

MATERIAL SUPLEMENTARIO

Anexo I. Estrategias de búsqueda.

PubMed

Search	Query
#47	Search (#22 AND #34 AND #46)
#46	Search (#35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45)
#45	Search Changing[tiab]
#44	Search Change[tiab]
#43	Search Risk Reduction[tiab]
#42	Search Reduced Risk[tiab]
#41	Search Reduced Harm[tiab]
#40	Search Harm Reduction[tiab]
#39	Search Tobacco Harm[tiab]
#38	Search Switch*[tiab]
#37	Search Replac*[tiab]
#36	Search Transition[tiab]
#35	Search Substitut*[tiab]
#34	Search (#23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33)
#33	Search Prevalence*[tiab]
#32	Search Prevalence[Mesh]
#31	Search Vapes[tiab]
#30	Search Vape[tiab]
#29	Search Vaping[tiab]
#28	Search Utilizat*[tiab]
#27	Search Using[tiab]
#26	Search Usage[tiab]
#25	Search "Use"[tiab]
#24	Search Consum*[tiab]
#23	Search Vaping[Mesh]
#22	Search (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21)
#21	Search Vape Nicotin*[tiab]
#20	Search Vape Cig*[tiab]
#19	Search Vape Pen*[tiab]
#18	Search Heated Tobacco[tiab]
#17	Search "Heat-not-Burn"[tiab]
#16	Search eLiquid[tiab]
#15	Search e-Liquid[tiab]
#14	Search eJuice[tiab]
#13	Search e-Juice[tiab]
#12	Search eHookah[tiab]
#11	Search e-Hookah[tiab]
#10	Search Electric Nicotin*[tiab]
#9	Search Electronic Nicotin*[tiab]
#8	Search ENDS[tiab]
#7	Search eCig*[tiab]
#6	Search eNicotin*[tiab]
#5	Search E Nicotin*[tiab]
#4	Search Electric Cigar*[tiab]
#3	Search Electronic Cigar*[tiab]
#2	Search E Cig*[tiab]
#1	Search Electronic Nicotine Delivery Systems[Mesh]

EMBase (Elsevier)

#	Query
#46	#21 AND #33 AND #45
#45	#34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44
#44	changing:ti,ab
#43	change:ti,ab
#42	'risk reduction':ti,ab
#41	'reduced risk':ti,ab
#40	'reduced harm':ti,ab
#39	'harm reduction':ti,ab
#38	'tobacco harm':ti,ab
#37	switch*:ti,ab
#36	replac*:ti,ab
#35	transition:ti,ab

#34 substitut*:ti,ab
 #33 #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32
 #32 'prevalence':ti,ab
 #31 'prevalence'/exp
 #30 vapes:ti,ab
 #29 vape:ti,ab
 #28 vaping:ti,ab
 #27 utilizat*:ti,ab
 #26 using:ti,ab
 #25 usage:ti,ab
 #24 use:ti,ab
 #23 consum*:ti,ab
 #22 'vaping'/exp
 #21 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18
 OR #19 OR #20
 #20 (vape NEAR/2 nicotin*):ti,ab
 #19 (vape NEAR/2 cig*):ti,ab
 #18 (vape NEAR/2 pen*):ti,ab
 #17 'heated tobacco':ti,ab
 #16 'heat-not-burn':ti,ab
 #15 'eLiquid':ti,ab
 #14 'e-liquid':ti,ab
 #13 'ejuice':ti,ab
 #12 'e-juice':ti,ab
 #11 'hookah':ti,ab
 #10 'e hookah':ti,ab
 #9 (electric NEAR/2 nicotin*):ti,ab
 #8 (electronic NEAR/2 nicotin*):ti,ab
 #7 ecig*:ti,ab
 #6 'enicotin*':ti,ab
 #5 'e nicotin*':ti,ab
 #4 (electric NEAR/2 cigar*):ti,ab
 #3 (electronic NEAR/2 cigar*):ti,ab
 #2 'e cig*':ti,ab
 #1 'electronic cigarette'/exp

