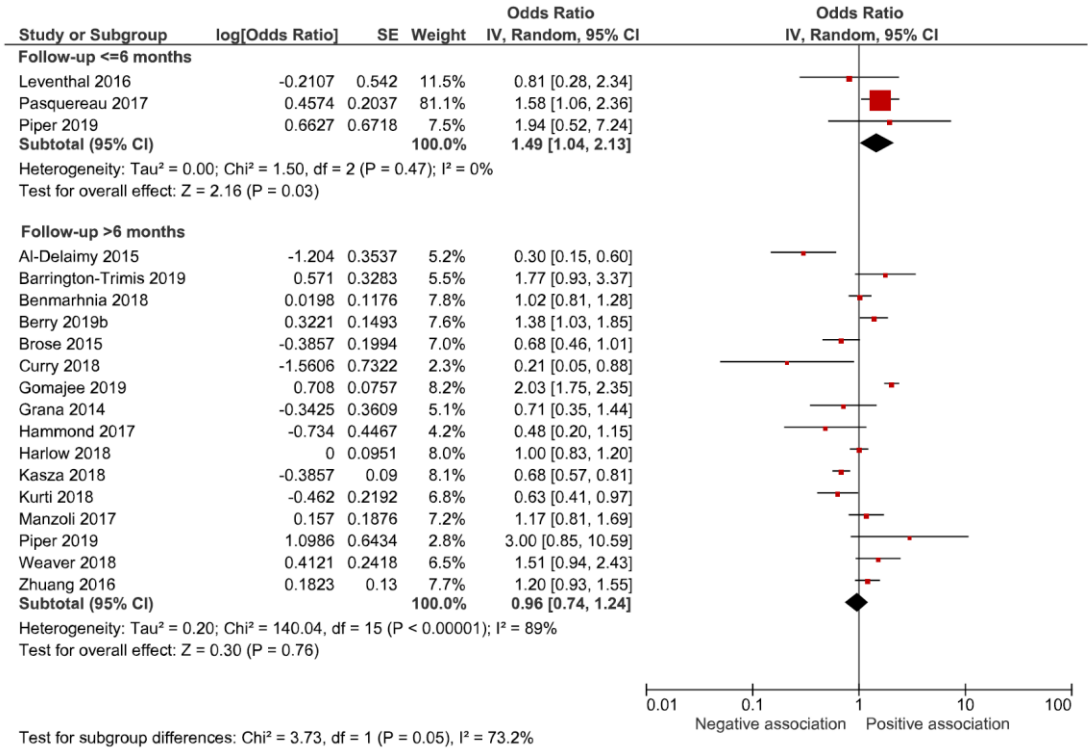
Supplementary figures & tables

Figure S1. E-cigarette use and subsequent smoking cessation in cohort studies with a short (≤6 months) or a long (>6 months) follow up time. Meta-analysis of a) unadjusted and b) adjusted odds of smoking cessation among e-cigarette users compared with non-e-cigarette users.

a)



b)

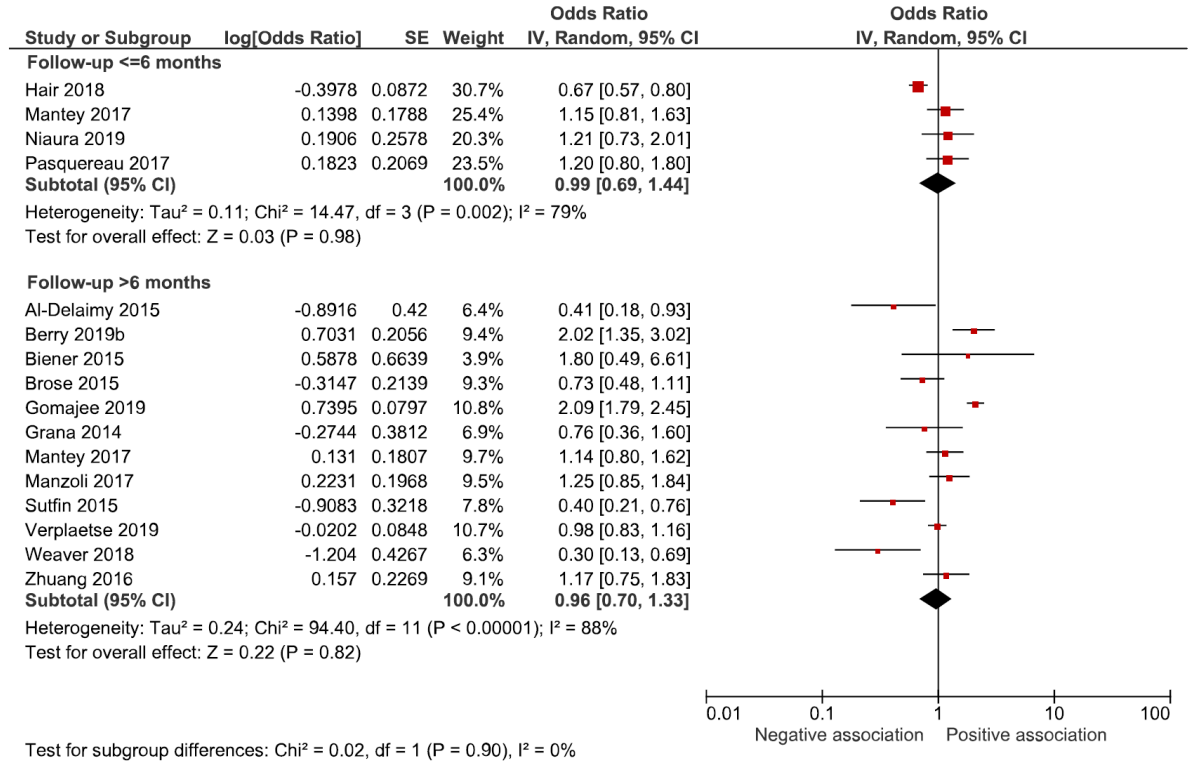
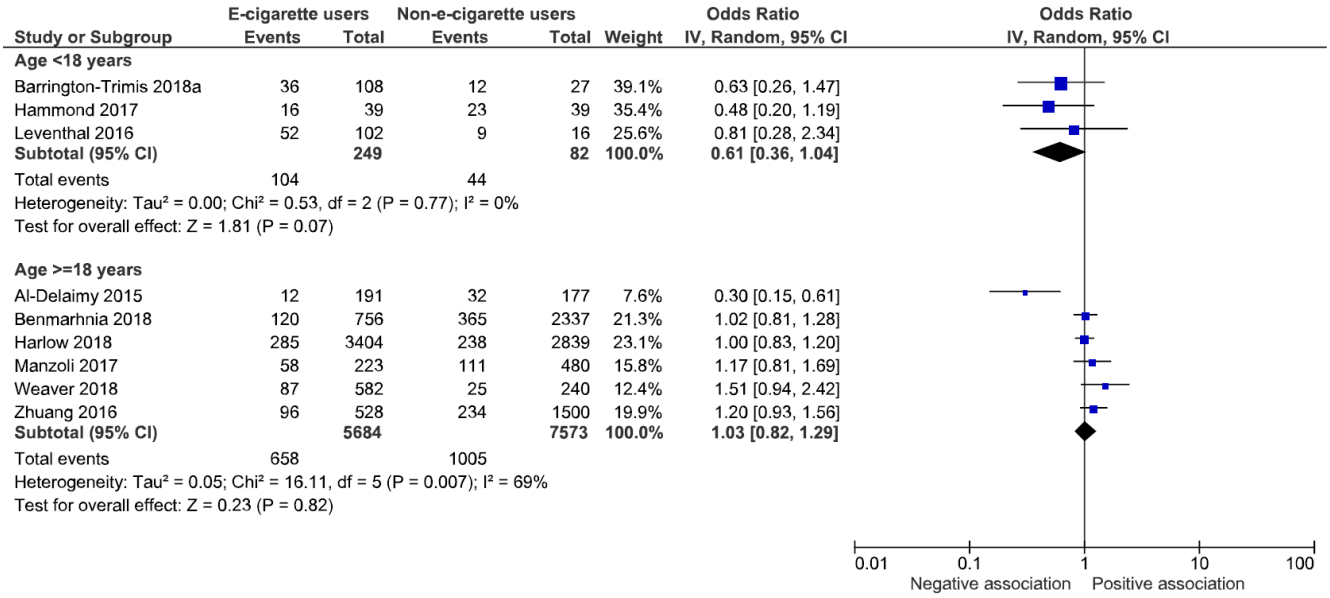


Figure S2. E-cigarette use and subsequent smoking cessation in cohort studies among adolescents (<18 years old) or adults (≥18 years old). Meta-analysis of a) unadjusted and b) adjusted odds of smoking cessation among e-cigarette users compared with non-e-cigarette users.

a)



b)

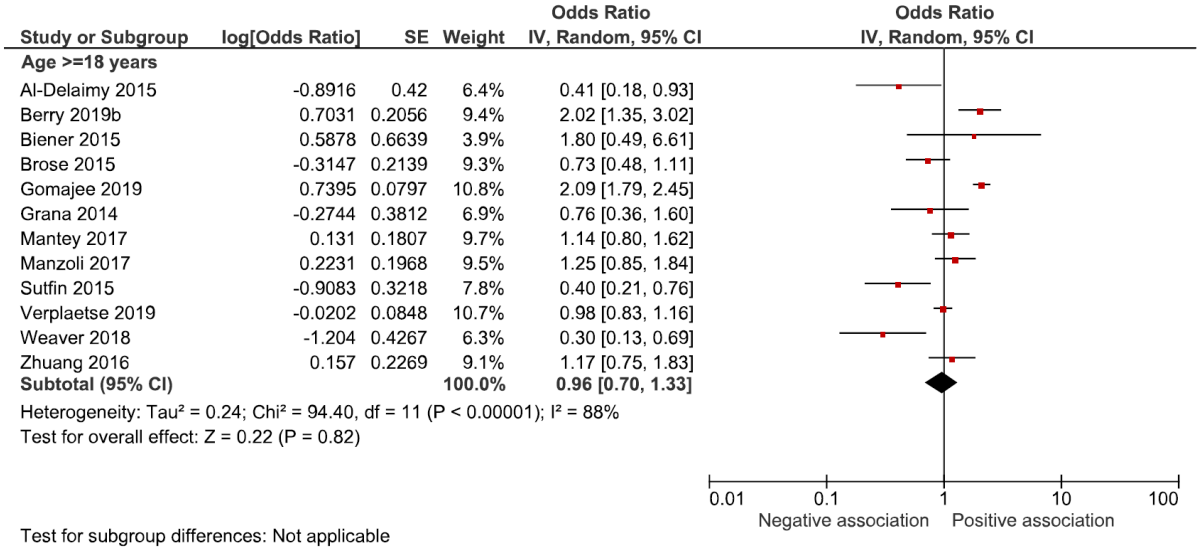


Figure S3. E-cigarette use and subsequent smoking cessation in cohort studies among women and men. Meta-analysis of adjusted odds of smoking cessation among e-cigarette users compared with non-e-cigarette users.

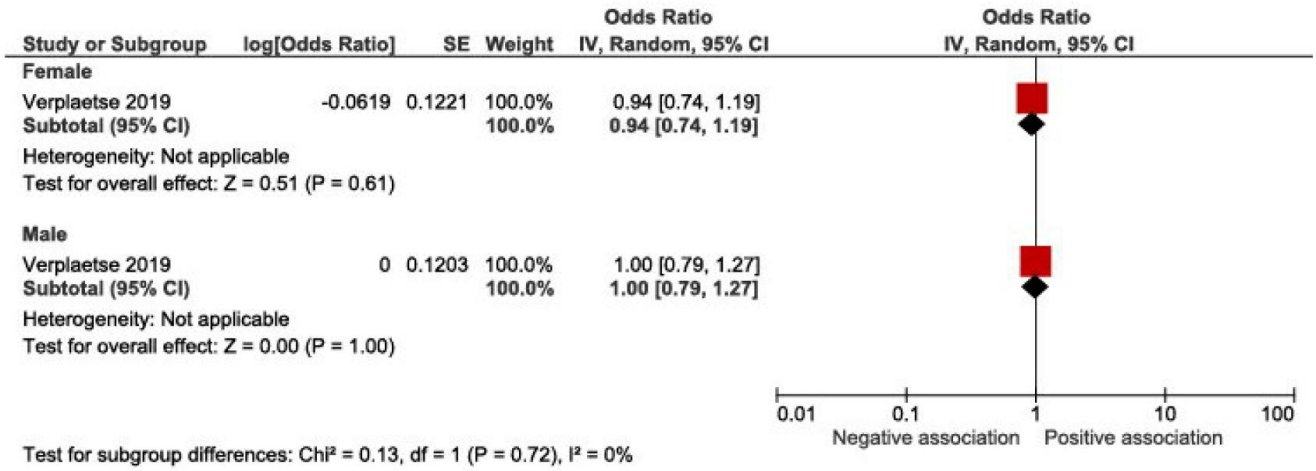


Figure S4. E-cigarette use and subsequent smoking cessation in RCTs with a short (≤6 months) or a long (>6 months) follow up time. Meta-analysis of odds of smoking cessation among e-cigarette users compared with non-e-cigarette users.

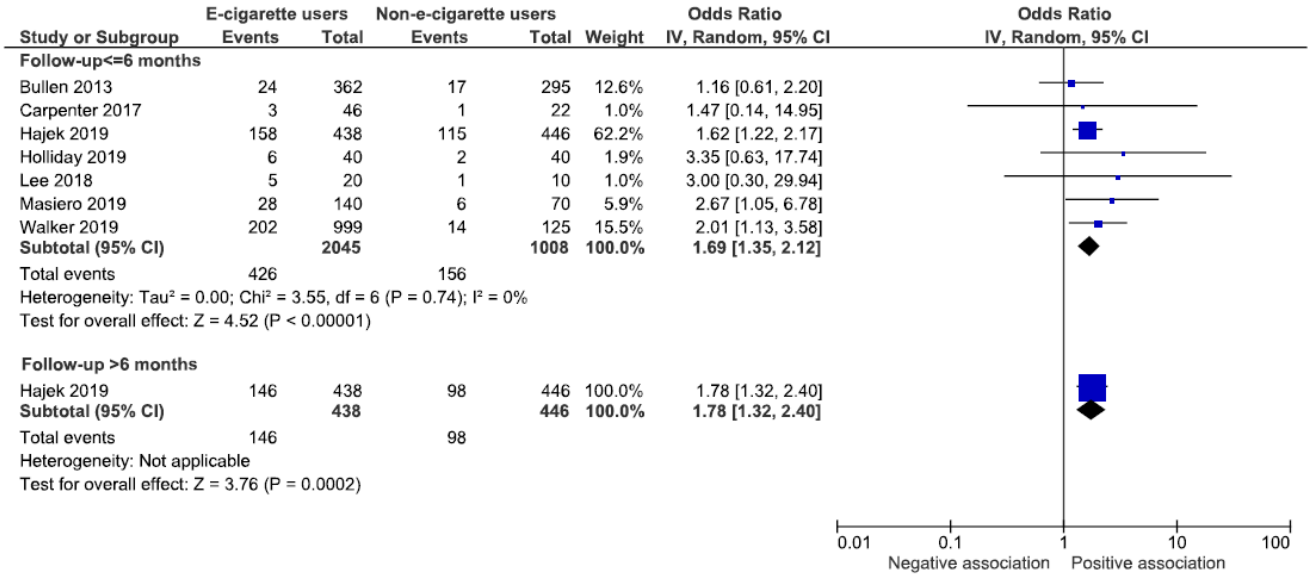


Figure S5. E-cigarette use and subsequent smoking cessation in RCTs among adults (≥18 years). Meta-analysis of odds of smoking cessation among e-cigarette users compared with non-e-cigarette users.

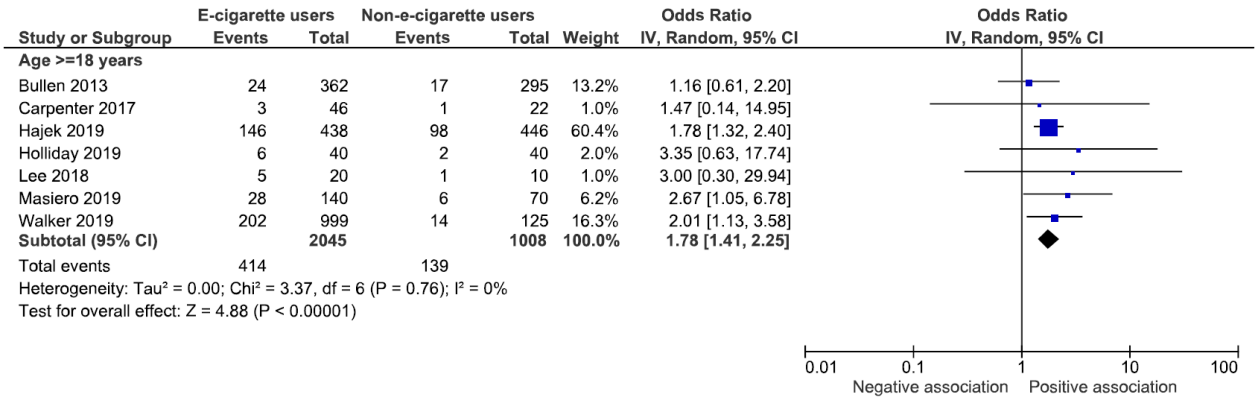
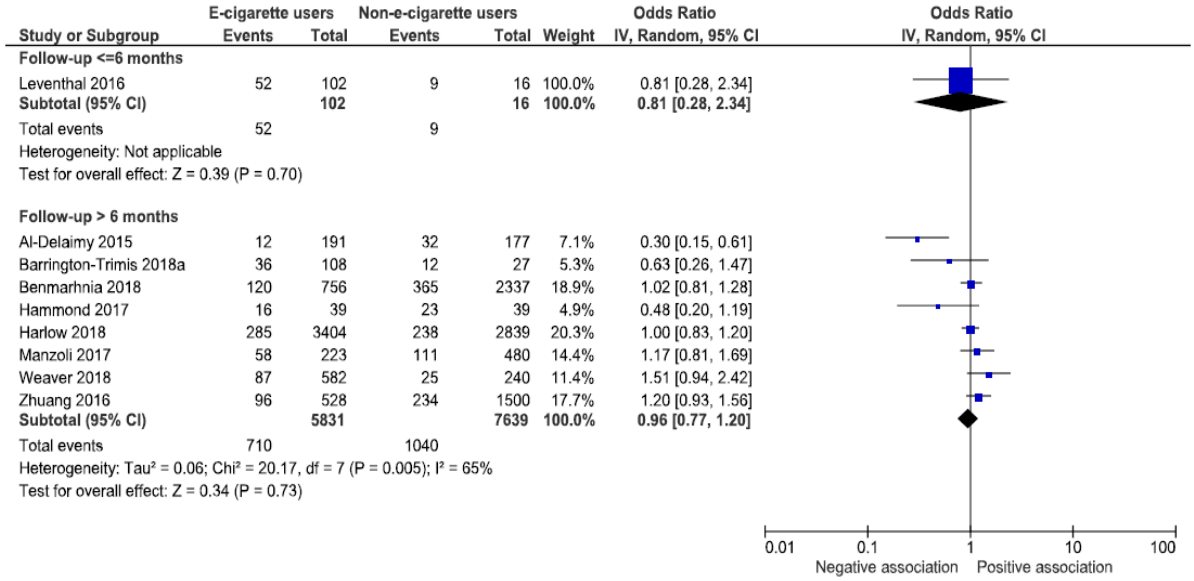


Figure S6. E-cigarette use and subsequent smoking cessation for at least 30 days in cohort studies with short (≤6 months) or a long (>6 months) follow-up time. Meta-analysis of a) unadjusted and b) adjusted odds of smoking cessation for at least 30 days among e-cigarette users compared with non-e-cigarette users.

a)



b)

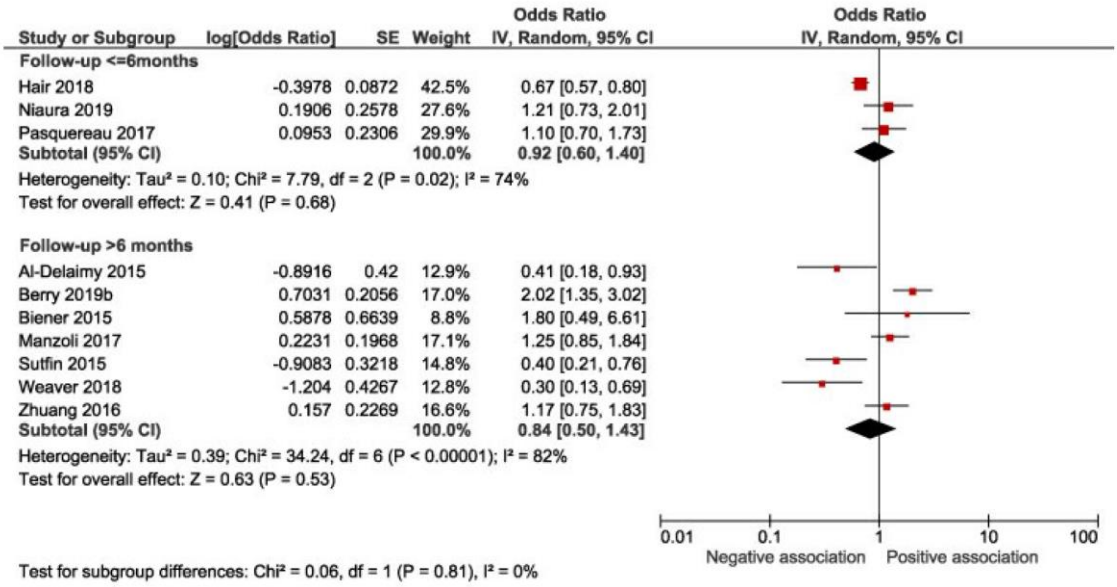
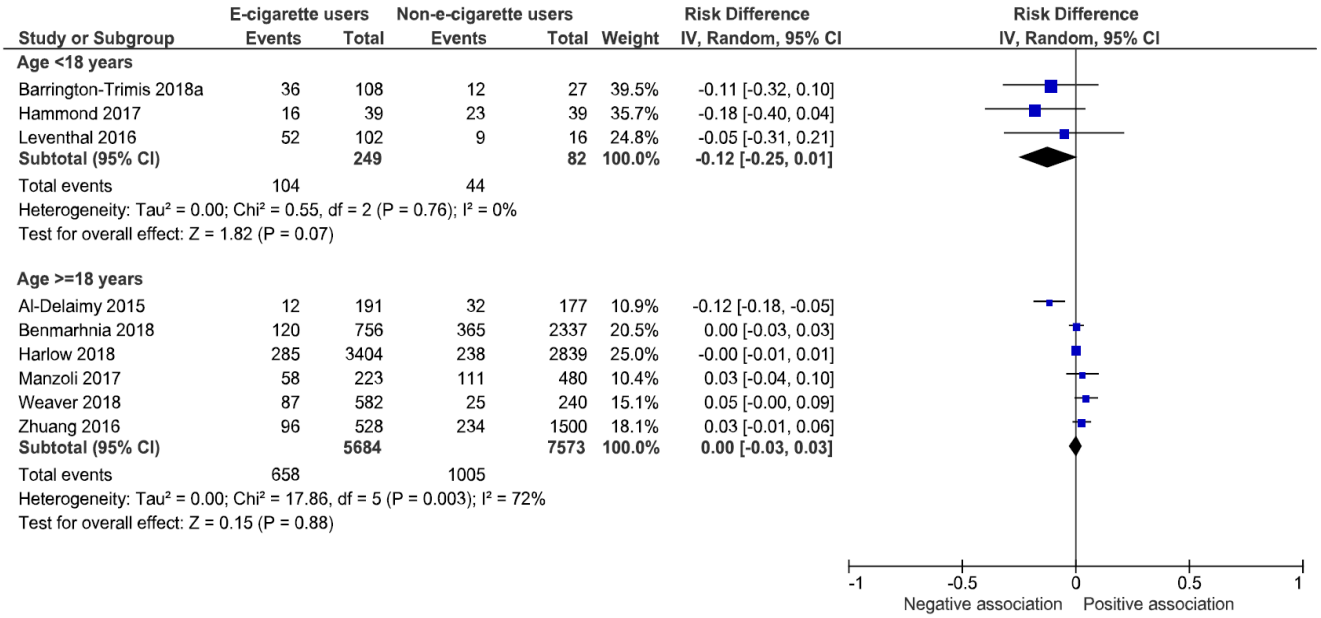


Figure S7. E-cigarette use and subsequent smoking cessation for at least 30 days in cohort studies among adolescents (<18 years old) or adults (≥18 years). Meta-analysis of a) unadjusted and b) adjusted odds of smoking cessation for at least 30 days among e-cigarette users compared with non-e-cigarette users. For the adjusted analyses (b), only studies of adults were available.

a)



b)

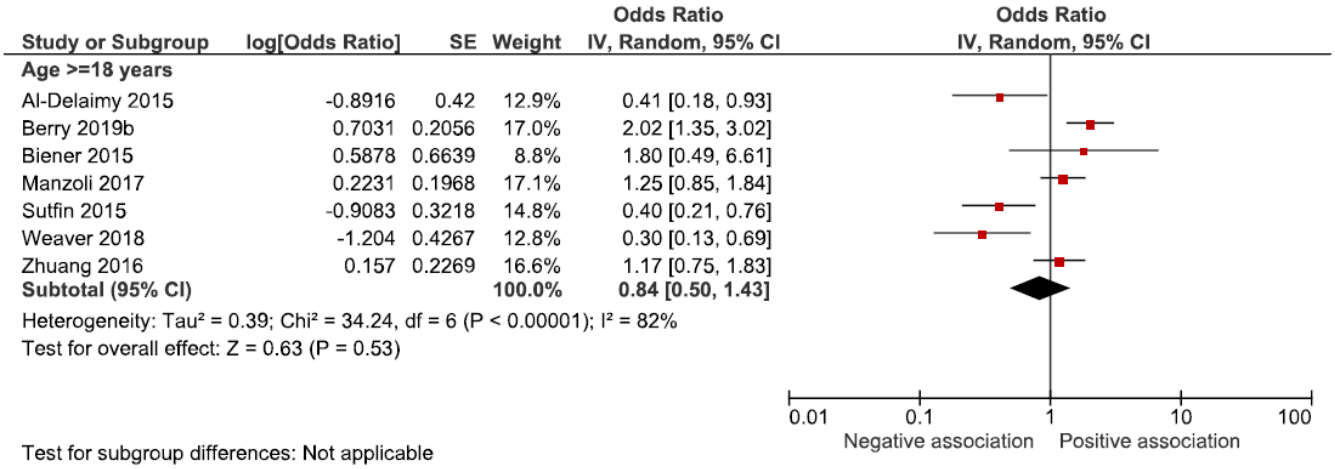


Figure S8. E-cigarette use and subsequent smoking cessation for at least 30 days in RCTs with short (≤6 months) or a long (>6 months) follow-up time. Meta-analysis of odds of smoking cessation for at least 30 days among e-cigarette users compared with non-e-cigarette users.

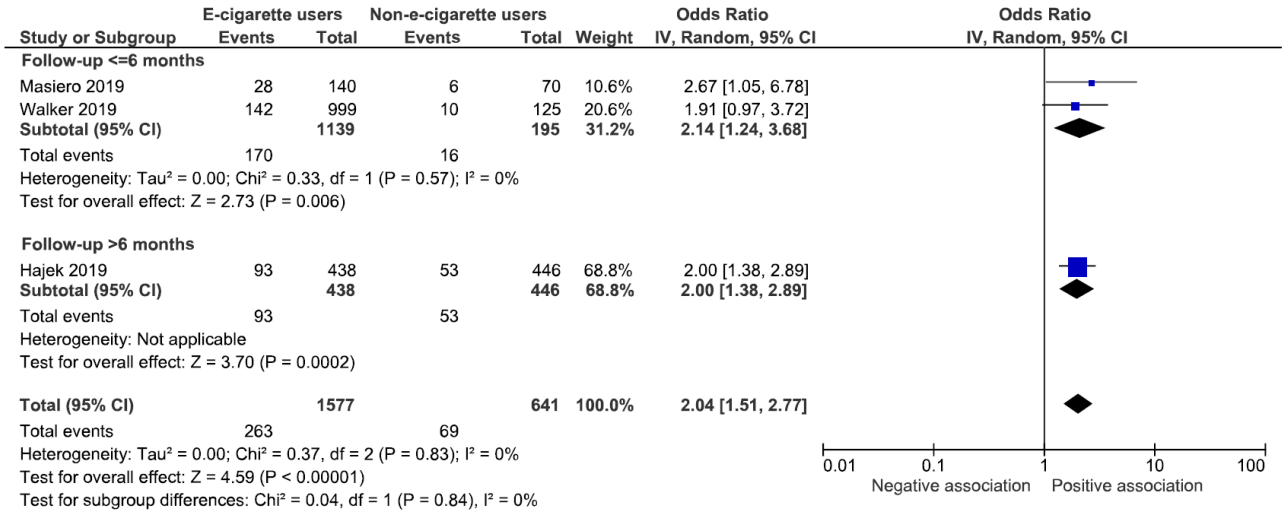


Figure S9. E-cigarette use and subsequent smoking cessation for at least 30 days in RCTs among adults (≥18 years). Meta-analysis of odds of smoking cessation for at least 30 days among e-cigarette users compared with non-e-cigarette users.

