

Researchers reveal formula for success in increasing smoke alarm use

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(PhysOrg.com) -- The most effective strategy to encourage more people to have a working smoke alarm in their homes has been revealed by a team of healthcare researchers.

A combined approach of offering education, free or low-cost equipment and a [home safety](#) inspection is likely to have the most impact, the study by a research team involving [academics](#) from the Universities of Leicester, York and Nottingham has discovered. The study was funded by a National Institute for Health Research (NIHR) Programme Grant.

The study, believed to be the first of its kind, also looked at which types of smoke alarms were best to fit in order to guarantee the most reliable working [smoke alarm](#) and ionization alarms with [lithium](#) batteries came out on top.

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Published in this month's *Epidemiologic Reviews*, the research offers a valuable insight into the most effective combination of interventions for future public safety campaigns promoting the use of smoke alarms in the home.

Professor Denise Kendrick, in the Division of Primary Care at The University of Nottingham, is a specialist in accidental injury and the prevention of accidents among children and was one of the academics involved in the project.

She said: “Our findings confirm that the approach used by the UK Fire and Rescue service is likely to be the most effective way of getting homes protected with fitted and working alarms. Fire and Rescue services offer free home fire risk assessments; they will visit homes to advise on fire safety, they will help people devise a plan for how to escape if there is a fire and may also fit free smoke alarms. Our work shows that the combination of giving advice, doing a safety inspection and providing free or low cost alarms is likely to work best. If we are to continue to see a reduction in the number of house fire-related deaths, it is vital that home fire risk assessments including the provision of free or low cost alarms are maintained. ”

Every year around the world, fire-related injuries result in more than 300,000 deaths and 10 million disability-adjusted life years (DALYs), which combine the years of life lost due to premature death and the years of productive life lost due to disability after an injury.

Smoke alarms have been hailed as one of the most successful methods of reducing fire-related injuries in higher-income countries and it has been

estimated that in the US alone every \$1 spent on smoke alarms saves \$28 in healthcare costs. Despite this, even in higher income countries the use of smoke alarms is not universal.

The study involved a sophisticated statistical analysis of 20 previous studies which looked at a range of ways of trying to encourage people to have smoke alarms including offering education on the risks of remaining unprotected, increasing access to, or affordability of alarms, helping families to fit alarms and home inspections to check alarms are functional.

The study found that the most intensive approach which used a combination of all these factors worked the best but, because this was also likely to be the most costly, further research is needed to establish which interventions also provide the best value for money.

Further study is also required because, although 20 studies were included in the review, some comparisons of individual factors involved a smaller number of studies.

The study involved a collaborative research team from the Department of Health Sciences at The University of Leicester, the Centre for Health Economics at The University of York and the Division of Primary Care at The University of Nottingham.

Provided by University of Nottingham

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