

## **CURRENT DEVELOPMENTS IN MEDICINE AND PUBLIC HEALTH: A GLOBAL PERSPECTIVE**

I am pleased to participate in the premier edition of the *Annals of African Medicine* as contributing editor for "current developments" section. In time, *the Annals* would be the pre-eminent source for current information, research papers and scientific reviews particularly for the African continent. The "current developments" section would summarize major reports and papers from different international journals. Emphasis will be placed on standard of care guidelines and evidence-based medicine. Additionally, it will include contemporary information on activities of the World Health Organization and the Centers for Diseases Control and Prevention.

As the tides of demographic and epidemiologic transitions continue to rise, it is incumbent upon us all to break the regional barriers of medicine and remain aware of all disease possibilities. Clearly our focus is establishing sustainable health care on the African continent. Our horizon, however, must be unlimited. We should remain receptive to transfer of appropriate technology and international collaborations. Our greatest health care challenges remain control of malaria, malnutrition, tuberculosis, HIV/ AIDS and diarrhea diseases. Sadly, non-communicable diseases including, accident and injuries, tobacco related diseases, maternal mortality, cardiovascular, cerebrovascular and mental health problem are additional palpable threats to our health care systems.

It is regrettable that the performances of African health systems have been deplorable. Nigeria ranked position 187 on the WHO Health System report far below Ghana, Benin Republic and Afghanistan. It was only ahead of few countries like Angola and

Democratic Republic of Congo. Our political leaders and health system planners mentioned nothing about our health systems report card. Political will and mobilization, transparency and good governance are core prerequisites to sustainable health sector development. The political environment must provide for national and regional security, and ethnic and religious understanding and tolerance among all people. Security of life, food and property are essentials for quality of life and health. We will therefore incorporate political mapping, stakeholder analyses and public health education and awareness strategies to our educational and training activities.

**Zakari Y. Aliyu, MD, MSc, MPH**

Adjunct Assistant Professor of  
International Health, School of Public  
Health and Health Services,  
Department of International Public  
Health, George Washington University  
2300 I Street, NW  
Washington, DC 20037  
E-mail: [zyaliyu@cs.com](mailto:zyaliyu@cs.com)

### **ACCIDENTS, TRAUMA AND INJURY PREVENTION**

***Preventing death and disability due to injuries is both an economic imperative and a health priority***

Effective prevention action is required across the globe to reduce injuries. Injuries are one of the leading causes of death and disability in the world. Every year more than 5 million people around the world die from injuries. Of these, 25% are due to road traffic injuries, 16% to suicides and 10% to homicides. The 5 million figure is

dwarfed by the number of people who survive injuries, many of who suffer life-long disabilities. In strict economic terms, the costs associated with surgery, prolonged hospitalization and long-term rehabilitation for victims of injuries and violence, in addition to their lost productivity costs, represent tens of billions of dollars each year. The human, social and economic burden of injuries and violence is staggering. Almost 50 % of injury-related mortality occurs among young people between the ages of 15 and 44 years, thereby often depriving families from their breadwinner. Ninety-one percent of all injury-related deaths occur in these low and middle-income societies.

Source: [www.who.int/violence\\_injury\\_prevention](http://www.who.int/violence_injury_prevention).

## HEMATOLOGY AND VASCULAR MEDICINE

The World Health Organization (WHO) has announced the launch of a comprehensive research programme to investigate the unresolved issues regarding travelers' thrombosis. The study will include epidemiological, pathophysiological and clinical studies, the first of which are expected to commence within a few weeks. Preliminary results from some of the studies will be available within a year although the full programme will take up to four years to complete. The UK government will contribute 1.8 million Euros to the project in the first two years. Additional funding is anticipated from the European Commission. The protocol for the World Health Organization Research Into Global Hazards of Travel (WRIGHT) programme was developed following a consultation in March 2001, at which medical experts, representatives of the airlines and regulatory authorities met to identify the important gaps in the current knowledge of the issue.

Source: [www.who.int](http://www.who.int) Non communicable diseases unit.

*Comment:* It is interesting to note that travel associated thromboembolic disease also known as the "Economy Class Syndrome" was recently published in the Nigerian Journal of Surgical Research by Drs. Akakabota, Ugwu-Dike and Aliyu

## INFECTIOUS DISEASES

### ***Biological terrorism, a rude awakening to global public health systems***

Since September 11, 2001, biological terrorism became a sad reality. America and the World witnessed an unprecedented attack of terror with anthrax, a deadly bacterial infection caused by *Bacillus anthracis*. The postal system was used as a convenient and highly efficient vehicle of transmission. Just as the air space of the U.S was caught unprepared, the public health system and clinical health services were also unprepared for the challenges of bioterrorism. Several lives were lost. Consequentially, the World has learnt to remain vigilant *ad infinitum* against potential terror threats. Understanding and appreciating the various biological agents is an essential requirement for all health care providers. Below is listed the classification of potential agents by the CDC.

