McMaster University | HEALTH FORUM

Appendix listing

Living Evidence Synthesis

Impact of strategies to mitigate health-related misinformation in diverse settings and populations

15 April 2024

[MHF product code: LES 22.1]

Protocol registered with PROSPERO (CRD42023421149) and published in BMJ Open

Appendix 1: Detailed search strategy

Strategy ran – 2023 May 03
Search results

Medline	Embase	PsyINFO	Cochrane	CINAHL	Deduplicated in Co-Evidence
726	700	822	11 reviews 48 trials	576	**2092**

OVID Medline Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present

1 (exp information dissemination/ and (health or medical).af.) or ((information or knowledge) and (health or medical)).af. or "health related content".mp. 1340116
2 "antivaccine misinformation".af. or "vaccine adj2 misinformation".ab. or or antivaccine information.mp. 6
3 health education/ or information services/ or health promotion/ or exp medical informatics/ or exp public health informatics/ or (information services/ and (health or medical).af.) 643396
4 exp "health communication"/ or (health and communication).af. or "health adj2 communication".ab. 203693
5 infodemiology.mp. or exp Consumer Health Information/ or "consumer health information".af. or "COVID-19-related misinformation".mp. or "COVID-19 Infodemiology".mp. 14390
6 1 or 2 or 3 or 4 or 51954624
7 exp social media/ or "social media".af. 33247
8 exp Social Networking/ or exp Online Social Networking/ or "social networks".af. or "social networking".af. 20629
9 (Reddit or Facebook or Twitter or Instagram or Youtube or Whatsapp or Telegram or Instagram or influencer or Flickr or Weibo or Pinterest or linkedin or "linked in" or tiktok or snapchat).tw. 22520
10 7 or 8 or 9 61659
11 ("data adj2 accuracy" or "truth adj2 discernment").ab. or "accurate information".af. or "health illiteracy".af. or "inaccurate information".mp. or "misleading information".mp. or "poor quality information".mp. or "quality of online information".mp. 8040
12 (misinform or disinform or misinformation or disinformation).af. and ((spread or spreading or spreads or propagate or propagated or propagates or propagating or propagation or disseminate or disseminated or disseminates or disseminating or dissemination or circulation or circulate or circulated or circulates or circulating or communicate or communicated or communicates or communicating or prevalent or prevalence or diffusion or communication or communications).af. or exp communication/ or exp diffusion/ or exp prevalence/)3538
13 11 or 12 11363
14 6 and 10 and 13 1322
15 search:.tw. or meta analysis.mp,pt. or review.pt. or di.xs. or associated.tw. 10557046
16 clinical trial.mp. or clinical trial.pt. or random:.mp. or tu.xs.6565591
17 ("comparative study" or "Controlled Clinical Trial").pt. or quasiexperiment.af. or "quasi experiment".af. or quasiexperimental.tw. or "quasi experimental".tw. or quasi-randomized.tw. or "natural experiment".tw. or "field experiment".tw. or "natural control".tw. or "Matched control".tw. or (unobserved and heterogeneity).ti. or "interrupted time series".tw. or "difference studies".tw. or "two stage residual inclusion".tw. or "regression discontinuity".tw. or non-randomized.tw. or pretest-posttest.af. or "network analysis".af. or mixed-methods.af. 2112787
18 exp cohort studies/ or cohort$.tw. or controlled clinical trial.pt. or epidemiologic methods/ or exp case-control studies/ or (case$ and control$).tw. 3546059
19 (longitudinal or prospective or retrospective or follow-up or retrospective).mp. 3436968
20 15 or 16 or 17 or 18 or 19 16804014
21 14 and 20 726
22 21 use PPEZ 726

Embase <1996 to 2023 May 03>

1 (exp information dissemination/ and (health or medical).af.) or ((information or knowledge) and (health or medical)).af. or "health related content".mp. 1996422
2 "antivaccine misinformation".af. or "vaccine adj2 misinformation".ab. or or antivaccine information.mp. 4
3 health education/ or information services/ or health promotion/ or exp medical informatics/ or exp public health informatics/ or (information services/ and (health or medical).af.) 204445
4 exp health communication/ or (health and communication).af. or "health adj2 communication".ab. 358375
5 infodemiology.mp. or exp Consumer Health Information/ or "consumer health information".af. or "COVID-19-related misinformation".mp. or "COVID-19 Infodemiology".mp. 5310
6 1 or 2 or 3 or 4 or 52289705
7 exp social media/ or "social media".af. 54063
8 exp Social Networking/ or exp Online Social Networking/ or "social networks".af. or "social networking".af. 32751
9 (Reddit or Facebook or Twitter or Instagram or Youtube or Whatsapp or Telegram or Instagram or influencer or Flickr or Weibo or Pinterest or linkedin or "linked in" or tiktok or snapchat).mp. 28268
10 7 or 8 or 9 93221
11 ("data adj2 accuracy" or "truth adj2 discernment").ab. or "accurate information".af. or "health illiteracy".af. or "inaccurate information".mp. or "misleading information".mp. or "poor quality information".mp. or "quality of online information".mp. 9414
12 (misinform or disinform or misinformation or disinformation).af. and ((spread or spreading or spreads or propagate or propagated or propagates or propagating or propagation or disseminate or disseminated or disseminates or disseminating or dissemination or circulation or circulate or circulated or circulates or circulating or communicate or communicated or communicates or communicating or prevalent or prevalence or diffusion or communication or communications).af. or exp communication/ or exp diffusion/ or exp prevalence/)3930
13 11 or 12 13117
14 6 and 10 and 13 1720
15 random:.tw. or clinical trial:.mp. or exp health care quality/6214900
16 ("comparative study" or "Controlled Clinical Trial").pt. or quasiexperiment.af. or "quasi experiment".af. or quasiexperimental.tw. or "quasi experimental".tw. or quasi-randomized.tw. or "natural experiment".tw. or "field experiment".tw. or "natural control".tw. or "Matched control".tw. or (unobserved and heterogeneity).ti. or "interrupted time series".tw. or "difference studies".tw. or "two stage residual inclusion".tw. or "regression discontinuity".tw. or non-randomized.tw. or pretest-posttest.af. or "network analysis".af. or mixed-methods.af. 184106
17 exp cohort analysis/ or exp longitudinal study/ or exp prospective study/ or exp follow up/ or cohort$.tw. or exp case control study/ or (case$ and control$).tw. 4456058
18 (longitudinal or prospective or retrospective or follow-up or retrospective).mp. 4756318
19 15 or 16 or 17 or 1810124946
20 14 and 19 700
21 20 use emefd 700

Deduplicated – English only – Human = 951

APA PsycInfo <1806 to April Week 4 2023>

1 (exp information dissemination/ and (health or medical).af.) or ((information or knowledge) and (health or medical)).af. or "health related content".mp. 870261
2 "antivaccine misinformation".af. or "vaccine adj2 misinformation".ab. or antivaccine information.mp. 4
3 (exp Information/ and Communication Technology/) or health education/ or information services/ or health promotion/ or (information services/ and (health or medical).af.) 41658
4 exp health communication/ or (health and communication).af. or "health adj2 communication".ab. 341636
5 infodemiology.mp. or "consumer health information".af. or "COVID-19-related misinformation".mp. or "COVID-19 Infodemiology".mp. 2219
6 1 or 2 or 3 or 4 or 51031944
7 exp social media/ or "social media".af. 58396

8 exp Social Networking/ or exp Online Social Networking/ or "social networks".af. or "social networking".af. 106874
9 (Reddit or Facebook or Twitter or Instagram or Youtube or Whatsapp or Telegram or Instagram or influencer or Flickr or Weibo or Pinterest or linkedin or "linked in" or tiktok or snapchat).mp. 15065
10 7 or 8 or 9 143234
11 ("data adj2 accuracy" or "truth adj2 discernment").ab. or "accurate information".af. or "health illiteracy".af. or "inaccurate information".mp. or "misleading information".mp. or "poor quality information".mp. or "quality of online information".mp. 2927
12 (misinform or disinform or misinformation or disinformation).af. and ((spread or spreading or spreads or propagate or propagated or propagates or propagating or propagation or disseminate or disseminated or disseminates or disseminating or dissemination or circulation or circulate or circulated or circulates or circulating or communicate or communicated or communicates or communicating or prevalent or prevalence or diffusion or communication or communications).af. or exp communication/) 7120
13 11 or 12 9823
14 6 and 10 and 13 1929
15 Literature Review/ or Systematic Review/ 23759
16 (control: or random:).tw. or exp treatment/1902776
17 ("comparative study" or "Controlled Clinical Trial").pt. or quasiexperiment.af. or "quasi experiment".af. or quasiexperimental.tw. or "quasi experimental".tw. or quasi-randomized.tw. or "natural experiment".tw. or "field experiment".tw. or "natural control".tw. or "Matched control".tw. or (unobserved and heterogeneity).ti. or "interrupted time series".tw. or "difference studies".tw. or "two stage residual inclusion".tw. or "regression discontinuity".tw. or non-randomized.tw. or pretest-posttest.af. or "network analysis".af. or mixed-methods.af. 140006
18 exp cohort analysis/ or exp longitudinal studies/ or exp prospective studies/ or cohort$.tw. or exp case control study/ or (case$ and control$).tw. 178382
19 (longitudinal or prospective or retrospective or follow-up or retrospective).mp. 399711
20 15 or 16 or 17 or 18 or 19 2209345
21 14 and 20 956
22 limit 21 to (human and english language) 822

Cochrane Database

ID Search
#1 ([mh "information dissemination"] AND (health OR medical)) OR ((information OR knowledge) AND (health OR medical)) OR "health related content":ti,ab,kw
#2 "antivaccine misinformation" OR "vaccine misinformation" OR "antivaccine information"
#3 [mh ^"health education"] OR [mh ^"information services"] OR [mh ^"health promotion"] OR [mh "medical informatics"] OR [mh "public health informatics"] OR ([mh ^"information services"] AND (health OR medical))
#4 [mh "health communication"] OR (health AND communication) OR "health adj2 communication":ab
#5 infodemiology:ti,ab,kw OR [mh "Consumer Health Information"] OR "consumer health information" OR "COVID-19-related misinformation":ti,ab,kw OR "COVID-19 Infodemiology":ti,ab,kw
#6 #1 or #2 or #3 or #4 or #5
#7 [mh "social media"] OR "social media"
#8 [mh "Social Networking"] OR [mh "Online Social Networking"] OR "social networks" OR "social networking"
#9 (Reddit:ti,ab OR Facebook:ti,ab OR Twitter:ti,ab OR Instagram:ti,ab OR Youtube:ti,ab OR Whatsapp:ti,ab OR Telegram:ti,ab OR Instagram:ti,ab OR influencer:ti,ab OR Flickr:ti,ab OR Weibo:ti,ab OR Pinterest:ti,ab OR linkedin:ti,ab OR "linked in":ti,ab OR tiktok:ti,ab OR snapchat:ti,ab)
#10 #7 or #8 or #9
#11 ("data adj2 accuracy":ab OR "truth adj2 discernment":ab) OR "accurate information" OR "health illiteracy" OR "inaccurate information":ti,ab,kw OR "misleading information":ti,ab,kw OR "poor quality information":ti,ab,kw OR "quality of online information":ti,ab,kw
#12 (misinform OR disinform OR misinformation OR disinformation) AND ((spread OR spreading OR spreads OR propagate OR propagated OR propagates OR propagating OR propagation OR disseminate OR disseminated OR disseminates OR disseminating OR dissemination OR circulation OR circulate OR circulated