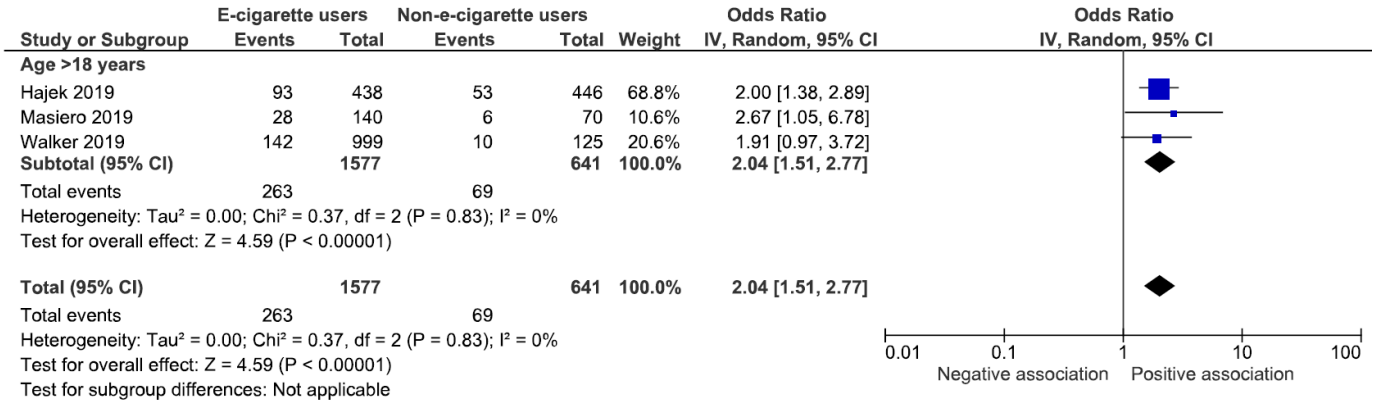


Figure S10A: Publication bias. Funnel plot displaying cohort studies describing unadjusted data for e-cigarette use and subsequent smoking cessation.

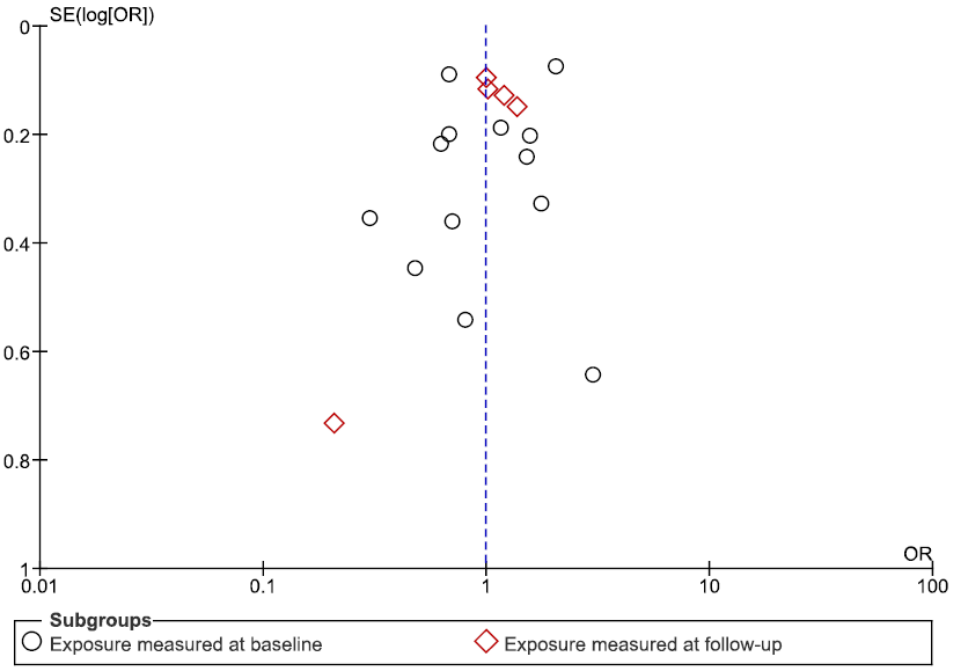


Figure S10B: Publication bias. Funnel plot displaying cohort studies describing adjusted data for e-cigarette use and subsequent smoking cessation.

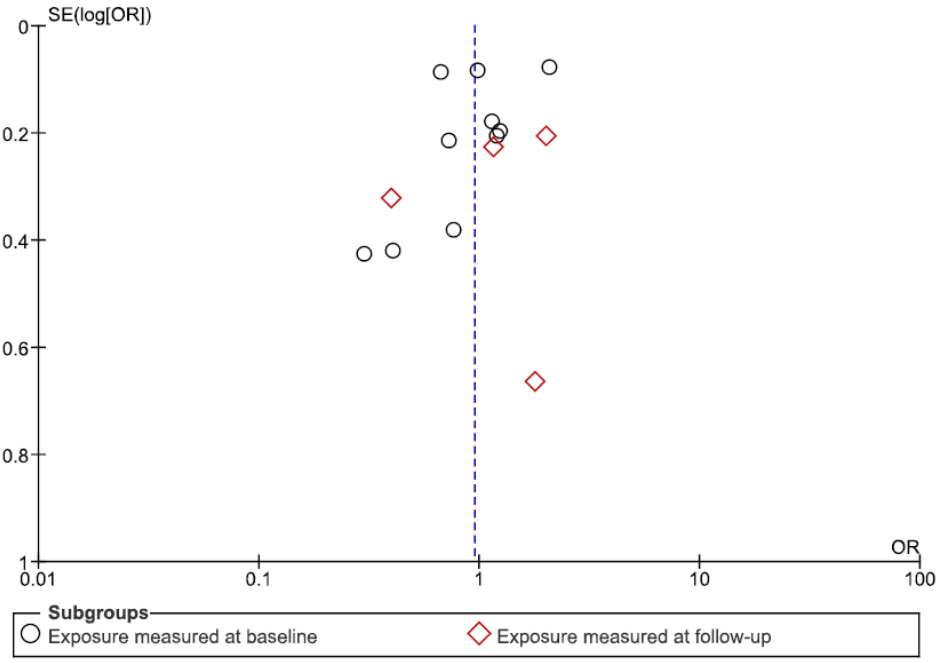


Figure S10C: Publication bias. Funnel plot displaying RCTs describing adjusted data for e-cigarette use and subsequent smoking cessation.

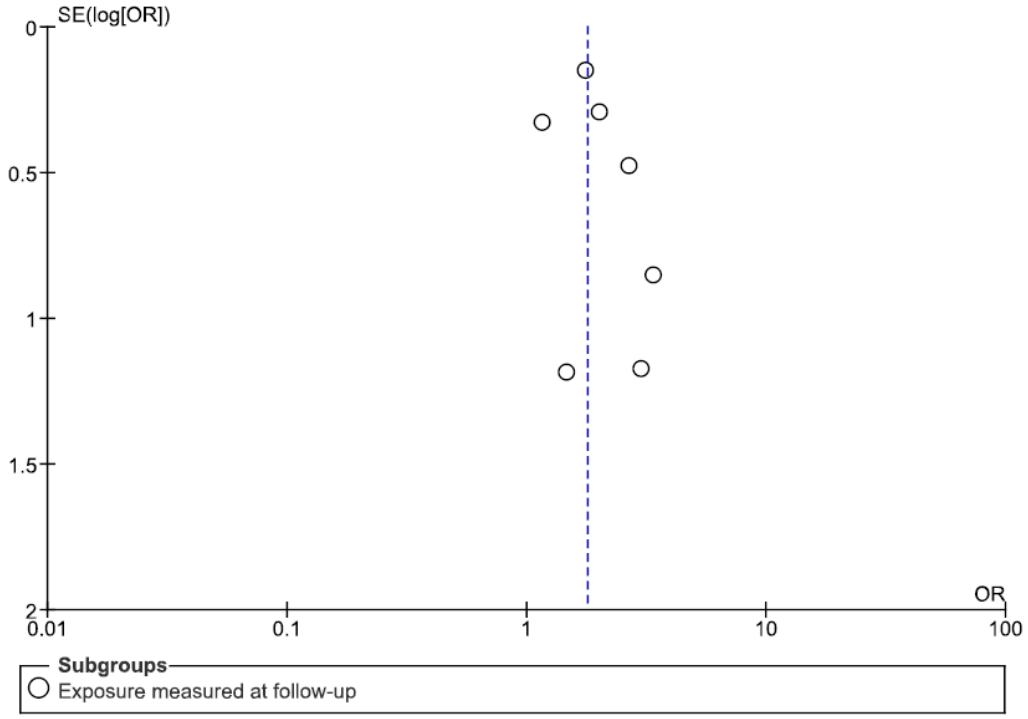


Table S1. Data search

PsycINFO via EBSCO 11 November 2019

Search terms		Items found
Electronic cigarettes		
1.	DE "Electronic Cigarettes"	1,198
2.	TX(E-Cig* OR "electronic cig*" OR "e-cig" OR "electronic nicotine" OR "electronic vapour" OR "electronic vapor" OR e-vapour OR e-vapor OR "vaporized nicotine" OR "vaporised nicotine" OR vape OR vaping OR vaper OR ((vapor OR vapour OR vaporizer OR vaporiser) AND (nicotine OR electronic)))	2,543
3.	*1 OR 2*	*2,543*
Smoking		
4.	DE "Tobacco Smoking" OR DE "Nicotine Withdrawal" OR DE "Smoking Cessation"	35,448
5.	TX(cigarillo OR cigarillos OR cigarr OR cigars OR ((Combust* OR conventional OR traditional) W3 (cigarette*)) OR dokha* OR "dual use*" OR hookah OR pipe OR smoke OR smoker OR smoking OR "tobacco cigarette" OR "tobacco cigarettes" OR tobacco OR "traditional cigarette" OR "traditional cigarettes" OR "water pipe")	67,845
6.	*4 OR 5*	*67,918*
Combined sets & limits		
7.	*3 AND 6*	*1,748*

Cochrane Library via Wiley 11 November 2019 (CDSR)

Search terms		Items found
Electronic cigarettes		
1.	[mh "Electronic Nicotine Delivery Systems"] OR [mh "Vaping"]	88
2.	("E-Cigarette" OR "E-Cigarettes" OR "electronic cigarette" OR "electronic cigarettes" OR "e-cig" OR "electronic nicotine delivery" OR "electronic nicotine device" OR "electronic nicotine devices" OR "electronic vapour product" OR e-vapour OR "vaporized nicotine" OR vape OR vaping OR vaper OR vapor):ti,ab	1139
3.	*1 OR 2*	*1146*
Smoking		
4.	[mh smoking] OR [mh "pipe smoking"] OR [mh "water pipe smoking"] OR [mh "smoking reduction"] OR [mh "tobacco smoking"] OR [mh "tobacco use disorder"] OR [mh "smoking cessation"] OR [mh "smoking prevention"]	5559
5.	(Cigarillo OR Cigarillos OR Cigarr OR Cigars OR "combustible tobacco" OR "combustible cigarette" OR "combustible cigarettes" OR "conventional cigarettes" OR "conventional cigarette" OR Dokha* OR "dual user*" OR hookah OR pipe OR smoke OR smoker OR smoking OR "tobacco cigarette" OR "tobacco cigarettes" OR tobacco OR "traditional cigarette" OR "traditional cigarettes" OR "water pipe"):ti,ab	29691
6.	*4 OR 5*	*30001*
Combined sets		
7.	*3 AND 6*	*21*

Embase via Elsevier 11 November 2019

	Search terms	Items found
Electronic cigarettes		
1.	'electronic cigarette'/de OR 'vaping'/de	4,531
2.	("E-Cig*" OR "electr* cigar*" OR "electronic nicotine" OR "electronic vapour product" OR "electronic vapor product" OR (ENDS NEAR/3 nicotine) OR ecigg or ecigarette* OR e-vapour OR e-vapor OR "vaporized nicotine" OR "vaporised nicotine" OR vape OR vaping OR vaper OR vapers):ti,ab OR ((vapor:ti,ab OR vapour:ti,ab OR vaporizer:ti,ab OR vaporiser:ti,ab) AND nicotine:ti,ab)	4,438
3.	*1 OR 2*	*5,062*
Smoking		
4.	'smoking'/de OR 'adolescent smoking'/exp OR 'cigar smoking'/exp OR 'cigarette smoking'/exp OR 'pipe smoking'/de OR 'parental smoking'/exp OR 'smoking habit'/exp OR 'smoking cessation'/de OR 'smoking reduction'/de OR 'tobacco'/de OR 'tobacco dependence'/de OR 'tobacco smoke'/de OR 'water pipe'/de	373,309
5.	(cigarillo OR cigarillos OR cigarr OR cigars OR ((Combustible OR conventional) NEAR/3 (cigarette*)) OR dokha* OR "dual user*" OR hookah OR smoke OR smoker OR smoking OR tobacco OR "traditional cigarette" OR "traditional cigarettes" OR "water pipe"):ti,ab	333,456
6.	*4 OR5*	*447,034*
Combined sets		
7.	*3 AND 6*	*4,383*

Medline via OvidSP 11 November 2019

	Search terms	Items found
Electronic cigarettes		
1.	"Electronic Nicotine Delivery Systems"/ OR "Vaping"/	2876
2.	("E-Cigarette" OR "E-Cigarettes" OR "electr* cigar*" OR "e-cig*" OR "electronic nicotine" OR "electronic vapour product" OR (ENDS adj3 nicotine) OR ecigg* or ecigarette* OR e-vapour OR e-vapor OR "vaporized nicotine" OR "vaporised nicotine" OR vape OR vaping OR vaper OR vapers).ti,ab	4857
3.	(vapor OR vapour OR vaporizer OR vaporiser).ti,ab	44656
4.	limit 3 to "pubmed not medline"	19299
5.	*1 OR 2 OR 4*	*24367*
Tobacco smoking		
6.	smoking/ or pipe smoking/ or water pipe smoking/ or smoking reduction/ or exp "tobacco smoking"/ OR "tobacco use disorder"/ OR "smoking Cessation"/ OR "smoking Prevention"/ OR tobacco products/ OR Tobacco, Waterpipe/	162064
7.	(Cigarillo OR Cigarillos OR Cigarr OR Cigars OR ((Combustible OR conventional OR traditional) ADJ3 (cigarette*)) OR Dokha* OR "dual user*" OR hookah OR pipe OR smoke OR smoker OR smoking OR "tobacco cigarette" OR "tobacco cigarettes" OR tobacco OR "water pipe").ti,ab	298349
8.	*6 OR 7*	*340609*
Combined sets and limits		
9.	*5 AND 8*	*4188*

Scopus via Elsevier 11 November 2019

Search terms		Items found
Electronic cigarettes		
1.	TITLE-ABS-KEY ("E-Cigarette" OR "E-Cigarettes" OR "electronic cigarette" OR "electronic cigarettes" OR "e-cig" OR "electronic nicotine delivery" OR "electronic nicotine device" OR "electronic nicotine devices" OR (electronic PRE/1 vapo*) OR e-vapour OR e-vapor OR "vaporized nicotine" OR "vaporised nicotine" OR vape OR vaping OR vaper)	6,183
Smoking		
2.	TITLE-ABS-KEY (cigarillo OR cigarillos OR cigarr OR cigars OR "combustible tobacco" OR "combusted tobacco" OR "combustible cigarette" OR "combustible cigarettes" OR "conventional cigarettes" OR "conventional cigarette" OR dokha* OR "dual user" OR "dual users" OR hookah OR pipe OR smoke OR smoker OR smoking OR "tobacco cigarette" OR "tobacco cigarettes" OR tobacco OR "traditional cigarette" OR "traditional cigarettes" OR "water pipe")	779,157
Combined sets & limits		
3	*1 AND 2*	*5,224*

Table S2. Conflict of interest.		
Reference	**Conflict of interest/financial disclosures**	**Declaration of funding** [1]
Al-Delaimy WK, Myers MG, Leas EC, Strong DR, Hofstetter CR. Ecigarette use in the past and quitting behavior in the future: a populationbased study. Am J Public Health 2015;105:1213-9.	NA	NA
Barrington-Trimis J. L., Bello M. S., Liu F., Leventhal A. M., Kong G., Mayer M., et al. Ethnic Differences in Patterns of Cigarette and E-Cigarette Use Over Time Among Adolescents. Journal of Adolescent Health 2019;65:359–65.	The authors have no conflicts of interest to disclose.	Research reported in this publication was supported by grant number [Grant number] ([Author], [Author], [Author], [Author], [Author]) from the National Cancer Institute at the National Institutes of Health (NIH) and the Food and Drug Administration (FDA) Center for Tobacco Products (CTP), and grant numbers [Grant number] ([Author]), [Grant number] ([Author], [Author], [Author]), [Grant number] ([Author]) from the National Institute on Drug Abuse at NIH, and [Grant number] ([Author]) from

[1] Information provided in the conflict-of-interest and funding section of the publication. Names of persons have been replaced with [Author] or [Name]. Specific information on funding has been replaced with [Grant number]/ [Award number] or [Project number]. NA: no information available.

		the National Science Foundation Graduate Research Fellowship Program. The funder had no role in the design and conduct of the study; collection, management, analysis, or interpretation of the data; or preparation, review, or approval of the article.
Barrington-Trimis J. L., Kong G., Leventhal A. M., Liu F., Mayer M., Cruz T. B., et al. E-cigarette Use and Subsequent Smoking Frequency Among Adolescents. Pediatrics 2018;142.	The authors have no conflicts of interest relevant to this article to disclose. The authors have no financial relationships relevant to this article to disclose.	Funding Source: Research reported in this publication was supported by grant number [Grant number] ([Author], [Author], [Author], [Author], [Author]) from the National Cancer Institute at the National Institutes of Health (NIH) and the Food and Drug Administration (FDA) Center for Tobacco Products (CTP), and grant numbers [Grant number] ([Author]), [Grant number] ([Author], [Author], [Author]), and [Grant number] ([Author]) from the National Institute for Drug Abuse at NIH. The funder had no role in the design and conduct of the study; collection, management, analysis, or interpretation of the data; or preparation, review, or approval of the manuscript.
Benmarhnia T, Pierce JP, Leas E, White MM, Strong DR, Noble ML, et al. Can E-Cigarettes and Pharmaceutical Aids Increase Smoking Cessation and Reduce Cigarette Consumption? Findings From a Nationally Representative Cohort of American Smokers. American Journal of Epidemiology 2018;187:2397-2404.	None declared	This work was supported by funds from the Tobacco Related Disease Research Program ([Grant number]) and the National Heart, Lung and Blood Institute (Grant [Grant number]).
Berry K. M., Reynolds L. M., Collins J. M., Siegel M. B., Fetterman J. L., Hamburg N. M., et al. E-cigarette initiation and associated changes in smoking cessation and reduction: the Population Assessment of Tobacco and Health Study, 2013-2015. Tobacco Control 2019;28:42-49.	None declared.	Research reported in this publication was supported by the National Heart, Lung, and Blood Institute of the National Institutes of Health and the Center for Tobacco Products under Award Number

		[Award number]. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the Food and Drug Administration.
Biener L., Hargraves J. L. A longitudinal study of electronic cigarette use among a population-based sample of adult smokers: association with smoking cessation and motivation to quit. Nicotine & Tobacco Research 2015;17:127-33.	None declared	This work was supported by a grant from the US National Cancer Institute, grant [Grant number].
Brose L. S., Hitchman S. C., Brown J., West R., McNeill A. Is the use of electronic cigarettes while smoking associated with smoking cessation attempts, cessation and reduced cigarette consumption? A survey with a 1-year follow-up. Addiction 2015;110:1160-8.	[Author] has received an unrestricted grant from Pfizer, [Author]. undertakes research and consultancy and receives fees for speaking from companies that develop and manufacture smoking cessation aids (Pfizer, J&J, McNeil, GSK, Nabi, Novartis and Sanofi-Aventis). [Author], [Author] and [Author] have no relationships with companies that might have an interest in the submitted work. There are no other financial relationships with any organizations that might have an interest in the submitted work, particularly electronic cigarette companies, and there are no other relationships or activities that could appear to have influenced the submitted work.	All authors are part of the UK Centre for Tobacco and Alcohol Studies, a UK Clinical Research Collaboration Public Health Research: Centre of Excellence. Funding from the Medical Research Council, British Heart Foundation, Cancer Research UK, Economic and Social Research Council and the National Institute for Health Research under the auspices of the UK Clinical Research Collaboration is gratefully acknowledged ([Grant number]). The funders played no role in the study design, collection, analysis and interpretation of the data, in the writing of the manuscript and in the decision to submit this manuscript for publication. We are grateful to the International Tobacco Control Policy Evaluation Project for the use of some of their questions on e-cigarettes and to Ipsos MORI for their support.
Bullen C., Howe C., Laugesen M., McRobbie	We declare that we have received no support from any companies for the submitted work and have no	The e-cigarettes and cartridges were Elusion brand products provided by PGM International,

H., Parag V., Williman J., et al. Electronic cigarettes for smoking cessation: a randomised controlled trial. Lancet 2013;382:1629-37.	non-financial interests that might be relevant to the submitted work. [Author], via his company Health New Zealand, previously did research funded by Ruyan (an ecigarette manufacturer). [Author] and [Author] have done research on Ruyan e-cig arettes funded by Health New Zealand, independently of Ruyan. [Author] has received honoraria for speaking at research symposia, has received benefits in kind and travel support from, and has provided consultancy to, the manufacturers of smoking cessation drugs. [Author] has provided consultancy to the manufacturers of smoking cessation drugs, received honoraria for speaking at a research meeting and received benefits in kind and travel support from a manufacturer of smoking cessation drugs. [Author] has provided consultancy to the manufacturers of smoking cessation medications.	New Zealand. PGM International had no role in the study design, data collection, data analysis, data interpretation, or writing of this report.
Carpenter M. J., Heckman B. W., Wahlquist A. E., Wagener T. L., Goniewicz M. L., Gray K. M., et al. A Naturalistic, Randomized Pilot Trial of E-Cigarettes: Uptake, Exposure, and Behavioral Effects. Cancer Epidemiology, Biomarkers & Prevention 2017;26:1795-1803.	[Author] is a consultant/advisory board member for Johnson & Johnson. [Author] reports receiving a commercial research grant from and is a consultant/advisory board member for Pfizer Inc., and has provided expert witness testimony for various plaintiffs in lawsuits involving cigarette manufacturers. No potential conflicts of interest were disclosed by the other authors.	Support was provided by NIH [Grant number] (to [Author]), [Grant number] (to [Author], [Author], and [Author], [Grant number], and [Grant number]. [Author]'s laboratory is supported via [Grant number]. [Author] is supported via [Grant number] and [Grant number]. [Author]'s effort is partially supported by the Oklahoma Tobacco Research Center, which is funded by the Oklahoma Tobacco Settlement Endowment Trust.
Chen J. C. Flavored E-cigarette Use and Cigarette Smoking Reduction and Cessation- A Large National Study among Young Adult Smokers. Substance Use & Misuse 2018;53:2017-2031.	The author report no conflicts of interest. The author alone is responsible for the content and writing of the article.	NA

Curry E., Nemeth J. M., Wermert A., Conroy S., Shoben A., Ferketich A. K., et al. A descriptive report of electronic cigarette use after participation in a community-based tobacco cessation trial. Nicotine & Tobacco Research 2018;20:135-9.	None declared.	This study was supported by NIH grants [Grant number] and [Grant number].
Flacco M. E., Ferrante M., Fiore M., Marzuillo C., La Vecchia C., Gualano M. R., et al. Cohort study of electronic cigarette use: Safety and effectiveness after 4 years of follow-up. European Review for Medical and Pharmacological Sciences 2019;23:402-12.	None of the authors declare any potential conflict of interests.	The first two years of the study were unfunded. The last two years of follow-up were funded by a research grant from the University of Catania and through crowdfunding (Kickstarter project titled "E-cigarette long-term efficacy and safety: a study to complete"). Besides 7 authors ([Author], [Author], [Author], [Author], [Author], [Author], [Author]) and 7 anonymous contributors, who donated a total of €565 and €80, respectively, all other contributors are private citizens who had no role in any phase of the study. We are indebted with all of them: [Name], [Name].
Gomajee R., El-Khoury F., Goldberg M., Zins M., Lemogne C., Wiernik E., et al. Association between Electronic Cigarette Use and Smoking Reduction in France. JAMA Internal Medicine 2019;179:1193-1200.	[Author] reported receiving personal fees from Janssen-Qlag, personal fees and nonfinancial support from Lundbeck. and nonfinancial support from Otsuka Pharmaceutical outside the submitted work. [Author], [Author], [Author], and [Author] reported receiving grants from INCA during the conduct of the study. No other disclosures were reported.	The CONSTANCES (Consultants des Centres d'Examens de Sante) Cohort Study was supported and funded by the Caisse nationals d'assu ranee maladie des travailleurs salaries. The CONSTANCES Cohort Study is an "Infrastructure nationale en Biologie et Sante" Is funded by grant [Grant

		number] from Agence Nationale de la Recherche. CONSTANCES is also partly funded by MSD, AstraZeneca, and Lundbeck. The present analyses were supported by grant [Grant number] from Institut National du Cancer. The funding sources had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.
Grana R. A., Popova L., Ling P. M. A longitudinal analysis of electronic cigarette use and smoking cessation. JAMA Internal Medicine 2014;174:812-3.	None reported.	Data originate from a study funded by the National Cancer Institute: [Grant number] (to [Author]. and [Author]). [Author] is supported by Tobacco-Related Disease Research Program (TRDRP) grant [Grant number]. The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.
Hair E. C., Romberg A. R., Niaura R., Abrams D. B., Bennett M. A., Xiao H., et al. Longitudinal Tobacco Use Transitions Among Adolescents and Young Adults: 2014-2016. Nicotine & Tobacco Research 2018;13:13.	None declared.	This study was funded by Truth Initiative.
Hajek P., Phillips-Waller A., Przulj D., Pesola F., Myers Smith K., Bisal N., et al. A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy. New England Journal of Medicine 2019;380:629-37.	[Author] reports personal fees from Johnson & Johnson, outside the submitted work. [Author] reports personal fees from Johnson and Johnson, outside the submitted work. [Author] reports grants and personal fees from Pfizer, outside	Supported by the National Institute for Health Research (NIHR) Health Technology Assessment Programme (project number, [Project number]) and by a grant

	the submitted work. [Author] reports grants from NCCHTA, during the conduct of the study. [Author] reports grants from NIHR HTA programme, during the conduct of the study; personal fees from Pfizer, personal fees from Johnson & Johnson, outside the submitted work. [Author] reports grants from Pfizer, outside the submitted work.	[Grant number] from the Cancer Research UK Prevention Trials Unit.
Hammond D., Reid J. L., Cole A. G., Leatherdale S. T. Electronic cigarette use and smoking initiation among youth: a longitudinal cohort study. CMAJ Canadian Medical Association Journal 2017;189:E1328–36.	None declared.	The COMPASS study was supported by a bridge grant from the Canadian Institutes of Health Research (CIHR) Institute of Nutrition, Metabolism and Diabetes through the Obesity — Interventions to Prevent or Treat priority funding awards ([Award number], awarded to [Author]) and an operating grant from the CIHR Institute of Population and Public Health ([Grant number], awarded to [Author]). Additional support for this paper was provided by an Ontario Ministry of Health and Long-Term Care Health Systems Research Fund grant ([Grant number], awarded to [Author]), a CIHR New Investigator Award (awarded to [Author]), a CIHR Doctoral Research Award — Frederick Banting and Charles Best Canada Graduate Scholarship (awarded to [Author]) and CIHR Public Health Agency of Canada Chairs in Applied Public Health (awarded to [Author] and [Author]). The researchers are independent from all sources of funding; the study sponsors had no role in study design; the collection, analysis or interpretation of data; the writing of the article; or

		the decision to submit it for publication.
Harlow A. F., Stokes A., Brooks D. R. Socioeconomic and Racial/Ethnic Differences in E-Cigarette Uptake among Cigarette Smokers: Longitudinal Analysis of the Population Assessment of Tobacco and Health (PATH) Study. Nicotine and Tobacco Research 2019;21:1385-93.	The authors of this manuscript have no competing interests to disclose.	Research was supported by the National Heart, Lung, and Blood Institute of the National Institutes of Health and the Center for Tobacco Products under Award Number [Award number].
Holliday R., Preshaw P. M., Ryan V., Sniehotta F. F., McDonald S., Bauld L., et al. A feasibility study with embedded pilot randomised controlled trial and process evaluation of electronic cigarettes for smoking cessation in patients with periodontitis. Pilot & Feasibility Studies 2019;5:74.	The authors declare that they have no competing interests.	[Author] is funded by a National Institute for Health Research Doctoral Research Fellowship ([Grant umbner]). This paper presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care
Kasza K. A., Borek N., Conway K. P., Goniewicz M. L., Stanton C. A., Sharma E., et al. Transitions in Tobacco Product Use by U.S. Adults between 2013-2014 and 2014-2015: Findings from the PATH Study Wave 1 and Wave 2. International Journal of Environmental Research & Public Health 2018;15:09.	[Author] reports long-term stock holdings in General Electric, the 3M Companies, and Pfizer Incorporated, unrelated to this manuscript; [Author] has received grant funding from Pfizer, Inc., to study the impact of a hospital-based tobacco cessation intervention. [Author] also receives funding as an expert witness in litigation filed against the tobacco industry; [Author] receives fees for serving on an advisory board from Johnson & Johnson and grant support from Pfizer outside of the submitted work; [Author] reports having been a witness for plaintiffs vs. tobacco companies, receiving speaker fees, receiving honoraria, sitting on advisory boards, being a site PI, and consulting for pharmaceutical company testing and marketing smoking cessation aids, but not in the last six years.	This manuscript is supported with Federal funds from the National Institute on Drug Abuse, National Institutes of Health, and the Center for Tobacco Products, Food and Drug Administration, Department of Health and Human Services, under a contract to Westat [Contract number].