### ***Biological Diseases/Agents (Weapons) Listing***

Category A: Highest priority agents

The U.S. and (international) public health system and primary healthcare providers must be prepared to address various biological agents, including pathogens that are rarely seen in the United States. High priority agents include organisms that pose a risk to national security because they can be

agents include organisms that pose a risk to national security because they can be easily disseminated or transmitted from person to person; result in high mortality rates and have the potential for major public health impact; might cause public panic and social disruption; and require special action for public health preparedness. Category A agents include;

Anthrax (*Bacillus anthracis*)

- General Information
- Lab & Health Professionals

Botulism (*Clostridium botulinum* toxin)

- General Information
- Lab & Health Professionals

Plague (*Yersinia pestis*)

- General Information
- Lab & Health Professionals

Smallpox (*variola major*)

- General Information
- Lab & Health Professionals

Tularemia (*Francisella tularensis*)

- General Information
- Lab & Health Professionals

Viral hemorrhagic fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])

- General Information
- Lab & Health Professionals

#### Category B Diseases/Agents

Second highest priority agents include those that are moderately easy to disseminate; result in moderate morbidity rates and low mortality rates; and require specific enhancements of CDC's diagnostic capacity and enhanced disease surveillance. These agents include;

Brucellosis (*Brucella* species)

- General Information
- Lab & Health Professionals

Epsilon toxin of *Clostridium perfringens*  
 Food safety threats (e.g., *Salmonella* species, *Escherichia coli* O157:H7, *Shigella*), Glanders (*Bukholderia mallei*), Melioidosis (*Bukholderia Pseudomallei*)

Psittacosis (*Chlamydia psittaci*)

Q fever (*Coxiella burnetii*)

Ricin toxin from *Ricinus communis* (castor beans)

Staphylococcal enterotoxin B

Typhus fever (*Rickettsia prowazekii*)

Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])

Water safety threats (e.g., *Vibrio cholerae*, *Cryptosporidium parvum*)

#### Category C Diseases/Agents

Third highest priority agents include emerging pathogens that could be engineered for mass dissemination in the future because of availability; ease of production and dissemination; and potential for high morbidity and mortality rates and major health impact. These include, emerging infectious disease threats such as Nipah virus and Hantavirus.

Source: [www.cdc.gov](http://www.cdc.gov)

#### CARDIOLOGY

Nestritide (Natrekor), a synthetic formulation of B-type natriuretic peptide (BNP), is the first new parenteral agent to be approved for treating heart failure in more than one decade. It is indicated for patients with decompensated CHF. It promptly reduces pulmonary capillary wedge pressure, pulmonary arterial pressure, right atrial pressure and systemic vascular resistance resulting in clinical improvement. Side effects of natrekor include hypotension and interaction with angiotensin converting enzyme inhibitors (ACEI).

Reference: Mills RM, Hobs RE. How to use nestritide in treating heart failure. *Cleveland Clinic Journal of Medicine* 2002; 69: 252 - 256

Comment: Intractable CHF is a rare unfortunate complication of post partum cardiomyopathy especially among

patients with late presentations. ACE inhibitors, diuretics and beta-blockers remain the main stay of management. Natreacor might be indicated in severe intractable cases. The cost of therapy is obviously prohibitive. It has however, not been studied specifically in this population.

#### **GASTROENTEROLOGY/ ONCOLOGY**

In asymptomatic patients greater than 50 years at normal or above risks of colorectal cancer, hemoccult screening reduces the risk of death from colorectal cancer. Relative risk reduction 16%, 95% CI 7-23.

Approximately 1 death from colorectal cancer would be averted for every 1000 people screened over a 10-year period. Reference: McLeod RS. Screening strategies for colorectal cancer: a systematic review of evidence. *Can J Gastroenterol* 2001; 15: 647-460

*Comment:* Fecal occult blood screening test (FOBT) should be incorporated in the management of all patients above the age of fifty. Screening should be offered to all patients annually. Flexible sigmoidoscopy and colonoscopy should be performed on all patients with positive hemoccult stools for proper diagnosis and referral.