OR circulates OR circulating OR communicate OR communicated OR communicates OR communicating OR prevalent OR prevalence OR diffusion OR communication OR communications) OR [mh communication] OR [mh diffusion] OR [mh prevalence])

#13 #11 or #12

#14 #6 and #10 and #13

CINAHL Database: EBSCO Host

S10 S6 AND S7 AND S8 Narrow by Language: - english 517

S9 S6 AND S7 AND S8 597

S8 (((AB "data adj2 accuracy") OR (AB "truth adj2 discernment")) OR "accurate information" OR "health illiteracy" OR "inaccurate information" OR "misleading information" OR "poor quality information" OR "quality of online information") OR ((misinform OR disinform OR misinformation OR disinformation) AND ((spread OR spreading OR spreads OR propagate OR propagated OR propagates OR propagating OR propagation OR disseminate OR disseminated OR disseminates OR disseminating OR dissemination OR circulation OR circulate OR circulated OR circulates OR circulating OR communicate OR communicated OR communicates OR communicating OR prevalent OR prevalence OR diffusion OR communication OR communications) OR (MH communication+) OR (MH diffusion+) OR (MH prevalence+))) Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases 4,526

S7 ((MH "social media+") OR "social media") OR ((MH "Social Networking+") OR (MH "Online Social Networking+") OR "social networks" OR "social networking") OR (((TI Reddit OR AB Reddit) OR (TI Facebook OR AB Facebook) OR (TI Twitter OR AB Twitter) OR (TI Instagram OR AB Instagram) OR (TI Youtube OR AB Youtube) OR (TI Whatsapp OR AB Whatsapp) OR (TI Telegram OR AB Telegram) OR (TI Instagram OR AB Instagram) OR (TI influencer OR AB influencer) OR (TI Flickr OR AB Flickr) OR (TI Weibo OR AB Weibo) OR (TI Pinterest OR AB Pinterest) OR (TI linkedin OR AB linkedin) OR (TI "linked in" OR AB "linked in") OR (TI tiktok OR AB tiktok) OR (TI snapchat OR AB snapchat))) 54,016

S6 S1 OR S2 OR S3 OR S4 OR S5 585,013

S5 infodemiology OR (MH "Consumer Health Information+") OR "consumer health information" OR "COVID-19-related misinformation" OR "COVID-19 Infodemiology" 19,893

S4 (MH "health communication+") OR (health AND communication) OR (AB "health adj2 communication") 98,222

S3 (MH "health education") OR (MH "information services") OR (MH "health promotion") OR (MH "medical informatics+") OR (MH "public health informatics+") OR ((MH "information services") AND (health OR medical)) 112,018

S2 "antivaccine misinformation" OR (AB "vaccine adj2 misinformation") OR "antivaccine information" 4

S1 ((MH "information dissemination+") AND (health OR medical)) OR ((information OR knowledge) AND (health OR medical)) OR "health related content" 446,489

Appendix 2: Summary of studies included

Reference	Jurisdiction	Study design	Type of response/ strategy	Detail of intervention	Condition studied	Gender/sex analysis
Yang 2023 (1)	Online in several languages	Natural Language Processing chatbot	Technical and algorithmic	Natural Language Processing-based Artificial Intelligence	COVID-19	No
Ma 2023 (2)	China	Behavioural research (experimental randomized study)	Educational	Inoculation theory	COVID-19	No
Abascal 2022 (3)	Guatemala	Before and after study	Counter-misinformation campaigns	Linguistically and culturally tailored social media ad campaign	COVID-19	Yes
Kim 2022 (4)	Online	Behavioural research (experimental randomized study)	Educational	Message-framing tactics	Human papillomavirus (HPV)	No
Kandasamy 2022 (5)	Canada	Cross-sectional and one-group pretest-post-test design	Counter-misinformation campaigns	Public health programme to mobilise and empower (campaign)	COVID-19	No
Xue 2022 (6)	Online in English	Observational study	Monitoring and fact-checking	Natural Language Processing-based Artificial Intelligence	COVID-19	No
Vraga 2022 (7)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking Educational	Debunking	Sunscreen and skin cancer	No
Folkvord 2022 (8)	The Netherlands	Behavioural research (experimental randomized study)	Credibility labelling	Protective message	COVID-19	No
Winters 2021 (9)	Sierra Leone	Randomized controlled trial	Monitoring and fact-checking Educational	Debunking	Malaria and typhoid	No
Zhang 2021 (10)	US	Behavioural research (experimental randomized study)	Credibility labelling	Fact-checking labelling	Vaccines	No
Stekelenburg 2021 (11)	US	Behavioural research (quasi-experimental study)	Educational	Intervention aimed at increasing belief accuracy	COVID-19	No
Kim 2021 (12)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Message attention and credibility	HPV	No
Du 2021 (13)	Online (Reddit)	Machine Learning–Based Approaches	Technical and algorithmic	Machine learning based methods	HPV	No
Vandormael 2021 (14)	United States, Mexico, the United Kingdom, Germany, and Spain	Randomized controlled trial	Educational	Video for prevention	COVID-19	No

Reference	Jurisdiction	Study design	Type of response/ strategy	Detail of intervention	Condition studied	Gender/sex analysis
Bowles 2020 (15)	Zimbabwe	Experimental randomized study	Counter-misinformation campaigns	Dissemination of messages aimed at targeting misinformation	COVID-19	Yes
Gesser-Edelsburg 2018 (16)	Israel	Behavioural research (mixed methods including an experimental randomized design and a descriptive qualitative design)	Monitoring and fact-checking	Information correction	Measles	No
Panizza 2022 (17)	UK	Behavioural research (experimental randomized study)	Credibility labelling *not sure if is better classified as fact checking) Economic	Pop-ups meant to advise participants to fact-check and other intervention based on monetary incentives	Climate change Eating chocolate Vaccines for COVID-19	No
Duarte 2022 (18)	Brazil	Before and after study	Educational	Intervention to increase literacy	Coconut oil intake	Yes
Gu 2022 (19)	Online	Interrupted time series	Legislative and other policy	Facebook policy (2019) on user endorsements of vaccine content on its platform	Vaccines	No
Khan 2021 (20)	Online	Machine Learning–Based Approaches	Technical and algorithmic	Algorithm to classify misinformation posts	COVID-19	No
Vijaykumar 2021 (21)	Brazil	Cross-sectional	Educational	Social correction behaviours in WhatsApp	COVID-19	Yes
Kirkpatrick 2021 (22)	US	Behavioural research (experimental randomized study)	Educational	Prospect Theory, Loss-Framing, and Perceived Severity (Youtube)	-Measles, Mumps, Rubella (MMR) -COVID-19	No
Featherstone 2020 (23)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Refutational messages	Vaccines	No
Moore 2016 (24)	US	Before and after study	Educational	Conferences	Escherichia coli O157:H7 in cattle	No
Vraga 2018 (25)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Social correction (Facebook and Twitter)	Zika	No
Vraga 2019 (26)	Online	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Inoculation and observational correction	HPV vaccination	No
Ecker 2020 (27)	Online	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Correction and backfire effect Fact-checking	HIV among other issues	No
van der Meer 2020 (28)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Corrective information type and source (narrative, educational)	Hypothetical infectious disease outbreak	No

Reference	Jurisdiction	Study design	Type of response/ strategy	Detail of intervention	Condition studied	Gender/sex analysis
Trevors 2020 (29)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking Educational	Positive and negative emotional text content in refutational texts	Vaccines	No
Thacker 2020 (30)	US, Australia, Canada	Behavioural research (experimental randomized study)	Monitoring and fact-checking Educational	Refutational messages	Genetically modified food	No
Tully 2020 (31)	US	Behavioural research (experimental randomized study)	Educational	News literacy	-Genetically modified food -Seasonal flu vaccine	No
Chao 2021 (32)	China	Behavioural research (experimental randomized study)	Narrative	Debunker identity	COVID-19	No
Tseng 2021 (33)	US	Randomized controlled trial	Educational	Cultivating a critical awareness of flawed scientific claims	Science	No
Steffens 2021 (34)	Australia	Behavioural research (experimental randomized study)	Monitoring and fact-checking Educational	Debunking strategies	Vaccines	No
Swire-Thompson 2021 (35)	US	Behavioural research (experimental study)	Monitoring and fact-checking Educational	Correction	Vaccines and climate change	No
Roozenbeek 2021 (36)	US	Behavioural research (experimental study)	Educational	Asking people to think about the accuracy of a single headline improves "truth discernment" of intentions to share news headlines about COVID-19	COVID-19	No
Meppelink 2021 (37)	The Netherlands	Machine Learning–Based Approaches	Technical and algorithmic Credibility labelling	Supervised machine learning (SML) to classify health-related webpages as 'reliable' or 'unreliable'	-Vaccination in kids -VPH	No
MacFarlane 2021 (38)	Australia	Behavioural research (experimental study)	Monitoring and fact-checking Educational	Refuting	Vitamin E for COVID-19	No
Freeze 2021 (39)	US	Behavioural research (experimental randomized study)	Credibility labelling	Warnings	Affordable care act	No
Ramirez 2022 (40)	US	Behavioural research (experimental pilot study)	Narrative	Psychological inoculation	COVID-19 vaccination	No
Hayawi 2022 (41)	Online	Machine Learning–Based Approaches	Technical and algorithmic Credibility labelling	Machine learning detection framework	COVID-19 vaccination	No
Jiang 2022 (42)	Hong Kong	Behavioural research (experimental randomized study)	Monitoring and fact-checking Educational	Inoculation	COVID-19 vaccination	No

Reference	Jurisdiction	Study design	Type of response/ strategy	Detail of intervention	Condition studied	Gender/sex analysis
Wang 2022 (43)	US	Machine Learning–Based Approaches	Technical and algorithmic Educational	Factual information vs misinformation (Twitter)	COVID-19	No
Gavin 2022 (44)	Kyrgyzstan, India, and the United States	Behavioural research (experimental randomized study)	Educational	Accuracy of nudge intervention	COVID-19	Yes
Vlasceanu 2023 (45)	US	Behavioural research (experimental randomized study)	Educational	Belief change	- Child's untreated wandering eye, - Abortion	No
Berlotti 2023 (46)	Italy	Behavioural research (experimental randomized study)	Educational	Prebunking-counterfactual	COVID-19	No
Blomberg 2023 (47)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Correction	Vitamin C COVID-19	No
Altay 2023 (48)	France	Behavioural research (experimental randomized study)	Technical and algorithmic Educational	Chatbot	COVID-19	No
Mourali 2022 (49)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Correction and debunking	COVID-19 (masking)	No
Silesky 2023 (50)	US	Implementation research	Counter-misinformation campaigns Monitoring and fact-checking	Media monitoring findings for developing campaigns	COVID-19 vaccination	No
Talabi 2022 (51)	Nigeria	Behavioural research (quasi-experimental study)	Educational	Counselling	COVID-19 vaccination	No
Song 2022 (52)	Hong Kong	Behavioural research (experimental randomized study)	Educational	Evidence types and presentation mode on individuals' responses to corrective messages about COVID-19 on social media	COVID-19	No
Yang 2022 (53)	China	Qualitative research (content analysis)	Monitoring and fact-checking	Rumour debunking	COVID-19	No
Lohiniva 2022 (54)	Ghana	Implementation research	Monitoring and fact-checking	The infodemic management system	COVID-19 vaccination	No
Verduci 2021 (55)	Italy	Implementation research	Monitoring and fact-checking	Chatbot Nutripedia	Nutrition during Pregnancy and Early Life	No
Au 2021 (56)	Hong Kong	Behavioural research (experimental randomized study)	Economic Legislative and other	Financial incentives and legislation	Different health topics	Yes