	[Author] has a Senior Investigator Award from the Ontario Institute for Cancer Research and Prevention Scientist Award from the Canadian Cancer Society Research Institute. [Author] reports preparing this article while employed at the NIH/National Institute on Drug Abuse. No other potential conflict of interest relevant to this manuscript was reported.	
Kurti A. N., Bunn J. Y., Villanti A. C., Stanton C. A., Redner R., Lopez A. A., et al. Patterns of Single and Multiple Tobacco Product Use Among US Women of Reproductive Age. Nicotine & Tobacco Research 2018;20:S71-S80.	None declared	This project was completed as part of the collaborative research being conducted by the National Institutes of Health (NIH) and US Food and Drug Administration (FDA) Tobacco Centers of Regulatory Science (TCORS) Vulnerable Populations Working Group. Support came from TCORS award [Award number] from the National Institute on Drug Abuse (NIDA) and FDA, TCORS award [Award number] from the National Cancer Institute (NCI) and FDA, Center for Evaluation and Coordination of Training and Research award [Award number] from NCI and FDA, Institutional Training Grant award [Award number] from NIDA, and Centers of Biomedical Research Excellence [Award number] award from the National Institute on General Medical Sciences. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or FDA. This supplement was sponsored

		by the Center for the Evaluation and Coordination of Training and Research for Tobacco Regulatory Science ([Grant number]).
Lee S. H., Ahn S. H., Cheong Y. S. Effect of Electronic Cigarettes on Smoking Reduction and Cessation in Korean Male Smokers: A Randomized Controlled Study. Journal of the American Board of Family Medicine: JABFM 2019;32:567-74.	None declared	None
Lee S. M., Tenney R., Wallace A. W., Arjomandi M. E-cigarettes versus nicotine patches for perioperative smoking cessation: a pilot randomized trial. PeerJ 2018;6:e5609.	The authors declare there are no competing interests.	This work was funded by internal UCSF Department of Anesthesia and Perioperative Care funds (San Francisco, California, United States of America) and the UCSF Resource Allocation Program grant, administered by the Helen Diller Family Comprehensive Cancer Center developmental funds from the National Cancer Institute Cancer Center Support Grant ([Grant number]). Ecigarettes were purchased from NJOY using these funds. NJOY had no involvement in the design, execution, or analysis of the study. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.
Leventhal A. M., Stone M. D., Andrabi N., Barrington-Trimis J., Strong D. R., Sussman S., et al. Association of e-Cigarette Vaping and Progression to Heavier Patterns of Cigarette Smoking. JAMA 2016;316:1918–20.	The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.	This research was supported by grants [Grant number] and [Grant number] from the National Institutes of Health. The National Institutes of Health had no role in the design and conduct of the study; collection, management, analysis,

		and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.
Leventhal A. M., Strong D. R., Kirkpatrick M. G., Unger J. B., Sussman S., Riggs N. R., et al. Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence. JAMA 2015;314:700–7.	The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.	This research was supported by grants [Grant number] and [Grant number] from the National Institutes of Health. The National Institutes of Health had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.
Mantey D. S., Cooper M. R., Loukas A., Perry C. L. E-cigarette Use and Cigarette Smoking Cessation among Texas College Students. American Journal of Health Behavior 2017;41:750-59.	No conflicts of interest to declare.	Research reported in this presentation was supported by grant number [Grant number] from the National Cancer Institute and the FDA Center for Tobacco Products (CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.
Manzoli L., Flacco M. E., Ferrante M., La Vecchia C., Siliquini R., Ricciardi W., et al. Cohort study of electronic cigarette use: effectiveness and safety at 24 months. Tobacco Control 2017;26:284-92.	None declared	The first 2 years of the study were unfunded. The next 3 years of follow-up are going to be funded through crowdfunding (Kickstarter project titled ‘E-cigarette longterm efficacy & safety: a study to complete’). Besides seven authors ([Author], [Author], [Author], [Author], [Author], [Author]) and seven anonymous contributors, who donated a total of €515 and €80, respectively, all other contributors are private

		citizens. The authors are indebted to all of them: [Name], [Name] and Name].
Masiero M., Lucchiari C., Mazzocco K., Veronesi G., Maisonneuve P., Jemos C., et al. E-cigarettes May Support Smokers With High Smoking-Related Risk Awareness to Stop Smoking in the Short Run: Preliminary Results by Randomized Controlled Trial. Nicotine & Tobacco Research 2019;21:119-26.	The authors declare no conflicts of interest.	This study was supported by a grant from Fondazione Umberto Veronesi (FUV).
Niaura R., Rich I., Johnson A. L., Villanti A. C., Romberg A. R., Hair E. C., et al. Young Adult Tobacco and E-cigarette Use Transitions: Examining Stability using Multi-State Modeling. Nicotine & Tobacco Research 2019;01:01.	[Author] receives funding from the Food and Drug Administration Center for Tobacco Products via contractual mechanisms with Westat and the National Institutes of Health. Within the past 3 years, he has served as a paid consultant to the Government of Canada via a contract with Industrial Economics Inc and has received an honorarium for a virtual meeting from Pfizer Inc. The other authors have no conflicts of interest to disclose.	This study was funded by Truth Initiative, but the views in this article do not necessarily represent those of Truth Initiative.
O'Brien B., Knight-West O., Walker N., Parag V., Bullen C. E-cigarettes versus NRT for smoking reduction or cessation in people with mental illness: secondary analysis of data from the ASCEND trial. Tobacco Induced Diseases 2015;13:5.	We declare that we have received no support from any companies for the submitted work and have no non-financial interests that might be relevant to the submitted work. [Author] has undertaken research on Ruyan e-cigarettes funded by Health NZ, independently of Ruyan. [Author] has provided consultancy to the manufacturers of smoking cessation drugs, received honoraria for speaking at a research meeting and received benefits in kind and travel support from a manufacturer of smoking cessation drugs.	Funding for this study was provided by the Health Research Council of NZ Grant ([Grant number]); the Health Research Council had no further role in study design; in the collection, analysis and interpretation of data; in the writing of the report; or in the decision to submit the paper for publication.

Pasquereau A., Guignard R., Andler R., Nguyen-Thanh V. Electronic cigarettes, quit attempts and smoking cessation: a 6-month follow-up. Addiction 2017;112:1620-28.	None	NA
Piper M. E., Baker T. B., Benowitz N. L., Jorenby D. E. Changes in Use Patterns over 1 year Among Smokers and Dual Users of Combustible and electronic cigarettes. Nicotine & Tobacco Research 2019;22:672-80.	The authors have no conflicts of interest to declare.	Research reported in this publication was supported by the National Cancer Institute (NCI) and US Food and Drug Administration Center for Tobacco Products (CTP) grant [Grant number] and analytical chemistry resource grants [Grant number] and [Grant number]. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.
Sutfin E. L., Reboussin B. A., Debinski B., Wagoner K. G., Spangler J., Wolfson M. The Impact of Trying Electronic Cigarettes on Cigarette Smoking by College Students: A Prospective Analysis. American Journal of Public Health 2015;105:e83-9.	NA	This research was supported by the National Cancer Institute, National Institutes of Health (award [Award number]). Note. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.
Walker N., Parag V., Verbiest M., Laking G., Laugesen M., Bullen C. Nicotine patches used in combination with e-cigarettes (with and without nicotine) for smoking cessation: a pragmatic, randomized trial. The Lancet Respiratory Medicine 2020;8:54-64.	[Author], [Author], [Author], [Author], [Author], and [Author] report grants from the Health Research Council of New Zealand, during the conduct of the study. [Author], [Author], [Author], and [Author] report grants from Pfizer, outside of the submitted work. [Author] chairs the organisation End Smoking New Zealand, which advocates for harm reduction approaches to tobacco control. Ecigarettes were purchased from a New Zealand e-cigarette online retailer (NZVAPOR, https://www.nzvapor.com/), eliquid	Health Research Council of New Zealand. The sponsor of the study had no role in the study design, data collection, data analysis, data interpretation, or writing of the report.

	was purchased from Nicopharm, Australia (https://www.nicopharm.com.au/), and nicotine patches were supplied by the New Zealand Government via their contract with Novartis (Sydney, Australia). NZVAPOR also provided, at no cost to participants, on-line and phone support regarding use of the ecigarettes. Neither NZVAPOR nor Nicopharm have links with the tobacco industry. None of the above parties had any role in the design, conduct, analysis, or interpretation of the trial findings, or writing of this publication.	
Weaver S. R., Huang J., Pechacek T. F., Heath J. W., Ashley D. L., Eriksen M. P. Are electronic nicotine delivery systems helping cigarette smokers quit? Evidence from a prospective cohort study of U.S. adult smokers, 2015-2016. PLoS ONE 2018;13:e0198047.	[Author] has received funding in the form of grant funding from Pfizer and the National Institutes of Health (NIH). [Author] has served as a paid consultant to the Centers for Disease Control and Prevention (CDC), Office on Smoking and Health and has received funding in the form of grant funding from NIH. [Author] has received funding in the form of grant funding from NIH. Before his retirement in June 2017, [Author] was employed as Director of the Food and Drug Administration, Center for Tobacco Products, Office of Science. Before his retirement in 2014, [Author] was employed as Deputy Director of the Translation of the CDC, Office on Smoking and Health. This does not alter our adherence to PLOS ONE policies on sharing data and materials.	This study was supported by grant number [Grant number] (to [Author]) from the National Institutes of Health, National Institute of Drug Abuse (NIH/NIDA) and Food and Drug Administration, Center for Tobacco Products (FDA CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration. The funder had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Verplaetse T. L., Moore K. E., Pittman B. P., Roberts W., Oberleitner L. M., Peltier M. K. R., et al. Intersection of E-Cigarette Use and Gender on Transitions in Cigarette Smoking Status: Findings Across Waves 1 and 2 of the Population Assessment of Tobacco and Health Study. Nicotine and Tobacco Research 2019;21:1423-28.	None declared.	This work was supported by National Institutes of Health (NIH) grant [Grant number] ([Author]).
Zhuang Y. L., Cummins S. E., Sun J. Y., Zhu S. H. Long-term e-cigarette use and smoking cessation: a longitudinal study with US population. Tobacco Control 2016;25:i90-i95.	None declared.	This study was supported by the National Cancer Institute of the National Institutes of Health under the State and Community Tobacco Control Initiative, Award Number [Award number]. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The study sponsor had no role in study design, data collection, analysis, interpretation or writing of the report.

Table S3. Full length articles excluded on relevance

Reference	**Reason for exclusion**[2]
Adriaens K., Van Gucht D., Declerck P., Baeyens F. Effectiveness of the electronic cigarette: An eight-week Flemish study with six-month follow-up on smoking reduction, craving and experienced benefits and complaints. International Journal of Environmental Research & Public Health 2014;11:11220-48.	Study duration
Akinboro O., Nwabudike S., Elias R., Balasire O., Ola O., Ostroff J. S. Electronic Cigarette Use among Survivors of Smoking-Related Cancers in the United States. Cancer Epidemiology, Biomarkers & Prevention 2019;09:09.	Study design
Al-Delaimy W. K., Myers M. G., Leas E. C., Strong D. R., Hofstetter C. R. 'E-cigarette use in the past and quitting behavior in the future: A population-based study': Erratum. American Journal of Public Health 2015;105:e7□e7.	Publication type

[2] Only one reason for exclusion is listed per study, but several may be present.

Aleyan S., Gohari M. R., Cole A. G., Leatherdale S. T. Exploring the Bi-Directional Association between Tobacco and E-Cigarette Use among Youth in Canada. International Journal of Environmental Research & Public Health [Electronic Resource] 2019;16:01.	Outcome
Anic G. M., Holder-Hayes E., Ambrose B. K., Rostron B. L., Coleman B., Jamal A., et al. E-cigarette and Smokeless Tobacco Use and Switching Among Smokers: Findings From the National Adult Tobacco Survey. American Journal of Preventive Medicine 2018;54:539–51.	Study design
Anic G. M., Sawdey M. D., Jamal A., Trivers K. F. Frequency of Use Among Middle and High School Student Tobacco Product Users – United States, 2015–2017. MMWR – Morbidity & Mortality Weekly Report 2018;67:1353–57.	Study design
Arrazola R. A., Singh T., Corey C. G., Husten C. G., Neff L. J., Apelberg B. J., et al. Tobacco use among middle and high school students – United States, 2011–2014. MMWR – Morbidity & Mortality Weekly Report 2015;64:381–5.	Study design
Audrain-McGovern J., Stone M. D., Barrington-Trimis J., Unger J. B., Leventhal A. M. Adolescent E-Cigarette, Hookah, and Conventional Cigarette Use and Subsequent Marijuana Use. Pediatrics 2018;142.	Outcome
Auf R., Trepka M. J., Selim M., Ben Taleb Z., De La Rosa M., Bastida E., et al. E-cigarette use is associated with other tobacco use among US adolescents. International Journal of Public Health 2019;64:125–34.	Study design
Azagba S., Baskerville N. B., Foley K. Susceptibility to cigarette smoking among middle and high school e-cigarette users in Canada. Preventive Medicine 2017;103:14–19.	Study design
Azagba S., Latham K., Shan L. Waterpipe tobacco smoking trends among middle and high school students in the United States from 2011 to 2017. Drug and Alcohol Dependence 2019;200:19–25.	Study design
Backinger C. L., Fagan P., O'Connell M. E., Grana R., Lawrence D., Bishop J. A., et al. Use of other tobacco products among U.S. adult cigarette smokers: prevalence, trends and correlates. Addictive Behaviors 2008;33:472–89.	Study design
Baldassarri S. R., Bernstein S. L., Chupp G. L., Slade M. D., Fucito L. M., Toll B. A. Electronic cigarettes for adults with tobacco dependence enrolled in a tobacco treatment program: A pilot study. Addictive Behaviors 2018;80:1–5.	Study design
Bandara N. A., Seneviratne M. Adolescents' Electronic Cigarette Use. Pediatrics 2019;143:01.	Publication type
Barrington-Trimis J. L., Liu F., Unger J. B., Alonzo T., Cruz T. B., Urman R., et al. Evaluating the predictive value of measures of susceptibility to tobacco and alternative tobacco products. Addictive Behaviors 2019;96:50–55.	Exposure
Barrington-Trimis J. L., Urman R., Leventhal A. M., Gauderman W. J., Cruz T. B., Gilreath T. D., et al. E-cigarettes, Cigarettes, and the Prevalence of Adolescent Tobacco Use. Pediatrics 2016;138:08.	Study design

Beard E., Brown J., McNeill A., Michie S., West R. Has growth in electronic cigarette use by smokers been responsible for the decline in use of licensed nicotine products? Findings from repeated cross-sectional surveys. Thorax 2015;70:974–8.	Study design
Beard E., Brown J., Michie S., West R. Is prevalence of e-cigarette and nicotine replacement therapy use among smokers associated with average cigarette consumption in England? A time-series analysis. BMJ Open 2018;8:e016046.	Study design
Beard E., West R., Michie S., Brown J. Association between electronic cigarette use and changes in quit attempts, success of quit attempts, use of smoking cessation pharmacotherapy, and use of stop smoking services in England: time series analysis of population trends. BMJ 2016;354:i4645.	Study design
Beard E., West R., Michie S., Brown J. Association of prevalence of electronic cigarette use with smoking cessation and cigarette consumption in England: a time series analysis between 2006 and 2017. Addiction 2019;16:16.	Study design
Benowitz N. L. E-cigarettes and dual nicotine replacement therapy for smoking cessation. The Lancet Respiratory Medicine 2019;09:09.	Publication type
Bianco C. L., Pratt S. I., Ferron J. C., Brunette M. F. Electronic Cigarette Use During a Randomized Trial of Interventions for Smoking Cessation Among Medicaid Beneficiaries with Mental Illness. Journal of Dual Diagnosis 2019;15:184–191.	Population
Biglan A., Duncan T. E., Ary D. V., Smolkowski K. Peer and parental influences on adolescent tobacco use. Journal of Behavioral Medicine 1995;18:315–330.	Outcome
Blank M. L., Hoek J., George M., Gendall P., Conner T. S., Thrul J., et al. An Exploration of Smoking-to-Vaping Transition Attempts Using a "Smart" Electronic Nicotine Delivery System. Nicotine & Tobacco Research 2018;06:06.	Study duration
Bold K. W., Kong G., Cavallo D. A., Camenga D. R., Krishnan-Sarin S. Reasons for Trying E-cigarettes and Risk of Continued Use. Pediatrics 2016;138:09.	Publication type
Borderud S. P., Li Y., Burkhalter J. E., Sheffer C. E., Ostroff J. S. Electronic cigarette use among patients with cancer: Characteristics of electronic cigarette users and their smoking cessation outcomes. Cancer 2014;120:3527–35.	Population
Borrelli B., O'Connor G. T. E-cigarettes to assist with smoking cessation. New England Journal of Medicine 2019;380:678–9.	Publication type
Boyle R. G., Stanton C. A., Sharma E., Tang Z. Examining quit attempts and successful quitting after recent cigarette tax increases. Preventive Medicine 2019;118:226–31.	Study design
Brandon K. O., Simmons V. N., Meltzer L. R., Drobes D. J., Martinez U., Sutton S. K., et al. Vaping characteristics and expectancies are associated	Population

with smoking cessation propensity among dual users of combustible and electronic cigarettes. Addiction 2019;15:15.	
Brown J., Beard E., Kotz D., Michie S., West R. Real-world effectiveness of e-cigarettes when used to aid smoking cessation: A cross-sectional population study. Addiction 2014;109:1531–40.	Study design
Browne M., Todd D. G. Then and now: Consumption and dependence in e-cigarette users who formerly smoked cigarettes. Addictive Behaviors 2018;76:113–21.	Outcome
Bruserud O., Hansen B. A., Auestad H. M., Olsen S. F., Sorheim I. C., Bakke P. [Changes in smoking habits among medical students in Bergen 2004–2006]. Tidsskrift for Den Norske Laegeforening 2008;128:1812–4.	Outcome
Bullen C., McRobbie H., Thornley S., Glover M., Lin R., Laugesen M. Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: randomised cross-over trial. Tobacco Control 2010;19:98–103.	Outcome
Busch A. M., Leavens E. L., Wagener T. L., Buckley M. L., Tooley E. M. Prevalence, Reasons for Use, and Risk Perception of Electronic Cigarettes Among Post-Acute Coronary Syndrome Smokers. Journal of Cardiopulmonary Rehabilitation & Prevention 2016;36:352–7.	Study design
Cahn Z., Haardorfer R., Lewis M., Wang Y., Berg C. J. Examining e-cigarette purchases and cessation in a consumer panel of smokers. Journal Of Smoking Cessation 2019;14:32–41.	Outcome
Camenga D. R., Delmerico J., Kong G., Cavallo D., Hyland A., Cummings K. M., et al. Trends in use of electronic nicotine delivery systems by adolescents. Addictive Behaviors 2014;39:338–40.	Study design
Camenga D. R., Kong G., Cavallo D. A., Krishnan-Sarin S. Current and Former Smokers' Use of Electronic Cigarettes for Quitting Smoking: An Exploratory Study of Adolescents and Young Adults. Nicotine & Tobacco Research 2019;21:395.	Publication type
Caponnetto P., Auditore R., Russo C., Cappello G. C., Polosa R. Impact of an electronic cigarette on smoking reduction and cessation in schizophrenic smokers: a prospective 12-month pilot study. International Journal of Environmental Research & Public Health [Electronic Resource] 2013;10:446–61.	Outcome
Caponnetto P., Campagna D., Cibella F., Morjaria J. B., Caruso M., Russo C., et al. EffiCiency and Safety of an eLectronic cigAreTte (ECLAT) as tobacco cigarettes substitute: a prospective 12-month randomized control design study. PLoS ONE [Electronic Resource] 2013;8:e66317.	Study design
Carey F. R., Wilkinson A. V., Harrell M. B., Cohn E. A., Perry C. L. Measurement and predictive value of susceptibility to cigarettes, e-cigarettes, cigars, and hookah among Texas adolescents. Addictive Behaviors Reports 2018;8:95–101.	Outcome
Carroll D. M., Wagener T. L., Thompson D. M., Stephens L. D., Peck J. D., Campbell J. E., et al. Electronic nicotine delivery system use behaviour and	Population

loss of autonomy among American Indians: results from an observational study. BMJ Open 2017;7:e018469.	
Cha S., Ganz O., Cohn A. M., Ehlke S. J., Graham A. L. Feasibility of biochemical verification in a web-based smoking cessation study. Addictive Behaviors 2017;73:204–8.	Outcome
Chan G., Morphett K., Gartner C., Leung J., Yong H. H., Hall W., et al. Predicting vaping uptake, vaping frequency and ongoing vaping among daily smokers using longitudinal data from the International Tobacco Control (ITC) Four Country Surveys. Addiction 2019;114 Suppl 1:61–70.	Exposure
Chanchlani N. E-cigarettes: friend or foe? BMJ 2019;364:j5150.	Study design
Chen J. C., Green K. M., Arria A. M., Borzekowski D. L. G. Prospective predictors of flavored e-cigarette use: A one-year longitudinal study of young adults in the U.S. Drug & Alcohol Dependence 2018;191:279–85.	Outcome
Chen P. C., Chang L. C., Hsu C., Lee Y. C. Dual Use of E-Cigarettes and Traditional Cigarettes Among Adolescents in Taiwan, 2014–16. Nicotine & Tobacco Research 2018;02:02.	Study design
Chen P. C., Chang L. C., Hsu C., Lee Y. C. Electronic Cigarette Use and Attempts to Quit Smoking Cigarettes Among Adolescents in Taiwan. Journal of Adolescent Health 2018;04:04.	Study design
Cho J., Goldenson N. I., Stone M. D., McConnell R., Barrington-Trimis J. L., Chou C. P., et al. Characterizing Polytobacco Use Trajectories and Their Associations With Substance Use and Mental Health Across Mid-Adolescence. Nicotine & Tobacco Research 2018;20:S31–S38.	Comparison
Choi K., Forster J. L. Beliefs and experimentation with electronic cigarettes: a prospective analysis among young adults. American Journal of Preventive Medicine 2014;46:175–8.	Outcome
Chou S. P., Saha T. D., Zhang H., Ruan W. J., Huang B., Grant B. F., et al. Prevalence, correlates, comorbidity and treatment of electronic nicotine delivery system use in the United States. Drug & Alcohol Dependence 2017;178:296–301.	Study design
Clendennen S. L., Loukas A., Creamer M. R., Pasch K. E., Perry C. L. Longitudinal Patterns of Multiple Tobacco and Nicotine Product Use Among Texas College Students: a Latent Transition Analysis. Prevention Science 2019;20:1031–42.	Exposure
Cole A. G., Chaurasia A., Kennedy R. D., Leatherdale S. T. Identifying behavioural characteristics of tobacco product and e-cigarette use clusters: A repeat cross-sectional analysis. Addictive Behaviors 2018;90:77–84.	Study design
Cole A. G., Kennedy R. D., Chaurasia A., Leatherdale S. T. Exploring the Predictive Validity of the Susceptibility to Smoking Construct for Tobacco Cigarettes, Alternative Tobacco Products, and E-Cigarettes. Nicotine & Tobacco Research 2017;06:06.	Outcome
Coleman B., Rostron B., Johnson S. E., Persoskie A., Pearson J., Stanton C., et al. Transitions in electronic cigarette use among adults in the Population	Study design

Assessment of Tobacco and Health (PATH) Study, Waves 1 and 2 (2013–2015). Tobacco Control 2018;25:25.	
Comiford A. L., Rhoades D. A., Spicer P., Ding K., Dvorak J. D., Driskill L., et al. E-cigarettes and Tobacco Exposure Biomarkers among American Indian Smokers. American Journal of Health Behavior 2018;42:101–9.	Study duration
Conner M., Grogan S., Simms-Ellis R., Scholtens K., Sykes-Muskett B., Cowap L., et al. Patterns and predictors of e-cigarette, cigarette and dual use uptake in UK adolescents: evidence from a 24-month prospective study. Addiction 2019;114:2048–55.	Study design
Cook R., Davidson P., Martin R., Centre N. D. E-cigarettes helped more smokers quit than nicotine replacement therapy. BMJ 2019;365:l2036.	Publication type
Cooper M., Loukas A., Case K. R., Marti C. N., Perry C. L. A longitudinal study of risk perceptions and e-cigarette initiation among college students: Interactions with smoking status. Drug & Alcohol Dependence 2018;186:257–63.	Outcome
Creamer M. R., Delk J., Case K., Perry C. L., Harrell M. B. Positive Outcome Expectations and Tobacco Product Use Behaviors in Youth. Substance Use & Misuse 2018;53:1399–1402.	Outcome
Creamer M., Case K., Loukas A., Cooper M., Perry C. L. Patterns of sustained e-cigarette use in a sample of young adults. Addictive Behaviors 2019;92:28–31.	Outcome
Dai H. Changes in Flavored Tobacco Product Use among Current Youth Tobacco Users in the United States, 2014–2017. JAMA Pediatrics 2019;173:282–4.	Outcome
Dai H., Leventhal A. M. Association of electronic cigarette vaping and subsequent smoking relapse among former smokers. Drug and Alcohol Dependence 2019;199:10–17.	Outcome
Das M. E-cigarettes and smoking cessation. Lancet Oncology 2019;20:e136.	Publication type
Delnevo C. D., Villanti A. C., Wackowski O. A., Gundersen D. A., Giovenco D. P. The influence of menthol, e-cigarettes and other tobacco products on young adults' self-reported changes in past year smoking. Tobacco Control 2016;25:571–4.	Study design
Doran N., Tully L. Impulsivity and tobacco product use over time. Addictive Behaviors 2018;85:153–7.	Exposure
Du P., Fan T., Yingst J., Veldheer S., Hrabovsky S., Chen C., et al. Changes in E-Cigarette Use Behaviors and Dependence in Long-term E-Cigarette Users. American Journal of Preventive Medicine 2019;57:374–83.	Population
Dunbar M. S., Davis J. P., Rodriguez A., Tucker J. S., Seelam R., D'Amico E. J. Disentangling Within- and Between-Person Effects of Shared Risk Factors on E-cigarette and Cigarette Use Trajectories from Late Adolescence to Young Adulthood. Nicotine and Tobacco Research 2019;21:1414–22.	Study design

