



### **Injury Prevention and Environmental Health Key Messages (Overall)**

1. As many as 7.7 million deaths from injuries, occupational exposures, and environmental risks could be averted annually with better implementation of effective interventions and policies.
2. Patterns of injury- and environment-related risk evolve predictably with economic growth. Rapidly-developing low- and middle-income countries could avert a large burden of disease by pre-emptively implementing interventions such as the ones described in this volume.
3. Several interventions included in the DCP3 essential package have beneficial effects for a variety of conditions. For example, violence prevention strategies can reduce substance abuse, improve mental health conditions, and reduce crime-related injuries. Air pollution control can reduce the risk of both respiratory and cardiovascular diseases, among others.
4. Implementation of most of the policy interventions included in the essential packages will require intersectoral collaboration and cooperation, including ministries responsible for finance, law enforcement, environment, planning, development, labor, and transportation.
5. Within the public health sector, the most effective strategies to reduce injuries and improve environmental health are information-based, including education campaigns to raise awareness about sanitation and hygiene, household air pollution, and use of seatbelts and helmets.

### **Injury-Related Key Messages**

1. Injuries result in over 5 million deaths annually (out of 56 million annual deaths globally). The vast majority of these deaths are in LMICs. Road injuries are the single most common cause of injury-related death, resulting in 1.2 million deaths annually.
2. Transport safety would improve considerably with the implementation of government policies (including subsidies, regulations, and engineering controls) that reduce road-related risks and promote alternative forms of transportation, such as mass transport.
3. Interpersonal violence is an important, yet under-recognized risk factor for hazardous behaviors such as unsafe sex, substance abuse, and increased risk of contracting some communicable diseases.
4. Training workers in hazard recognition, safety practices, and emergency procedures is a widely recognized, essential component of occupational safety and health



### **Environmental Health-Related Key Messages**

1. Due to close living quarters in both cities and villages, the most effective interventions to address household air pollution are likely to occur at the community level. These interventions tend to be more efficient and reliable, and at lower costs than individual interventions.
2. In 2012, estimated 842,000 global deaths were attributed to poor water supply, sanitation, and hygiene. These diseases have been shown to affect children's nutrition, growth, and mental development. While trends in mortality are positive, many low-income and rural middle-income settings lag behind the rest of the world in addressing these highly preventable deaths.
3. Climate variability and climate change present major challenges for human health and well-being and will probably be a recurring issue throughout the 21<sup>st</sup> century. Estimating the costs and benefits of reducing the health risks associated with climate change is an important research need. Climate-resilient development strategies could positively improve the health of populations (predominately poor and marginalized groups) at greatest risk.

### **Economic Analyses Key Messages**

1. The economic literature supports a variety of interventions that address injuries and environmental and occupational risks, including those presented in this volume's essential package. Yet a variety of methodological issues remain, and there is limited economic evidence to guide interventions for some important conditions (such as interpersonal violence).
2. Extended cost-effectiveness analyses of two intersectoral policies, helmet regulation (Vietnam) and household environmental modifications to reduce solid fuel use (India), highlight the large health and economic benefits that would accrue to households, including the poor, by preventing injuries and health effects of air pollution
3. Another study found that retrofitting coal-fired power plants in India could significantly reduce sulfur dioxide emissions and downstream health effects. In economic terms, from a societal perspective, the health and other benefits of this intervention generally outweighed the costs.
4. Public-private provided subsidies for clean fuel to poor households in India could avert 44,000 deaths at the cost of US\$825 each, and 1.5 million DALYs for US\$25 each.
5. Installing speed bumps at high-risk junctions is a very cost-effectiveness method for protecting pedestrians at US\$12 per DALY averted.