Reference	Jurisdiction	Study design	Type of response/ strategy	Detail of intervention	Condition studied	Gender/sex analysis
Sun 2021 (57)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Correction	COVID-19	Yes
Yoon 2022 (58)	Korea	Qualitative research (content analysis)	Counter-misinformation campaigns	Using network logic of YouTube	Cancer	No
Pennycook 2020 (59)	US	Behavioural research (experimental randomized study)	Monitoring and fact-checking	Nudging	COVID-19	No

Appendix 3: Documents excluded at the final stage of reviewing

Hyperlinked title	Reason for exclusion
Development and testing of a multi-lingual Natural Language Processing-based deep learning system in 10 languages for COVID-19 pandemic crisis: A multi-center study	No an intervention to address misinformation
Fighting COVID-19 Misinformation through an Online Game Based on the Inoculation Theory: Analyzing the Mediating Effects of Perceived Threat and Persuasion Knowledge	No an intervention to address misinformation
Evaluating the impact of a linguistically and culturally tailored social media ad campaign on COVID-19 vaccine uptake among indigenous populations in Guatemala: a pre/post design intervention study	No an intervention to address misinformation
Countering Antivax Misinformation via Social Media: Message-Testing Randomized Experiment for Human Papillomavirus Vaccination Uptake	No an empirical article
South Asian Youth as Vaccine Agents of Change (SAY-VAC): evaluation of a public health programme to mobilise and empower South Asian youth to foster COVID-19 vaccine-related evidence-based dialogue in the Greater Toronto and Hamilton Area, Canada	No an empirical article
COVID-19 Vaccine Fact-Checking Posts on Facebook: Observational Study	An intervention without outcome measured
The Challenge of Debunking Health Misinformation in Dynamic Social Media Conversations: Online Randomized Study of Public Masking During COVID-19	No full-text available
The Effects of a News Literacy Video and Real-Time Corrections to Video Misinformation Related to Sunscreen and Skin Cancer	No full-text available
Effect of Source Type and Protective Message on the Critical Evaluation of News Messages on Facebook: Randomized Controlled Trial in the Netherlands	No an empirical article
Debunking highly prevalent health misinformation using audio dramas delivered by WhatsApp: Evidence from a randomised controlled trial in Sierra Leone	No an empirical article
Deciphering the laws of social network-transcendent COVID-19 misinformation dynamics and implications for combating misinformation phenomena	No an intervention to address misinformation
Effects of fact-checking social media vaccine misinformation on attitudes toward vaccines	No an intervention to address misinformation
Investigating and Improving the Accuracy of US Citizens' Beliefs about the COVID-19 Pandemic: Longitudinal Survey Study	No focused on health misinformation
An Eye Tracking Approach to Understanding Misinformation and Correction Strategies on Social Media: The Mediating Role of Attention and Credibility to Reduce HPV Vaccine Misperceptions	No focused on health misinformation
Using machine learningbased approaches for the detection and classification of human papillomavirus vaccine misinformation: Infodemiology study of reddit discussions	No an empirical article
The Effect of a Wordless, Animated, Social Media Video Intervention on COVID-19 Prevention: Online Randomized Controlled Trial	No an empirical article
Countering misinformation via WhatsApp: Preliminary evidence from the COVID-19 pandemic in Zimbabwe	No an intervention to address misinformation
Correcting misinformation by health organizations during measles outbreaks: A controlled experiment	No focused on health misinformation
Lateral reading and monetary incentives to spot disinformation about science.	No an intervention to address misinformation
Misinformation in nutrition through the case of coconut oil: An online before-and-after study.	No focused on health misinformation

The impact of Facebook's vaccine misinformation policy on user endorsements of vaccine content: An interrupted time series analysis.	No an intervention to address misinformation
Detecting COVID-19-Related Fake News Using Feature Extraction.	No focused on health misinformation
Dynamics of social corrections to peers sharing COVID-19 misinformation on WhatsApp in Brazil.	No focused on health misinformation
Vaccine Videos and Information Sharing: The Effects of Framing, Evidence Type, and Speaker Expertise.	No an intervention to address misinformation
Feeling angry: the effects of vaccine misinformation and refutational messages on negative emotions and vaccination attitude.	No an intervention to address misinformation
Escherichia coli O157:H7--Discerning Facts from Fiction: An Integrated Research and Extension Project for Multiple Audiences.	No focused on health misinformation
I do not believe you: How providing a source corrects health misperceptions across social media platforms.	No an empirical article
Testing logic-based and humor-based corrections for science, health, and political misinformation on social media.	No full-text available
Can corrections spread misinformation to new audiences? Testing for the elusive familiarity backfire effect.	No an empirical article
Seeking formula for misinformation treatment in public health crises: The effects of corrective information type and source.	No focused on health misinformation
The effects of positive and negative emotional text content on knowledge revision.	No an empirical article

Appendix 4: Summary of findings of studies included

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Yang 2023 (1)	• Type of intervention
	  ○ Technical and algorithmic
	• Detail of intervention
	  ○ Natural Language Processing-based Artificial Intelligence
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2023
		
		Jurisdiction studied: NA (online in several languages)
		
		Methods used: Natural Language Processing chatbot
			The study developed a chatbot named DR-COVID with an ensemble Natural Language Processing (NLP) model on the Telegram platform (https://t.me/drcovid_nlp_chatbot), then were evaluated various performance metrics and multi-lingual text-to-text translation to Chinese, Malay, Tamil, Filipino, Thai, Japanese, French, Spanish, and Portuguese.
			
			The study used 2,728 training questions and 821 test questions in English.
			
			Primary outcome measurements were: a) overall accuracy, referred to a correct response for the top answer and, and top 3 accuracies, which referred to an appropriate response for any one answer amongst the top 3 answers; b) Area Under the Curve (AUC), precision, recall, and F1 score.
			
			Secondary outcomes were a) multi-lingual accuracy; b) comparison to enterprise-grade chatbot systems.
				The Natural Language Processing-based Artificial Intelligence chatbot (DR-COVID) responded accurately to open-ended, COVID-19-related questions, achieving overall and top 3 accuracies of 0.838 and 0.922, respectively.
				
				For overall and top 3 results, AUC scores of 0.917 [95% CI: 0.911-0.925] and 0.960 [95% CI: 0.955-0.964] were achieved respectively. The chatbot achieved multi-linguicism with nine non-English languages, with Portuguese performing the best overall at 0.900, DR-COVID generated answers more accurately and quickly than other chatbots, within 1.12-2.15 s across three devices tested.
					Pending

Ma 2023 (2)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Inoculation theory
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2023
		
		Jurisdiction studied: China
		
		Methods used: Behavioural research (experimental randomized study)
			This study attempted to develop an online fake news game based on the inoculation theory, applicable to the pandemic context and aimed at enhancing misinformation discrimination.
			
			It also tested whether perceived threat and persuasion knowledge serve as underlying mechanisms of the effects of the intervention on misinformation discrimination.
			
			The study included two sub-studies, sub study 1 used online priming to examine the influence of inoculation on misinformation discrimination; while sub study 2 developed an online fake-news-game-based intervention and attempted to validate its effectiveness through a randomized controlled trial while also exploring the mediating roles of perceived threat and persuasion
				The study found that online interventions based on the inoculation theory are effective in enhancing misinformation discrimination, and one of the underlying mechanisms of this effect lies in its promotion of persuasion knowledge.
				
				Sub study 1 found that brief inoculation information priming significantly enhanced the ability to recognize misinformation ($F(2.502) = 8.321$, $p < 0.001$, etap2 = 0.032).
				
				Sub study 2 found that the five-day game-based intervention significantly enhanced the ability to recognize misinformation ($F(2.322) = 3.301$, $p = 0.038$, etap2 = 0.020).
				
				The mediation effect of persuasion knowledge was significant (beta = 0.025, SE = 0.016, 95% CI = [0.034,
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			knowledge. Effectively enrolled: 423 participants (323 women) - Sub study 1: 256 participants (187 women) - Sub study 2: 167 participants (136 women)	0.075]), while that of perceived threat was not significant.	

Abascal 2022 (3)	• Type of intervention
	  ○ Counter-misinformation campaigns
	• Detail of intervention
	  ○ Linguistically and culturally tailored social media ad campaign
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ Yes
		Publication date: 2022
		
		Jurisdiction studied: Guatemala
		
		Methods used: Before and after study
			This study evaluated the impact of culturally and linguistically tailored informational videos delivered via social media campaigns on COVID-19 vaccine uptake in Indigenous Maya communities in Guatemala.
			
			The study designed a series of videos utilising community input and evaluated their impact.
			
			In-person preintervention surveys were collected from a sample of respondents in four rural municipalities in Guatemala in March 2022.
			
			Facebook, Instagram and browser ads were flooded with COVID-19 vaccine informational videos in Spanish, Kaqchikel and Kiche for 3 weeks.
			
			Postintervention surveys were conducted by telephone among the same participants in April 2022.
			
			Logistic regression models were used to estimate the OR of COVID-19 vaccine uptake following exposure to the intervention videos.
			
			Effectively enrolled: 1,572 participants (998 women)
				Culturally and linguistically tailored videos addressing COVID-19 vaccine misinformation deployed over social media can increase vaccinations in a rural, indigenous population in Guatemala, implying that social media content can influence vaccination uptake.
				
				The median age of participants was 28 years; 63% (N=998) identified as women, and 36% spoke an Indigenous Mayan language.
				
				Twenty-one percent of participants (N=327) reported watching the intervention content on social media. At baseline, 89% (N=1402) of participants reported having at least one COVID-19 vaccine, compared with 97% (N=1507) in the follow-up.
				
				Those who reported watching the videos had 1.78 times the odds (95% CI 1.14 to 2.77) of getting vaccinated after watching the videos compared with those who did not see the videos when adjusted by age, community, sex and language.
					Pending

Kim 2022 (4)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Message-framing tactics
	• Condition studied
		Publication date: 2022
		
		Jurisdiction studied: NA (online)
		
		Methods used: Behavioural research
			This study aimed to test message effectiveness in changing parents' attitudes and behavioural intentions toward HPV vaccination.
			
			This study conducted a web-based message-testing experiment with 6 control messages and 25 experimental messages and 5 from each of the 5 salient themes about HPV vaccination (theme 1: safety, side effects, risk, and ingredient concerns and long-term or major adverse events;
				Evidence-based messages directly countering misinformation and promoting HPV vaccination in social media environments positively influenced parents in the experimental group compared with those in the control group, which was associated with increased intention to vaccinate among parents of unvaccinated children aged 9 to 14 years.
				