Dutra L. M., Glantz S. A. E-cigarettes and National Adolescent Cigarette Use: 2004–2014. Pediatrics 2017;139.	Study design
Dutra L. M., Glantz S. A. Electronic cigarettes and conventional cigarette use among U.S. adolescents: a cross-sectional study. JAMA Pediatrics 2014;168:610–7.	Study design
Dutra L. M., Glantz S. A. Thirty-day smoking in adolescence is a strong predictor of smoking in young adulthood. Preventive Medicine 2018;109:17–21.	Outcome
Eastwood B., Dockrell M. J., Arnott D., Britton J., Cheeseman H., Jarvis M. J., et al. Electronic cigarette use in young people in Great Britain 2013–2014. Public Health 2015;129:1150–6.	Study design
Eastwood B., East K., Brose L. S., Dockrell M. J., Arnott D., Cheeseman H., et al. Electronic cigarette use in young people in Great Britain 2015–2016. Public Health 2017;149:45–48.	Study design
Ebell M. H. e-Cigarettes More Effective Than Nicotine Replacement for Cessation of Tobacco Use in Adults. American Family Physician 2019;100:442.	Publication type
Elin Smith K. Prevalence and Correlates of Electronic Cigarette Use Among a Clinical Sample of Polysubstance Users in Kentucky: Long Live the Cigarette? Substance Use & Misuse 2018:1–11.	Population
El-Khoury F., Bolze C., Gomajee R., White V., Melchior M. Lower smoking rates and increased perceived harm of cigarettes among French adults one year after comprehensive tobacco control measures. Drug and Alcohol Dependence 2019;201:65–70.	Outcome
El-Shahawy O., Park S. H., Duncan D. T., Lee L., Tamura K., Shearston J. A., et al. Evaluating State-Level Differences in E-cigarette and Cigarette Use Among Adults in the United States Between 2012 and 2014: Findings From the National Adult Tobacco Survey. Nicotine & Tobacco Research 2018;27:27.	Exposure
Erly B. K., Prochazka A. V. E-cigarettes were more effective than nicotine replacement for smoking cessation at 1 year. Annals of Internal Medicine 2019;170:JC50.	Publication type
Etter J. F. Electronic Cigarette: A Longitudinal Study of Regular Vapers. Nicotine & Tobacco Research 2018;20:912–2.	Study design
Etter J. F., Bullen C. A longitudinal study of electronic cigarette users. Addictive Behaviors 2014;39:491–4.	Study design
Etter J.-F. A longitudinal study of cotinine in long-term daily users of e-cigarettes. Drug and Alcohol Dependence 2016;160:218–21.	Outcome
Evans-Polce R. J., Veliz P., Boyd C. J., McCabe S. E. Initiation Patterns and Trends of E-Cigarette and Cigarette Use Among U.S. Adolescents. Journal of Adolescent Health 2019.	Study design

Farsalinos K., Niaura R. E-cigarettes and smoking cessation in the United States according to frequency of e-cigarette use and quitting duration: analysis of the 2016 and 2017 National Health Interview Surveys. Nicotine & Tobacco Research 2019;15:15.	Study design
Felicione N. J., Enlow P., Elswick D., Long D., Rolly Sullivan C., Blank M. D. A pilot investigation of the effect of electronic cigarettes on smoking behavior among opioid-dependent smokers. Addictive Behaviors 2018.	Population
Filippidis F. T., Laverty A. A., Gerovasili V., Vardavas C. I. Two-year trends and predictors of e-cigarette use in 27 European Union member states. Tobacco Control 2017;26:98–104.	Study design
Finoulst M., Vankrunkelsven P., Hendrickx S. The role of electronic cigarettes in smoking cessation. Tijdschrift voor Geneeskunde 2016;72:360–63.	Language
Furberg H., Lichtenstein P., Pedersen N. L., Thornton L., Bulik C. M., Lerman C., et al. The STAGE cohort: a prospective study of tobacco use among Swedish twins. Nicotine & Tobacco Research 2008;10:1727–35.	Study design
Giovenco D. P., Delnevo C. D. Prevalence of population smoking cessation by electronic cigarette use status in a national sample of recent smokers. Addictive Behaviors 2018;76:129–34.	Study design
Goldenson N. I., Leventhal A. M., Stone M. D., McConnell R. S., Barrington-Trimis J. L. Associations of Electronic Cigarette Nicotine Concentration With Subsequent Cigarette Smoking and Vaping Levels in Adolescents. JAMA Pediatrics 2017;171:1192–99.	Study design
Goniewicz M. L., Gawron M., Nadolska J., Balwicki L., Sobczak A. Rise in electronic cigarette use among adolescents in Poland. Journal of Adolescent Health 2014;55:713–5.	Study design
Gottlieb M. A. E-Cigarettes versus Nicotine-Replacement Therapy for Smoking Cessation. New England Journal of Medicine 2019;380:1974.	Publication type
Grace R. C., Kivell B. M., Laugesen M. Gender differences in satisfaction ratings for nicotine electronic cigarettes by first-time users. Addictive Behaviors 2015;50:140–3.	Exposure
Guerrero-Cignarella A., Luna Diaz L. V., Balestrini K., Holt G., Mirsaeidi M., Calderon-Candelario R., et al. Differences in vaping topography in relation to adherence to exclusive electronic cigarette use in veterans. PLoS ONE [Electronic Resource] 2018;13:e0195896.	Study design
Haddock C. K., Lando H., Klesges R. C., Peterson A. L., Scarinci I. C. Modified tobacco use and lifestyle change in risk-reducing beliefs about smoking. American Journal of Preventive Medicine 2004;27:35–41.	Exposure
Hagstrom K., Gannon D., Sobieraj D. Electronic cigarettes for smoking cessation. Connecticut Medicine 2014;78:435–9.	Publication type
Hajek P., Phillips-Waller A., Przulj D., Pesola F., Smith K. M., Bisal N., et al. E-cigarettes compared with nicotine replacement therapy within the UK Stop	Publication type

Smoking Services: the TEC RCT. Health Technology Assessment (Winchester, England) 2019;23:1–82.	
Hampson S. E., Andrews J. A., Severson H. H., Barckley M. Prospective Predictors of Novel Tobacco and Nicotine Product Use in Emerging Adulthood. Journal of Adolescent Health 2015;57:186–91.	Exposure
Hanewinkel R., Isensee B. Risk factors for e-cigarette, conventional cigarette, and dual use in German adolescents: a cohort study. Preventive Medicine 2015;74:59–62.	Exposure
Hansen W. B., McNeal R. B., Jr. Self-initiated cessation from substance use: A longitudinal study of the relationship between postulated mediators and quitting. Journal of Drug Issues 2001;31:957–75.	Exposure
Hatsukami D. K., Jensen J., Anderson A., Broadbent B., Allen S., Zhang Y., et al. Oral tobacco products: preference and effects among smokers. Drug & Alcohol Dependence 2011;118:230–6.	Study duration
Hawkins S. S., Ghiani M., Baum C. F. Associations Between State Tobacco Control Policies and Adolescent ENDS Use. Journal of Public Health Management & Practice 2018;31:31.	Outcome
Hendricks P. S., Thorne C. B., Lappan S. N., Sweat N. W., Cheong J., Ramachandran R., et al. The Relationships of Expectancies With E-cigarette Use Among Hospitalized Smokers: A Prospective Longitudinal Study. Nicotine & Tobacco Research 2018;20:224–30.	Population
Henry A. D., Gettens J., Savageau J. A., Cullen D., Landau A. Massachusetts Medicaid members that smoked in 2008: Characteristics associated with smoking status in 2014. PLoS ONE [Electronic Resource] 2017;12:e0186144.	Study design
Herbec A. A., Chang Y., Tindle H. A., Rigotti N. A. Smokers' use of electronic cigarettes before, during, and in the month after hospitalization. Findings from the Helping HAND 2 Study. Addictive Behaviors 2018;29:29.	Study design
Hickling L. M., Perez-Iglesias R., McNeill A., Dawkins L., Moxham J., Ruffell T., et al. A pre-post pilot study of electronic cigarettes to reduce smoking in people with severe mental illness. Psychological Medicine 2018:1–8.	Population
Hinton A., Nagaraja H. N., Cooper S., Wewers M. E. Tobacco product transition patterns in rural and urban cohorts: Where do dual users go? Preventive Medicine Reports 2018;12:241–4.	Exposure
Hsu G., Gamst A. C., Zhuang Y. L., Wolfson T., Zhu S. H. A comparison of E-cigarette use patterns and smoking cessation behavior among vapers by primary place of purchase. International Journal of Environmental Research and Public Health 2019;16.	Outcome
Huang L. L., Kowitt S. D., Sutfin E. L., Patel T., Ranney L. M., Goldstein A. O. Electronic Cigarette Use Among High School Students and Its Association With Cigarette Use And Smoking Cessation, North Carolina Youth Tobacco Surveys, 2011 and 2013. Preventing Chronic Disease 2016;13:E103.	Study design

Huh J., Leventhal A. M. Intraindividual covariation between e-cigarette and combustible cigarette use in Korean American emerging adults. Psychology of Addictive Behaviors 2016;30:246–51.	Study design
Huh J., Leventhal A. M. Progression of Poly-tobacco Product Use Patterns in Adolescents. American Journal of Preventive Medicine 2016;51:513–7.	Study design
Hummel K., Hoving C., Nagelhout G. E., de Vries H., van den Putte B., Candel M. J., et al. Prevalence and reasons for use of electronic cigarettes among smokers: Findings from the International Tobacco Control (ITC) Netherlands Survey. International Journal of Drug Policy 2015;26:601–8.	Study design
Jackson S. E., Beard E., Michie S., Shahab L., Raupach T., West R., et al. Are smokers who are regularly exposed to e-cigarette use by others more or less motivated to stop or to make a quit attempt? A cross-sectional and longitudinal survey. BMC Medicine 2018;16:206.	Outcome
Jackson S. E., Hill E., Shahab L., Beard E., Michie S., Brown J. Prevalence and correlates of long-term e-cigarette and nicotine replacement therapy use: a prospective study in England. BMJ Open 2019;9:e029252.	Outcome
Jackson S. E., Kotz D., West R., Brown J. Moderators of real-world effectiveness of smoking cessation aids: a population study. Addiction 2019;114:1627–38.	Study design
Jha P. Smoking cessation and e-cigarettes in China and India. The BMJ 2019;367.	Publication type
Jo C. L., Golden S. D., Noar S. M., Rini C., Ribisl K. M. Effects of E-cigarette Advertising Messages and Cues on Cessation Outcomes. Tobacco Regulatory Science 2018;4:562–72.	Outcome
Johnson L., Ma Y., Fisher S. L., Ramsey A. T., Chen L. S., Hartz S. M., et al. E-cigarette Usage Is Associated with Increased Past-12-Month Quit Attempts and Successful Smoking Cessation in Two US Population-Based Surveys. Nicotine and Tobacco Research 2019;21:1331–38.	Study design
Jorenby D. E., Smith S. S., Fiore M. C., Baker T. B. Nicotine levels, withdrawal symptoms, and smoking reduction success in real world use: A comparison of cigarette smokers and dual users of both cigarettes and E-cigarettes. Drug & Alcohol Dependence 2017;170:93–101.	Study design
Kalkhoran S., Chang Y., Rigotti N. A. Electronic Cigarette Use and Cigarette Abstinence Over Two Years among U.S. Smokers in the Population Assessment of Tobacco and Health Study. Nicotine & Tobacco Research 2019;11:11.	Study design
Kalkhoran S., Kruse G. R., Rigotti N. A., Rabin J., Ostroff J. S., Park E. R. Electronic cigarette use patterns and reasons for use among smokers recently diagnosed with cancer. Cancer Medicine 2018;7:3484–91.	Study design
Kasza K. A., Bansal-Travers M., O'Connor R J., Compton W. M., Kettermann A., Borek N., et al. Cigarette smokers' use of unconventional tobacco products and associations with quitting activity: Findings from the ITC-4 U.S. cohort. Nicotine and Tobacco Research 2014;16:672–81.	Exposure

Kaufman A. R., Land S., Parascandola M., Augustson E., Backinger C. L. Tobacco use transitions in the United States: The National Longitudinal Study of Adolescent Health. Preventive Medicine 2015;81:251–7.	Population
Kim S., Selya A. S. The Relationship Between Electronic Cigarette Use and Conventional Cigarette Smoking Is Largely Attributable to Shared Risk Factors. Nicotine & Tobacco Research 2019;04:04.	Study design
King A. C., Smith L. J., McNamara P. J., Cao D. Second Generation Electronic Nicotine Delivery System Vape Pen Exposure Generalizes as a Smoking Cue. Nicotine & Tobacco Research 2018;20:246–52.	Study duration
King A. C., Smith L. J., McNamara P. J., Matthews A. K., Fridberg D. J. Passive exposure to electronic cigarette (e-cigarette) use increases desire for combustible and e-cigarettes in young adult smokers. Tobacco Control 2015;24:501–4.	Study design
Kinnunen J. M., Ollila H., Lindfors P. L., Rimpela A. H. Changes in Electronic Cigarette Use from 2013 to 2015 and Reasons for Use among Finnish Adolescents. International Journal of Environmental Research & Public Health [Electronic Resource] 2016;13:09.	Study design
Kinnunen J. M., Ollila H., Minkkinen J., Lindfors P. L., Rimpela A. H. A Longitudinal Study of Predictors for Adolescent Electronic Cigarette Experimentation and Comparison with Conventional Smoking. International Journal of Environmental Research & Public Health [Electronic Resource] 2018;15:09.	Exposure
Klesges R. C., DeBon M., Vander Weg M. W., Haddock C. K., Lando H. A., Relyea G. E., et al. Efficacy of a tailored tobacco control program on long-term use in a population of US Military troops. Journal of Consulting and Clinical Psychology 2006;74:295–306.	Population
Klesges R. C., Sherrill-Mittleman D., Ebbert J. O., Talcott G. W., Debon M. Tobacco use harm reduction, elimination, and escalation in a large military cohort. American Journal of Public Health 2010;100:2487–92.	Population
Kock L., Shahab L., West R., Brown J. E-cigarette use in England 2014–17 as a function of socio-economic profile. Addiction 2019;114:294–303.	Study design
Kotz D., Bockmann M., Kastaun S. The Use of Tobacco, E-Cigarettes, and Methods to Quit Smoking in Germany. Deutsches Arzteblatt International 2018;115:235–42.	Study design
Kotz D., Böckmann M., Kastaun S. The use of tobacco, e-cigarettes, and methods to quit smoking in Germany - A representative study using 6 waves of data over 12 months (the DEBRA study). Deutsches Arzteblatt International 2018;115:235–42.	Study design
Kousta S. E-cigarettes for smoking cessation. Nature Human Behaviour 2019;3:322.	Publication type
Kowitt S. D., Osman A., Ranney L. M., Heck C., Goldstein A. O. E-Cigarette Use Among Adolescents Not Susceptible to Using Cigarettes. Preventing Chronic Disease 2018;15:E18.	Study design

Kristjansson A. L., Allegrante J. P., Sigfusson J., Sigfusdottir I. D. Do population trends in adolescent electronic cigarette use coincide with changes in prevalence of cigarette smoking? Preventive Medicine Reports 2019;15.	Study design
Kulak J. A., Bover Manderski M. T., Delnevo C. D., Hrywna M., Homish G. G., Giovino G. A. Differential Trends in Hookah Use Among New Jersey Youth. Preventing Chronic Disease 2019;16:E138.	Exposure
Kulak J. A., Manderski M. B. T., Travers M. J., Delnevo C. D., Hrywna M., Bansal-Travers M., et al. Patterns and Trends of Hookah Use among New Jersey Youth: New Jersey Youth Tobacco Survey 2008–2014. American Journal of Health Behavior 2018;42:21–35.	Study design
Kurti A. N., Redner R., Bunn J. Y., Tang K., Nighbor T., Lopez A. A., et al. Examining the relationship between pregnancy and quitting use of tobacco products in a U.S. national sample of women of reproductive age. Preventive Medicine 2018;117:52–60.	Exposure
Laverty A. A., Filippidis F. T., Vardavas C. I. Patterns, trends and determinants of e-cigarette use in 28 European Union Member States 2014-2017. Preventive Medicine 2018;116:13–18.	Study design
Lechner W. V., Janssen T., Kahler C. W., Audrain-McGovern J., Leventhal A. M. Bi-directional associations of electronic and combustible cigarette use onset patterns with depressive symptoms in adolescents. Preventive Medicine 2017;96:73–78.	Outcome
Lechner W. V., Murphy C. M., Colby S. M., Janssen T., Rogers M. L., Jackson K. M. Cognitive risk factors of electronic and combustible cigarette use in adolescents. Addictive Behaviors 2018;82:182–188.	Exposure
Lee H. S., Wilson S., Partos T., McNeill A., Brose L. S. Awareness of changes in e-cigarette regulations and behaviour before and after implementation: A longitudinal survey of smokers, ex-smokers and vapers in the United Kingdom. Nicotine & Tobacco Research 2019;25:25.	Outcome
Li J., Hajek P., Pesola F., Wu Q., Phillips-Waller A., Przulj D., et al. Cost-effectiveness of e-cigarettes compared with nicotine replacement therapy in stop smoking services in England (TEC study): a randomised controlled trial. Addiction 2019;09:09.	Outcome
Li J., Newcombe R., Walton D. The prevalence, correlates and reasons for using electronic cigarettes among New Zealand adults. Addictive Behaviors 2015;45:245–51.	Study design
Lindstrom M., Isacsson S. O., Malmo Shoulder-Neck Study G. Long term and transitional intermittent smokers: a longitudinal study. Tobacco Control 2002;11:61–7.	Population
Lindstrom M., Isacsson S. O., Malmo Shoulder-Neck Study G. Smoking cessation among daily smokers, aged 45–69 years: a longitudinal study in Malmo, Sweden. Addiction 2002;97:205–15.	Publication year

Lippert A. M. Temporal Changes in the Correlates of U.S. Adolescent Electronic Cigarette Use and Utilization in Tobacco Cessation, 2011 to 2013. Health Education & Behavior 2017;44:254–61.	Study design
Litt M. D., Duffy V., Oncken C. Cigarette smoking and electronic cigarette vaping patterns as a function of e-cigarette flavourings. Tobacco Control: An International Journal 2016;25:67–72.	Exposure
Liu X., Lugo A., Davoli E., Gorini G., Pacifici R., Fernandez E., et al. Electronic cigarettes in Italy: a tool for harm reduction or a gateway to smoking tobacco? Tobacco Control 2019;18:18.	Study design
Lopez A. A., Cobb C. O., Yingst J. M., Veldheer S., Hrabovsky S., Yen M. S., et al. A transdisciplinary model to inform randomized clinical trial methods for electronic cigarette evaluation. BMC Public Health 2016;16:217.	Publication type
Loukas A., Batanova M., Fernandez A., Agarwal D. Changes in use of cigarettes and non-cigarette alternative products among college students. Addictive Behaviors 2015;49:46–51.	Outcome
Loukas A., Marti C. N., Perry C. L. Trajectories of Tobacco and Nicotine Use Across Young Adulthood, Texas, 2014–2017. American Journal of Public Health 2019;109:465–71.	Outcome
Mamudu H. M., Wang L., Owusu D., Robertson C., Collins C., Littleton M. A. Prospective study of dual use of e-cigarettes and other tobacco products among school-going youth in rural Appalachian Tennessee. Annals of Thoracic Medicine 2019;14:127–33.	Study design
McCabe S. E., West B. T., McCabe V. V. Associations Between Early Onset of E-cigarette Use and Cigarette Smoking and Other Substance Use Among US Adolescents: A National Study. Nicotine & Tobacco Research 2018;20:923–30.	Study design
McClelland E., Valentine N., McMillen R. Tobacco Use Trends among Mississippi Youth following the 1997 Settlement of Mississippi's Medicaid Lawsuit and Subsequent Tobacco Prevention Initiatives. Journal of the Mississippi State Medical Association 2015;56:328–33.	Study design
McKeganey N., Miler J. A., Haseen F. The Value of Providing Smokers with Free E-Cigarettes: Smoking Reduction and Cessation Associated with the Three-Month Provision to Smokers of a Refillable Tank-Style E-Cigarette. International Journal of Environmental Research & Public Health [Electronic Resource] 2018;15:03.	Study design
Measham F., O'Brien K., Turnbull G. 'Skittles & Red Bull is my favourite flavour': E-cigarettes, smoking, vaping and the changing landscape of nicotine consumption amongst British teenagers—Implications for the normalisation debate. Drugs: Education, Prevention & Policy 2016;23:224–37.	Study design
Meier E., Wahlquist A. E., Heckman B. W., Cummings K. M., Froeliger B., Carpenter M. J. A Pilot Randomized Crossover Trial of Electronic Cigarette Sampling Among Smokers. Nicotine & Tobacco Research 2017;19:176–82.	Study duration

Mendes A. Vaping for smoking cessation. British Journal of Community Nursing 2019;24:404–5.	Publication type
Merianos A. L., Mancuso T. F., Gordon J. S., Wood K. J., Cimperman K. A., Mahabee-Gittens E. M. Dual- and Polytobacco/Nicotine Product Use Trends in a National Sample of High School Students. American Journal of Health Promotion 2018;32:1280–90.	Study design
Mohamed M. H. N., Rahman A., Jamshed S., Mahmood S. Effectiveness and safety of electronic cigarettes among sole and dual user vapers in Kuantan and Pekan, Malaysia: a six-month observational study. BMC Public Health 2018;18:1028.	Comparison
Nasim A., Khader Y., Blank M. D., Cobb C. O., Eissenberg T. Trends in alternative tobacco use among light, moderate, and heavy smokers in adolescence, 1999–2009. Addictive Behaviors 2012;37:866–70.	Study design
Nolan M., Leischow S., Croghan I., Kadimpati S., Hanson A., Schroeder D., et al. Feasibility of Electronic Nicotine Delivery Systems in Surgical Patients. Nicotine & Tobacco Research 2016;18:1757–62.	Study design
Olfson M., Wall M. M., Liu S. M., Sultan R. S., Blanco C. E-cigarette Use Among Young Adults in the U.S. American Journal of Preventive Medicine 2019;56:655–63.	Study design
Osman A., Kowitt S. D., Ranney L. M., Heck C., Goldstein A. O. Trends and Racial Disparities in Mono, Dual, and Poly Use of Tobacco Products Among Youth. Nicotine & Tobacco Research 2018;20:S22–S30.	Exposure
Pacifici R., Pichini S., Graziano S., Pellegrini M., Massaro G., Beatrice F. Successful Nicotine Intake in Medical Assisted Use of E-Cigarettes: A Pilot Study. International Journal of Environmental Research & Public Health [Electronic Resource] 2015;12:7638–46.	Study design
Pamplona P., Ravara S., Boléo-Tomé J. P., Rosa P., Morais A. Breathe, breathe in the air, don't be afraid to care. Pulmonology 2019;25:131–33.	Publication type
Park S. H., Duncan D. T., Shahawy O. E., Lee L., Shearston J. A., Tamura K., et al. Characteristics of Adults Who Switched From Cigarette Smoking to E-cigarettes. American Journal of Preventive Medicine 2017;53:652–660.	Study design
Parker M. A., Villanti A. C., Quisenberry A. J., Stanton C. A., Doogan N. J., Redner R., et al. Tobacco Product Harm Perceptions and New Use. Pediatrics 2018;142.	Exposure
Patja K., Hakala S. M., Bostrom G., Nordgren P., Haglund M. Trends of tobacco use in Sweden and Finland: do differences in tobacco policy relate to tobacco use? Scandinavian Journal of Public Health 2009;37:153–60.	Study design
Peltier M. R., Waters A. F., Roys M. R., Stewart S. A., Waldo K. M., Copeland A. L. Dual users of e-cigarettes and cigarettes have greater positive smoking expectancies than regular smokers: a study of smoking expectancies among college students. Journal of American College Health 2019:1–6.	Outcome

Perry C. L., Perez A., Bluestein M., Garza N., Obinwa U., Jackson C., et al. Youth or Young Adults: Which Group Is at Highest Risk for Tobacco Use Onset? Journal of Adolescent Health 2018;63:413–20.	Exposure
Piper M. E., Baker T. B., Benowitz N. L., Kobinsky K. H., Jorenby D. E. Dual Users Compared to Smokers: Demographics, Dependence, and Biomarkers. Nicotine & Tobacco Research 2019;21:1279–84.	Publication type
Polosa R., Caponnetto P., Cibella F., Le-Houezec J. Quit and smoking reduction rates in vape shop consumers: a prospective 12-month survey. International Journal of Environmental Research & Public Health [Electronic Resource] 2015;12:3428–38.	Study design
Polosa R., Caponnetto P., Maglia M., Morjaria J. B., Russo C. Success rates with nicotine personal vaporizers: a prospective 6-month pilot study of smokers not intending to quit. BMC Public Health 2014;14:1159.	Study design
Polosa R., Caponnetto P., Morjaria J. B., Papale G., Campagna D., Russo C. Effect of an electronic nicotine delivery device (e-Cigarette) on smoking reduction and cessation: a prospective 6-month pilot study. BMC Public Health 2011;11:786.	Study design
Polosa R., Morjaria J. B., Caponnetto P., Campagna D., Russo C., Alamo A., et al. Effectiveness and tolerability of electronic cigarette in real-life: a 24-month prospective observational study. Internal & Emergency Medicine 2014;9:537–46.	Study design
Polosa R., Morjaria J. B., Caponnetto P., Prosperini U., Russo C., Pennisi A., et al. Evidence for harm reduction in COPD smokers who switch to electronic cigarettes. Respiratory Research 2016;17:166.	Outcome
Porter L., Duke J., Hennon M., Dekevich D., Crankshaw E., Homsi G., et al. Electronic Cigarette and Traditional Cigarette Use among Middle and High School Students in Florida, 2011–2014. PLoS ONE [Electronic Resource] 2015;10:e0124385.	Study design
Prochaska J. J., Grana R. A. E-cigarette use among smokers with serious mental illness. PLoS ONE [Electronic Resource] 2014;9:e113013.	Population
Rahman A., Mohamad M. H. N., Jamshed S. Evaluating effectiveness and safety toward electronic cigarette among Malaysian vapers: One-month observational study. Archives of Pharmacy Practice 2016;7:43–53.	Study duration
Ramo D. E., Thrul J., Chavez K., Delucchi K. L., Prochaska J. J. Feasibility and quit rates of the tobacco status project: A Facebook smoking cessation intervention for young adults. Journal of Medical Internet Research 2015;17:1–13.	Exposure
Richardson A., Pearson J., Xiao H., Stalgaitis C., Vallone D. Prevalence, harm perceptions, and reasons for using noncombustible tobacco products among current and former smokers. American Journal of Public Health 2014;104:1437–44.	Study design

