



Communicating Risk

Absolute Risk

refers to the actual risk of an occurrence, the chance that a specific outcome will occur.

Relative Risk

puts risk in comparative terms—the outcome rate for people exposed to the factor in question compared with the outcome rate for those not exposed to the factor.

A relative risk of > 1 indicates an increased risk of the outcome under investigation; a risk of < 1 indicates a decreased risk of the outcome. Relative risk close to or equal to 1 says that the incidence rate in the exposed and unexposed is about the same. Relative risks are a commonly used measure of morbidity or mortality in medical literature. However, in many cases, absolute risk is a far more relevant statistic for the public.^{59, 60}

For example, suppose that a study shows that a person who brushes their teeth only once a day is 50% more likely to have all their teeth fall out in the next 10 years than others who brush their teeth twice per day. This is the relative risk. Yet, the absolute risk that all the person's teeth will fall out may be only 1%. In this case, the relative risk makes the problem seem more important than it really is. However, relative risk can also make a problem appear to be less important than it is.

Another example, from the Canadian Task Force on Preventive Health Care, pertains to breast cancer screening.⁶¹ Breast cancer screening in women aged 50-69 years of age reduces absolute risk of dying from breast cancer by 0.13%. Absolute risk considers the baseline risk of dying from breast cancer. Relative risk examines the reduction of risk as a proportion of the total risk. Women in the same age bracket who receive screening experience a reduced relative risk of dying of breast cancer by 21%. Therefore, it is important to consider both relative risk and absolute risk when discussing study results.

Another issue in communicating risk stems from risk assessment and the use of the terms hazard and risk. Scientists may employ those terms differently than other communicators or the media more broadly. There is an important distinction: *hazard* pertains to the ability of a substance or agent to cause adverse effects whereas *risk* considers the probability that harm will occur.⁶² For example, when going to the beach, a person may consider the hazard posed by sharks in the ocean. That person standing on the beach is unlikely to experience harm. Swimming in the water with the shark speaks to risk, or the likelihood of harm befalling the swimmer.

Hazard



Risk