				Parents in the experimental group had increased positive attitudes toward HPV vaccination compared with those
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Human papillomavirus (HPV) • Gender/sex analysis ○ No	(experimental randomized study)	theme 2: distrust of the health care system; theme 3: HPV vaccine effectiveness concerns; theme 4: connection to sexual activity; and theme 5: misinformation about HPV or HPV vaccine). Participants were then randomly assigned to 1 of the 31 messages and asked to complete a post test survey questionnaire that assessed attitudes toward the vaccine and perceived effectiveness of the viewed message. A subgroup of participants (189/995, 19%) with unvaccinated children aged 9 to 14 years was also assessed for their behavioural intention to vaccinate their children against HPV. Effectively enrolled: 998 participants (616 women)	in the control group (t969=3.03, P=.003), which was associated with increased intention to vaccinate among parents of unvaccinated children aged 9 to 14 years (r=1.14, P=.05). At the thematic level, the study identified four themes (countering a) distrust of the system, b) effectiveness concerns, c) connection to sexual activity, and d) misinformation) that were relatively effective in increasing behavioural intentions by positively influencing attitudes toward the HPV vaccine (chi25=5.97, P=.31, root mean square error of approximation [RMSEA]=0.014, comparative fit index [CFI]=0.91, standardized root mean square residual [SRMR]=0.031). On the message level, messages that provided scientific evidence from government-related sources (eg, the Centers for Disease Control and Prevention) and corrected misinformation (eg, "vaccines like the HPV vaccine are simply a way for pharmaceutical companies to make money. That isn't true") were effective in forming positive perceptions toward the HPV vaccination messages.	
Kandasamy 2022 (5)	• Type of intervention ○ Counter-misinformation campaigns • Detail of intervention ○ Public health programme to mobilise and empower (campaign) • Condition studied ○ COVID-19 • Gender/sex analysis ○ No	Publication date: 2022 Jurisdiction studied: Canada Methods used: Cross-sectional and one-group pretest-post-test design	Setting: Greater Toronto and Hamilton Area (GTHA). Participants: South Asian youth (18-29 years). Intervention: The team partnered with grass-roots South Asian organisations to collaborate on shared objectives, curate key concerns, create video products regarding the COVID-19 vaccine that would resonate with the community, disseminate the products using established social media channels and evaluate the effectiveness of this effort. The study created Agents of Change (SAY-VAC) programme to support and empower South Asian youth to disseminate COVID-19 vaccine information. Outcomes: Change in self-reported knowledge about the COVID-19 vaccine and participant confidence to facilitate a conversation around the	After completing the SAY-VAC programme, participants reported an increase in their self-reported knowledge regarding the COVID-19 vaccine from 73.3% to 100.0% (p=0.005), and their self-reported confidence to have a conversation about the vaccine with their unvaccinated community members increased from 63.6% to 100.0% (p=0.002). The median age of participants were 23.2 years. Overall, 51.9% of the participants reported being able to positively affect an unvaccinated/community member's decision to get vaccinated.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			COVID-19 vaccine using pre-post surveys, after the implementation of the SAY-VAC programme. Effectively enrolled: 30 participants (22 cisgender women)		

Xue 2022 (6)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Natural Language Processing-based Artificial Intelligence
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: Online in English
		
		Methods used: Observational study
			The study collected a data set of 12,553 COVID-19 vaccine fact-checking Facebook posts and their associated comments (N=122,362) from January 2020 to March 2022 and conducted a series of natural language processing and statistical analyses to investigate trends in public attitude toward the vaccine in COVID-19 vaccine fact-checking posts and comments, and emotional and linguistic features of the COVID-19 fact-checking information ecosystem.
			
			The outcomes were 1) the changes in the public's attitude toward COVID-19 vaccines over time, 2) the effectiveness of COVID-19 vaccine fact-checking information on social media engagement and attitude change, and 3) the emotional and linguistic features of the COVID-19 vaccine fact-checking information ecosystem.
				As the pandemic progressed, third-party fact checkers played a larger role in posting fact-checking COVID-19 vaccine posts, fact-checking posts were progressively more analytical and more confident over time, reflecting increased confidence in posts.
				
				The percentage of fact-checking posts relative to all COVID-19 vaccine posts peaked in May 2020 and then steadily decreased as the pandemic progressed (r=-0.92, df=21, t=-10.94, 95% CI -0.97 to -0.82, P<.001).
				
				The salience of COVID-19 vaccine entities was significantly lower in comments (mean 0.03, SD 0.03, t=39.28, P<.001) than in posts (mean 0.09, SD 0.11).
				
				Third-party fact checkers played a more important role in more fact-checking over time (r=0.63, df=25, t=4.06, 95% CI 0.33-0.82, P<.001).
				
				COVID-19 vaccine fact-checking posts continued to be more analytical (r=0.81, df=25, t=6.88, 95% CI 0.62-0.91, P<.001) and more confident (r=0.59, df=25, t=3.68, 95% CI 0.27-0.79, P=.001) over time.
				
				Although comments did not exhibit a significant increase in confidence over time, tentativeness in comments significantly decreased (r=-0.62, df=25, t=-3.94, 95% CI -0.81 to -0.31, P=.001).
					Pending

Mourali 2022 (49)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Debunking
	• Condition studied
	  ○ COVID-19 (masking)
		Publication date: 2022
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research
			The aim of this study was to examine the impact of such extended back and forth between false claims and debunking attempts on observers' dispositions toward behaviour that science favours.
			
			The study tested competing predictions about the effect of extended exposure on people's attitudes and intentions toward masking in public during the early days of the COVID-19 pandemic and
				Initial debunking of a false claim generally improved attitudes and intentions toward masking (beta=.35, 95% CI .16 to .54; P<.001); however, this improvement was washed out by further exposure to false claims and debunking attempts (beta=-.53, 95% CI -.72 to -.34; P<.001), which was explained by a decrease in the perceived objectivity of truth.
				
				Exposure to misinformation had a negative impact on attitudes and intentions toward masking (beta=-.35, 95%
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	• Gender/sex analysis ○ No	(experimental randomized study)	explored several psychological processes potentially underlying this effect. US residents took part in an online experiment in October 2020. They were then randomly assigned to one of four social media exposure conditions (misinformation only vs misinformation + correction vs misinformation + correction + rebuke vs misinformation + correction + rebuke + second correction) and reported their attitudes and intentions for a second time. Participants indicated whether they would consider sharing the thread if they were to see it on social media and answered questions on potential mediators and covariates. Effectively enrolled: 479 participants (257 women)	CI -.42 to -.29; P<.001). Extended exposure to false claims and debunking attempts appear to weaken the belief that there is an objectively correct answer to how people ought to behave in this situation, which in turn leads to less positive reactions toward masking as the prescribed behaviour.	

Vraga 2022 (7)	• Type of intervention
	  ○ Monitoring and fact-checking
	  ○ Educational
	• Detail of intervention
	  ○ Debunking
	• Condition studied
	  ○ Sunscreen and skin cancer
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			The study tested two techniques - exposure to a news literacy video and user corrections - to limit the effects on misperceptions.
			
			An online sample of adults from August of 2019 was randomly assigned to view two simulated Facebook videos.
			The first video manipulated the presence of news literacy concepts, the second video either promoted sunscreen use or made inaccurate claims regarding its dangers; scrolling comments either debunked or did not address the sunscreen misinformation in the video.
			
			Effectively enrolled: 1,348 participants
				The video making false claims about sunscreen's effects shifted beliefs toward sunscreen myths and away from sunscreen facts and reduced intentions to wear sunscreen, textual corrections were less successful in reducing belief in sunscreen myths raised by the video.
				
				The study found that belief in sunscreen myths remains relatively low and acceptance of sunscreen facts are higher in all conditions, but the substantive impact of the exposure to a misinformation video contradicting long-standing recommendation regarding the benefits of sunscreen use is noteworthy.
				
				The study demonstrated that video misinformation heightened beliefs in sunscreen myths and reduced acceptance of sunscreen facts and intentions to wear sunscreen compared to a promotional video.
				
				Real-time user corrections were partially successful in reducing the effects of the misinformation video on beliefs but not intentions.
				
				Additionally, exposure to a news literacy video did not inoculate people against misinformation.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Folkvord 2022 (8)	• Type of intervention
	  ○ Credibility labelling
	• Detail of intervention
	  ○ Protective messaging
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: The Netherlands
		
		Methods used: Behavioural research (experimental randomized study)
			The main aim of this study was to experimentally examine the effects of information about the source and a protective warning message on users' critical evaluation of news items, as well as the perception of accuracy of the news item.
			
			A 3 (unreliable vs reliable vs no identified source) x 2 (with protective message vs without) between-subject.
			
			Effectively enrolled: 307 participants (142 women)
				This study showed that source information has an effect on the extent to which someone critically evaluates (news) messages on Facebook, participants more critically evaluated a (news) message when exposed to an unreliable source compared to a reliable source, no evidence was found that a protective message moderated the effect of source information on critical evaluation.
				
				Including a protective message to a video with misinformation did not significantly affect critical evaluation.
				
				The results showed no interaction between type of source and protective message on critical evaluation.
					Pending

Winters 2021 (9)	• Type of intervention
	  ○ Monitoring and fact-checking
	  ○ Educational
	• Detail of intervention
	  ○ Debunking
	• Condition studied
	  ○ Malaria and typhoid
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: Sierra Leone
		
		Methods used: Randomized controlled trial
			The Contagious Misinformation Trial developed and tested interventions designed to counter highly prevalent infectious disease misinformation in Sierra Leone, namely the beliefs that: 1) mosquitoes cause typhoid, and 2) typhoid co-occurs with malaria.
			
			Participants were randomised 1:1:1 to the intervention group or the control group.
			
			The information intervention for group A explicitly discussed misinformation and explained why it was incorrect and then provided the scientifically correct information.
			
			The intervention for group B only focused on providing correct information, without directly discussing related misinformation.
			Both interventions were delivered via audio dramas on WhatsApp that incorporated local cultural understandings of typhoid.
			
			Effectively enrolled: 736 participants (375 women)
			- Enrolled in Group A: 246 (118 women)
			- Enrolled in Group B: 245 (127 women)
			- Enrolled in Control: 245 (130 women)
				The study found that both interventions substantially reduced belief in misinformation compared with the control group, estimates from these analyses suggested that direct debunking may be more effective at countering misinformation.
				
				At baseline 51% of participants believed that typhoid is caused by mosquitoes and 59% believed that typhoid and malaria always co-occur.
				
				Both interventions improved people's knowledge and self-reported behaviour around typhoid risk reduction, and yielded self-reported increases in an important preventive method, drinking treated water.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Zhang 2021 (10)	• Type of intervention
	  ○ Credibility labelling
	• Detail of intervention
	  ○ Fact-checking labelling
	• Condition studied
	  ○ Vaccines
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			This study aimed to test the effects of fact-checking labels for misinformation on attitudes toward vaccines.
			
			An online survey experiment with participants recruited from a U.S. national sample was conducted in 2018.
			
			Participants were randomly assigned to six conditions: misinformation control, or fact-checking label conditions attributed to algorithms, news media, health institutions, research universities, or fact-checking organizations.
			
			The study analyzed differences in vaccine attitudes between the fact-checking label and control conditions, and then compared the perceived expertise and trustworthiness of the five categories of fact-checking sources.
			
			Effectively enrolled: 1,912 (971 women)
				Fact-checking labels attached to misinformation posts made vaccine attitudes more positive than the misinformation control condition, especially when fact-checking was performed by universities and health institution.
				
				Fact-checking labels attached to misinformation posts made vaccine attitudes more positive than the misinformation control condition (P = .003, Cohen's d= 0.21).
				