Riehm K. E., Young A. S., Feder K. A., Krawczyk N., Tormohlen K. N., Pacek L. R., et al. Mental health problems and initiation of e-cigarette and combustible cigarette use. Pediatrics 2019;144.	Outcome
Rodu B., Jansson J. H., Eliasson M. The low prevalence of smoking in the Northern Sweden MONICA study, 2009. Scandinavian Journal of Public Health 2013;41:808–11.	Outcome
Rodu B., Plurphanswat N. Quit Methods Used by American Smokers, 2013–2014. International Journal of Environmental Research & Public Health [Electronic Resource] 2017;14:17.	Publication type
Rohsenow D. J., Tidey J. W., Martin R. A., Colby S. M., Eissenberg T. Effects of six weeks of electronic cigarette use on smoking rate, CO, cigarette dependence, and motivation to quit smoking: A pilot study. Addictive Behaviors 2018;80:65–70.	Study duration
Sanford N. N., Sher D. J., Xu X., Aizer A. A., Mahal B. A. Trends in Smoking and e-Cigarette Use among US Patients with Cancer, 2014–2017. JAMA Oncology 2019;5:426–8.	Study design
Sathish T., Kannan S., Sarma P. S., Thankappan K. R. Incidence of tobacco use among adults (15–64 years) in rural Kerala. Asia-Pacific Journal of Public Health 2015;27:NP626–9.	Exposure
Saunders C., Geletko K. Adolescent cigarette smokers' and non-cigarette smokers' use of alternative tobacco products. Nicotine & Tobacco Research 2012;14:977–85.	Study design
Sawdey M. D., Day H. R., Coleman B., Gardner L. D., Johnson S. E., Limpert J., et al. Associations of risk factors of e-cigarette and cigarette use and susceptibility to use among baseline PATH study youth participants (2013–2014). Addictive Behaviors 2019;91:51–60.	Study design
Schauer G. L., Malarcher A. M., Babb S. D. Prevalence and correlates of switching to another tobacco product to quit smoking cigarettes. Nicotine & Tobacco Research 2015;17:622–7.	Outcome
Schinke S. P., Tepavac L., Cole K. C. Preventing substance use among Native American youth: Three-year results. Addictive Behaviors 2000;25:387–97.	Exposure
Seto J. C., Davis J. W., Taira D. A. E-cigarette Use Related to Demographic Factors in Hawai'i. Hawai'i Journal of Medicine & Public Health : A Journal of Asia Pacific Medicine & Public Health 2016;75:295–302.	Study design
Sharapova S., Reyes-Guzman C., Singh T., Phillips E., Marynak K. L., Agaku I. Age of tobacco use initiation and association with current use and nicotine dependence among US middle and high school students, 2014–2016. Tobacco Control 2018;29:29.	Study design
Siegel M. B., Tanwar K. L., Wood K. S. Electronic cigarettes as a smoking-cessation: tool results from an online survey. American Journal of Preventive Medicine 2011;40:472–5.	Study design
Silveira M. L., Conway K. P., Green V. R., Kasza K. A., Sargent J. D., Borek N., et al. Longitudinal associations between youth tobacco and substance use	Study design

in waves 1 and 2 of the Population Assessment of Tobacco and Health (PATH) Study. Drug & Alcohol Dependence 2018;191:25–36.	
Simon P., Buta E., Gueorguieva R., Kong G., Morean M. E., Camenga D., et al. Transitions Across Tobacco Use Profiles Among Adolescents: Results from the Population Assessment of Tobacco and Health (PATH) Study Wave 1 and Wave 2. Addiction 2019;16:16.	Outcome
Slomski A. e-Cigarettes for Smoking Cessation. JAMA 2019;321:1149.	Publication type
Smith D. M., Gawron M., Balwicki L., Sobczak A., Matynia M., Goniewicz M. L. Exclusive versus dual use of tobacco and electronic cigarettes among adolescents in Poland, 2010–2016. Addictive Behaviors 2019;90:341–8.	Study design
Smith T. T., Wahlquist A. E., Heckman B. W., Cummings K. M., Carpenter M. J. Impact of e-cigarette sampling on cigarette dependence and reinforcement value. Nicotine & Tobacco Research 2018;30:30.	Outcome
Snow E., Johnson T., Ossip D. J., Williams G. C., Ververs D., Rahman I., et al. Does E-cigarette Use at Baseline Influence Smoking Cessation Rates among 2-Year College Students? Journal Of Smoking Cessation 2018;13:110–20.	Study duration
Soneji S., Yang J., Knutzen K. E., Moran M. B., Tan A. S. L., Sargent J., et al. Online tobacco marketing and subsequent tobacco use. Pediatrics 2018;141:1–11.	Outcome
Stein M. D., Caviness C., Grimone K., Audet D., Anderson B. J., Bailey G. L. An Open Trial of Electronic Cigarettes for Smoking Cessation Among Methadone-Maintained Smokers. Nicotine & Tobacco Research 2016;18:1157–62.	Population
Stower H. E-cigarettes to help smoking cessation. Nature Medicine 2019.	Publication type
Strong D. R., Myers M., Linke S., Leas E., Hofstetter R., Edland S., et al. Gender differences influence overweight smokers' experimentation with electronic nicotine delivery systems. Addictive Behaviors 2015;49:20–5.	Outcome
Sung B. E-cigarette Use and Smoking Cessation Among South Korean Adult Smokers: A Propensity Score–Matching Approach. Asia-Pacific Journal of Public Health 2018;30:332–41.	Study design
Tabuchi T., Shinozaki T., Kunugita N., Nakamura M., Tsuji I. Study Profile: The Japan "Society and New Tobacco" Internet Survey (JASTIS): A longitudinal internet cohort study of heat-not-burn tobacco products, electronic cigarettes and conventional tobacco products in Japan. Journal of Epidemiology 2018;13:13.	Study design
Temple J. R., Shorey R. C., Lu Y., Torres E., Stuart G. L., Le V. D. E-cigarette use of young adults motivations and associations with combustible cigarette alcohol, marijuana, and other illicit drugs. American Journal on Addictions 2017;26:343–8.	Study duration

Tonstad S., Job J. S., Batech M., Yel D., Kheam T., Singh P. N. Adult tobacco cessation in Cambodia: I. Determinants of quitting tobacco use. Asia-Pacific Journal of Public Health 2013;25:10S–9S.	Study design
Truman P., Glover M., Fraser T. An Online Survey of New Zealand Vapers. International Journal of Environmental Research & Public Health [Electronic Resource] 2018;15:29.	Study duration
Tucker M. R., Laugesen M., Bullen C., Grace R. C. Predicting Short-Term Uptake of Electronic Cigarettes: Effects of Nicotine, Subjective Effects, and Simulated Demand. Nicotine & Tobacco Research 2018;20:1265–71.	Study duration
Wang Y., Sung H.-Y., Yao T., Lightwood J., Max W. Infrequent and frequent nondaily smokers and daily smokers: Their characteristics and other tobacco use patterns. Nicotine & Tobacco Research 2018;20:741–8.	Exposure
Wang-Schweig M., Jason L. A., Stevens E., Chaparro J. Tobacco Use among Recovery Home Residents: Vapers Less Confident to Quit. American Journal of Health Behavior 2019;43:1064–74.	Study design
Veliz P., Eisman A., McCabe S. E., Evans-Polce R., McCabe V. V., Boyd C. J. E-Cigarette Use, Polytobacco Use, and Longitudinal Changes in Tobacco and Substance Use Disorder Symptoms Among U.S. Adolescents. Journal of Adolescent Health 2019;05:05.	Outcome
West R., Shahab L., Brown J. Estimating the population impact of e-cigarettes on smoking cessation in England. Addiction 2016;111:1118–19.	Study design
Westling E., Rusby J. C., Crowley R., Light J. M. Electronic Cigarette Use by Youth: Prevalence, Correlates, and Use Trajectories From Middle to High School. Journal of Adolescent Health 2017;60:660–6.	Outcome
Vogel E. A., Prochaska J. J., Ramo D. E., Andres J., Rubinstein M. L. Adolescents' E-Cigarette Use: Increases in Frequency, Dependence, and Nicotine Exposure Over 12 Months. Journal of Adolescent Health 2019;64:770–5.	Study design
Wu S. Y., Wang M. P., Li W. H., Kwong A. C., Lai V. W., Lam T. H. Does Electronic Cigarette Use Predict Abstinence from Conventional Cigarettes among Smokers in Hong Kong? International Journal of Environmental Research & Public Health [Electronic Resource] 2018;15:26.	Study design
Yeh J. S., Bullen C., Glantz S. A. E-cigarettes and smoking cessation. New England Journal of Medicine 2016;374:2172–74.	Study design
Yingst J., Foulds J., Veldheer S., Du P. Device characteristics of long term electronic cigarette users: A follow-up study. Addictive Behaviors 2019;91:238–43.	Outcome
Yong H. H., Hitchman S. C., Cummings K. M., Borland R., Gravely S. M. L., McNeill A., et al. Does the Regulatory Environment for E-Cigarettes Influence the Effectiveness of E-Cigarettes for Smoking Cessation?: Longitudinal Findings From the ITC Four Country Survey. Nicotine & Tobacco Research 2017;19:1268–76.	Publication type

Zhu S. H., Zhuang Y. L., Wong S., Cummins S. E., Tedeschi G. J. E-cigarette use and associated changes in population smoking cessation: evidence from US current population surveys. BMJ 2017;358:j3262.	Study design
Zuckermann A. M. E., Williams G., Battista K., de Groh M., Jiang Y., Leatherdale S. T. Trends of poly-substance use among Canadian youth. Addictive Behaviors Reports 2019;10.	Study design

Table S4. Papers with a high risk of bias, not included in the meta-analysis

References	**Category judged as high risk of bias**
Amato M. S., Boyle R. G., Levy D. E-cigarette use 1 year later in a population-based prospective cohort. Tob Control 2017;26:e92–e96.	*Drop-out rate*
Brady B. R., Crane T. E., O'Connor P. A., Nair U. S., Yuan N. P. Electronic cigarette use and tobacco cessation in a state-based quitline. J Smok Cessat 2019.	*Drop-out rate*
Cadet M. Are E-cigarettes more effective in supporting smoking cessation than nicotine-replacement therapy? Evid Based Nurs 2019;19:19.	*Overall assessment*
Caponnetto P., DiPiazza J., Cappello G. C., Demma S., Maglia M., Polosa R. Multimodal Smoking Cessation in a Real-Life Setting: Combining Motivational Interviewing With Official Therapy and Reduced Risk Products. Tob Use Insights 2019;12:1179173X19878435.	*Judgement, reporting*
Gmel G., Baggio S., Mohler-Kuo M., Daeppen J. B., Studer J. E-cigarette use in young Swiss men: is vaping an effective way of reducing or quitting smoking? Swiss Med Wkly 2016;146:w14271.	*Selection, exposure, judgement*
Halpern S. D., Harhay M. O., Saulsgive K., Brophy C., Troxel A. B., Volp K. G. A pragmatic trial of e-cigarettes, incentives, and drugs for smoking cessation. N Engl J Med 2018;378:2302-10.	*Drop-out rate, reporting, overall assessment*
Hitchman S. C., Brose L. S., Brown J., Robson D., McNeill A. Associations Between E-Cigarette Type, Frequency of Use, and Quitting Smoking: Findings From a Longitudinal Online Panel Survey in Great Britain. Nicotine Tob Res 2015;17:1187-94.	*Drop-out rate*
Joffer J., Burell G., Bergstrom E., Stenlund H., Sjors L., Jerden L. Predictors of smoking among Swedish adolescents. BMC Public Health 2014;14:1296.	*Judgement, drop-out rate*
Kasza K. A., Coleman B., Sharma E., Conway K. P., Cummings K. M., Goniewicz M. L., et al. Correlates of transitions in tobacco product use by U.S. adult tobacco users between 2013–2014 and 2014–2015:	*Exposure*

Findings from the path study wave 1 and wave 2. Int J Environ Res Public Health 2018;15.	
Kong G., Mayer M. E., Barrington-Trimis J. L., McConnell R., Leventhal A. M., Krishnan-Sarin S. Longitudinal associations between use and co-use of cigars and cigarettes: A pooled analysis of three adolescent cohorts. Drug Alcohol Depend 2019;201:45-8.	*Overall assessment*
Nowariak E. N. S., Lien R. K., Boyle R. G., Amato M. S., Beebe L. A. Ecigarette use among treatment-seeking smokers: Moderation of abstinence by use frequency. Addictive Behaviors 2018;77:137-42.	*Exposure, drop-out rate*
Pearson J. L., Stanton C. A., Cha S., Niaura R. S., Luta G., Graham A. L. E-Cigarettes and Smoking Cessation: Insights and Cautions From a Secondary Analysis of Data From a Study of Online Treatment-Seeking Smokers. Nicotine Tob Res 2015;17:1219-27.	*Overall assessment*
Rigotti N. A., Chang Y., Tindle H. A., Kalkhoran S. M., Levy D. E., Regan S., et al. Association of E-Cigarette Use With Smoking Cessation Among Smokers Who Plan to Quit After a Hospitalization: A Prospective Study. Ann Intern Med 2018;168:613-20.	*Judgement*
Russo C., Cibella F., Mondati E., Caponnetto P., Frazzetto E., Caruso M., et al. Lack of Substantial Post-Cessation Weight Increase in Electronic Cigarettes Users. Int J Environ Res Public Health [Electronic Resource] 2018;15:23.	*Judgement, reporting*
Shi Y., Pierce J. P., White M., Vijayaraghavan M., Compton W., Conway K., et al. E-cigarette use and smoking reduction or cessation in the 2010/2011 TUSCPS longitudinal cohort. BMC Public Health 2016;16:1105.	*Drop-out rate*
Sweet L., Brasky T. M., Cooper S., Doogan N., Hinton A., Klein E. G., et al. Quitting Behaviors among Dual Cigarette/E-cigarette Users and Cigarette Smokers Enrolled in the Tobacco User Adult Cohort (TUAC). Nicotine Tob Res 2018;20:20.	*Selection*
Vickerman K. A., Carpenter K. M., Altman T., Nash C. M., Zbikowski S. M. Use of electronic cigarettes among state tobacco cessation quitline callers. Nicotine Tob Res 2013;15:1787-91.	*Selection, exposure, judgement, drop-out rate*
Vickerman K. A., Schauer G. L., Malarcher A. M., Zhang L., Mowery P., Nash C. M. Reasons for Electronic Nicotine Delivery System use and smoking abstinence at 6 months: a descriptive study of callers to employer and health plan-sponsored quitlines. Tob Control 2017;26:126-34.	*Selection, drop-out rate*
Wang M. P., Li W. H., Wu Y., Lam T. H., Chan S. S. Electronic cigarette use is not associated with quitting of conventional cigarettes in youth smokers.	*Selection*

Pediatric Research 2017;82:14-8.	
Young-Wolff K. C., Klebaner D., Folck B., Tan A. S. L., Fogelberg R., Sarovar V., et al. Documentation of e-cigarette use and associations with smoking from 2012 to 2015 in an integrated healthcare delivery system. Preventive Medicine 2018;109:113–18.	*Exposure, judgement*
Zawertailo L., Pavlov D., Ivanova A., Ng G., Baliunas D., Selby P. Concurrent E-Cigarette Use During Tobacco Dependence Treatment in Primary Care Settings: Association With Smoking Cessation at Three and Six Months. Nicotine Tob Res 2017;19:183-9.	*Exposure, drop-out rate*

Table S5. Characteristics of included cohort studies with low and moderate risk of bias

First author Publication year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Definition of smokers Exposure Outcome**	**Results**	**Risk of bias**
Al-Delaimy 2015 [39] USA	**Design** Prospective cohort – California Smokers Cohort (CSC) **Time to follow-up** 1 year **Description of cohort** Current and former smokers in California, 18–59 years old. Telephone interview. N= 4,350, response rate baseline survey 23.4% **Study period** 2011–2013	**Population** Current smokers at baseline, who provided information in both baseline and follow-up surveys. N= 1000 *Age (years)*: 18—44: 30.2% 45—59: 69.8% *Sex:* F: 52.2%, M: 47.8% *Ethnicity:* Non- Hispanic white: 72.6% Hispanic: 9.9%, Other: 17.5% *Education, (years):* ≤12: 34.8%, 13–15: 44.9% ≥16: 20.3% Smoking status: Daily smoker: 83.7% Non-daily smoker: 16.6% Motivation to quit: intended to quit smoking in the next 6 months	**Definition of smokers** *Smoker:* Persons who have smoked at least 100 cigarettes during their lifetime. *Current smokers:* Smoked at least 100 cigarettes during lifetime and smoked at least some days at the time of the survey **Exposure** Ever use of e-cigarettes: Respondents who reported "have used e-cigarettes" at T0 and T1, respondents who changed status between T0 and T1 were excluded. Never use of e-cigarettes: Respondents who reported "will never use e-cigarettes" at T0 and T1. Respondents who changed status between T0 and T1 were excluded form analysis. **Outcome**	***Adjusted model:*** adjusted for age, gender, education, ethnicity, smoking status, intention to quit, and time to first cigarette. **Smokers at T0** **Outcome: Abstinence from cigarette use (at least one month) at T1:** Never e-cigarette users: 32/177 (18.1%) Ever e-cigarette users: 12/191 (6.3%) *Adjusted model (AOR, 95% CI)* Never e-cigarette users: OR:1.0 Ever e-cigarette users: 0.41 (0.18; 0.93)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
		Yes: 43.4%, No:56.6% **Drop-out rate** 632/1000 (63.2%) of respondents were excluded from analyses since it was not possible to classify them as either ever or never e-cigarette users.	Respondent was considered abstinent if abstinent from cigarette use, for 1 month or longer.		
Barrington-Trimis 2019 [21] US	**Design** Prospective cohort study. Pooled data from three cohorts: Children's Health Study (CHS), Yale Adolescent Survey Study (YASS) and Happiness and Health (HH). **Time to follow-up** 1 year **Description of cohort** CHS included participants in	**Population** American adolescents and young adults. N=6147 CHS N=1553 HH N=3190 YASS N=1404 *Age* NR grades 9 to 12 *Sex, %* F: 3291, 53.5 CHS: 801, 51.6 HH: 1723, 54.0 YASS: 767, 54.6 M: 2856, 46,5 100–53.5= 46.5%	**Definition of smokers** "Participants who had "never tried" a cigarette (not "even one or two puffs") were classified as "never users." Those reporting age at first use of cigarettes were classified as "ever users" of cigarettes. **Exposure** Past 30 days e-cigarette use **Outcome** Participants who reported use of e-cigarettes, but not cigarettes, in the past 30 days were classified as "exclusive e-cigarette users," participants who reported use of cigarettes, but not e-cigarettes, in the past 30 days were classified as "exclusive cigarette users," and	**Adjusted model:** na **Ever users of cigarettes Outcome: use of cigarettes in the past 30 days** E-cigarette never users: 27/152 (17.8%) E-cigarette ever users: 187/524 (35.7%) **Ever users of cigarettes Outcome: stop using cigarettes (the past 30 days)** E-cigarette never users: 12/152 (7.9%) E-cigarette ever users: 69/524 (13.2%)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	grades 11 or 12 at baseline HH included participants in grade 9 at baseline YASS included participants in grades 9 to 12 at baseline **Study period** T0 2013 to 2014 T1 2014 to 2015	*Ethnicity, %* *Hispanic white:* 2329, 37.9 CHS: 758, 48.8 HH: 1505, 47.2 YASS: 66, 4.7 *Non-Hispanic white:* 2302, 37.4 CHS: 592, 38.1 HH: 512, 16.0 YASS: 1198, 85.3 *Other* 1516, 24.7 CHS: 203, 13.1 HH: 1173, 36.8 YASS: 140, 10.0 *Intention to stop smoking (% yes)* NA *Cigarettes per day:* NA **Response rate** CHS 94.6% HH 93,7% YASS 92%	participants who reported use of both products in the past 30 days were considered “dual product users.”		

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
Barrington-Trimis 2018 [22] USA	**Design** Prospective cohort study. Pooled data from three cohorts: Children's Health Study (CHS), Yale Adolescent Survey Study (YASS) and Happiness and Health (H&H). **Time to follow-up** 1 year (CHS, H&H). 6 months (YASS). **Description of cohorts** CHS: schools in 12 communities in California. N= 1 553, response rate 74.0%.	**Population** 9th to 12th grade youth from schools in California and Connecticut (USA) who completed baseline and follow-up surveys. *Students that completed the follow-up:* N (CHS)=1,553 N (H&H)=3,190 N (YASS)=1,404 *Age* Around 18 years at T1 *Sex* F (CHS)= 51.6% F (H&H)= 54.0% F (YASS)= 54.6% *Ethnicity:* *CHS:* White: 38.1% Hispanic: 48.8% Other: 13.1%. *H&H:* White: 16.0% Hispanic: 47.2%	**Definition of smokers** *Baseline categories* *Never users:* respondents who had never tried a product, not even 1 puff or 2. **Ever users:* having used **Exposure** E-cigarette user: Never users: never used not even 1 or 2 puffs at T0. Experimenters: ever users but not in the past 30 days. Infrequent users: use 1—2 days in the past 30 days Frequent users: used 3—5 or more times in the past 30 days. Exclusive e-cigarette user: respondents using e-cigarettes, but not cigarettes, in the past 30 days. **Outcome** Cigarette Smoking in the past 30 days **Experimentation (initiation between baseline and follow-up but no use in the past 30 days).*	***Adjusted model:*** All models were adjusted for gender, race/ethnicity, grade, and cohort. **Smokers at T0** **Outcome: Non-smokers (past 30 days) at T1; n(%):** Non-e-cigarette users at T0: 12/27 (44.4%) E-cigarette ever users at T0: 36/108 (33.3%)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	H&H: 10 schools in the greater Los Angeles area (California). N= 3,190, response rate 93.9%. YASS: 3 high schools in Connecticut. N=1,404, match rate T0–T1 60.0%. Questionnaire completed under study staff supervision in school classrooms. Follow-up conducted through online questionnaire in the CHS cohort. **Study period** T0: 2013–2014 T1: 2014–2016	Other: 36.8%. *YASS:* White: 85.3% Hispanic: 4.7% Other: 10.0%. *Education:* *Na* **Drop-out rate** CHS= 544/2097 (25.9%) H&H= 207/3397 (6.1%) YASS=936/2,340 (40.0%)	**Infrequent (use of 1–2 in the past 30 days).* **Frequent (use of 3–5 or more in the past 30 days).*		
Benmarhnia	**Design**	**Population**	**Definition of smokers**	***Adjusted model:*** NA	Low

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
2018 [40] USA	Cohort study – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up** Follow-up: 1 year. **Description of cohort** Non-institutionalised US population 12 years of age and older. 45 971 participants from across the USA in wave 1, of which (32 320 were adults and 13 651 were youths aged 12–17). Weighted response rate T0 74%.	Participants who were 18 years or older, current cigarette smokers and who reported having tried to quit smoking within the last year at the time of follow-up (T1). T0: N=10,851 current smokers T1: N=3,093 current smokers who answered both waves, having tried to quit smoking between T0–T1 and provided complete details. *Age* All adults, age 18 or older. 49.1% were younger than 35 years. *Sex* F: 51.2% M: 48.8% *Ethnicity:* White: 64.5% Non-white: 35.5% *Education* 88.7% did not have a college degree **Drop-out rate** NA.	Current smokers: regularly smoking cigarettes every day or some days **Exposure** Any use of e-cigarettes during quit attempt (compared to use of other products i.e. NRT/Varenicline/Buproprion/nothing). **Outcome** Persistent abstinence: ≥30 days abstinence from smoking cigarettes and all tobacco at T1.	**Current smokers (T0): Outcome (T1): Quit smoking cigarettes, n(%):** E-cigarette user during follow up: 133/769 (17.3%) E-cigarette non-user during follow-up: 49/2601 (1.9%) **Current smokers (T0) Outcome (T1): Quit smoking cigarettes (≥30 days)** E-cigarette user at T0: 120/756 (15.9%) E-cigarette non-user at T0: 365/2337 (15.6%)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Data collection by in-household audio-computer assisted self-interviews in English and Spanish. Address-based area probability sample design. **Study period** T0: 2013–2014 T1: 2014–2015	1990/10851 (18.3%) lost to follow-up at T1 (not necessarily eligible for analysis as information on quit attempt was collected at T1). 56/3149 (1.8%) excluded due to incomplete details on quit attempt, leaving a sample of 3093 for this analysis.			
Berry 2019 [32] USA	**Design** Prospective cohort – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up** 1–2 years	**Population** Current cigarette smokers at T0 aged ≥25 years who were not current e-cigarette users at T0. N=5832 (T0) N= 5124 (T1) Motivation to quit: 45.0 % of sample reported attempting to quit smoking in the year prior to T0.	**Definition of smokers** Current smokers: Smoking more than 100 cigarettes in their lifetime and currently smoked every day or on some days Former smokers: Current smokers at T0, who reported not smoking every day or some days at T1 and had not smoked any cigarettes in the 30 days prior to T1.	**Adjusted model** Logistic regression adjusted for sex, age, race/ethnicity, region, household income, education, living in a smoking household as a child, currently living with a cigarette smoker, frequency and intensity of cigarette use, time to first cigarette in the morning, and prior quit attempt.	Low

