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Modelling the cost-effectiveness of impact-absorbing flooring in Swedish residential care facilities.

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Abstract: Fall-related injuries among the elderly, specifically hip fractures, cause significant morbidity and mortality as well as imposing a substantial financial cost on the health care system. Impact-absorbing flooring has been advocated as an effective method for preventing hip fractures resulting from falls. This study identifies the cost-effectiveness of impact-absorbing flooring compared to standard flooring in residential care facilities for the elderly in a Swedish setting.

An incremental cost-effectiveness analysis was performed comparing impact-absorbing flooring to standard flooring using a Markov decision model. A societal perspective was adopted and incremental costs were compared to incremental gains in quality-adjusted life years (QALYs). Data on costs, probability transitions and health-related quality of life measures were retrieved from the published literature and from Swedish register data. Probabilistic sensitivity analysis was performed through a Monte Carlo simulation.

The base-case analysis indicates that the impact-absorbing flooring reduces costs and increases QALYs. When allowing for uncertainty we find that 60% of the simulations indicate that impact-absorbing flooring is cost-saving compared to standard flooring and an additional 20% that it has a cost per QALY below a commonly used threshold value

: Using a modelling approach, we find that impact-absorbing flooring is a dominant strategy at the societal level considering that it can save resources and improve health in a vulnerable population.

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