				Conspiracy ideation moderated the effect of the labels on vaccine attitudes (P = .02).
				
				Mediation analyses showed labels attributed to universities and health institutions indirectly resulted in more positive attitudes than other sources through perceived expertise.
				
				Exposure to fact-checking labels on misinformation can generate more positive attitudes toward vaccines in comparison to exposure to misinformation.
					Pending

Stekelenburg 2021 (11)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Intervention aimed at increasing belief accuracy
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (quasi-experimental study)
			The aim of this study was 1) to gain insight into public beliefs about COVID-19; and 2) to test whether a short intervention could improve people's belief accuracy by empowering them to consider scientific consensus when evaluating claims related to the pandemic.
			
			The study conducted a 4-week longitudinal intervention among US citizens, starting on April 27, 2020.
			
			Each week, participants' belief accuracy related to the coronavirus and COVID-19 was measured by asking them to indicate to what extent they believed several true and false statements (split 50/50).
			
			Half of the participants were exposed to an intervention aimed at increasing belief accuracy.
			
			The intervention consisted of a short infographic that set out three steps to verify information by
				Accurate beliefs were correlated with self-reported behaviour aimed at preventing the coronavirus from spreading and with trust in scientists, the intervention tested did not significantly improve belief accuracy.
				
				Retention rate for the follow-up waves-first follow-up wave (T1), second follow-up wave (T2), and final wave (T3)-was high (>=85%).
				
				Mean scores of belief accuracy were high for all waves, with scores reflecting low belief in false statements and high belief in true statements; the belief accuracy scale ranged from-1, indicating completely inaccurate beliefs, to 1, indicating completely accurate beliefs (T0 mean 0.75, T1 mean 0.78, T2 mean 0.77, and T3 mean 0.75).
				
				Accurate beliefs were correlated with self-reported behaviour aimed at preventing the coronavirus from spreading (eg, social distancing) (r at all waves was between 0.26 and 0.29 and all P values were less than .001) and were associated with trust in scientists (ie, higher trust was associated with more accurate beliefs),
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			searching for and verifying a scientific consensus Effectively enrolled: 1,202 participants (604 women)	political orientation (ie, liberal, Democratic participants held more accurate beliefs than conservative, Republican participants), and the primary news source (ie, participants reporting CNN or Fox News as the main news source held less accurate beliefs than others).	

Kim 2021 (12)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Message attention and credibility
	• Condition studied
	  ○ HPV
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			This study uses an unobtrusive eye tracking approach to examine understudied psychological mechanisms - message attention and credibility - when people are exposed to misinformation and correction on social media.
			
			The study randomly assigned participants to one of two experimental conditions: humor correction versus non-humor correction strategies that point out rhetorical flaws in misinformation regarding the HPV vaccine.
			
			Effectively enrolled: 61 participants (38 women)
				The study found that humorous correction produced more attention to the misinformation text than the non-humorous correction, in contrast, the non-humorous correction received higher credibility ratings than the humorous correction, which suggested that credibility and attention to the corrections are not fully aligned, which explain the lack of direct effect of correction strategy on the credibility of the misinformation or HPV misperceptions.
				
				The study found that the humor correction increased attention to the image portion of the correction tweet, and this attention indirectly lowered HPV misperceptions by reducing the credibility of the misinformation tweet.
				
				The study also found that the non-humor correction outperformed the humor correction in reducing misperceptions via its higher credibility ratings.
					Pending

Du 2021 (13)	• Type of intervention
	  ○ Technical and algorithmic
	• Detail of intervention
	  ○ Machine learning based-methods
	• Condition studied
	  ○ HPV
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: Online (Reddit)
		
		Methods used: Machine Learning–Based Approaches
			The aim of this study was to develop and evaluate an intelligent automated protocol for identifying and classifying human papillomavirus (HPV) vaccine misinformation on social media using machine learning (ML)-based methods.
			
			Reddit posts (from 2007 to 2017, N=28,121) that contained keywords related to HPV vaccination were compiled.
			
			A random subset (2200/28,121, 7.82%) was manually labelled for misinformation and served as the gold standard corpus for evaluation.
			
			A total of 5 ML-based algorithms, including a support vector machine, logistic regression, extremely randomized trees, a convolutional neural network, and a recurrent neural network designed to identify vaccine misinformation, were
				A machine learning-based approach was effective in the identification and classification of HPV vaccine misinformation on Reddit and may be generalizable to other social media platforms
				
				A convolutional neural network model achieved the highest area under the receiver operating characteristic curve of 0.7943.
				
				Of the 28,121 Reddit posts, 7207 (25.63%) were classified as vaccine misinformation, with discussions about general safety issues identified as the leading type of misinformed posts (2666/7207, 36.99%).
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			evaluated for identification performance. Topic modelling was applied to identify the major categories associated with HPV vaccine misinformation.		

Vandormael 2021 (14)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Video for prevention
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: United States, Mexico, the United Kingdom, Germany, and Spain
		
		Methods used: Randomized controlled trial
			This study designed a short, wordless, animated global health communication video (the CoVideo), which was rapidly distributed through social media channels to an international audience.
			
			The objectives of this study was to 1) establish the CoVideo's effectiveness in improving COVID-19 prevention knowledge, and 2) establish the CoVideo's effectiveness in increasing behavioural intent toward COVID-19 prevention.
			
			In May and June 2020, were enrolled participants from the United States, Mexico, the United Kingdom, Germany, and Spain, who were randomized to 1) the CoVideo arm, 2) an attention placebo control (APC) arm, and 3) a do-nothing arm, and presented 18 knowledge questions about preventive COVID-19 behaviours, which was the first primary endpoint. To measure behavioural intent, our second primary endpoint, the study randomized participants in each arm to five list experiments.
			
			Effectively enrolled: 14,482 participants
			- CoVideo: 4,797 participants (2,616 women)
			- APC: 4,777 participants (2,622 women)
			- Do-nothing: 4,908 participants (2,614 women)
				The study found that baseline levels of COVID-19 prevention were high, and that the CoVideo intervention increased this prevention knowledge by another 7.6% and 5.3% relative to the do-nothing and APC arms, respectively, it was also found that the CoVideo intervention improved behavioural intent toward COVID-19 prevention when compared with the APC and do-nothing arms.
				
				Globally, the video intervention was viewed 1.2 million times within the first 10 days of its release and more than 15 million times within the first 4 months.
				
				Knowledge in the CoVideo arm was significantly higher (mean 16.95, 95% CI 16.91-16.99) than in the do-nothing (mean 16.86, 95% CI 16.83-16.90; P<.001) arm.
				
				The study observed high baseline levels of behavioural intent to perform many of the preventive behaviours featured in the video intervention.
				
				The study only found a statistically significant impact of the CoVideo on one of the five preventive behaviors, which was higher behavioral intent to prevent COVID-19 spread by cleaning dishes after use when compared with the do-nothing arm.
					Pending

Bowles 2020 (15)	• Type of intervention
	  ○ Counter-misinformation campaigns
	• Detail of intervention
	  ○ Dissemination of messages
		Publication date: 2020
		
		Jurisdiction studied: Zimbabwe
		
		Methods used: Experimental randomized study
			In the context of the COVID-19 pandemic in Zimbabwe, the study partnered with a trusted civil society organization to randomize the timing of the dissemination of messages aimed at targeting misinformation about the virus to 27,000 newsletter WhatsApp subscribers. The study examined how exposure to these messages affects individuals' beliefs about how to deal with the virus and preventative behaviour.	The results show that social media messaging from trusted sources may have substantively large effects not only on individuals' knowledge but also ultimately on related behaviour.
				