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Setting Non-institutionalised US population 12 years of age and older. 45 971 participants from across the USA in wave 1, of which (32 320 were adults and 13 651 were youths aged 12–17). The weighted retention rate between wave 1 and 2 was approximately 83 % for the cohort. **Study period** T0: 2013–2014 T1: 2014–2015	*Age:* Adults age 25 or older. approximately 75% of the sample younger than 55 years *Sex*: F: 45% M: 55%) *Ethnicity:* Hispanic: 10.1% Non-Hispanic black: 14.8% Non-Hispanic white: 69.8% Non-Hispanic other: 5.4% *Education:* Less than high school: 16.3% High school: 39.7% Some college: 32.3% Bachelor's/advanced degree: 11.7% Drop-out rate NA For sample 708 individuals excluded for missing observations: 708/5832=12.1 %	Smokers who did not smoke every day or some days but smoked ≥1 cigarette over the past 30 days (n=133) were reclassified as current smokers at T1 and were not considered to have quit smoking cigarettes. **Exposure** E-cigarette use between T0 and T1. Current e-cigarette users: currently using e-cigarettes experimentally (no 'regular' e-cigarette use), on some days or every day **Outcome** ≥30-day abstinence from cigarette smoking.	**Current users of cigarettes** **Outcome: stop use of cigarettes; n=5124** E-cigarette never users: 294/4461 E-cigarette experimental users: 13/358 E-cigarette some-day users: 6/178 E-cigarette everyday users: 40/127 E-cigarette ever_users: 59/663 (8.9%) *Adjusted model:* **Current smokers (T0)** **Outcome: 30-Day cigarette cessation at T1, (n=5,124), AOR (95% CI):** Non-e-cigarette user: 1.00 Experimental e-cigarette user: 0.51 (0.26; 1.00) Some-day e-cigarette user: 0.51 (0.17; 1.47) Everyday e-cigarette user: 7.88 (4.45; 13.95)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
				E-cigarette user (Pooled): 2.02 (1.35, 3.03)	
Biener 2015 [31] USA	**Design** Prospective cohort **Time to follow-up** 2 years **Description of cohort** A population-based survey of adults residing in the Dallas/Fort Worth metropolitan area, Texas, and Indianapolis, Indiana metropolitan areas. The study was carried out in 2011/2012, was designed to	**Population** Adult cigarette smokers who agreed to be contacted for follow-up. Cigarette smoking adults in two US metropolitan areas, Dallas/Fort Worth, Texas and Indianapolis, Indiana metropolitan. Subset of respondents in a population-based study. *Motivation to quit:* For 52.6% of e-cigarette users the most important reason for starting to use E-cigarettes was the hope that e-cigarettes would help them quit smoking. N= 1374 (Baseline) N=695 *Age:* 18–65 years *Sex*: Men: 57.3%; Women: (42.7%)	**Definition of smokers:** All respondents reported being cigarette smokers at baseline **Exposure** Reported e-cigarette use at T0, grouped into three categories: Intensive user: daily use for at least 1 month Intermittent user: used more than once or twice but not daily for a month or more. Non-user/tirer: non-use or at most once or twice. **Outcome** Smoking cessation defined as abstinence from cigarettes for at least 1 month	**Adjusted model:** adjusted for gender, age, ethnicity, education, heavy smokers and electronic cigarette use *All data are from adjusted models* **Current smokers (T0) Outcome: Quit smoking cigarettes (>=30 days) (T1), OR (95% CI), (n=695)** Non-e-cigarette use/trial: 1.00 Intermittent e-cigarette use: 0.31 (0.04; 2.80) Intensive e-cigarette use: 6.07 (1.11; 33.18) E-cigarette user (Pooled): 1.80 (0.49; 6.67)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	assess receptivity to snus. A dual-frame, address-based sample with data collected via telephone interviews and a small supplementary mail survey. N=5,155, of which 1,675 were smokers interviewed by telephone. Of these N=1,374 gave permission to be re-contacted. **Study period** T0: 2011/2012 T1: 2014	*Ethnicity:* White/non-Hispanic: 82.6% Minority: 17.5% *Education:* <4 years of college:76.2% ≥4 years of college or bachelor's degree: 23.8% **Drop-out rate** N=679/1,374 (49.4%) between T0 and T1			
Brose 2015	**Design**	**Population**	**Definition of smokers** Current cigarette smoker at T0	**Adjusted model:** Adjusted for age, gender, education.	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
[44] United Kingdom	Prospective cohort **Time to follow-up** 1 year **Description of cohort** Web-based longitudinal survey of a national general population sample in the UK. 23 785 participants screened for smoking status. 6165 of which had smoked in the past year. Survey completed by 4064 smokers. Follow-up completed by	Adult smokers, who had smoked in the past year. N=1,656 population in the cessation analysis N= 1,042 (smokers initiating e-cigarette use after T0 primary reduction analysis *Mean age (SD)*: 45.7 (15.3) years *Sex*: Men: 56.5%; Women: 43.5% *Ethnicity: Not reported* *Education:* *No higher education:64.9%* *Some higher education: 35.1%* **Drop-out rate** Non-responders between T1 and T2: 2305/4064= 56.7% Excluded from cessation analysis: 245/1,759 = 13.9% Excluded from primary reduction analysis: 859/1,759=48.8%	**Exposure** Daily or non-daily e-cigarette use The primary reduction analysis included smokers using e-cigarettes at T1 but not T0. **Outcome** Smoking cessation: change from being a smoker at baseline to be an ex-smoker at follow-up.	baseline variables, dependence (strength of urges to smoke) and non-cigarette nicotine intake (at baseline for cessation and at time of follow-up for reduction). **Current smokers (T0) (n=1656)** **Outcome: Smoking cessation at T1, OR (95% CI)** *Numbers in each category, n (%):* E-cigarette non-use (T1): 168/1307 (12.9%) E-cigarette *non-daily* use: 25/263 (9.5%) E-cigarette *daily* use: 7/86 (8.1%) *Unadjusted model:* E-cigarette non-use: 1.00 E-cigarette *non-daily* use: 0.71 (0.46; 1.11), p= 0.13 E-cigarette *daily* use: 0.60 (0.27; 1.32) p=0.21	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	1759, response-rate 43.3%. **Study period** T0: 2012 T1:2013			*Adjusted model:* E-cigarette non-use: 1.00 E-cigarette *non-daily* use: 0.77 (0.49;1.21), p= 0.25 E-cigarette *daily* use: 0.62 (0.28;1.37) p=0.24 E-cigarette any use: 0.73 (0.48;1.09) p=0.13	
Chen 2018 [34] USA	**Design** Prospective cohort – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up** 1 year **Description of cohort** Non-institutionalised	**Population** Young adult (aged 18–34) cigarette smokers at T0 and current e-cigarette users at T1 N=4,645 (T0) Cigarette smoking frequency*, *% (95% CI)*: Some days: 29.2 (27.3, 31.1) Every day: 70.8 (69.0, 72.7) Quit attempt in the past year*, *% (95% CI)*: Yes: 25.4 (23.8, 27.1) No: 74.6 (72.9, 76.2= *Age*, % (95% CI)*:	**Definition of smokers** Smoking at least "some days" and having smoked at least 100 cigarettes in their lifetime at T0 Quitter: respondents who indicated smoking cigarettes at T0 but not T1 Reducer: those classified as "everyday smokers" at T0 but "some-day" smokers at T1. **Exposure** E-cigarette use (defined as using e-cigarettes "some days" or "everyday") at T1	**Adjusted model**; adjusted for: age group, gender, past year quit attempts and cigarette dependence **Smokers at T0 (n=4,645)** **Outcome:** **Reducer/Quitter at T1, OR (95% CI):** *Unadjusted model:* Non-E-cigarette Use: 1.00 E-cigarette Use with TM Flavors: 0.8 (0.6; 1.2) E-cigarette Use with One NTM Flavors: 1.9 (1.4; 2.7)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	US population 12 years of age and older. 45 971 participants from across the USA in wave 1, of which (32 320 were adults and 13 651 were youths aged 12–17). [1] Survey, structured questionnaire, audio computer-assisted self-interviews **Study period** T0: 2013–2014 T1: 2014–2015	18–24 years: 39.1% (37.0, 40.4) 25–34 years: 60.9% (59.6, 63.0) *Sex*, % (95% CI):* F: 42.9 (41.1; 44.7) M: 57.1 (55.4; 58.9) *Ethnicity** % (95% CI): Non-Hispanic Whites: 62.4 (60.7; 64.2) Non-Hispanic Blacks: 13.7 (12.5; 15.0) Hispanics: 16.8 (15.5; 18.1) Non-Hispanics Others: 7.1 (6.0; 8.3) *Education**, % (95% CI)*:* Below high school: 25.4 (24.0; 26.9) High school: 27.8 (26.2; 29.5) Above high school:46.8 (45.1; 48.5) *weighted values **Drop-out rate** The young adult retention rate of PATH between T0 and T1 was 80.5%	E-cigarette flavors used at T1: Tobacco/Menthol (TM) Non-Tobacco/non-Menthol (NTM) **Outcome** Quitters: smoking at least some days at T0 but not smoking at T1 Reducers: smoking every day at T0 but some days at T1. Consistent smokers: did not change smoking status or increased smoking frequency.	E-cigarette Use with Multiple NTM Flavors: 2.0 (1.6; 2.5) E-cigarette user (Pooled): 1.53 (1.31, 1.78) *Adjusted model:* Non-E-cigarette Use: 1.00 E-cigarette Use with TM Flavors: 1.2 (0.8; 1.8) E-cigarette Use with One NTM Flavors: 2.5 (1.6; 3.8) E-cigarette Use with Multiple NTM Flavors: 3.0 (2.1; 4.3) E-cigarette user (Pooled): 2.13 (1.69, 2.68)	
Curry 2017 [35]	**Design** Longitudinal observational	**Population** Participants were ≥ 18 years old, self-reported daily use of	**Data collection** Survey	**Adjusted model:** NA **Smokers at T1, n=217**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
USA	study (secondary analysis of an RCT) **Time to follow-up** 3, 6, and 12 months (T1) **Description of cohort:** Ohio Appalachian adults who wanted to quit smoking and were enrolled in a community wide treatment trial. Six counties each were randomly assigned to one of two treatment conditions: face-to-face counseling or referral to the Ohio Tobacco	combustible tobacco, resident of a participating county, no contraindication to NRT, if female, non-pregnant, willing to participate in study protocol; and provision of written informed consent. Only participants who provided complete answers on tobacco use at T0 were included. N= 217 *Age* 18-24: 3.3 % 25-54: 60.0 % Age ≥55: N36.9 % *Sex*: Female: 70.0%; Male: 30.0% *Ethnicity*: White: 94.9 % ; Other: 5.1 % *Education:* Less than high school: 10.2% More than high school: 55.0% **Drop-out rate** Na	**Definition of smokers** Any kind of tobacco in the past 7 days. **Exposure** *E-cigarette use post-treatment:* Self-reported past 7-day e-cigarette use (every day or some days) **Outcome** Tobacco abstinence: self-report of no tobacco use, in the past 7 days as confirmed by a saliva cotinine concentration of <15 ng/mL, or by expired air carbon monoxide level of < 8 parts per million if participant was using NRT or e-cigarettes.	**Outcome: Tobacco abstinence at 12 months follow-up, % (SE):** No e-cigarette post-treatment use, 33/174: 19% (3.0) E-cigarette post-treatment use, n=2/43: 4.7% (3.2) **Outcome: Tobacco abstinence at 12 months follow-up, OR (95% CI):** No e-cigarette post-treatment use: 1.00 E-cigarette post-treatment use: 0.208 (0.048; 0.906) **Stratified by baseline e-cig use** **Smokers at T1, n=217.** **Outcome: Tobacco abstinence at 12 months follow-up, % (SE):** No baseline use, No e-cigarette post-treatment use, n=150: 19.3% (3.2) Baseline use, No e-cigarette post-treatment use, n=24: 16.7% (7.6)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Quitline. Both treatment conditions included standardised cognitive-behavioral counseling and free NRT (daily 21 mg patch for 8 weeks). As there was no statistically significant difference in 12-month abstinence by treatment condition (p = .29) and use of e-cigarettes was similar between treatment conditions (p = .49), data were combined for this secondary analysis. Data			No baseline use, E-cigarette post-treatment use, n=28: 3.6% (3.5) Baseline use, E-cigarette post-treatment use, n=15: 6.7% (6.4) **Outcome: Tobacco abstinence at 12 months follow-up, OR (95% CI):** No baseline use, No e-cigarette post-treatment use: 1.00 Baseline use, No e-cigarette post-treatment use: 0.834 (0.265; 2.629) No baseline use, E-cigarette post-treatment use: 0.155 (0.020; 1.184) Baseline use, E-cigarette post-treatment use: 0.298 (0.038; 2.359)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	collection by survey. **Study period** 2010–2013, the secondary analysis includes a subset of participants enrolled 2012–2013				
Flacco 2019 [45] Italy	**Design** Observational study, 4 year follow up, contact via phone or internet **Time to follow-up** 4 years **Description of cohort** Participants were recruited via general	**Population** Adults between the ages of 30 and 75 who have smoked tobacco (only), e-cig (only), or both (dual users) for at least 6 months. N = 915 at 4-year-followup 471 tobacco smokers 228 e-cig smokers 216 dual users *Age* Mean (SD)= 48.4 (na) *Sex, %* F: 43.7%; M: 56.3%	**Definition of smokers** Tobacco smokers smoke ≥1 cigarette/day E-cig users inhale ≥50 puffs weekly from any type of e-cig Dual users use both tobacco and e-cig as defined above. Smoking abstinence is defined as complete abstinence from tobacco smoking (not even a puff) for the 30 days period prior to the visit. **Exposure** E-cig users inhale ≥50 puffs weekly from any type of e-cig	**Adjusted model:** Multivariate random-effect logistic/linear regression, with geographical region as the cluster unit, adjusted for baseline age, gender, BMI, marital status, educational level, occupation, alcohol use, hypertension, hypercholesterolemia, diabetes, self-rated health, smoking/vaping amount, and years of tobacco smoking.	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	practitioners, e-cigarette shops, internet advertisements, and social networks **Study period** T0 2013	*Ethnicity, %:* Italian 100% **Drop-out rate** Total enrolled 1355 N=959 at 12-month follow-up (provided some data) 70.8%	A1 Provided data at 12-month follow-up, exposure defined by baseline use status, regardless of product use switching A2 Provided data at 48-month follow-up, exposure defined by baseline use status, regardless of product use switching A3 Provided data at 48-month follow-up, exposure defined by baseline use status, never switched product use **Outcomes** Rate of cessation of all products (>30 days): Quit all products, Quit tobacco Rate of abstinence/cessation from tobacco smoking at 48 months	**Current users of combustible tobacco** **Outcome: Stop use of combustible tobacco product (4-year follow-up)** E-cigarette never users: 126/471 E-cigarette ever users: 73/216 **Association between e-cigarette use and continuous <u>tobacco abstinence</u> from baseline or <u>cessation from tobacco</u> during follow-up.** Adjusted OR (95%CI) = 1.41 (0.98 to 2.02); p= 0.066	
Gomajee 2019 [46] France	**Design** Prospective cohort (subgroup analysis), (CONSTANCES)	**Population** Daily smokers N=5400 n=4578 e-cig non-users n=822 e-cigarette users	**Definition of smokers** An active smoker reported currently smoking at least 1 cigarette per day	**Adjusted for:** age, sex, educational level, income, financial difficulties,	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Time to follow-up 2 years **Description of cohort** The CONSTANCES cohort was designed as a randomly selected sample of 200 000 adults drawn from France's compulsory health insurance scheme. Sampling adjusted to get more representation from normally underrepresented groups. **Study period**	*Age (smokers)* E-cigarette-non-users: mean (SD)=44.7 (12.5) E-cigarette-users: mean (SD)=45.9 (11.6) *Sex, %* F: 53.8% *E-cig-non-users:* 54.8% *E-cig-users:* 48.5% *M:* 46.2% *E-cig-non-users:* 45.2% *E-cig-users:* 51.5% *Ethnicity, %* *Non-French:* 1.7% *Education:* *No tertiary education:* 45.0% *E-cigarette-non-users:* 46,8% *E-cigarette-users:* 45.9% *Cigarettes per day (IQR):* *E-cigarette-non-users:* 10.0 (5 to 15) *E-cigarette-users:*	A pack-year is defined as 20 cigarettes smoked every day for 1 year **Exposure** Participants reported current regular (daily) e-cig use (yes or no) at T0. **Outcome** The number of cigarettes smoked per day Smoking cessation among smokers (i.e. 0 cigarettes per day in any year of follow-up)	marital status, number of cigarettes smoked at baseline, number of pack-years of smoking, duration of previous quit attempts, history of depression and depression at baseline and respiratory problems. **Current users of combustible tobacco** **Outcome: Longitudinal changes in smoking cessation** - **unadjusted RR (95%CI):** E-cigarette never users, n=4578: reference E-cigarette ever users, n=822: 1.59 (1.45 to 1.76) Group difference (95% CI) = p< 0.001	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	T0 Jan 2012 to 2015 T1 Feb 2017 to Oct 2018	11.0 (8 to 17) **Selection of data / missing data** N=40 311 participants with at least 1 completed follow up report Excluded participants with no data collected on e-cig use (1023 daily smokers and 21 former smokers) E-cig users at baseline = 194 Overall, less than 2% of data were missing, except for data on number of pack-years of smoking, which were unavailable for 718 of 7425 participants (9.7%).		**Outcome: Longitudinal changes in smoking cessation** - **adjusted RR (95%CI):** E-cigarette never users, n=4578: reference E-cigarette ever users, n=822: 1.67 (1.51 to 1.84) Group difference (95% CI) = p< 0.001	
Grana 2014 [42] USA	**Design** Longitudinal cohort – Knowledge networks (now GfK) **Time to follow-up** 1 year **Description of cohort**	**Population** completed both the baseline and the follow-up surveys and were current cigarette smokers. Current smokers who completed the baseline and follow-up survey. N= 1189 *Age (years)*: 18–29: 9.4% 30–44: 20.5% 45–59: 46.4% ≥60: 23.7%	**Definition of smokers** Current cigarette smokers: smoking cigarettes in the past 30 days **Exposure at time T0** E-cigarette use: use of e-cigarettes at least once in the last 30 days. **Outcome at time T1** Smoking status: quit smoking (not defined).	***Adjusted model:*** Adjusted for intent to quit, consumption of cigarettes and dependence. Regression analyses including demographic variable s (age, sex, education, ethnicity) found that none of these variables were significant, so they were omitted from the final models. **Smokers at T0**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Probability-based web-enabled panel of a national sample of current US smokers **Study period** 2011–2012	*Sex:* F: 52.4%: M: 47.6% *Ethnicity:* White, non-Hispanic: 75.3% Black, non-Hispanic: 10.4% Hispanic: 8.3% Other, non-Hispanic: 5.9% *Education (%):* Less than high school: 9.2% High school: 39.6% Some college: 32.6% College and higher: 18.7% *Intention to quit:* Never expect to quit: 12.4% Will quit, but not in the next 6 m: 57.0% Will quit in the next 6 m: 23.8% Will quit within next month: 6.8% **Drop-out rate** Response rate 81.9 %. Respondents who provided nonsensical data were excluded, yielding a final sample of N=949 (79.8%)		**Outcome: Cigarette non-users at T1:** Non e-cigarette users: 119/861 (13.8%) E-cigarette users: 9/88 (10.2%) *Unadjusted model:* Non e-cigarette users: OR:1.0 E-cigarette ever users: OR: 0.71 (0.35-1.46), p=0.35 *Adjusted model:* Non e-cigarette users: OR:1.0 E-cigarette past 30-day users: OR: 0.76 (0.36-1.60)	

First author Publication year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Definition of smokers Exposure Outcome**	**Results**	**Risk of bias**
Hair 2019 [33] USA	**Design** Prospective cohort – Sample drawn from the Truth Longitudinal Cohort and subsamples from the GfK's Knowledge Panel and recruited through random digit dialling. **Time to follow-up** Follow up period: 6 months, in total 6 waves **Setting** A large, probability-based, nationally representative sample of youth and young adults (drawn from the Truth	**Population** Youth and young adults, 15–21 years old, who completed two or more follow up surveys across six waves. N=15,275 (Completed at least two waves, i.e. 6 months follow-up) *Age:* Mean: 18.61 yrs. SD: 2.11 *Sex:* F: 48.7%; M: 51.3% *Ethnicity:* White: 66.6%; Other: 33.1%; No info: 0.03% *Parent education:* More than High school: 84.0% High school or less: 14.6% No information: 1.4% **Drop-out rate** Retention rates across all waves ranged from 61% to 71%.	**Definition of smokers** *Combustible tobacco:* Includes cigarettes hookah and all types of cigars **Exposure** ENDS use*:* includes e-cigarettes and e-hookah. ENDS use defined as never, non-current (not in the past 30 days), ENDS-only use, Dual use and combustible only use (i.e. no ENDS). **Outcome** Transitions between never use, noncurrent use, and past 30-day use of combustible tobacco, e-cigarettes (ENDS), and dual use of both kinds of products. *Current use:* Use of combustible tobacco in the past 30 days. *Smoking cessation:* No use of combustible tobacco in past 30 days.	***Adjusted model*** adjusted for age, gender, ethnicity, parental education *All data is calculated from the adjusted model:* **Smokers at T0** **Outcome (T1): Stopped smoking 30 d; n(%)** Combustible only: 547/1359 (40.2%) Dual use:252/932 (27.0%)	Low