CINAHL (EBSCO) 4-07-2019

Query
 S45 S21 AND S32 AND S44
 S44 S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43
 S43 TI Changing OR AB Changing
 S42 TI Change OR AB Change
 S41 TI Risk Reduction OR AB Risk Reduction
 S40 TI Reduced Risk OR AB Reduced Risk
 S39 TI Reduced Harm OR AB Reduced Harm
 S38 TI Harm Reduction OR AB Harm Reduction
 S37 TI Tobacco Harm OR AB Tobacco Harm
 S36 TI Switch* OR AB Switch*
 S35 TI Replac* OR AB Replac*
 S34 TI Transition OR AB Transition
 S33 TI Substitut* OR AB Substitut*
 S32 S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31
 S31 TI Prevalence OR AB Prevalence
 S30 (MH "Prevalence")
 S29 TI Vapes OR AB Vapes
 S28 TI Vape OR AB Vape
 S27 TI Vaping OR AB Vaping
 S26 TI Utilizat* OR AB Utilizat*
 S25 TI Using OR AB Using
 S24 TI Usage OR AB Usage
 S23 TI Use OR AB Use
 S22 TI Consum* OR AB Consum*
 S21 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR
 S19 OR S20
 S20 TI Vape Nicotin* OR AB Vape Nicotin*
 S19 TI Vape Cig* OR AB Vape Cig*
 S18 TI Vape Pen* OR AB Vape Pen*
 S17 TI Heated Tobacco OR AB Heated Tobacco
 S16 TI ("Heat not Burn") OR AB ("Heat not Burn")
 S15 TI eLiquid OR AB eLiquid

S14 TI e-Liquid OR AB e-Liquid
 S13 TI eJuice OR AB eJuice
 S12 TI e-Juice OR AB e-Juice
 S11 TI eHookah OR AB eHookah
 S10 TI e-Hookah OR AB e-Hookah
 S9 TI Electric Nicotin* OR AB Electric Nicotin*
 S8 TI Electronic Nicotin* OR AB Electronic Nicotin*
 S7 TI eCig* OR AB eCig*
 S6 TI eNicotin* OR AB eNicotin*
 S5 TI E-Nicotin* OR AB E-Nicotin*
 S4 TI Electric Cigar* OR AB Electric Cigar*
 S3 TI Electronic Cigar* OR AB Electronic Cigar*
 S2 TI E Cig* OR AB E Cig*
 S1 (MH "Electronic Cigarettes")

LILACS

(MH Electronic Nicotine Delivery Systems OR E-Cig\$ OR ((Electr\$ OR Vape\$) AND (Cigar\$ OR Nicotin\$ OR Tobacco)) OR E-Nicotin\$ OR e-Hookah OR eHookah OR e-Juice OR eJuice) AND (MH Vaping OR Substitut\$ OR Replace\$ OR Reemplazo OR Switch\$ OR Cambio OR Mudanca OR Consum\$ OR Risk OR Riesgo OR Risco OR Harm OR Daño OR Prejud\$) [Words]

Global Health (OVID)

#	Results
1	E-Cig*.ti,ab.
2	Electronic Cigar*.ti,ab.
3	Electric Cigar*.ti,ab.
4	e-Nicotin*.ti,ab.
5	eNicotin*.ti,ab.
6	eCig*.ti,ab.
7	Electronic Nicotin*.ti,ab.
8	Electric Nicotin*.ti,ab.
9	e-Hookah.ti,ab.
10	eHookah.ti,ab.
11	e-Juice.ti,ab.
12	eJuice.ti,ab.
13	e-Liquid.ti,ab.
14	eLiquid.ti,ab.
15	(Heat adj Burn).ti,ab.
16	Heated Tobacco.ti,ab.
17	Vape Pen*.ti,ab.
18	Vape Cig*.ti,ab.
19	Vape Nicotin*.ti,ab.
20	or/1-19
21	Consum*.ti,ab.
22	Usage.ti,ab.
23	Using.ti,ab.
24	Utilizat*.ti,ab.
25	Vaping.ti,ab.
26	Prevalence.ti,ab.
27	or/21-26
28	Substitut*.ti,ab.
29	Transition.ti,ab.
30	Replace.ti,ab.
31	Switch*.ti,ab.
32	Tobacco Harm.ti,ab.
33	Harm Reduction.ti,ab.
34	Reduced Harm.ti,ab.
35	Reduced Risk.ti,ab.
36	Risk Reduction.ti,ab.
37	Change.ti,ab.
38	Changing.ti,ab.
39	or/28-38
40	20 and 27 and 39

Anexo 2. Herramienta de evaluación de calidad de NIH

Criteria	Yes	No	Other (CD, NR, NA)*
1. Was the research question or objective in this paper clearly stated?			
2. Was the study population clearly specified and defined?			
3. Was the participation rate of eligible persons at least 50%?			
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?			
5. Was a sample size justification, power description, or variance and effect estimates provided?			
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?			
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?			
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?			
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
10. Was the exposure(s) assessed more than once over time?			
11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
12. Were the outcome assessors blinded to the exposure status of participants?			
13. Was loss to follow-up after baseline 20% or less?			
14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?			

Anexo 3. Herramienta de evaluación de calidad de los estudios económicos (sí/no).