				In a survey of a sample of people that received the intervention, the study found a 0.26 sigma increase in knowledge about COVID-19 as measured by responses
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	aimed at targeting misinformation • Condition studied o COVID-19 • Gender/sex analysis o Yes		Effectively enrolled: 868 participants (391 women)	to factual questions. Through a list experiment embedded in the survey, the study further find that potentially harmful behaviour-not abiding by lockdown guidelines-decreased by 30 percentage points.	
Gesser-Edelsburg 2018 (16)	• Type of intervention o Monitoring and fact-checking • Detail of intervention o Information correction • Condition studied o Measles • Gender/sex analysis o No	Publication date: 2018 Jurisdiction studied: Israel Methods used: Behavioural research (mixed methods including an experimental randomized design and a descriptive qualitative design)	This study aimed to 1) examine ways for health organizations to correct misinformation concerning the measles vaccination on social networks for two groups: pro-vaccination and hesitant; 2) examine the types of reactions of two subgroups (pro-vaccination, hesitant) to misinformation correction; and 3) examine the effect of misinformation correction on these two subgroups regarding reliability, satisfaction, self-efficacy and intentions. A controlled experiment with participants divided randomly into two conditions. In both experiment conditions a dilemma was presented as to sending a child to kindergarten, followed by an identical Facebook post voicing the children's mothers' concerns. In the third stage, the correction by the health organization is presented differently in two conditions: Condition 1 -common information correction, and Condition 2 -recommended (theory-based) information correction, mainly communicating information transparently and addressing the public's concerns. The study included graduate students from the Faculty of Social Welfare and Health Sciences at Haifa University. Effectively enrolled: 243 participants (201 women)	Both average satisfaction and reliability level attributed to a theory-based correction intervention was significantly higher than the average satisfaction and reliability level with a common information correction intervention. A statistically significant difference was found in the reliability level attributed to information correction by the Health Ministry between the Control condition and Experimental condition (sig<0.001), with the average reliability level of the subjects in the theory-based correction (M = 5.68) being considerably higher than the average reliability level of subjects in the common information correction (4.64). A significant difference was found between the intervention with common information correction and the intervention with theory-based correction (sig<0.001), with the average satisfaction from the Health Ministry's response of theory-based correction subjects (M = 5.75) being significantly higher than the average satisfaction level of common information correction subjects (4.66). Similarly, when we tested the pro and hesitant groups separately, we found that both preferred the response presented in the theory-based correction.	Pending
Panizza 2022 (17)	• Type of intervention	Publication date: 2022	The study simulated a social media environment and tested two interventions, one in the form of a pop-up meant to advise participants to follow	The study found that paying participants to be accurate does increase the accuracy score but not the proportion of participants correctly guessing the scientific validity of	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Credibility labelling ○ Economic • Detail of intervention ○ Pop-ups meant to advise participants to fact-check and other intervention based on monetary incentives • Condition studied ○ Climate change ○ Eating chocolate ○ Vaccines for COVID-19 • Gender/sex analysis ○ No	Jurisdiction studied: UK Methods used: Behavioural research (experimental randomized study)	such techniques, the other based on monetary incentives. The study measured participants' ability to identify whether the information was scientifically valid or invalid. Effectively enrolled: 5,387 participants (3,342 women) - Experiment 1: 2,384 participants (1,447 women) - Experiment 2: 3,003 (1,895 women)	the posts, by contrast, the presence of the pop-up seemed not to affect directly any indicator of accuracy, but increased the Civic Online Reasoning techniques, suggesting an indirect effect of the pop-up. Analysis of participants' search style reveals that both monetary incentives and pop-ups increased the use of fact-checking strategies. Monetary incentives were overall effective in increasing accuracy, whereas the pop-ups worked when the source of information was unknown. An effect of pop-up is possibly seen in posts produced by unknown sources, where correct guessing (but not accuracy scores) is slightly higher in the pop-up condition than in control. Pop-ups and incentives, when used together, produced a cumulative effect on accuracy.	
Duarte 2022 (18)	• Type of intervention ○ Education • Detail of intervention ○ Intervention to increase literacy • Condition studied ○ Coconut oil intake • Gender/sex analysis ○ Yes	Publication date: 2022 Jurisdiction studied: Brazil Methods used: Before and after study	The study evaluated the patterns, reasons and beliefs related to coconut oil consumption (although there is not evidence of cardiovascular benefit) and its perceived benefits in an online survey of a population in southern Brazil. The study used an 11-item online questionnaire that evaluated coconut oil consumption, in the same survey, participants who consumed coconut oil received an intervention to increase literacy about the health effects of coconut oil intake. Effectively enrolled: 3,160 participants (1,999 women) - From a university: 2,904 participants (1,766 women) - From Facebook: 256 participants (233 women)	After being exposed to the conclusions of a meta-analysis showing that coconut oil does not show superior health benefits when compared to other oils and fats, 73.5% of those who considered coconut oil healthy did not change their opinion. Among participants who consumed coconut oil (59.1%), 82.5% considered it healthy and 65.4% used it at least once a month. 81.2% of coconut oil consumers did not observe any health improvements. Among individuals who did not consume coconut oil, 47.6% considered it expensive and 11.6% deemed it unhealthy.	Pending
Gu 2022 (19)	• Type of intervention	Publication date: 2022	The data collection for the analysis was conducted between September 6 and November	Although the effect of Facebook's vaccine misinformation policy was statistically significant, the effect size was relatively small after scaling for the	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Legislative and other policy • Detail of intervention ○ Facebook policy (2019) on user endorsements of vaccine content on its platform • Condition studied ○ Vaccines • Gender/sex analysis ○ No	Jurisdiction studied: Online Methods used: Interrupted time series	23, 2020 using CrowdTangle. First, was extracted all vaccine posts between 2017 and 2019 to identify Facebook Pages frequently posting vaccine content; second, manually coded Pages as either pro- or anti-vaccine based on their profile information; and third, was retrieved all posts published by eligible Pages six months before and after the policy and applied an interrupted time series analysis to model the policy effect (policy endorsement) on the number of likes of posts on pro- and anti-vaccine pages. Set: 172 anti- and pro-vaccine Facebook Pages	number of subscribers and the volume of anti-vaccine posts remained steady after the policy. The number of likes for posts on anti-vaccine pages had decreased after the policy implementation (policy = 153.2, $p < 0.05$; policy*day = -0.838, $p < 0.05$; marginal effect at the mean = -22.74, $p < 0.01$; marginal effect at the median = -24.56, $p < 0.01$). When the number of subscribers was considered, the policy effect on the number of likes for anti-vaccine posts was much smaller, but still statistically significant (policy = 4.849, $p < 0.05$; policy*day = -0.027, $p < 0.05$; marginal effect at the mean = -0.742, $p < 0.01$; marginal effect at the median = -0.800, $p < 0.01$). There was no policy effect observed for posts on pro-vaccine pages. There was still a large amount of anti-vaccine content (i.e., 37,631 anti-vaccine posts) generated on Facebook after the policy. Thus, simply reducing the reach and visibility of anti-vaccine posts may have helped alleviate the rampant spread of anti-vaccine content somewhat, but may not be effective in qualitatively addressing the problem, especially among a loyal anti-vaccine audience. Facebook may be aware of the limited effect of their policy, as in December 2020, they introduced a more stringent policy that sought to not only downgrade misinformation but remove it.	
Khan 2021 (20)	• Type of intervention ○ Technical and algorithmic • Detail of intervention ○ Algorithm to classify misinformation posts • Condition studied ○ COVID-19 • Gender/sex analysis	Publication date: 2021 Jurisdiction studied: Online Methods used: Algorithms	In this study, the dataset which is a fusion of news related to COVID-19 that has been sourced from data from several social media and news sources is used for classification. In the first step, preprocessing is performed on the dataset to remove unwanted text, then tokenization is carried out to extract the tokens from the raw text data collected from various sources. Later, feature selection is performed to avoid the computational overhead incurred in processing all	The performance of the machine learning algorithms improves after they are trained with extracted features from the COVID-19 fake news dataset. The results show that the random forest classifier outperforms the other classifiers with an accuracy of 88.50%. Since the size of the dataset is approximately 1,100 records, ML algorithms are chosen for classification rather than deep neural network-based algorithms. When the ML algorithms are trained by the raw dataset without feature extraction, there is a very high chance	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ No		the features in the dataset. The linguistic and sentiment features are extracted for further processing. Finally, several state-of-the-art machine learning algorithms are trained to classify the COVID-19-related dataset. These algorithms were then evaluated using various metrics.	that the performance of the ML algorithms will be affected by some of the frequent words in the text that have no effect on the classification results. The comparison between the results of the ML algorithms before and after the feature extraction prove that the performance of the ML algorithms increases after feature extraction.	
Vijaykumar 2021 (21)	• Type of intervention ○ Educational • Detail of intervention ○ Social correction behaviours in WhatsApp • Condition studied ○ COVID-19 • Gender/sex analysis ○ Yes	Publication date: 2021 Jurisdiction studied: Brazil Methods used: Cross-sectional	This study examined the extent to which WhatsApp users might be willing to correct their peers who might share COVID-19 misinformation. This online survey aimed to identify the types of social correction behaviours and health and technological factors that shape the performance of these behaviours. Effectively enrolled: 726 participants (298 women)	The survey found a pattern of how different demographics influenced the three types of social correction behaviours, younger participants exhibited greater passivity in engaging with social correction; higher educational attainment was associated with providing correction to the original sender; and male participants were more likely to send the correction to the entire group. Brazil's WhatsApp users expressed medium to high levels of willingness to engage in social correction behaviours. The study discovered three modes of social correction behaviours: correction to the group, correction to the sender only, and passive or no correction. WhatsApp users with lower levels of educational attainment and from younger age groups were less inclined to provide corrections. The perceived severity of COVID-19 and the ability to critically evaluate a message were positively associated with providing corrections to either the group or the sender.	Pending
Kirkpatrick 2021 (22)	• Type of intervention ○ Educational • Detail of intervention ○ Prospect Theory, Loss-Framing, and Perceived	Publication date: 2021 Jurisdiction studied: US Methods used: Behavioural research	Through the lens of prospect theory, this study conducted a two (framing: loss vs. gain) x 2 (evidence type: episodic vs. thematic) x 2 (speaker expertise: expert vs. non-expert) between-subject factorial experiment in a sample of US adults over the age of 18 recruited through MTurk. Participants were asked their intention to share vaccine safety information with others after watching a manipulated YouTube video.	Loss framing was associated with perceived Measles, Mumps, Rubella (MMR) severity which was, in turn, associated with the likelihood that participants would share MMR vaccine information with others, via any means. About 66.2% of the participants had at least one child. About 70.5% were White, and 11.7% were Black or African American.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	Severity (YouTube) • Condition studied o Measles, Mumps, Rubella (MMR) o COVID-19 • Gender/sex analysis o No	(experimental randomized study)	Effectively enrolled: 400 participants (194 women)	The results suggest that while speaker expertise did moderate the interaction between framing and evidence ($\beta = -2.12$, SE = 0.77, $p < .01$), loss-framed episodic messages were more persuasive when delivered by a non-expert. Including an expert speaker increased the persuasiveness of loss-framed videos only when the evidence provided was thematic (e.g., statistical). While the loss-framed video offered episodic evidence, the non-expert speaker was more persuasive. When MMR vaccines were framed in terms of potential gains, an expert speaker was more persuasive than a non-expert speaker at convincing participants that MMR had severe consequences, this when employing either episodic or thematic evidence. The results suggest that loss-framing was associated with MMR severity ($\beta = -1.05$, SE = 0.38, $p < .01$), which means that watching a video in which a speaker framed MMR vaccination in terms of the potential health losses related to childhood MMR enhanced the perception that MMR had severe potential consequences for their children, versus a video in which the benefits of vaccination were emphasized. The more severe a person perceived the consequences of childhood MMR to be, the more likely they were to share information about MMR with others ($\beta = 0.20$, SE = 0.05, $p < .001$). The evidence type moderated the effect of loss-gain framing on MMR severity ($\beta = 1.34$, SE = 0.55, $p < .05$). Specifically, loss-framed videos were more persuasive when delivering episodic (versus thematic) evidence; however, in the gain context, thematic evidence was more persuasive at increasing perceived severity.	
Featherstone 2020 (23)	• Type of intervention	Publication date: 2020	This study examined how short-term exposure to vaccine misinformation impacted vaccination attitude through both cognitive and affective	The two refutational messages increased pro-vaccination attitude in comparison to the corresponding misinformation messages.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Monitoring and fact-checking • Detail of intervention ○ Refutational messages • Condition studied ○ Vaccines • Gender/sex analysis ○ No	Jurisdiction studied: US Methods used: Behavioural research (experimental randomized study)	routes and tested whether and how two-sided refutational messages could negate the misinformation's impact. The study conducted an online experiment involving a convenient sample of U.S. adult participants with five message conditions: two misinformation messages (one using the conspiracy frame and one using the uncertainty frame), two corresponding two-sided refutational messages, and a control group. Effectively enrolled: 609 participants (292 women)	Results showed that both conspiracy and uncertainty framed misinformation messages decreased pro-vaccination attitude in comparison to the control. In comparison to the corresponding misinformation messages, both refuting-conspiracy ($M = 4.31$, $p = .000$) and refuting-uncertainty messages ($M = 4.24$, $p = .006$) increased attitude. There was no significant difference between refuting-conspiracy and refuting-uncertainty messages ($p = .597$). These effects were further mediated by the emotion of anger. Parental status and conspiracy beliefs did not moderate the effects of the messages on vaccination attitude.	
Moore 2016 (24)	• Type of intervention ○ Education • Detail of intervention ○ Conferences • Condition studied ○ Escherichia coli O157:H7 in cattle • Gender/sex analysis ○ No	Publication date: 2016 Jurisdiction studied: US Methods used: Before and after	The objectives of this project were to identify perpetuated misinformation and inform four audiences about evidence-based risks and pre-harvest control of EcO157 by addressing: i) EcO157 epidemiology and pre-harvest control; ii) how food safety policy is created; and iii) how to present accurate information about EcO157. An environmental scan using a daily Internet search helped identify themes for education. A literature review of pre-harvest control measures contributed to the development of educational materials (fact sheets, website, web presentations and conferences). Effectively enrolled: 315 participants	All agreed that they better understood pre-harvest control, how food safety policy was made, and were confident they could create an effective message about STEC pre-harvest control. Conference 1 had participants of 10 countries including 41 US states and four Canadian provinces. Most participants felt confident in using their new knowledge, more than half felt confident enough to answer EcO157 questions from the public and many would recommend the recorded version of the webinar to colleagues. Conference 2 was live in the Washington, DC area with most participants employed by the US government. All agreed that they better understood pre-harvest control, how food safety policy was made, and were confident they could create an effective message about STEC pre-harvest control. Videos were posted and received 348 Internet visitors within 2 months.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				Conference 3 was a webinar with a live audience and Twitter feeds, targeting people who give nutrition advice. Almost all ranked the programme good to excellent and relevant to their work. About 25% indicated that they would share: 'grass-fed beef is not safer than grain-fed', 25% would share information on effectiveness of cattle vaccines, and 14% would share information on message mapping.	