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Longitudinal Cohort (TLC)). Subsamples recruited through random digit dialling and from GfK's Knowledge Panel. **Study period** T0: 2014–2017. T0: time of first observation, T1: 6 months later.				
Hammond 2017 [43] Canada	**Design** Cohort study (COMPASS) **Time to follow-up** 1 year **Setting** Students in 9th – 12th grades in 86 selected Canadian	**Population** Canadian secondary school students. N= 57 229 (enrolled T0) N=44 163 (analysed T0)) N=41 262 (analysed T1) N=19 310 (longitudinal; answered both waves) *Age (years at T0)* *≤14: 32.4* *15: 33.7%* *16: 27.1%*	**Definition of smokers** *Current daily smokers:* Smoked ≥100 cigarettes in a lifetime and smoked every day the past 30 days *Current occasional smokers:* Smoked ≥100 cigarettes in a lifetime and smoked ≥1 day but less than 30 in the past 30 days *Experimental smokers:* smoked ≥1 cigarette but less than 100 in a lifetime.	***Adjusted model*** for both outcomes, the models were adjusted for age, sex, race/ethnicity, spending money, smoking status, and past 30-day e-cigarette use as fixed effects, and a random effect of school (to account for student clustering within schools). **Current cigarette smokers at T0, n=455,**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	secondary schools. Data collected using paper-based surveys administered by teachers, under the supervision of study research assistants. **Study period** T0: 2013/14 T1: 2014/15	*17: 6.2%* *≥18:* 102/19310=0.5% *Sex (%)* F: 53.4%; M: 46.6% *Ethnicity:* White: 77.7%; Black: 3.1% Asian: 5.1%; Aboriginal: 2.5% Hispanic/Latino:1.6%; Other/Mixed ethnicity: 10.0%. *Parental education:* NA **Drop-out rate** Participants with missing data were excluded	*Puffers:* Have tired smoking but less than a whole cigarette in a lifetime. **Exposure** Past 30-day use of e-cigarettes at T0 **Outcome** Daily smoking initiation: not ever smoked every day for at least 7 days in a row at T0 but at T1.	**Outcome: Stopped smoking (T1) (n=39):** E-cigarette non-users: 23/39 (59.0%) E-cigarette users: 16/39 (41.0%)	
Harlow 2019 [41] USA	**Design** Prospective cohort – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1]	**Population** PATH participants who were 18 years or older at T0, and established cigarette smokers but not current e-cigarette users T1: N=8,852 T2: N=7,219 (answered both waves) Final sample: N=6,592 *Age*	**Definition of smokers** Dual users (began using e-cigarettes between T0 and T1 and continued smoking cigarettes) Exclusive e-cigarette users (began using e-cigarettes and quit smoking between T0 and T1). Former smokers (did not begin using e-cigarettes and quit smoking). No transition (did not begin using e-cigarettes and continued smoking cigarettes).	***Adjusted model:*** Adjusted for age, sex, ethnicity, geographic region and socio-economy, where income and education were considered two separate proxies for socioeconomic differences. **Current smokers (T0):**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Time to follow-up 1 year **Description of cohort** More than 49 000 participants from across the US. Recruitment using a stratified address-based, area-probability sampling design **Study period** T0: 2013–2014 T1: 2014–2015	About 75% were between 18 and 54 years. 25% were older than 54 years. *Sex* F: 44.39% M: 55.61% *Ethnicity:* White: 68.79% Black: 14.45% Hispanic:10.98% Other: 5.78%. *Education:* Less than high school: 16.2% High school or GED: 39.2% Some or more college: 44.65% **Drop-out rate**, n (%) 2260/8,852 = 25.5% *Non-responders at T1: 1,633.* *Excluded due to non-response and missing data:* 627	**Exposure** Uptake of e-cigarettes between T0 and T1. E-cigarette defined as currently using e-cigarettes every day, some days, or experimentally. E-cigarette use at T0 defined as using e-cigarettes experimentally, some days or every day. **Outcome** Quit smoking: not currently smoking cigarettes, and not having smoked any cigarettes in the past 30 days. *Established cigarette users:* smoking at least 100 cigarettes in their lifetime, and currently smoke every day or some days.	**Outcome (T1): Quit smoking cigarettes, n(%):** E-cigarette ever user (T1): 285/3404 (8.4%) E-cigarette never-user (T1): 238/2839 (8.4%)	
Kasza 2018 [36] USA	**Design** Prospective cohort – US Population Assessment of	**Population** Adult (≥18 years) tobacco users and non-users in the USA, followed for one year.	**Definition of smokers:** *Current cigarette users:* reported smoking at least 100 cigarettes in their lifetime, and currently smoking every day or some days.	***Adjusted model:*** NA **Current smokers at T0** **Outcome: Non-smoking at T1:**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up** 1 year **Description of cohort** Nationally representative longitudinal study of tobacco use, and health among non-institutionalized civilian adults and youths in the U.S. Stratified address-based, area-probability sampling design. Data collected using audio. computer assisted	*Participants who answered both waves*: Young (18-24 years): N=7,324 Older (25 and older): N=19,115 *Age (at T0)* 18-24 years: N= 28.2% 25 or older: N= 71.8% *Sex:* Na *Ethnicity:* Na *Education:* Na **Drop-out rate** *between T0 and T1:* 18-24 years: N=1,785/9,109 (19.6%) 25 and older: N=4,079/23,194 (17.6%)	*Current hookah users:* currently smoking every day, some days, usually weekly or usually monthly. *Current user of other tobacco products:* smoking/using every day or some days. **Exposure** Use of e- cigarettes at baseline, defined as now smoking/using every day or some days **Outcome** Transition from smoking combustible tobacco to no tobacco use or no combustible use in the past 30 days.	*Young adults (18-24 years at T0):* 2527 participants E-cigarette never users: 486/1977 (24.6%) E-cigarette ever users: 77/549 (14.1%) *Older adults (25 years and older at* T0): 8315 participants E-cigarette non-users: 499/3575 (14%) E-cigarette current users: 88/745 (11.8%)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	self-interviews administered in English or Spanish. Weighted response rate for the adult interview was 74.0% at T0 and 83.2% at T1. **Study period** T0: 2013–2014 T1: 2014–2015				
Kurti 2018 [23] USA	**Design** Prospective cohort – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up** 1 year	**Population** All women in reproductive age (18–44 years) who completed the first two waves of the PATH-study. Women not pregnant in either wave: N = 7,480 Women not pregnant at T0 and pregnant at T1: N = 332 Women pregnant at T0 and not pregnant at T1: N = 325. Total: N = 8,137 *Age*	**Definition of smokers** **Non-users:* Did not meet the criteria for using cigarettes or other tobacco products. **Current users:* Smoking ≥100 lifetime cigarettes and smoking every day or some days (current established smokers) or did not report smoking ≥100 lifetime cigarettes but were smoking every day or some days (current experimental smokers).	***Adjusted model:*** NA **Among women not pregnant in either wave** **Current cigarette smokers at T0** **Outcome: no tobacco-use at T1:** E-cigarette non-current users: 125/1062 (11.8%) E-cigarette current users: 27/232 (11.6%)	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Description of cohort Nationally representative longitudinal study of tobacco use, and health among non-institutionalized civilian adults and youths in the U.S. Stratified area probability sample design, with data collection by computer-assisted personal interviewing or audio computer assisted self-interviewing administered in English or Spanish. The overall weighted	18-24 years: 28.0% 25-34 years: 37.4% 35-44 years: 34.7% *Sex* F: 100%; M: 0% *Ethnicity:* White: 57.4%, Black:12.1%; Hispanic: 21.1%, Other: 8.8% *Education Level* <High School/GED:13.2% High School Graduate: 20.0% Some college/ associate degree: 36.4% Bachelor's/Advanced degree:30.5% **Drop-out rate** Seventeen women were pregnant in both waves and were excluded.	*Users of other products (e-cigarettes):* Having ever used the product fairly, regularly and using some days or every day now (current established users), or reported using the product before but not fairly, regularly and using some days or every day now (current experimental users) **Exposure** Current established or current experimental e-cigarette use at T0. **Outcome** Transition from smoking cigarettes to non-use of cigarettes	**Among women not pregnant in either wave** **Current combustible tobacco users at T0** **Outcome: no tobacco-use at T1:** E-cigarette non-users: 220/1272 (17.3%) E-cigarette current users: 27/232 (11.6%)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	response rate was 74.0% at T0, weighted retention rate 88.4% at T1. **Study period** T0: 2013–2014 T1: 2014–2015				
Leventhal 2016 [30] USA	**Design** Prospective cohort study **Time to follow-up** 6 months **Description of cohort** High school students, in 10 public high schools in Los Angeles County, USA. Among 4100 eligible students 82.8% provided	**Population** Students in 10 public high schools T0: N= 3396 T1: N= 3251 Complete smoking and vaping data: N=3084 *Age*: Mean at T0: 15.5 yrs. *Sex:* F: 54.3%, M: 45.7% *Ethnicity:* Hispanic: 47.3%, Other: 52.7% *Parental education: NA* **Drop-out rate**	**Definition of smokers** *Cigarettes* *Non-smoker:* Never used, or not used in the last 30 days *Current user*: Used in the last 30 days *E-cigarettes: Never user* *Prior use:* Ever used, but not used in the past 30 days *Current user:* Used in the last 30 days *Ever used:* Prior and current use **Exposure** Use of e-cigarettes at T0 **Outcome** *Current use of cigarettes: smoking in past 30 days*	***Adjusted model*** adjusted for age, sex, ethnicity, highest parental education, whether the student lived with both parents, ever use of alcohol or drugs, ever use of any combustible tobacco product, family history of smoking, depressive symptoms (Cronbach α =.94), UPPS Impulsive Behavior Scale lack of premeditation (α = .94) and sensation seeking (α =.91) subscales, delinquent behavior (α =.81), peer smoking, smoking susceptibility (α	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	assent and parental consent. Response ratel 96.6% at T0. Surveys administered during school semesters **Study period** T0: 2014 (fall) T1:2015 (spring)	312/3396 (9.2%)	*Smoking frequency*: N.o days of smoking in the last 30 days.	=.87), and smoking expectancies (α = .46). **Current smokers at T0 (n=118)** **Outcome: Non-smokers at T1:** Never e-cigarette users: 9/16 Prior e-cigarette users: 17/28 Current e-cigarette users:35/74 (Pooled) Ever e-cigarette user: 52/102	
Mantey 2017 [24] USA	**Design** Prospective cohort study, the Marketing and Promotions across Colleges in Texas project (Project M-PACT) **Time to follow-up**	**Population** 18–29-year-old college students reporting a history of cigarette smoking at T0, defined as having smoked 100 cigarettes in their lifetimes, were eligible. (N = 1018). Analytical sample: N= 627 *Age* M (SD) = 22.2 (3.1)	**Definition of smokers** *Definition of smoker:* participants reporting a history of cigarette smoking at T0, defined as having smoked 100 cigarettes in their lifetime. *Current smoker:* On the question "reporting smoking cigarettes "everyday" or "someday".	**Adjusted model:** Multilevel analyses were conducted for all models to account for the nesting of participants within their Wave 1 college or university and adjusted for: Cigarettes Smoked Per Day at wave 1, Quit Attempt in Past 12-months at wave 1, age, sex,	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	6 and 12 months **Description of cohort** Project M-PACT is a rapid response surveillance study, collecting data every six month from a cohort of students in 24 colleges in Texas, USA. Students were recruited via email to participate in the online survey regarding tobacco use. 13,714 students eligible to participate in survey, 5,428 provided consent	*Sex* F= 57.3% M= 42.7% *Ethnicity* non-Hispanic white: 50.4% Hispanic/Latino: 28.6% African American: 3.2% Asian-American: 9.1% "other": 8.8% *Education:* Four-year college/university: 549/627 (87.6%) *Smoking behaviour at T0 (% of people):* Quit attempts in the past 12-months: 62.0% Reported use of e-cigarette in the past 30-days for reasons other than cigarette smoking cessation 19.1%, for cigarette smoking cessation 18.5%. **Drop-out rate** Among eligible participants, 391/1018=38.4% missing data.	*Non-cigarette smokers – abstainers/ former smokers:* On the question "Do you now smoke cigarettes?" reporting "not at all". **Exposure** Self-reported use of e-cigarettes (i.e., an e-cigarette, vape pen, or e-hookah) in the past 30-days at T0, even one or 2 puffs, as intended (i.e. with nicotine cartridges and/or e-liquid/e-juice)?" Stratified by "Use for smoking cessation" and "Not use for smoking cessation". **Outcome** Self-reported use of cigarettes "everyday" or "someday"	race/ethnicity , 2 or 4-year college. **Ever cigarette smokers at T0** **Outcome: Cigarette smoking cessation at 6 months follow-up, OR (95%CI)**: *Adjusted model:* *B2) Ever cigarette smokers* E-cigarette non-users: 1.00 E-cigarette users (not for smoking cessation): 0.72 (0.44; 1.19) E-cigarette users (for smoking cessation): 1.95 (1.16; 3.28) E-cigarette user (Pooled): 1.15 (0.81, 1.65) **Ever cigarette smokers at T0** **Outcome: Cigarette smoking cessation 12 months follow-up, OR (95%CI)**: *Adjusted model:* E-cigarette non-users: 1.00	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	and completed survey. **Study period** T0: November 2014 - February 2015. - T1: May-June 2015 - T32: October-November 2015 Retention rates ranging from 79% for T1 and T2 to 79% for T3.			E-cigarette users (not for smoking cessation): 0.81 (0.50 to 1.30) E-cigarette users (for smoking cessation): 1.66 (1.00 to 2.74) E-cigarette user (Pooled): 1.14 (0.80, 1.62)	
Manzoli 2017 [47] Italy	**Design** Prospective cohort study **Time to follow-up** 1–2 years **Description of cohort**	**Population** Adult residents in Italy, 30 to 75-year old smokers of e-cigarettes (inhaling at least 50 puffs/week) or cigarettes (at least 1 cigarette/day), or both, for a minimum of 6 months. Enrolled: N=1,598 Complete baseline data and eligible for inclusion: N= 1,355 Analytical sample (T1): N= 932	**Definition of smokers** *Tobacco smokers*: smoked ≥1 tobacco cigarette/day for ≥6 months *E-cigarette users*: inhaled ≥50 puffs/week of any type of e-cigarette for ≥6 months *Dual users*: smoked tobacco cigarettes and used e-cigarettes for ≥6 months. **Exposure** Use of e-cigarettes	**Adjusted model:** multivariate analyses. Random-effect logistic regression with region as the cluster level, adjusting for the following baseline characteristics: age, gender, BMI, marital status, educational level, occupation, alcohol use, hypertension,	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Participants recruited through newspaper and internet advertisements, and via tobacco outlets, social networks and general practitioners. Data collected by structured questionnaire administered through phone interview and/or by internet. Overall response rate 68.8 %. **Study period** Not reported which year the study was conducted, but enrollment planned for June-December 2013.	*Age*: Mean (SD): 44.4y (11.6) *Sex*: F: 43.8%, M: 56.2% *Ethnicity*: Na *Education:* Elementary/Middle school: 21.6% High school: 46.6% Bachelor or higher: 31.9% **Drop-out rate** T1: 423/1,355= 31.2% 1 year: 330 (20.7 %) 2 year: 27 (22.3 %)	**Outcome** Sustained abstinence from smoking for at least 30 days, at 24 months follow-up. Carbon monoxide levels were tested in 50% of those declaring tobacco smoking abstinence.	hypercholesterolemia, diabetes, self-reported health, years of tobacco smoking, number of tobacco cigarettes smoked per day. A total of 682 participants were included in the final model due to 21 missing items in the self-reported health item at baseline **Current users of conventional cigarettes, at T0** **Outcome: Smoking abstinence of at least 30 days at T1, n (%)** E-cigarette non-users at T1: 111/480 (23.1%) E-cigarette users at T1: 58/223 (26.0%) *Unadjusted OR (95 % CI):* E-cigarette non-users at T0: 1.00 E-cigarette users at T0: 1.17 (0.81; 1.69)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	T0: baseline T1: 24-month follow-up			*Adjusted OR (95 % CI):* E-cigarette non-users at T1: 1.00 E-cigarette users at T1: 1.25 (0.85; 1.84)	
Niaura 2019 [38] USA	**Design** Prospective cohort (analysis of a subset of participants) **Time to follow-up** 6-month intervals over 3 years **Description of cohort** This study used seven consecutive, bi-annual waves of data from the Truth Initiative Young Adult Cohort Study.	**Population** A national sample of US young adult tobacco product users and non-users between the ages of 18 and 34 years at baseline. T0 N=8060 Never use: 3700, 45.9% Non-current use: 2221, 27.5% Dual use: 182, 2.3% Combustible use: 1890; 23.3% E-cig use: 67, 0.8% *Age* Mean (SD) = 25.97 (4.87) years *Sex, %* F: 58%, M: 42% *Ethnicity, %* White: 60.2%	**Definition of smokers** Categories based on self-reported tobacco product use over the last 30-days: - never use - non-current use (respondents who replied they had used a product but not in the last 30 days) - current use - dual use Combustible tobacco: cigarettes, cigars, pipe tobacco, little cigars/cigarillos, or hookah **Exposure** past 30-day use of e-cigarettes **Outcome** Past 30-day use	**Adjusted model:** Transition probabilities between the specified states of interest were estimated in 6-month increments using multistate, continuous time, first-order Markov models. Participant age (in years) at baseline was included as a covariate in the analytic model. *All data from adjusted model* **B2) current users of combustible tobacco; Outcome: use of combustible tobacco product;**	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	The sample was recruited via address-based sampling methods to provide a statistically valid representation of the US population. After Wave 1, subsequent waves included a refreshed sample to retain the initial sample size. **Study period** T0: December 2011 (wave 2) T6: July 2015 (wave 8)	Black: 9.3% Hispanic: 22.8% Other: 7.6% *Education* <High school: 9.5% High school: 21.8% Some college: 39.7% Bachelor or graduate degree: 29.1% **Drop-out rate** Initial recruitment rate ranged from 13.5% to 14.9% across all waves Key demographic information provided by 64.2% to 65.7% of households The completion rate ranged from 46.2% to 68.4% The cumulative response rate ranged from 4.4% to 6.6% A total of 9271 unique respondents were sampled, of which 8060 were eligible/ available for this analysis.	Smoking cessation	**(transition prob. for combustible and dual use * n t0)** 6-month follow-up E-cigarette never users: 1724/1890 E-cigarette ever users: 164/182) **B2) current users of combustible tobacco; Outcome: Stop using combustible tobacco product;** **(transition prob. for only e-cigarette or non-use * n t0)** 6-month follow-up E-cigarette never users: 166/1890) E-cigarette ever users: 19/182	
Pasquereau 2017 [48] France	**Design** Prospective cohort study	**Population** Smokers aged 15–85 years. N at T0= 3,000 (2661 tobacco smokers and 229 dual users)	**Definition of smokers** Smokers who defined themselves as current smokers, even if occasionally.	**Adjusted model:** Adjusted for sex, age, occupational status, level of education, level of income per CU, socio-	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Time to follow-up 6 months **Description of cohort** Participants recruited through an Access panel for two internet-based survey waves. Recruitment before and after the launch of the French National Smoking reduction Program (described as a highly emotional media campaign with negative health effect messages). Quaotas based on sex, age, occupational status and socio-	N at T1= 2,057 (1805 tobacco smokers and 252 dual users) *Age:* 15–24: 18.1% 25–34: 23.8% 35–49: 34.8% 50-85: 23.4% *Sex:* F: 45.9%, M: 54.1% *Ethnicity*: NA *Education:* Less than secondary: 26.4% Secondary: 27.5% Post-secondary: 46.1% *Intention to quit in the next 6 months at T0:* No: 56.2%, Yes: 43.8% *Number of cigarettes smoked per day:* 0–10: 61.8% 11–20: 31.3% >20: 6.9% **Drop-out rate** Tobacco smokers: 856/2661= 32.2%	Dual use was defined as current use of both e-cigarettes (regularly) and conventional cigarettes (even occasionally). **Exposure** Regular use of e-cigarettes in the last 30 days at T0 **Outcome** *Smoking cessation:* Smoking abstinence for at least 7 days or at least 30 days.	professional category, size of urban unit, heaviness of smoking index, intention to stop smoking in the next 6 months and quit attempts in the previous 30 days, reported at T0. **Tobacco smokers at T0** **Outcome: smoking cessation (≥7 days) at T1; n (%)** E-cigarette non-user: 165/2661 (6.2%) E-cigarette user: 32/339 (9.4%) *Adjusted model:* E-cigarette non-users at T0: 1.00 E-cigarette users at T0: 1.2 (0.8; 1.9) **Tobacco smokers at T0** **Outcome: Quit smoking for at least 30 days (n=2,057), AOR (95 % CI)**	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	professional category size of 'urban unit', and region. **Study period** T0: 2014 T1: 2015	Dual smokers: 87/229= 38.0%		E-cigarette non-users at T0: 1.00 E-cigarette users at T0: 1.1 (0.7; 1.8)	
Piper 2019 [28] USA	**Design** longitudinal, observational study **Time to follow-up** 4-month intervals for 1 year. **Description of cohort** Recruited via television and social media advertisements **Study period** T0 T1 (4 months)	**Population** Adult, daily smokers who were not interested in quitting smoking in the next 30 days Overall N= 322 Exclusive smokers n=117 Dual users n=205 *Age* mean (SD) = 42.28 (14.05) *Sex, %* F: 51.2%, M: 48.8% *Ethnicity, %* White: 63%, Black: 23%, Other: 14%	**Definition of smokers** Smoking only: smoked ≥5 cigarettes per day for the past 6 months and had not used e-cigarettes within the last 3 months Dual users: used nicotine-containing e-cigarettes at least once a week for the past 3 months and smoked daily for the last 3 months, with no plans to quit using e-cigarettes **Exposure** ≥5 cigarettes per day for the past 6 months (smoking only) or smoked daily for the last 6 months (dual use) **Outcome** Smoking cessation	**Adjusted model:** Na **Current users of cigarettes** **Outcome: use of cigarettes at 4 month (t1)** E-cigarette never users: 135/138 E-cigarette ever users: 209/218 **Outcome: Smoking cessation at 4 month (t1)** E-cigarette never users: 3/138 E-cigarette ever users: 9/218	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	T2 (8 months) T3 (12 months)	(Hispanic: 5.3%) *Education* Less than high school: 9% High school / GED: 29% More than high school: 62% *Intention to stop smoking (% yes)* 0% *Cigarettes per day:* Overall Mean (SD): 13.68 (8.59) *Smokers* Mean (SD): 15.73 (10.02) *Dual users* Mean (SD): 12.52 (7.43) *Vaping events per day:* *Dual users* Mean (SD): 10.0 (14.2) **Drop-out rate** 422 enrolled 322 (76.3%) completed the year 1 assessment Total 100 (24%) lost to follow-up T1: 66 lost T2: 18 lost		**Current users of cigarettes** **Outcome: use of cigarettes at 1 year** E-cigarette never users: 114/117 E-cigarette ever users: 190/205 **Outcome: Smoking cessation at 1 year** E-cigarette never users: 3/117 E-cigarette ever users: 15/205	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
		T3: 16 lost			
Sutfin 2015 [25] USA	**Design** Prospective cohort study – the Smokeless Tobacco Use in College Students study. **Time to follow-up** 3 years (6 waves), Wave 6 = T5 **Description of cohort** First-semester college students at 7 colleges in North Carolina and 4 in Virginia, USA. Nine of the colleges were public and 2 privates.	**Population** First-semester college students, cigarette smokers but not e-cigarette users at T0. N=669 (cigarette smokers with no history of e-cigarette use at T0) N=581 (after exclusion of those who were not current smokers when trying e-cigarettes) N= 271 (analytical sample, after exclusion due to missing data)) *Age* M (SD) = na *Sex* F= 51.7%, M= 48.3% *Race* White: 89.7%, Non-White: 10.3% *Ethnicity* Hispanic: 5.9%, Non-Hispanic: 94.1% *Maternal education:*	**Definition of current smokers:** Current smokers: Respondents who have smoked a whole cigarette in the past 30 days. **Exposure** Self-reported trial or use of e-cigarettes. Trying e-cigarettes was defined as use of e-cigarettes in the past 6 months between T1 and T4, and still being a current cigarette smoker. Users having tried e-cigarettes at T0 and first users at T5 were excluded. **Outcome** Current cigarette smoking at T5 Smoking frequency: number of days smoked in the past month (1–2; 3–14; 15–30)	**Model adjusted for:** demographics, membership in fraternities or sororities, lifetime other tobacco use, family members' and friends' smoking, sensation seeking, and trying e-cigarettes during waves 2 to 5 **Trial or use of e-cigarettes between T0 and T4 among baseline smokers.** **Outcome (adjusted model): Current cigarette use at T5 (OR (95% CI):** Never e-cigarette users: OR:1.0 E-cigarette ever users: OR: 2.48 (1.32 to 4.66) **Trial or use of e-cigarettes between T0**	Low

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	4902 students invited at T0, 3146 completed baseline survey (response rate 64.2%). Data collected through an online survey. **Study period** T0: 2010 (fall) T1: 2011 (spring) T2: 2011 (fall) T3: 2012 (spring) T4: 2012 (fall) T5: 2013 (fall)	College degree or higher: 59.4% Smoking frequency at T0 (days per month): 12: 39.1% 3–15: 39.5% >15: 21.4% **Drop-out rate** 310/581 (53.4%)		**and T4 among baseline smokers.** **Outcome (adjusted model): Non-use of cigarettes at T5 (OR (95% CI):** Never e-cigarette users: OR:1.0 E-cigarette ever users: OR: 0.40 (0.21 to 0.76)	
Verplaetse 2019 [26] USA	**Design** Cohort study – US Population Assessment of Tobacco and Health (PATH), wave 1 and 2. [1] **Time to follow-up**	**Population** Adults (≥18 years), who smoked conventional cigarettes at baseline, and completed follow-up. N at T0 = 32,320 N at T1 = 28,362 *Age at baseline* Men: 18–29: 38.6%	**Definition of smokers** *Current smoker:* having smoked at least 100 cigarettes in their life and currently smoke every day or some days. *Former smoker:* having smoked at least 100 cigarettes in their life but currently do not smoke at all.	***Adjusted model*** *Age, race, and education were evaluated as potential covariates and were removed from the final models if there was no impact on the pattern of results.* *All data from adjusted models:*	Moderate

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Follow-up: 1 year **Description of cohort** Non-institutionalised US population 12 years of age and older., including 45 971 participants from across the USA in wave 1, of which (32 320 were adults aged 18 and older and 13651 were youths aged 12–17). Weighted response rate T0 74%. Data collection by in-household audio-computer assisted self-interviews in English and Spanish.	30–44: 24.5% >45: 36.9% Women: 18–29: 38.0% 30–44: 25.0% >45: 36.9% *Sex* No information *Ethnicity:* *Men:* Caucasian: 61.4% African American: 13.3% Hispanic: 17.4% Other: 7.9% *Women:* Caucasian: 60.1% African American: 15.0% Hispanic: 17.5% Other: 7.4% *Educational level:* *Men:* Less than high school or general educational development: 22.0 Completed high school or some college: 57.3%	*Quit:* current smoker at wave 1, but not at wave 2. **Exposure** *Daily e-cigarette users:* current use every day at T0. *Nondaily e-cigarette users*: current use some days at T0. *Never e-cigarette users:* Never having used an e-cigarette in the past 12 months at T0. **Outcome** Use of cigarettes at follow-up	**Smokers at T0** **Outcome: Stopped smoking at T1:** Never e-cigarette users: OR:1.0 Nondaily e-cigarette users: OR 0.83 (0.68; 1.02) Daily e-cigarette users: OR 1.56 (1.12; 2.18) E-cigarette user (Pooled): 0.98 (0.83, 1.16) **Female smokers at T0** **Outcome: Stopped smoking at T1:** Never e-cigarette users: OR:1.0 Nondaily e-cigarette users: OR 0.81 (0.61–1.07) Daily e-cigarette users: OR 1.41 (0.89–2.22) **Male smokers at T0** **Outcome: Stopped smoking at T1:** Never e-cigarette users: OR:1.0	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Address-based area probability sample design. **Study period** T0: 2013–2014 T1: 2014–2015 **Time to follow-up** 1 year **Setting** A nationally representative sample of adults (≥18 years), who smoked conventional cigarettes at baseline, and completed wave 2 follow-up of PATH **Study period** Wave 1: 2013–2014	Bachelor's degree or higher: 20.8% *Women:* Less than high school or general educational development: 18.1% Completed high school or some college: 60.2% Bachelor's degree or higher: 21.6% **Drop-out rate** NA		Nondaily e-cigarette users: OR 0.85 (0.65–1.12) Daily e-cigarette users: OR 1.73 (1.05–2.84) E-cigarette user (Pooled): 1.84 (1.27, 2.68)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	Wave 2: 2014–2015				
Weaver 2018 [27] USA	**Design** Prospective cohort study - GfK's Knowledge Panel) **Time to follow-up** 1 year **Description of cohort** Participants were recruited from GfK's Knowledge Panel, a probability-based web-panel designed to be representative of non-institutionalised U.S. adults. A sample of 1,284	**Population** A random probability sample of current adult smokers N= 1284 invited at T0 N=1018 invited for follow -up at T1 N=858 (analytical sample) *Current smokers*: All baseline smokers (n=822) *Current daily smokers:* Baseline daily smokers (n=613) *Mean age (SD)*: **Any ENDS Use During Study** 41.5 (39.1; 44.0) years **No ENDS Use** 45.1 (43.1; 47.2) years *Sex* Women: 409 (47.9%), Men: 445 (52.1%) *Race/ethnicity*: White, Non-Hispanic N= 656, Black, Non-Hispanic N= 69,	**Definition of smoking** Current smokers: smoked at least 100 cigarettes in lifetime and reported smoking cigarettes every day or some days. Current daily smokers: smoked at least 100 cigarettes in lifetime and reported smoking cigarettes everyday Smoking abstinence (quitter): Not smoking in the past 30 days, not even one or two puffs. **Exposure** *Use of e-cigarettes defined as currently using ENDS, "everyday", "some days", or "rarely". ENDS use assessed at T0* *Users were categorized as daily e-cigarette users if they reported* daily use of ENDS or using ≥25 days during the past 30 days at either baseline or follow-up otherwise non-daily user.	**Model adjusted for:** baseline perceptions of addiction, cravings to smoke, cigarettes smoked per day, number of years having smoked, past year quit attempts, use of nicotine replacement theory, poly-use of other combusted tobacco, smoker regret, socio-demographics (age, gender, race/ethnicity, education, household income, MSA status, marital status, sexual orientation, US Census region, children in household), perceived physical health, presence of asthma, chronic bronchitis or COPD, receiving psychological therapy, alcohol consumption, and past year participation in other	Low

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	current established smokers was identified among respondents to the Tobacco Products and Risk Perception Survey for a 12-month follow-up survey. **Study period** 2015-2016	Other, Non-Hispanic N=22, Hispanic, Any Race N= 82, 2+ Races, Non-Hispanic N= 25 *Educational level (highest education received on 14-level scale, higher score = higher educated) :* Any ENDS use during study: 9.1 (8.7; 9.6) No ENDS use: 9.4 (9.2; 9.7) Any ENDS use during study: 3.97 (3.7, 4.2) No ENDS use: 4.2 (4.0, 4.4) *Average cigarettes smoked per day at T0, mean (95% CI):* Any ENDS use during study: 11.4(10.0; 12.7) No ENDS use: 10.5 (9.4; 11.6) **Drop-out rate** N= 426/1284 (33,2 %) Response rate for follow-up survey 84%	**Outcome** Smoking abstinence for at least 30 days at follow-up.	tobacco studies through GfK. *Unadjusted model* **Current smokers at T0** **Outcome: stopped smoking (≥30 days) at T1** E-cigarette users at T0: 87/582 (14.9%) Not e-cigarette user at T0: 25/240 (10.4%) **Daily smokers at T0** **Outcome: stopped smoking (≥30 days) at T1** E-cigarette users at T0: 39/440 (8.9%) Not e-cigarette user at T0: 13/173 (7.5%) **Current smokers at T0, e-cigarette use during T0-T1** **Outcome: stopped smoking (≥30 days) at T1** No e-cigarette use: 83/486 (17.7%)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
				Non-daily e-cigarette use: 19/283 (6.7%) Daily e-cigarette use: 10/53 (18.9%) **Daily smokers T0, e-cigarette use during T0-T1** **Outcome: stopped smoking (≥30 days) at T1** No e-cigarette use: 36/365 Non-daily e-cigarette use: 7/213 Daily e-cigarette use: 9/35 *Adjusted model* **Current smokers at T0** **Outcome: Stopped smoking (≥30 days) at T1; AOR (95 % CI):** Never e-cigarette users: OR:1.0 Ever e-cigarette users: OR 0.30 (0.13; 0.72) **Daily smokers at T0**	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
				Outcome: Stopped smoking (≥30 days) at T1; AOR (95 % CI): Never e-cigarette users: OR:1.0 Ever e-cigarette users: OR 0.37 (0.13; 1.05)	
Zhuang 2016 [29] USA	**Design** Longitudinal cohort study - Population drawn from GfK's Knowledge Panel **Time to follow-up** 2 years **Description of cohort** A representative sample of 2028 US adult smokers (probability sample recruited through random	**Population** Adult smokers in the US N= 2,028 *Age, %* *18–24 years:* Long-term users: 26.5 Short-term users: 15.3 Non-users: 9.6 *25–44 years:* Long-term users: 16.8 Short-term users:40.0 Non-users:40.5 *45–64 years:* Long-term users: 51.0 Short-term users:38.8 Non-users: 40.2 *65+ years*	**Definition of smokers** Smokers were defined as those who had smoked at least 100 cigarettes in their lifetime and smoked every day or some days at the time of the survey **Exposure** Used e-cigarettes on at least 10 days in the last 30 days before T0. *Long-term e-cigarette users:* E-cigarette use at both T0 and T1 *Short-term e-cigarette users:* E-cigarette use only at T0 or only at T1. **Outcome** Smokers at follow-up who had quit smoking for at least 3 months	**Adjusted model:** Logistic regressions adjusted for baseline social demographics (age, gender, education (≤12y/>12y), ethnicity, cigarettes per day (CPD) and intention to quit smoking. **Ever users of combustible tobacco at T1** **Outcome: Quit smoking for at least 3 months since baseline** E-cigarette never users: 234/1500 (15.6%)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
	dialling and address-based sampling.) of the US population. **Study period** T0: 2012 T1:2014	Long-term users:5.8 Short-term users:5.9 Non-users: 9.7 *Sex, %* Long-term users: F: 51.5, M: 48.5 Short-term users: F: 47.0, M: 53.0 Non-users: F: 48.2, M: 51.8 *Ethnicity, %* *Non-Hispanic white:* Long-term users: 77.3 Short-term users: 72.3 Non-users: 64.5 *Non-Hispanic black:* Long-term users: 4.6 Short-term users: 12.3 Non-users: 15.2 *Hispanic:* Long-term users: - Short-term users: 7.3 Non-users: 13.6 *Other:*		E-cigarette short term user: 65/456 (14.2%) E-cigarette long term user: 31/72 (42.4%) *Unadjusted model; OR (95%CI):* E-cigarette never users: 1.00 E-cigarette short term user: 0.90 (0.56; 1.43) E-cigarette long term user: 3.98 (1.52; 10.42) *Adjusted model; OR (95%CI):* E-cigarette never users: 1.00 E-cigarette short term user: 0.87 (0.53; 1.43) E-cigarette long term user: 4.14 (1.50; 11.42) E-cigarette user (Pooled): 1.17 (0.75, 1.83)	

First author Publication year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Definition of smokers Exposure Outcome	Results	Risk of bias
		Long-term users: 18.1 Short-term users: 8.1 Non-users: 6.6 *Education, more than 12 years (%):* Long-term users: 36.7 Short-term users: 43.5 Non-users: 41.1 *Intention to stop smoking (% yes)* Long-term users: 49.7 Short-term users: 33.4 Non-users: 27.7 Cigarettes per day (%): <15 cigarettes Long-term users: 57.1 Short-term users: 56.7 Non-users: 63.4 **Drop-out rate** 2097 out of 3111 participants who were identified as current smokers at the 2012 baseline completed a follow-up survey (67.4%). Another 69 respondents excluded due to missing or inconsistent data.			

