is only beginning to understand the interplay between global trade and human infectious diseases. **Kimball et al.** examine the phenomenon of trade-related infections; they show, through several case studies, the interplay between global trade in commodities and the emergence of new infections. However, the authors conclude that, despite the relationship between trade and infectious diseases, more evidence is needed to foster a global trading system which also maintains the public safety from emergent infectious diseases.

MULTINATIONAL HEALTH-CARE ENCOUNTERS AND TRANSNATIONAL COMPETENCE

A likely future scenario is that there will be more people that will move around the world at increased intensity. This

also means that medical doctors will need additional skills to communicate with a patient with a different cultural or ethnic background. **Koehn** presents a framework of transnational competence that encompasses analytic, emotional, creative, communicative, and functional skills, for the global challenge of providing migrant-health care. The results of the conceptually grounded transnational competence research promise to enhance practitioner training and patient education in both North and South.

CHANGING LANDSCAPES, CHANGING DISEASE RISK

Altering landscapes can change the transmission dynamics and location of many serious infectious diseases. Such land use modifications range from water projects and agricultural development, to deforestation, road construction, and urban sprawl. Vector biologist and public health scientist **Norris** describes how such habitat changes affect the biology of diseases such as malaria, dengue and yellow fever, filariasis, and West Nile virus. More than 3000 mosquito species are recognized worldwide. While only a small fraction carry disease, each species has both common requirements (e.g., water for breeding sites) and highly unique responses to ecological change. Understanding these underlying issues in vector ecology can assist in predicting how humans may be changing the risks of mosquito-borne diseases.

ETHNOGRAPHY: KEY CONTRIBUTION TO HEALTH PROMOTION IN INDIGENOUS COMMUNITIES

The Secoya Indians of Ecuador have a long history of living close to the land, giving them a keen ability to detect

changes in the environment and to recognize emerging diseases within their population. Recent encroachments into the northeastern Ecuadorian Amazon have resulted in fragmentation of the forests directly surrounding the Secoya community, as well as reducing the original Secoya territory and disrupting traditional native culture. **Riach** addresses the complexity of human/disease relationships by combining epidemiological, ecological, and anthropological methods to study a cluster of unexplained fatalities in this indigenous population. In this study, the strength of cultural beliefs is revealed and mandates future consideration for preventive health measures to be accepted.

ECOSYSTEM VERSUS SPECIES-FOCUSED PROTECTION

Biodiversity conservation often involves single-species focused protection strategies. This often involves, for example, large financial expenditures on recovery plans for endangered species. Yet, given the uncertainty in ecosystem functioning, it is questionable whether this single-species focus is merited. Employing an analytical ecological-economic approach, **Baumgartner** shows that a conservation strategy targeting research and protection of species interactions, a surrogate for ecosystem function and health, may be a more cost-effective strategy. The result supports the argument for focusing conservation efforts on systemic properties, operationally equated with ecosystem health, even where preservation or recovery of particular species is the ultimate goal.

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