Synthesis using Prospective meta-Analysis to Reduce youths' E-cigarette use (SPARKE): a research collaboration

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Background:
E-cigarette use in adolescents has been described as an epidemic threatening to addict new generations to nicotine and erode decades of progress in tobacco control. Limited evidence is available on the effects of e-cigarette prevention interventions for adolescents, though numerous ongoing and registered trials have been identified.
We describe the establishment of a research consortium, known as SPARKE, aiming to prospectively identify, harmonise, and synthesise data from randomised controlled trials (RCTs) examining behavioural interventions to prevent uptake of e-cigarettes by adolescents.

Methods:
Ongoing systematic searches of databases, grant websites and trial registries to identify RCTs of behavioural interventions aimed at preventing uptake of e-cigarette use among adolescents aged 10-19 years. Co-primary outcomes include: (i) ever- and, (ii) current use of e-cigarettes; (iii) and ever- and (iv) current cigarette smoking. Using novel research methods, we intend to conduct an individual participant data (IPD) prospective meta-analysis (PMA) of included studies. This approach maximises use of available data, reduces bias, and enables more complex analyses, e.g. of key subgroups.

Results:
To date, the SPARKE collaboration includes ten trials with over 15,000 participants. Interventions are commonly set in schools and include curriculum, life skills training or text message components. We will provide a study update at the conference.

Our global consortium of researchers will create a much-needed evidence base and will expedite the synthesis of data regarding prevention interventions for adolescent e-cigarette use.

Conclusion:
These findings will support evidence-based implementation to reduce e-cigarette use in adolescents, including rapidly informing real-world policy decision-making through close collaboration with inter/national stakeholders.

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