CI= confidence interval; **F**=female; **M**=male; **MD**= mean difference; **Na**= Information not available; **T1**=first measurement (baseline); **T2**= second measurement; **T3**=third measurement; **OR**= Odds ratio; **RD**= Risk Difference; **RR**= Relative risk; IRR = Incidence Rate Ratio

Table S6. Characteristics of included randomized controlled trials with low and moderate risk of bias

First author Publication Year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Data collection Definition of smokers/quitters/abstinence**	**Intervention Comparison Outcome**	**Analysis model Results**	**Risk of bias**
Bullen 2013 [54] New Zealand	**Design** RCT (ITT-analysis) (ASCEND trial) **Time to follow-up** 1, 3 and 6 months **Setting** Advertisement recruited adult smokers wishing to quit smoking **Study period** 2011-2013	**Population** Adult smokers, ≥18 years, that smoked ≥10 cigarettes per day for the past year and wanted to stop smoking. Exclusion criteria were among others current use of any cessation drug or being in an existing cessation program. N=657 (randomised) **Nicotine e-cigarettes (N=289)** *Mean age* (SD): 43.6 (12.7) *Sex* N=178 women (62 %) N= 111 men (38 %) *Ethnicity*: New Zealand Māori: 95 (33%), Non-Māori: 194 (67%) *Lost to follow-up* was 22%: 17% (48 of 289) in the nicotine e-cigarettes group **Patches (N=295)** *Mean age (SD):*	**Data collection** Recruited via community newspapers, inviting people to call the study center for eligibility. Pre-screening, done by research assistants, who also completed follow-up assessments. Participants were supplied with vouchers to cover dispensing costs. E-cigarette groups were couriered an e-cigarette, spare batterie and charger and cartridges.	**Intervention** *E-cigarettes:* the liquid was free of diethylene glycol (a toxin detected in fluid in one brands of e-cigarettes); nicotine cartridges (labelled 16 mg) contained 10–16 mg nicotine per ml. 300 puffs from one nicotine e-cigarette cartridge delivered 3–6 mg nicotine, equivalent to smoking between one and five tobacco cigarettes. **Comparison** *Nicotine patches:* Daily use, from 1 week before until 12 weeks after their chosen quit day, consistent with	**Analysis model** Continuous abstinence, RR (95 % CI); RD (95 % CI). All analyses are intention to treat, ITT (assumes all participants with missing smoking status were smoking). **Results** **Users of combustible tobacco at T0** **Outcome: Smoking abstinence** *3 months* Placebo e-cig: 5/73 (6.8%) Nicotine patches: 27/295 (9.2%)	Moderate

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		40.4 (13.0) *Sex* N=182 women (62 %) N= 113 men (38 %) *Ethnicity:* New Zealand Māori: 95 (32%), Non-Māori: 200 (68%) *Lost to follow-up* was 27% (80 of 295) in the patches group **Placebo e-cigarettes (N=73)** *Mean age (SD):* 43.2 (12.4) *Sex* N= 45 women (62 %) N= 28 men (38 %) *Ethnicity:* New Zealand Māori: 23 (32 %), Non-Māori:50 (68%) *Lost to follow-up* was 22% (16 of 73) in placebo e-cigarettes group. **Drop-out rate** Lost to follow-up is reported above.		smoking cessation guidelines. *Placebo e-cigarettes:* The placebo cartridges contained no nicotine. **Outcome** Continuous smoking abstinence (self-reported over the whole follow-up period, allowing ≤5 cigarettes in total). At last follow-up, 6 months after quit day, abstinence was verified at that point in time by exhaled breath carbon monoxide measurement (<10 ppm).	Nicotine e-cigarettes: 38/289 (13.1%) *6 months* Placebo e-cig: 3/73 (4.1%) Nicotine patches: 17/295 (5.8%) Nicotine e-cigarettes: 21/289 (7.3%) All e-cigarettes: 24/362 (6.6%)	
Carpenter 2017	**Design** RCT	**Population**	**Data collection**	**Intervention**	**Analysis model**	

First author Publication Year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Data collection Definition of smokers/quitters/abstinence**	**Intervention Comparison Outcome**	**Analysis model Results**	**Risk of bias**
[49] USA	**Time to follow-up** 4 months **Setting** Advertisement recruited adult smokers not seeking treatment to quit smoking **Study period** 2014–2016	Non-treatment seeking adult smokers from urban area, age >18, current smoker of ≥5 cigarettes per day (CPD) for ≥1 year, having at least some concern for health effects of smoking, and never purchased an ENDS product. Exclusion criteria were among others having used any ENDS product in the past 6 months. N=68 (Baseline) **Control (N=22)** *Mean age (SD)*: 42.3 (14.2) *Sex* Women: (64 %), Men: (36 %) *Ethnicity*: White 59%, Black or African American, 41% *Completed study:* n=16 **BluCig ENDS (16 mg) (N=25)** *Mean age (SD)*: 43.3 (14.4) *Sex* Women: (72 %), Men: (28 %)	Recruited from the local community using various media outlets. Randomization to group was stratified by motivation to quit in the next 30 days (0–6 vs. 7–10 on a VAS scale) but proportioned2:1 (ENDS:control) to increase precision estimates for e-cigarette uptake and usage. Participants were compensated up to $346	A: BluCig ENDS (16 mg) (N=25) B: BluCig ENDS (24 mg) (N=21) Both ENDS group participants were offered free ENDS with the choice of either traditional tobacco or menthol flavour. **Comparison** Control group not offered any free ENDS. Thus, trial outcomes are reported across three groups: control versus 16 mg versus 24 mg ENDS. **Outcome** Primary outcomes, assessed via daily diaries during sampling period and	Assessment of cessation-related behaviours (quit attempts, abstinence) followed an intent-to-treat approach (ITT), in which all missing cases were assumed as having no quit attempts/abstinence. **Smokers at T0** **Outcome: Smoking abstinence** *Average during the whole study period:* Control group: 1.01/22 (4.6%) ENDS 16 mg group: 2.0/25 (8.0%) ENDS 24 mg group: 5.00/21 (23.8%)	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		Ethnicity: White 56%, Black or African American, 40% *Completed study:* n=19 **BluCig ENDS (24 mg) (N=21)** *Mean age (SD)*: 40.9 (12.3) *Sex* Women: (43 %) Men: (57 %) *Ethnicity*: White 48%, Black or African American, 52% *Completed study:* n=15 **Drop-out rate** N=18 (18/68= 26 %)		in-person laboratory visits over 4 months, included uptake and usage of ENDS, changes in smoking and cessation-related outcomes, and exposure to smoke constituents (i.e., cotinine, carbon monoxide, and NNAL).	*4 months (follow-up):* Control group: 1.01/22 (4.6%) ENDS 16 mg group: 1.0/25 (4.0%) ENDS 24 mg group: 2.00/21 (9.5%)	
Hajek 2019 [51] United Kingdom	**Design** RCT (pragmatic, multicentre, individually randomized, controlled trial)	**Population** Adult smokers attending U.K. National Health Service stop-smoking Services, who were not pregnant or breast-feeding and had no strong preference to use or not to use nicotine replacement or e-cigarettes and were currently not using either type of product.	**Definitions** *Sustained abstinence* Self-report of smoking no more than five cigarettes from 2 weeks after the target quit date, validated biochemically by an expired carbon monoxide level of less than 8 ppm at follow-up and not contradicted by any	**Intervention** Treatment included weekly behavioural support for at least 4 weeks. *E-cigarettes:* One Kit starter pack with 30-ml bottle of flavoured e-liquid (18mg/ml nicotine).	**Analysis model:** The primary and secondary abstinence outcomes were analysed by regression of smoking status at each time point onto trial group.	Low

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
	Time to follow-up 4 weeks 52 weeks **Setting** Three U.K. National Health Service free stop-smoking service sites: Tower Hamlets (London borough), City of London, and Leicester / East Sussex **Study period** May 2015 to February 2018	N= 886 randomised *Intention to stop smoking* 100%, only those who had quit smoking by the target quit date were randomized **Nicotine e-cigarettes** **N=438** *Mean age* (IQR) 41 (33-53) years *Sex, %* F: 48.2 %, M: 51.8% *Ethnicity:* NR *Education, %* Primary school: 4.3% Secondary school: 32.2% Further education / diploma: 26.7% Higher education 36.7% *Cigarettes per day, median (IQR)* 15 (10-20) cigarettes *Loss to follow-up*	previous self-report or validation result (Russel Standard) Participants who were lost to follow-up or did not provide biochemical validation were considered to not be abstinent No validation by expired carbon monoxide levels for abstinence reported between week 2 to 26. *7-day abstinence* Self-reported abstinence rates at each time point (probably for the last 7 days, but details are not explicitly provided)	2.1-ohm atinuzer abd 650-mAh battery or 1.5-ohm atomizer and 1000-mAH battery (the latter used by 42 participants). Those unable to obtain their own supply of e-liquid were supplied with one further 10-ml bottle. **Comparison** Nicotine-replacement products: participants could choose between patch, gum, lozenge, nasal spray, inhalator, mouth spray, moth strip, and microtabs. Participants could change and combined products. Supplies provided for up to 3 months.	Primary analyses were adjusted for trial center to account for the stratification factor. **Smokers at T0 (N=866)** **Outcome: Sustained smoking abstinence (cigarettes)** *12 months* Nicotine-replacement products: 44/446 (9.9%) E-cigarettes: 79/438 (18.0%) *6–12 months* Nicotine-replacement products: 53/446 (11.9%) E-cigarettes: 93/438 (21.2%) *6 months*	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		E-cigarettes 432/439 attended at least 1 session after quit date, overall loss to follow-up: 7 4-week: 63 6-month: 87 12-month: 83 **Nicotine replacement: n=446** *Mean age* (IQR) 41 (33-51) years *Sex, %* F: 47.8 % M: 52.2% *Ethnicity:* NR *Education, %* Primary school: 4.9% Secondary school: 29.2% Further education / diploma: 28.5% Higher education 37.5% *Cigarettes per day, median (IQR)* 15 (10-20) cigarettes		**Outcomes** *Primary outcome:* Sustained abstinence (1-year) *Secondary outcomes:* Sustained abstinence (6-month, from week 26 to week 52; at 4 weeks, at 26 weeks) 7-day abstinence (at 4 weeks, 26 weeks, and 52 weeks)	Nicotine-replacement products: 112/446 (25.1%) E-cigarettes: 155/438 (35.4%) **Smokers at T0 (N=866)** **Outcome: 7-day abstinence from smoking** *6 months* Nicotine-replacement products: 115/446 (25.7%) E-cigarettes: 158/438 (36.0%) *6 months, unadjusted relative risk (95% CI)* Nicotine-replacement products: 1.0 E-cigarettes: 1.39 (1.14 to 1.70)	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		Loss to follow-up 438/447 attended at least 1 session after quit date, overall loss to follow-up: 9 4-week: 91 6-month: 110 12-month: 105			*12 months* Nicotine-replacement products: 98/446 (21.9%) E-cigarettes: 146/438 (33.3%) *12 months, unadjusted relative risk (95% CI)* Nicotine-replacement products: 1.0 E-cigarettes: 1.52 (1.23 to 1.90)	
Holliday 2019 [52] UK	**Design** RCT (pilot) **Time to follow-up** 6 months **Setting** Dental care clinics	**Population** Adult (18+) tobacco smoker, having periodontitis and a minimum of 16 natural teeth, and not currently using an e-cigarette (more than 2 days in last 30 days) N=80 **E-cigarettes (N=40)**	**Definitions** Smoker of burnt tobacco (≥10 factory-made cigarettes/day or 7g loose tobacco/day or 14 hand-rolled cigarettes/day) Smoking cessation calculated using Russel Standard 6-month quitter method	**Intervention** - standard non-surgical periodontal therapies - brief smoking cessation advice - E-cigarette starter kit (included Vype eTank clearomizer	**Analysis model** ITT **Users of combustible tobacco at T0** **Outcome: quitter** *6 months* Nicotine e-cigarettes: 6/40	Moderate

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
	(hospital and private practices) **Study period** Recruitment from 20 September 2016 to 7 December 2017) Data collection ended 7 June 2018	*Age, mean (SD)* 44.0 (11.8) years *Sex (%)* N=22 women (55%) N=18 men (45%) *Ethnicity:* White N=39 (97.5%) Asian or Asian British N=1 (2.5%) *Cigarettes per day (any), mean (SD)* 17.4 (6.4) *Education* NA *Lost to follow-up* **Control (N=40)** *Age, mean (SD)* 44.6 (9.5) years *Sex (%)* N=20 women (50%) N=20 men (50%)	Participants with missing smoking outcome data (e.g. those not attending for review) were considered as continuing smokers or to have resumed smoking	and 2x 10 ml vaping liquid in choice of flavour and nicotine strength) Participants were asked to use only the recommended brand of e-liquid during the trial. **Comparison** - standard non-surgical periodontal therapies - brief smoking cessation advice - asked not to use e-cigarettes during the first 4 weeks **Outcome** Carbon monoxide-verified continuous abstinence	(15%, 95% CI 7 to 29%) No e-cig: 2/40 (5%, 95% CI 1 to 17%)	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		Ethnicity: White N=36 (90%) Asian or Asian British N=4 (10%) *Cigarettes per day (any), mean (SD)* 17.5 (6.9) *Education* NA **Loss to follow-up** Loss to follow-up was balanced between groups: four participants withdrew from the study, and 18 were lost to follow-up at 6 months. 30% of participants achieved ≥ 80% completion of weekly smoking questionnaire				
Lee SH 2019 [57] Republic of Korea	**Design** RCT single-centre, prospective, open-label,	**Population** Participants must have smoked at least 10 cigarettes per day in the preceding year, smoked for at least 3 years, and were motivated	**Data collection** Continuous abstinence was determined using self-reported questionnaires, verified with measurements	**Intervention** *E-cigarettes:* - Fifty-minute education sessions on smoking	**Analysis model** Continuous variables were analysed with independent t test.	Moderate

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
	randomized controlled, clinical pilot trial **Time to follow-up** 12 weeks 24 weeks **Setting** Adult Korean men employed at a motor company in Cheonan, Republic of Korea. **Study period** January to September 2012	to stop smoking or reduce their cigarette consumption N=150 **Nicotine e-cigarettes (N=75)** *Mean age* (SD): 44.0 (7.8) years *Sex* N= 0 women (0 %) N= 150 men (100 %) *Ethnicity*: NA (Korean) *Education, N (%)* High school or below: 51 (68.0) College or above: 24 (32.0) *Cigarettes per day smoked, pack (SD)* 1.05 (0.37) *Lost to follow-up* 4 participants withdrew before treatment began **Nicotine gum (N=75)** *Mean age (SD):* 40.7 (8.4) years	of urine cotinine and end-expiratory carbon monoxide (<10ppm) levels	cessation and the use of smoking-cessation aids - provided with a 12-week supply for using e-cigarette (eGO-C Ovale, nicotine 0.01 mg/mL; Janty-Korea Co.) **Comparison** *Nicotine gum:* - Fifty-minute education sessions on smoking cessation and the use of smoking-cessation aids - provided with a 12-week supply of nicotine gum (Nicoman, nicotine 2 mg/tablet; Daewoong Pharmaceuticals) **Outcome** *Primary*	Categorical variables were analyzed using the Chi2 test or Fisher-Freeman-Halton extension of Fisher's probability Test, as appropriate. Multivariable logistic regression analyses were performed controlling for possible confounders in both groups. **Users of combustible tobacco at T0** **Outcome: Continuous Abstinence Rate** *9 to 12 weeks* Nicotine e-cigarettes: 45.3% Nicotine gum: 46.7%	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		Sex N=0 women (0%) N=75 men (100%) *Ethnicity:* NA (Korean) *Education, N (%)* High school or below: 40 (53.3) College or above: 35 (46.7) *Cigarettes per day smoked, pack (SD)* 0.96 (0.36) *Lost to follow-up* 14 participants withdrew before treatment began		9 to 12-week and 9 to 24-week continuous abstinence rates *Secondary* 7-day point prevalence of abstinence at 12 and 24 weeks	*9 to 24 weeks* Nicotine e-cigarettes: 21.3% Nicotine gum: 28.0% **Users of combustible tobacco at T0** **Outcome: 7-Day Point Prevalence of Abstinence** *12 weeks* Nicotine e-cigarettes: 65.3% Nicotine gum: 66.7% *24 weeks* Nicotine e-cigarettes: 22.7% Nicotine gum: 29.3%	
Lee, SM 2018 [50]	**Design** RCT	**Population** Participants were eligible if they presented to the anaesthesia	**Data collection** Healthcare providers were blinded throughout the	**Intervention**	**Analysis model:** ITT (those lost to follow up were	Moderate

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
USA	**Time to follow-up** 6 months follow-up **Setting** 6 weeks preoperative patients at the San Francisco Veteran's Affairs Medical Center **Study period** Recruitment between August 2015 and February 2016. 6-month follow-up calls were completed in August 2016	preoperative (APO) clinic for elective surgery 3 or more days before surgery, were current cigarette smokers of more than two cigarettes per day, having smoked at least once in the last 7 days, and could provide consent. ENDS: N=20 NRT: N=10 *Age (mean years (SD))* ENDS: 54 (12.7) NRT: 53 (10.6) *Male sex (N (%))* ENDS: 18 (90%) NRT: 9 (90%) *Ethnicity (N (%))* *White:* ENDS: 11 (55%) NRT: 5 (50%) *Latino:* ENDS: 2 (10%) NRT: 0 (0%) *Education (N (%))* *College degree or higher:*	perioperative period. Outcome adjudicators were blinded wherever possible **Definition of quitters/abstinence** At six months follow-up, self-reported seven-day point prevalence smoking status and use of e-cigarettes was assessed	*Electronic Nicotine Devices (ENDS) (n=20):* Patients randomized to the ENDS group received a 6-week supply of NJOY e-cigarettes (Scottsdale, AZ, USA). The supply for the last week were without nicotine. The number of e-cigarettes issued corresponded to the reported baseline cigarettes smoked per day, calculated assuming one NJOY e-cigarette was equivalent to 10 cigarettes. **Comparison** **Nicotine patches (NRT) (n=):** *Nicotine Replacement*	assumed to have continued smoking). **Results:** **Current smokers at T1** **Outcome: Non-smokers at 6 months follow-up** NRT users: 1/10 (10%); RR: 1.0 END users: 5/20 (25%); RR: 2.5 (0.34-18.6) (No statistically significant difference between the groups; p=0.63)	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		UC: 183 (22.6) Free aids: 443 (27.9) e-cig: 305 (25.5) *Desire to quit:* *No plan to quit:* UC: 74 (9.1) Free aids: 147 (9.3) e-cig: 109 (9.1) *Want to quit, need help:* UC: 238 (29.3) Free aids: 425 (26.8) e-cig: 315 (26.3) **Drop-out rate** ENDS: 1/20 (5%) NRT: 1/10 (10%)		*Therapy (NRT) (n=10):* Patients randomized to the NRT group received a 5-week supply of NicodermCQ patches and 1-week supply of placebo patches (the last week). Nicotine concentration in the patches for the first five weeks varied depending on if baseline cigarette consumption was ten or more per day, or less than ten per day. **Outcome** *Smoking cessation* (7-day point-prevalence abstinence)		
Masiero 2019	**Design** RCT	**Population**	**Data collection**	**Intervention**	**Analysis model** Na	Moderate

First author Publication Year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Data collection Definition of smokers/quitters/abstinence**	**Intervention Comparison Outcome**	**Analysis model Results**	**Risk of bias**
[53] Italy	(COSMOS II) **Time to follow-up** 3 months **Setting** Italian adult smokers with a very high motivation to stop smoking. **Study period** September 2015-January 2016	Participants were smokers that had smoked ≥10 cigarettes a day for the past 10 years and were highly motivated to stop smoking. Exclusion criteria were among others, use of NRT or e-cigarettes or enrolled in other smoking cessation programs. *Participants were randomized into three arms* N=210 *Mean age, years (SD)*: 62.8 (4.59) *Sex* Women:78, Men: 132 *Ethnicity*: Not reported *Ethnicity:* Na *Education:* Na **Drop-out rate** *E-cigarette and support*: 12/70 (17.1%)	Enrolled at the IEO within the COSMOS II (Continuous Observation of Smoking Subjects) screening program. *All COSMOS II participants are ≥55 years and have a long smoking history and a high risk of developing a smoking-related cancer* **Definition of e-cigarette users** Ever regular use of e-cigarettes for more than 1 week, alone or in combination with tobacco cigarettes.	*E-cigarette and support (n=70):* Each participant received an e-cigarette kit (VP5) and 12 10-mL liquid car-tridges (8 mg/mL nicotine) free of charge. **Comparison** *Placebo and support (n=70):* Each participant received an e-cigarette kit and 12 10-mL liquid that did not contain nicotine (placebo condition) free of charge. *Support only (n=70):* Participants in this group did not use e-cigarettes	**Current smokers at T0** **Outcome: Smoking abstinence (past 30 days), N (%) at 3 months** Support only group: 6/58 (10.34%) Placebo e-cig group: 13/55 (23.6%) Nicotine e-cig group: 15/57 (26.3%) **Current smokers at T0** **Outcome: stopped smoking n (%) at 3 months (calc. as ITT from numbers provided in article)** Support only group: 6/70 (8.57%)	

First author Publication Year Reference Country	**Design Time to follow-up Setting Study period**	**Population Drop-out rate**	**Data collection Definition of smokers/quitters/abstinence**	**Intervention Comparison Outcome**	**Analysis model Results**	**Risk of bias**
		Placebo and support (n=70): 15/70 (21.4%) *Support only (n=70):* 13/70 (18.6%)		Participants in all arms also received a low-intensity telephone counselling that included interviews at weeks 1, 4, 8, and 12. *All e-cigarette using participants had the same flavour of the e-liquid (Tobacco 7 Foglie).* **Outcome** The number of smoked cigarettes, self-reported by participants.	Placebo e-cig group: 13/70 (18.57%) Nicotine e-cig group: 15/70 (21.43%)	
O'Brien 2015 [55] New Zealand	**Design** RCT (ASCEND trial) *ASCEND trial protocol and*	**Population** Adult smokers, ≥18 years, that smoked ≥10 cigarettes per day for the past year and wanted to stop smoking and could provide consent. N= 571	**Data collection** Recruited via community newspapers. Telephone interview at baseline, quit date (one-week post-baseline), and 1, 3 and 6 months post quit-date	**Intervention** *E-cigarettes:* the liquid was free of diethylene glycol (a toxin detected in fluid in one brands of e-cigarettes); nicotine cartridges	**Analysis model** Continuous abstinence, RR (95 % CI); RD (95 % CI). All analyses are intention to treat, ITT (assumes all	Low

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
	main findings have been described in detail elsewhere **Time to follow-up** 1, 3 and 6 months **Setting** Advertisement recruited adult smokers wishing to quit smoking *Only data for participants without mental illness reported here.* **Study period** 2011–2013	N= 260 (21 mg nicotine patch) N = 250 (16 mg ecigarette) N = 61 (0 mg e-cigarette) *Data on patients with mental illness is also available in the article* *Age:* ≥18 years old *Sex:* Na *Ethnicity:* Na *Education:* Na **Drop-out rate:** Na		(labelled 16 mg) contained 10–16 mg nicotine per mL. 300 puffs from one nicotine e-cigarette cartridge delivered 3–6 mg nicotine, equivalent to smoking between one and five tobacco cigarettes. **Comparison** *Nicotine patches:* Daily use, from 1 week before until 12 weeks after their chosen quit day, consistent with smoking cessation guidelines. *Placebo e-cigarettes:* The placebo cartridges contained no nicotine. **Outcome**	participants with missing smoking status were smoking). **Users of combustible tobacco at T0** **Outcome: Biochemically verified continuous abstinence at 6 months, % (n)** 0 mg e-cigarette: 5 % (3/61) 21 mg nicotine patch: 5 % (12/260) 16 mg e-cigarette: 7 % (19/250)	

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
				Continuous smoking abstinence (self-reported over the whole follow-up period, allowing ≤5 cigarettes in total). At last follow-up, 6 months after quit day, abstinence was verified at that point in time by exhaled breath carbon monoxide measurement (<10 ppm).		
Walker 2019 [56] New Zealand	**Design** RCT **Time to follow-up** 6 moths **Setting** General population recruited using media advertising	**Population** Adult (≥18-year-old) tobacco smokers, motivated to quit in the next 2 weeks Excluding, people who had used an e-cigarette for smoking cessation for more than 1 week anytime in the past year, people currently using smoking cessation medication, people enrolled in another cessation programme or study.	**Data collection** Sustained abstinence: self-reported smoking of ≤5 cigarettes since quit date, verified by exhaled carbon monoxide measurements (≤9 ppm) 7-day point prevalence abstinence: self-reported abstinence defined as no cigarettes, not a single puff, in the previous 7 days	**Intervention** E-cigarettes in combination with nicotine patches. E-cigarette: 2nd-generation e-cigarette starter kit, containing five 2.2 mL, 1.8 Ohm atomisers. Participants could choose one of two tobacco e-liquid	**Analysis model: ITT** **Cigarette users at T0** **Outcome: Smoking sustained abstinence, 6 months** Nicotine patches: 10/125 (8%)	Moderate

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
	Study period Mars 2016-November 2017	N=1124 **Nicotine e-cigarettes (plus nicotine patches) (N=500)** *Mean age* (SD): 41.4 (12.3) years *Sex* N=329 women (66%) N=170 men (34%) N=1 diverse (<1%) *Ethnicity, N (%)* New Zealand Maori: 202 (40%) Non-Maori: 295 (59%) Missing: 3 (1%) *Education* Below year 12 or no qualification: N=179 (36%) *Cigarettes per day (daily smokers only)* N=17.3 (SD 8.1) *Motivation to quit*[3]		flavours (18 mg/mL nicotine). 4x20 ml provided per participant. **Comparison** *Nicotine patches:* Participants were provided with 14-week supply of 21 mg, 24h nicotine patches. *Placebo e-cigarettes:* E-cigarettes in combination with nicotine patches. E-cigarette: 2nd-generation e-cigarette starter kit, containing five 2.2 mL, 1.8 Ohm atomisers. Participants could choose one of two tobacco e-liquid	Placebo e-cigarette +nicotine patches: 53/499 (11%) Nicotine e-cigarette +nicotine patches: 89/500 (18%) e-cigarette (all)+ nicotine patches: 142/999(14.2%) **Cigarette users at T0** **Outcome: 7-day point prevalence abstinence, 6-month** Nicotine patches: 14/125 (11%) Nicotine e-cigarette +nicotine patches: 119/500 (40%) Placebo e-cigarette +nicotine patches: 83/499 (17%) e-cigarette (all)+ nicotine patches: 202/999 (20.2%)	

[3] Motivation to quit was measured on a five-point Likert scale, where 1=very low motivation and 5=very high motivation.

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		3.9 (SD 0.9) *Lost to follow-up/withdrawals* Quit date: 64/4 One-month: 172/8 Three-month: 175/8 Six-month: 152/9 **Patches only (N=125)** *Mean age (SD):* 42.3 (13.1) *Sex* N=89 women (71%) N=36 men (29%) N=0 diverse (0%) *Ethnicity, N (%)* New Zealand Maori: 50 (40%) Non-Maori: 75 (60%) Missing: - *Education* Below year 12 or no qualification, N=43 (36%) *Cigarettes per day (daily smokers only)* N= 17.3 (SD 8.0)		flavours (0 mg/mL nicotine). 4x20 ml provided per participant. All participants were advised to start using one patch per day, 2 weeks before their quit date. E-cigarette users were advised to use the device as and when necessary or desired. Participants were instructed to continue with their allocated treatment for 12 weeks. **Outcome** *Primary* - Sustained smoking cessation (6-month) *Secondary* - Sustained smoking cessation (1-, 3-, 12-month)		

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		Motivation to quit[1] 3.8 (SD 0.9) *Lost to follow-up/withdrawals* Quit date: 23/14 One-month: 54/18 Three-month: 51/20 Six-month: 42/20 **Placebo e-cigarettes (plus patches) (N=499)** *Mean age (SD):* 41.2 (12.6) years *Sex* N=350 women (70%)N=149 men (30%) N=0 diverse (0%) *Ethnicity, N (%)* New Zealand Maori: 199 (40%) Non-Maori: 294 (59%) Missing: 6 (1%) *Education* Below year 12 or no qualification: N=177 (36%) *Cigarettes per day*		- 7-day point prevalence abstinence		

First author Publication Year Reference Country	Design Time to follow-up Setting Study period	Population Drop-out rate	Data collection Definition of smokers/quitters/abstinence	Intervention Comparison Outcome	Analysis model Results	Risk of bias
		(daily smokers only) N= 17.2 (SD 8.7) *Motivation to quit*[1] 3.9 (SD0.8) *Lost to follow-up/withdrawals* Quit date: 65/2 One-month: 190/4 Three-month: 204/5 Six-month: 155/7				

CI = confidence interval; **F**=female; IRR = Incidence Rate Ratio; MD= mean difference; **Na** = Information not available; **M** = male; **T1** = first measurement (baseline); **T2** = second measurement; **T3** = third measurement; **OR** = Odds ratio; **RD** = Risk Difference; **RR** = Relative risk

Table S7. E-cigarette use and subsequent smoking cessation for at least 30 days

Association with smoking initiation for at least 30 days	Participants	Number of studies (adjusted)	Risk difference, RD (95% CI)*	Odds ratio, OR (95% CI)	Certainty of evidence	Down rating
	Cohort studies					
Full material	13 588	9 (9)	0.00 (-0.03-0.02)	Unadjusted Odds ratio: 0.96 (0.77-1.19). Adjusted odds ratio: 0.86 (0.59-1.25)	Very low (⊕)	-1 risk of bias[a] -1 inconsistency[b,c] -1 imprecision[d,e]
Short follow up (≤6 months)	118	1 (3)	-0.05 (-0.31-0.21)	Unadjusted Odds ratio: 0.81 (0.28-2.34). Adjusted odds ratio: 0.92 (0.60-1.40)	Very low (⊕)	-1 risk of bias[a] -1 imprecision[d,e] -1 material with several limitations[b,f]
Long follow up (>6 months)	13 470	8 (7)	0.00 (-0.03-0.03)	Unadjusted Odds ratio: 0.96 (0.77-1.20). Adjusted odds ratio: 0.84 (0.50-1.43)	Very low (⊕)	-1 risk of bias[a] -1 imprecision[d,e] -1 material with several limitations[b, c]
< 18 years	331	6 (7)	-0.12 (-0.25-0.01)	Unadjusted Odds ratio: 0.61 (0.36-1.04). Adjusted odds ratio: not available	Very low (⊕)	-2 risk of bias[a,g] -1 material with several limitations[d,f,h]
≥ 18 years	13 257	6 (7)	-0.00 (0.03-0.03)	Unadjusted Odds ratio: 1.03 (0.82-1.29). Adjusted odds ratio: 0.84 (0.50-1.43)	Very low (⊕)	-1 risk of bias[a] -1 imprecision[d,e] -1 limited material with several limitations[b,c]
Women	Not available					
Men	Not available					
	RCTs					
Full material	2368	4**	0.08 (0.05-0.12)	2.04 (1.51-2.77)	Low (⊕⊕)	-1 risk of bias[a] -1 limited material with several limitations[b,f,h]
Short follow up (≤6 months)	1 484	3**	0.07 (0.03-0.12)	2.14 (1.24-3.68)	Low (⊕⊕)	-1 risk of bias[a] -1 limited material with several limitations[b,f,h]

Long follow up (>6 months)	884	1	0.09 (0.04-0.14)	2.00 (1.38-2.89)	Low (⊕⊕)	-1 risk of bias[a] -1 limited material with several limitations[f,h]
< 18 years	Not available					
≥ 18 years	2 368	4**	0.08 (0.05-0.12)	2.04 (1.51-2.77)	Low (⊕⊕)	-1 risk of bias[a] -1 limited material with several limitations[b,f,h]
Women	Not available					
Men	150	1**	Not available	Narrative	Low (⊕⊕)	-1 risk of bias[a] -1 limited material with several limitations[b,f,h]

* Calculated from unadjusted values

** One study was included narratively

[a] Material with several deficits and limitations

[b] The confidence intervals of individual studies includes 1.0, indicating no statistically significant association

[c] The odds ratios of individual studies show associations in different directions

[d] The pooled estimate for the unadjusted results includes 1.0, indicating no statistically significant association

[e] The pooled estimate for the adjusted results includes 1.0, indicating no statistically significant association

[f] The analysis is based on a limited number of studies

[g] Adjusted analyses are not available

[h] The analysis is based on few participants