of Health to coordinate and monitor these activities be increased.

Capacity building of government personnel is urgently needed. Few organizations specialized in delivery of health services in emergencies are familiar with this role. If the international community continues to support political-military interventions that result in changes in government, international personnel able to assist new administrations to manage the healthcare system during critical periods of transition should be deployed, and agencies that work in close coordination with government should be preferentially supported.

## Health Indicators for Conflict Prevention

*Rashid A. Chotani, MD, MPH; Jason M. M. Spangler, MD, MPH*

Violence, particularly armed violence, is a major international public health problem. The results of war and conflict are what have been termed "complex human emergencies" (CHE). A new focus recently has emerged that combines the fields of politics, economics, diplomacy, environmental science, and public health for the purpose of forecasting potential conflicts, and designing early warning systems for conflict prevention. Several models have been developed looking at many indicators, which could predict situations in which complex human emergencies may arise. Most of these indicators fall within the political, military, and economic realms. Health indicators have not been studied as thoroughly. Specific health indicators may help in forecasting and thus, provide early warning of CHE. Through retrospective investigation of past complex emergencies, including case studies, and prospective examination of future "hot spots", this paper intends to determine if certain early health indicators exist. As health is adversely affected in complex human emergencies, the discovery of possible early health indicators of conflict will not only help with interventions to improve public health, but also will assist in the development of methods of conflict prevention and/or conflict resolution.

## The Afghanistan Humanitarian Relief Mission

*Fatimah Lateef*

A humanitarian crisis involves the extreme suffering of people driven from their homes, with a lack of shelter, security, food, clean water, and health care. Afghanistan has been in such a state of emergency for the past 20 years, due to repeated wars and strife. Since 11 September 2001, the migration of greater numbers of Afghan refugees has intensified the problems, especially at the Pakistan border, and in Balochistan and Kandahar provinces. There are more than one million internally displaced persons. Healthcare, hygiene, and nutritional status remain dismal despite relief aid from multiple international and regional sources. The predominant problems include acute respiratory and gastrointestinal diseases, infant malnutrition, anemia, lack of treatment for chronic illnesses, and lack of obstetric care. Due to the state of war, acute injuries and trauma also are common.

Singapore, under the umbrella of the Singapore International Foundation, mounted one assessment trip and five missions to render aid in the following areas: child and infant nutrition and hygiene; acute care and surgical management; obstetric care; and food and supplies distribution. This paper will highlight some of the efforts and challenges faced by the teams working in Spin Boldak, a town some 5 kms from the border of Pakistan and Afghanistan.

## Results of Emergency Health and Nutrition Assessment in Badghis Province, Afghanistan

*Bradley A. Woodruff; Meredith A. Reynolds; Felicite Tchibindat; Cyridion Ahimana*

**Introduction**: Health problems and food insecurity in Afghanistan, exacerbated by three years of severe drought, have deteriorated further following the recent increase of military conflict. The interim Afghan government, in collaboration with United Nations agencies and non-governmental organizations, outlined consensus recommendations for gathering essential nutrition and health data.

**Methods**: As a part of the first province-level nutrition and health assessment based on these recommendations, households in Badghis Province were selected using two-stage, 30-cluster sampling. The sample included 507 households containing 545 children <5 years of age and 555 women aged 15–49 years.

**Results**: The prevalence of acute malnutrition (weight-for-height z-score <-2.0) in children <5 years of age was 6.5% (95% CI = 3.9–9.1%). In contrast, the prevalence of chronic malnutrition (height-for-age z-score < -2.0) was 57.5% (95% CI = 52.5–62.5%). Clinical signs of deficiencies of vitamins A, C, and D were present in 2.6%, 3.1%, and 3.9% of children, respectively, while the prevalence of palmar pallor indicating anemia was 8.5%. The prevalence of malnutrition, defined as body mass index [BMI] <17.0, among women 15–49 years of age was 5.5%; however, 13.1% were at risk (BMI = 0.0–18.4%), 11% had visible goiter, and 5% reported night blindness.

**Conclusions**: Targeted, supplementary feeding programs for malnourished children and their mothers may be warranted at this time, but there is little justification for either blanket supplementary feeding or implementing specialized therapeutic feeding centers in Badghis. Micronutrient deficiencies may be a larger problem than overall food insufficiency, especially in adult women.