Datos y métodos

- ¿Utiliza datos de hogares, tiendas minoristas o a nivel individual?
- ¿Se describen claramente las variables de precios / ingresos?
- ¿Se describen claramente las variables de demanda / ventas / compras?
- ¿Incluye un conjunto de variables de control en el análisis?
- ¿Utiliza un tamaño de muestra adecuado?
- ¿Los modelos econométricos son adecuados y basados en teoría econométrica?

Evaluando y reportando los resultados

- ¿Se realizan pruebas de validación del modelo o de especificación correcta del modelo?
 - ¿Se reportan resultados según subgrupos de población?
- La puntuación positiva considera el porcentaje de respuestas Sí obtenidas por cada estudio.

Anexo 4. Evaluación de la calidad de los estudios económicos

Estudio	Datos y métodos					Evaluación y reporte de resultados			Puntuación
	¿Utiliza datos de hogares, tiendas minoristas o a nivel individual?	¿Se describen claramente las variables de precios / ingresos?	¿Se describen claramente las variables de demanda / ventas / compras?	¿Incluye un conjunto de variables de control en el análisis?	¿Tamaño muestral adecuado?	¿Modelo econométrico adecuado y basado en la teoría?	¿Se realizaron pruebas de validación del modelo o especificación incorrecta?	¿Reporta resultados según subgrupos?	
Rutter 2017	Sí	Sí	Sí	Sí	Sí	No	No	No	62,5
Liber 2017	No	Sí	N/D	N/D	N/D	N/D	N/D	Sí	66,7
Liber 2018b	No	Sí	N/D	N/D	N/D	N/D	N/D	No	33,3
Stocklosa 2016	Sí	Sí	Sí	Sí	N/D	Sí	Sí	No	85,7
Grace 2015	Sí	Sí	Sí	No	Sí	Sí	No	No	62,5
Han 2019	Sí	Sí	Sí	Sí	Sí	No	No	No	62,5
Chen 2018	Sí	No	Sí	Sí	Sí	Sí	Sí	Sí	87,5
Cheng 2019	Sí	Sí	Sí	No	Sí	Sí	Sí	Sí	87,5
Johnson 2017	Sí	Sí	Sí	Sí	Sí	Sí	No	No	75,0
Liber 2018a	Sí	Sí	N/D	No	N/D	Sí	No	N/D	60,0
Minami 2019	Sí	Sí	No	No	No	N/D	N/D	Sí	50,0
Pesko 2018	Sí	Sí	Sí	Sí	Sí	Sí	Sí	No	87,5
Quisenberry 2017	Sí	Sí	Sí	No	No	Sí	Sí	Sí	75,0
Zheng 2017	No	Sí	Sí	No	Sí	Sí	Sí	Sí	75,0

N/D: No disponible

Anexo 5. Evaluación de riesgo de sesgo en estudios epidemiológicos (herramienta de evaluación de calidad del NIH).

Estudio	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Resumen
Farsalinos 2016	√	√	√	√	√	∅	∅	√	√	∅	√	√	±	√	Bueno
Berry 2019	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Bueno
Giovenco 2018	√	√	√	√	√	∅	∅	√	√	√	√	√	√	√	Bueno
Chen 2018	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Bueno
Young-Wolff 2018	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Bueno
Manzoli 2017	√	√	√	±	±	±	√	±	±	±	√	√	∅	√	Regular
Farsalinos 2019	√	√	√	√	√	∅	∅	√	√	±	√	√	±	√	Bueno
Ekanem 2017	√	√	√	√	√	∅	∅	∅	√	∅	√	√	±	√	Bueno
Zhu 2017	√	√	√	√	√	∅	∅	√	√	√	√	√	√	√	Bueno
Kasza 2018	√	√	√	√	√	±	√	√	√	∅	√	√	±	√	Bueno
Flacco 2019	√	√	√	√	±	√	√	±	√	√	√	√	∅	√	Bueno
Brose 2015	√	√	√	√	√	√	√	√	√	±	√	√	∅	√	Bueno
Kralikova 2013	√	∅	√	√	∅	±	√	±	√	∅	√	√	±	√	Regular
Hair 2019	√	√	√	√	√	√	√	∅	√	√	√	√	√	∅	Regular
Niaura 2019	√	√	√	√	√	√	√	∅	√	√	√	√	√	∅	Regular
Gentzke 2019	√	√	√	√	√	∅	∅	√	√	∅	√	√	±	√	Bueno
Li ling 2016	√	√	√	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Orth 2018	√	√	±	√	±	∅	∅	∅	√	∅	√	±	±	√	Bueno
Eastwood 2015	√	√	∅	√	±	∅	∅	√	√	∅	√	±	∅	√	Regular
El-Khoury 2019	√	√	±	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Smith 2019	√	√	√	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Liu 2019	√	√	±	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Wills 2017	√	√	√	√	±	∅	∅	√	√	√	√	±	√	√	Bueno
Piper 2019	√	√	±	√	∅	∅	∅	√	√	√	√	±	∅	√	Bueno
Bao 2018	√	√	√	√	√	∅	∅	√	√	∅	√	±	±	√	Bueno
Boyle 2015	√	√	√	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Beard 2015	√	√	±	√	±	∅	∅	√	√	∅	√	±	∅	√	Bueno
Loukas 2019	√	√	√	√	±	∅	∅	∅	√	∅	√	±	√	√	Bueno
Stanton 2019	√	√	√	√	±	∅	∅	√	√	√	√	±	√	√	Bueno
Kasza 2018	√	√	√	√	√	∅	∅	√	√	√	√	±	√	√	Bueno
Barrington-Trimis 2018	√	√	√	√	√	∅	∅	√	√	√	√	±	±	√	Bueno
Barrington-Trimis 2019	√	√	√	√	√	∅	∅	√	√	√	√	±	±	√	Bueno
Barrington-Trimis 2016	√	√	√	√	±	∅	∅	∅	√	√	√	±	±	√	Bueno
Anic 2018	√	√	∅	√	√	∅	∅	√	√	√	√	√	∅	√	Bueno
Park 2017	√	√	∅	√	√	∅	∅	√	√	√	√	√	∅	√	Bueno