Vraga 2018 (25)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Social correction in Facebook and Twitter
	• Condition studied
	  ○ Zika
	• Gender/sex analysis
	  ○ No
		Publication date: 2018
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			This study used an experimental design to consider social correction that occurs via peers, testing both the type of correction (i.e., whether a source is provided or not) and the platform on which the correction occurs (i.e., Facebook versus Twitter).
			
			Effectively enrolled: 271 participants (115 women)
				When the misinformation is corrected and a source is provided, misperceptions are reduced compared to the control condition; social corrections without sources is not effective in reducing misperceptions compared to the control.
				
				The results suggest that a source is necessary to correct misperceptions about the causes of the Zika virus on both Facebook and Twitter, but the mechanism by which such correction occurs differs across platforms.
				
				Regarding the effects of social correction with or without a source on misperceptions about the causes of the spread of the Zika virus, the study found a main effect of social correction type, $F(2, 269) = 4.74$, $p = .01$, partial $\eta 2 = .035$.
				
				When the misinformation is corrected and a source is provided, misperceptions are reduced ($M = 3.54$, $SE = .12$) compared to the control condition ($M = 4.07$, $SE = .13$, $p = .01$).
				
				Social corrections without sources is not effective in reducing misperceptions compared to the control ($M = 3.84$, $SE = .12$, $p = .57$) but neither is it significantly different from correction with sources using a Bonferroni correction ($p = .24$).
				
				With social corrective responses that provide a source rated significantly more highly ($M = 3.86$, $SE = .12$, $p = .001$) than those without a source ($M = 3.29$, $SE = .12$); this main effect is conditioned by whether the
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				correction occurred on Facebook versus Twitter, F(1, 185) = 6.60, p = .01, partial $\eta 2$ = .035.	
Vraga 2019 (26)	• Type of intervention o Monitoring and fact-checking • Detail of intervention o Inoculation and observational correction • Condition studied o HPV vaccination • Gender/sex analysis o No	Publication date: 2019 Jurisdiction studied: NA (online) Methods used: Behavioural research (experimental randomized study)	This study tests the efficacy of corrections after exposure to misinformation that adopts inoculating techniques (applying critical thinking techniques to neutralize misinformation by explaining its misleading techniques or logical fallacies). The study tested two forms of rhetorical correction-logic-based and humor-based-across the issues of climate change, gun control, and HPV vaccination. The experiment used a 3 (misinformation only, humor-based correction, logic-based correction) X 3 (topic: Climate change, gun control, HPV vaccination) between-subject experimental design. Effectively enrolled: 406 participants (187 women)	Both the logic-based and the humor-based corrections were effective in leading individuals to report greater agreement with expert consensus that the HPV vaccine does not cause auto-immune disorders. Both logic-based and humor-based corrections reduced misperceptions only for HPV vaccination. Overall, corrections were most successful for misinformation on the HPV vaccination. The logic-based correction appeared more effective, boosting accuracy by 16 percentage points for the entire sample. Importantly, these effects appeared largely centered upon those who originally held stronger misperceptions on the issue, on average moving the dismissive into the "undecided" category when receiving the logic-based correction.	Pending
Ecker 2020 (27)	• Type of intervention o Monitoring and fact-checking • Detail of intervention o Correction and backfire effect o Fact-checking • Condition studied o HIV and other no-health topics • Gender/sex analysis o No	Publication date: 2020 Jurisdiction studied: Online Methods used: Behavioural research (experimental randomized study)	This article presents three experiments investigating the possibility of familiarity backfire within the context of correcting novel misinformation claims and after a 1-week study-test delay. Effectively enrolled: 1,718 participants (854 women) - Experiment 1: 371 participants (160 women) - Experiment 2: 939 participants (467 women) - Experiment 3: 408 participants (227 women)	Corrections that exposed participants to novel misinformation did not lead to stronger misconceptions compared to a control group never exposed to false claims or corrections; this suggests that it is safe to repeat misinformation when correcting it, even when the audience might be unfamiliar with the misinformation. While there was variation across experiments, overall there was substantial evidence against familiarity backfire. Experiment 1 found evidence for a small familiarity backfire effect on inference scores; after a 1-week study-test delay, participants who were exposed only to the corrective fact-check showed reasoning more in line with the false claim than participants never exposed to either the claim or the fact-check. Experiment 2 found no evidence for familiarity backfire in either the false-claim inference scores or the false-claim belief scores.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				Experiment 3 found no evidence for familiarity backfire effects in either inference scores or belief ratings. Misinformation often continues to influence inferential reasoning after clear and credible corrections are provided; this effect is known as the continued influence effect. It has been theorized that this effect is partly driven by misinformation familiarity. Some researchers have even argued that a correction should avoid repeating the misinformation, as the correction itself could serve to inadvertently enhance misinformation familiarity and may thus backfire, ironically strengthening the very misconception that it aims to correct. While previous research has found little evidence of such familiarity backfire effects, there remains one situation where they may yet arise: when correcting entirely novel misinformation, where corrections could serve to spread misinformation to new audiences who had never heard of it before.	

van der Meer 2020 (28)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Corrective information type and source (narrative, educational)
	• Condition studied
	  ○ Hypothetical public health crisis in the form of an infectious disease outbreak
	• Gender/sex analysis
	  ○ No
		Publication date: 2020
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			This study aimed to identify corrective information strategies that increase awareness and trigger actions during infectious disease outbreaks.
			
			The experimental design was a 2 (corrective information type: simple rebuttal vs. factual elaboration) x 3 (corrective information source: government health agency vs. news media vs. social peer) between-subject factional design.
			
			Effectively enrolled: 700 participants (357 women)
				Results show that if corrective information is present rather than absent, incorrect beliefs based on misinformation are debunked and the exposure to factual elaboration, compared to simple rebuttal, stimulates intentions to take protective actions.
				
				After initial misinformation exposure, participants' exposure to corrective information type (simple rebuttal vs. factual elaboration) and source (government health agency vs. news media vs. social peer) was varied, including a control group without corrective information.
				
				Government agencies and news media sources are found to be more successful in improving belief accuracy compared to social peers.
				
				In times of public health crisis, corrective information can actually counter misperception and improve belief accuracy, after individuals' initial exposure to misinformation; however, the mere presence of corrective information does not seem to move
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				individuals in terms of their behaviour. The type of misinformation does not seem to matter for individuals' perception of crisis severity; apparently, no detailed information is needed to debunk misinformation, but a detailed counter-message is crucial to help people develop a new narrative and mobilize them in terms of taking preventive actions. The government health agency (i.e. the CDC) and news media are likely to be more successful in debunking misinformation in terms of altering individuals' perception of crisis severity as compared to their peers on social media (e.g., Facebook friend). When corrective information come from government and news media sources, individuals tend to experience more anxiety in response to a public health crisis.	

Trevors 2020 (29)	• Type of intervention
	  ○ Monitoring and fact-checking
	  ○ Educational
	• Detail of intervention
	  ○ Positive and negative emotional text content in refutational texts
	• Condition studied
	  ○ Vaccines
	• Gender/sex analysis
	  ○ No
		Publication date: 2020
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			This study aimed to determine the effects of positive and negative emotional content in refutation texts on misconceptions about vaccines.
			
			The goal of Experiment 1 was to assess the impact of embedding negative emotional content into refutation texts on knowledge revision.
			
			The goal of Experiment 2 was to assess the impact of embedding positive emotional content into refutation texts on knowledge revision.
			
			The goal of Experiment 3 was to directly contrast positive and negative emotional content embedded into refutation texts against each other and non-refutation control texts.
			
			Effectively enrolled: 120 participants (75 women)
			- Experiment 1: 39 participants (22 women)
			- Experiment 2: 36 participants (22 women)
			- Experiment 3: 45 participants (31 women)
				Across experiments, results show that all refutation texts (with or without positive or negative emotional content) improved learning assessed after reading.
				
				The addition of negative emotional content to texts that identify, refute, and explain vaccine misconceptions improved knowledge revision observed during reading (Experiment 1).
				
				The addition of positive emotional content to refutation texts weakened this effect (Experiment 2).
				
				A direct comparison between negative and positive emotional content provided corroborating evidence for these findings (Experiment 3).
					Pending

Thacker 2020 (30)	• Type of intervention ○ Monitoring and fact-checking	Publication date: 2020 Jurisdiction studied:	This study examined the effects of persuasive refutation texts on conceptual and attitudinal change, and the mediating role of epistemic emotions.	Refutation texts supplemented with persuasive information have the potential to substantially impact both readers' final attitudes and knowledge toward the subject.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Educational • Detail of intervention ○ Refutational messages • Condition studied ○ Genetically modified food • Gender/sex analysis ○ No	US, Australia, Canada Methods used: Behavioural research (experimental randomized study)	The study investigated attitudes before and after reading refutation texts augmented by different kinds of persuasive information and how emotions mediated the process of knowledge and attitude change. Participants enrolled in four universities from three countries read a refutation text on genetically modified foods (GMFs) and were then randomly assigned to receive additional information about advantages of GMFs, disadvantages of GMFs, or both. Effectively enrolled: 424 participants (263 women)	Students reading about advantages of GMFs had significantly more positive attitudes than students who read about disadvantages. There was a significant reduction in misconceptions; participants in the positive-oriented text condition showed the largest learning gains, particularly those who held more positive initial attitudes. Epistemic emotions of curiosity, frustration, hope, and enjoyment mediated attitude change while confusion mediated relations between prereading attitudes and post reading knowledge. The direct relationship between prior attitudes and surprise was moderated by type of text. When reading about both advantages and disadvantages of GMFs, participants reported significantly less surprise when compared with those who read about either advantages or disadvantages of GMFs.	
Tully 2020 (31)	• Type of intervention ○ Educational • Detail of intervention ○ News literacy • Condition studied ○ Genetically modified food ○ Seasonal flu vaccine • Gender/sex analysis ○ No	Publication date: 2020 Jurisdiction studied: US Methods used: Behavioural research (experimental randomized study)	This study examined the effectiveness of deploying news literacy messages on social media by testing whether news literacy tweets are able to affect perceptions of information credibility and beliefs. Using two experiments, this study tests news literacy tweets designed to (a) mitigate the impact of exposure to misinformation about two health issues (genetically modified foods and the flu vaccine), and b) boost people's perceptions of their own media literacy and media literacy's value to society broadly. This was an experiment embedded in an online survey performed in September 2017 and February 2018. Study 1: Participants were asked to rate the credibility of the manipulated tweet using a series of semantic differentials on 5-point scales,	Findings suggest that news literacy messages are able to alter misinformation perceptions and beliefs, but not with a single message. Study 1 findings: the hypotheses tested the effects on credibility assessments of the tweet, as predicted, the study found a main effect of misinformation on credibility, $F(1, 479) = 59.90$, $p = .00$, partial $\eta 2 = .111$, with the misinformation tweet rated as less credible ($M = 2.36$, $SE = .06$) than the control tweet ($M = 2.98$, $SE = .05$). Data did not support that the credibility gap between the misinformation and control tweets would be higher for those people who saw an news literacy tweet; neither the interaction, $F(2, 479) = 1.70$, $p = .18$, partial $\eta 2 = .007$, nor the main effect of promoted tweet topic, $F(1, 479) = 1.10$, $p = .37$, partial $\eta 2 = .004$, were significant (RQ1); neither news literacy message was more effective. Study 2 findings: the study found a strong main effect of misinformation, $F(1, 599) = 128.27$, $p = .00$, partial $\eta 2 =$	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			adapted from credibility scales. Study 2: Focused on the idea that the seasonal flu vaccine caused a deadly flu outbreak, it was used a news literacy message more directly designed to combat the spread of misinformation on social media. Effectively enrolled: 3,024 (1,561 women) - Study 1: 1,810 participants (905 women) - Study 2: 1,214 participants (656 women)	.178), with the tweet containing a link to misinformation being seen as much less credible (M = 2.17, SE = .05) than the control tweet (M = 2.92, SE = .05). There was a marginal main effect of the promoted tweet, $F(1, 594) = 3.24$, $p = .07$, partial $\eta 2 = .005$, with the news literacy tweet leading people to rate the control and misinformation stories as less credible (M = 2.48, SE = .05) than when people saw the texting tweet (M = 2.60, SE = .04). This main effect was conditioned by a marginal interaction, $F(1, 599) = 3.67$, $p = .06$, partial $\eta 2 = .006$, supporting H1. In the control condition, the tweet is rated equally credible regardless of promoted tweet ($p = .94$), whereas the misinformation tweet was rated as less credible when viewed with the news literacy tweet as compared to the texting tweet ($p = .01$).	

