## **Editorial**

## "Chance Makes a Football of Man's Life"

—Senecca, Letters to Lucillus

Jean Claude Pechère, MD; Didier Pittet, MD, MS

Risk is inherent to the cycle of life. For each one of us, the wheel of fortune started to turn at the time of conception, when our unique genetic configuration was inherited from our parents. We were further conditioned by 9 months of life in the womb. After overcoming the hurdle of birth, we realized that risk is everywhere, a mixture of chance and choice. The recent discovery of a possible link between birth weight and an increased risk of breast cancer shows that risk evaluation begins before the cradle.

During the past 100 years, health hazards have changed tremendously. Some have completely disappeared (smallpox), whereas others are almost under control (poliomyelitis). Others are on the rise, in particular those associated with globalization, urbanization, aging populations, and advanced medical technology. For instance, we may ask ourselves: "Is genetically modified food dangerous?" Quantitative assessment of this risk is impossible due to lack of knowledge, and, in the absence of hard facts, we have to rely on intuition, emotions, and expert opinions, while awaiting further scientific evidence and formal recommendations. At the same time that such uncertainties or doubts stimulate our efforts to generate knowledge, we should not allow them to dampen our efforts to refine our best estimates of risk and corresponding prevention strategies continually. The principle of precaution may prevail, but let us be mindful of Shakespeare's words: "Our doubts are traitors!"

Today, when we say risk, we should think prevention; but, to establish preventive measures, we need knowledge. Ignorance is the most important obstacle that may block meaningful prevention. As knowledge improves, we attain the ability to make reliable predictions, based on probability; for example, in our hospital, 7 of 100 admitted patients will develop a nosocomial infection. At that level of knowledge, when actuarial risk estimates are available, pre-

vention strategies can be set more rationally, to reduce risk in a cost-effective way. The highest level of probabilistic knowledge is certainty; it creates another situation: what can we do when the outcome is known, as in the loss of muscular function in Duchenne's disease? Anticipation, more than prevention, should prevail.

"Risk and Prevention" (RAP) is the first international conference to address the issue of risk and prevention in depth, using a multidisciplinary approach. We believe it is timely. Three different medical domains, infectious diseases and infection control, cardiovascular diseases, and hematology-oncology, were discussed in bridging sessions, all under the same roof. Economics, genetics, behavioral sciences, new medical technologies, apoptosis, and ethics all were debated across these medical fields.

Fascinating papers from RAP 2000 are presented in this issue of the Journal, illustrating some of the frontiers between risk and prevention of hospital infections. Topics addressed included discussions on the use and control of antibiotics in the community and in developing countries; spread of antimicrobial-resistant organisms and genes; handling of central venous catheters and the economical consequences of related infections; new biomaterials; surveillance of nosocomial infections and its value as quality indicator; and reasons for noncompliance with basic infection control measures and possible ways to improve compliance. Surely, this represents a wide variety of important topics to provoke further thought and fill future research agendas!

"Each day reason penetrates further into France, into the shops of merchants as well as the mansions of lords. We must cultivate the fruits of this reason, especially since it is impossible to check its advance."

—Voltaire, A Treatise on Toleration.

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