The Error-berg

Reconceptualizing Medical Error as a Tool for Quality and Safety

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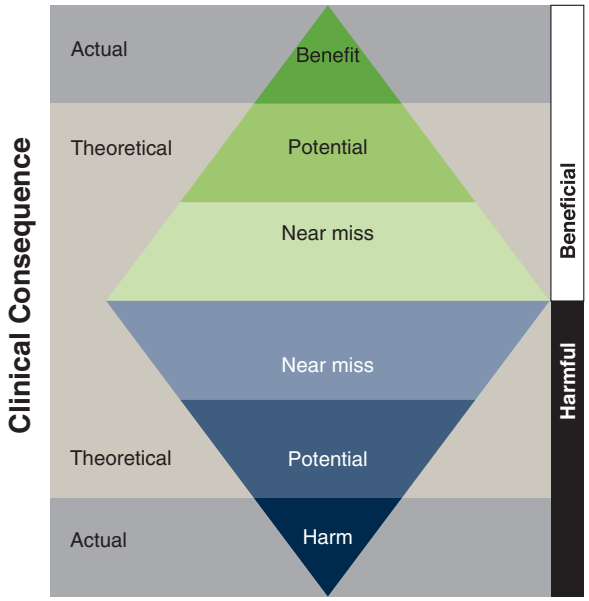

Medical errors occur when there is deviation from the preconceived "ideal" plan or action. Classical doctrine associates error with harm and conceptual models generally don't consider empiric observations that medical errors sometimes benefit patients.[1] In the image above, the "Error-berg" represents the spectrum of consequences of medical error. At the base of each triangle are medical errors that have no patient impact (positive or negative); the apex of each represents the smaller number of errors that have important patient consequences.

Consider unplanned extubation following a surgical procedure under general anesthesia where a patient is deemed unsuitable for extubation and transferred to the intensive care unit for ongoing mechanical ventilation. Adverse consequences may manifest as need for reintubation, airway injury, cardiac arrest or death (*lower triangle*).[2] Learning, in these situations, traditionally focuses on prevention of unplanned extubation in order to improve patient *safety.*

Some patients, however, in whom unplanned extubation occurs, remain safely extubated, benefitting from "error" (*upper triangle*). Here, two errors occur: one error in planning (continue mechanical ventilation) and second in execution (unplanned extubation). Openness to learning from situations where delivered care has unexpected consequences, and reassessing preconceived assumptions about medical error may help improve *quality* of future care.[3]

The Error-berg also provides a potential explanation for the perpetuation of error in health care. Identification of incidental variation (errors), that highlight patient situations where the optimal plan or execution is uncertain, may lead to better care. Actively seeking beneficial medical errors can help astute clinicians redefine "ideal" care and improve practice and outcome.

Competing Interests

The authors declare no competing interests.

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