√	Sí
±	No se logró determinar
∅	No

Anexo 6. Estudios epidemiológicos que informan la prevalencia longitudinal de cigarrillos electrónicos por país.

País	Estudio	n	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)
EE. UU.	Barrington-Trimis	2055				6,0				
	Bao	101 175				3,7	3,5	3,2		
	Stanton	11 996				3,1	3,6			
	Kasza (18-24 años)	8174			1,1	2,7				
	Kasza (+25 años)	20 183			0,9	1,3				
	Loukas	2711				32,5	23,9	18,2	17,8	
	Gentzke (secundaria)	24 658	1,5							20,8
	Gentzke (enseñanza media)	24 658	0,6							4,9
	Li-Ling	4791	1,7		7,7					
	Wills	2338			2	3				
	Boyle	9304				5,9				
	Barrington-Trimis 2019 no blanco hispano	2302			11,3	8,5				
	Barrington-Trimis 2019 blanco hispano	2329			17	6,9				
Alemania	Orth - hombre 12-17	2973		3,0				4,6		
	Orth - mujer 12-17			2,1				2,9		
	Orth - hombre 18-25			5,0				7,6		
	Orth - mujer 18-25			2,8				3,4		
Inglaterra	Beard	1360	2,2		20,8					
	Eastwood	2177			0,9	1,7				
Francia	El-Khoury	8470					3,9	3,0		
Italia	Liu	15 406				0,4	1,8			1,3
Polonia	Smith	5708	2,0			8,0		11,0		

Anexo 7. Estudios epidemiológicos que informan la prevalencia longitudinal de cigarrillos convencionales por país.

País	Estudio	n	1995 (%)	1998 (%)	2001 (%)	2004 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	
EE. UU.	Barrington-Trimis	2055	19,1	17,1	14,7	9,0										
	Bao	101 175									47,6	53,2	52,5			
	Stanton	11 996									4,6	4,1				
	Boyle	9304					16,1				14,4					
	Kasza (18-24 años)	8174								6,7	7,0					
	Kasza (+25 años)	20 183								10,4	12,2					
	Loukas	2711									38,9	32,5	30,1	30,5		
	Gentzke (secundaria)	24 658							21,8							13,9
	Gentzke (enseñanza media)	24 658							6,4							3,3
	Li-Ling	4791							15,1		13,1					
	Wills	2338			1	1										
	Barrington-Trimis 2019 No hispanico blanco	2302										2,5	3,1			
	Barrington-Trimis 2019 Blanco hispanico	2329										4,5	2,8			
	Inglaterra	Eastwood	2177									8	6,9			
Alemania	Orth - hombre 12-17	2973								13,7			9,8			
	Orth - mujer 12-17									13,7			6,2			
	Orth - hombre 18-25									39,3			29,7			
	Orth - mujer 18-25									33,8			23,5			
Francia	El-Khoury	8470											30,0	26,8		
Polonia	Smith	5708						21,0			15,0		12,0			

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	1-2
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	2
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	2
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	2
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	3
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	3
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	3
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	3
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	3
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	3
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	3

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	Not described
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	3
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	4
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	12
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	3 and 20
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	6
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	6 and 7
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Not described
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Not described
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	9
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	10
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	11
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	Not described

Anexo 9. Lista de potenciales estudios a ser incluidos para revisión a texto completo.

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