Recent media publicity about patients injured by mistakes in radiation therapy and other patients receiving excessive doses from computed tomography has emphasized the need for improved measures to keep patients safe during medical procedures employing ionizing radiation. In a list of technology health hazards compiled by the ECRI Institute for 2011, radiation therapy is listed as number 1 and computed tomography is listed as number 4. Missing from these analyses is recognition of the profound health benefits of computed tomography and radiation therapy. Still, safety and quality can be improved through a variety of measures being implemented by medical physicists. These measures help to allay concerns that medical physics is not doing enough to improve quality and safety in both medical imaging and radiation therapy.