Chao 2021 (32)	• Type of intervention
	  o Credibility labelling
	• Detail of intervention
	  o Debunker identity
	• Condition studied
	  o COVID-19
	• Gender/sex analysis
	  o No
		Publication date: 2021
		
		Jurisdiction studied: China
		
		Methods used: Behavioural research (experimental randomized study)
			Using content analysis, sentiment analysis, and regression analysis, this study examined the mediating role of follower count in the relationship between the debunker's identity and sharing behaviour, and it explored the relationship between the text sentiment of debunking information and sharing behaviour based on data on the spread of three rumours that circulated extensively on social media.
			
			Set: 1,196 observations
			Sample 1: 304 observations
			Sample 2: 447 observations
			Sample 3: 445 observations
				The debunker's identity did not have a positive effect on the sharing of debunking information when controlling for mediating variables.
				
				Using an ordinary account as a reference, the study found that the mediating or suppression effect (i.e., when direct and indirect effects are significant and opposite) of follower count in the relationship between debunker's identity (celebrity, media, or government) and sharing behaviour was significant.
				
				The three test identities (celebrity, media, and government) had more followers than the ordinary account, which resulted in a significant positive effect on the number of reposts.
				
				Debunking information with emotional overtones (positive or negative) was shared more widely compared with information with neutral emotions, and the dominant emotional polarity was different in the three different rumours.
				
				The debunker's identity did not promote the sharing of debunking information while controlling for mediating variables. Information was shared to meet certain needs,
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				and these needs motivated sharing the information. In samples 1 and 2, the relative indirect effect of follower count between the three account types and sharing behaviour was significantly positive, while the relative direct effect of account type on the number of reposts was not significant.	
Tseng 2021 (33)	• Type of intervention o Educational • Detail of intervention o Cultivating a critical awareness of flawed scientific claims • Condition studied o Science • Gender/sex analysis o No	Publication date: 2021 Jurisdiction studied: US Methods used: Randomized controlled trial	This study tested the efficacy of a structured reading support intervention for evaluation and critique on cultivating a critical awareness of flawed scientific claims in an online setting. The study developed and validated a questionnaire to measure epistemic vigilance, implementing Randomized Controlled Trial (RCT) of an original reading activity that elicits evaluation and critique of scientific claims, and measured whether the intervention increased epistemic vigilance of misinformation. The study was performed in schools with students 14-19 years old. Effectively enrolled: 1,081 participants (486 women) - Treatment: 534 participants - Control: 547 participants	The findings suggested a moderate effect in students who complied with the treatment intervention; however, epistemic vigilance was not significantly different between the treatment and control group. Analyses of heterogeneous effects suggested that the intervention effects were driven by 11th-grade students and students who self-reported a moderate trust in science and medicine. Students' epistemic vigilance was not significantly different between the treatment and control group, apparently this was mediated by significant attrition in the treatment group. Ad hoc analyses pointed to several design features of the intervention that may mediate improvements in epistemic vigilance; for instance, the lengthy reading guide may have been plagued by slow or unstable Internet connections at school sites.	Pending
Steffens 2021 (34)	• Type of intervention o Monitoring and fact-checking o Educational • Detail of intervention o Debunking strategies • Condition studied o Vaccines • Gender/sex analysis o No	Publication date: 2021 Jurisdiction studied: Australia Methods used: Behavioural research (experimental randomized study)	This study aimed to compare the effect of repeating vaccination myths and other text-based debunking strategies on parents' agreement with myths and their intention to vaccinate their children. This was an online experiment with parents of children aged 0 to 5 years. The study compared 3 text-based debunking strategies (repeating myths, posing questions, or making factual statements) and a control. The study measured changes in agreement with myths and intention to vaccinate immediately after the intervention and at least 1 week later.	There was no evidence that repeating myths increased agreement with myths compared with the other debunking strategies or the control. Posing questions significantly decreased agreement with myths immediately after the intervention compared with the control (difference: 0.30 points, 99.17% confidence interval: 0.58 to 0.02, P 5 .004, d 5 0.39). There was no evidence of a difference between other debunking strategies or the control at either time point, or on intention to vaccinate. The results provide no evidence of a difference between debunking strategies that repeat myths alongside corrective text compared with strategies that do not	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			Participants were asked to read a short piece of text (~350 words) debunking 3 vaccination myths. The 3 myths were "It's better for children to develop immunity from diseases"; "It's safer to vaccinate babies and young children when they are older"; and "Vaccines overwhelm a baby's immune system." Effectively enrolled: 454 participants (284 women)	repeat myths. The study revealed that repeating vaccination myths did not perform more poorly than the other debunking strategies. No differences in parents' intention to vaccinate between groups were observed with any strategy.	
Swire-Thompson 2021 (35)	• Type of intervention o Monitoring and fact-checking o Educational • Detail of intervention o Correction • Condition studied o Vaccines o Climate change • Gender/sex analysis o No	Publication date: 2021 Jurisdiction studied: US Methods used: Behavioural research (experimental study)	Across four experiments, this study investigated how altering the format of corrections influences people's subsequent reliance on misinformation. The study examined whether myth-first, fact-first, fact-only, or myth-only correction formats were most effective, using a range of different materials and participant pools. Experiments 1 and 2 focused on climate change misconceptions; participants were Qualtrics online panel members and students participating in a massive open online course, respectively. Experiments 3 and 4 used misconceptions from diverse topics, with Amazon Mechanical Turk crowdworkers and university student participants. Effectively enrolled: 1,886 participants (460 women) - Experiment 1: 588 participants (292 women) - Experiment 2: 1,002 participants (no demographic data collected) - Experiment 3: 99 participants (38 women) - Experiment 4: 197 participants (130 women)	It appeared that as long as the key ingredients of a correction were presented, format did not make a considerable difference; the familiarity backfire effect should not be considered a concern when correcting misinformation. The study found that the impact of a correction on beliefs and inferential reasoning was largely independent of the specific format used. The clearest evidence for any potential relative superiority emerged in Experiment 4, which found that the myth-first format was more effective at myth correction than the fact-first format after a delayed retention interval. However, in general it appeared that as long as the key ingredients of a correction were presented, format did not make a considerable difference. This suggests that simply providing corrective information, regardless of format, is far more important than how the correction is presented.	Pending
Roozenbeek 2021 (36)	• Type of intervention o Educational • Detail of intervention o Asking people to think about	Publication date: 2021 Jurisdiction studied: US Methods used:	As part of the Systematizing Confidence in Open Research and Evidence (SCORE) program, the present study consisted of a two-stage replication test of a central finding by Pennycook et al. (2020), namely that asking people to think about the accuracy of a single headline improves "truth discernment" of intentions to share news	The study found no significant difference between the treatment and control groups in truth discernment; after a second data collection stage, the study replicated the treatment effect identified in the Pennycook study (a potential intervention to protect against the damaging spread of fake news about COVID-19).	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	the accuracy of a single headline improves "truth discernment" of intentions to share news headlines • Condition studied o COVID-19 • Gender/sex analysis o No	Behavioural research (experimental study)	headlines about COVID-19. Effectively enrolled: 1,583 participants - First stage: 701 participants (386 women) - Second stage: 882 participants (453 women)	The first stage of the replication test was unsuccessful, analysis yielded no significant interaction between headline veracity and treatment, β = 0.0046, 95% confidence interval (CI) = [−0.016, 0.026], F(3, 21030) = 1.53, p = .67 After collecting a second round of data, the study found a small but significant interaction between treatment condition and truth discernment (uncorrected p = .017; treatment: d = 0.14, control: d = 0.10). As in the target study, perceived headline accuracy correlated with treatment impact, so that treatment-group participants were less willing to share headlines that were perceived as less accurate. Whereas truth discernment was about 2.8 times higher in the treatment group (relative to the control group) in the original study (treatment: d = 0.14, control: d = 0.05), there was about 50% attenuation in the second-stage replication, so the treatment effect was just 1.4 times higher (treatment: d = 0.14, control: d = 0.10). This difference appears to have been driven by higher baseline discernment in the control group.	
Meppelink 2021 (37)	• Type of intervention o Technical and algorithmic o Credibility labelling • Detail of intervention o Supervised machine learning (SML) to classify health-related webpages as 'reliable' or 'unreliable' • Condition studied o Vaccination in kids	Publication date: 2021 Jurisdiction studied: The Netherlands Methods used: Machine Learning–Based Approaches	To investigate the applicability of supervised machine learning (SML) to classify health-related webpages as 'reliable' or 'unreliable' in an automated way. The study collected the textual content of 468 different Dutch webpages about early childhood vaccination. Webpages were manually coded as 'reliable' or 'unreliable' based on their alignment with evidence-based vaccination guidelines. Four SML models were trained on part of the data, whereas the remaining data was used for model testing. The study compared two approaches: count vectorizer (counting the frequency of all words)	The best performing model was successful identifying reliable information, even in terms of out-of-sample prediction, tested on a dataset about HPV vaccination; however, the model is better used to classify reliable information compared to unreliable information. All models appeared to be successful in the automated identification of unreliable (F1 scores: 0.54-0.86) and reliable information (F1 scores: 0.82-0.91). Typical words for unreliable information are 'dr', 'immune system', and 'vaccine damage', whereas 'measles', 'child', and 'immunization rate', were frequent in reliable information. For reliable information, precision scores show that particularly the count models perform well (Naïve Bayes; 0.90, Logistic Regression; 0.87); which means that around 9 in 10 of all texts that were classified as reliable	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ VPH • Gender/sex analysis ○ No		and tf·idf vectorizer (which stands for term frequency times inverse document frequency), weighs the word counts by the number of documents it occurs in at least once, meaning that uncommon words get a higher weight. Set: 468 different Dutch webpages	by those models are indeed reliable. Recall scores are the highest for both tf·idf classifiers (0.99 and 0.98); which means that nearly all reliable texts from our data set are correctly classified as reliable. Based on the high F1 scores (> 0.82), the study conclude that their models are well able to identify reliable information. The results show that the recall score for the identification of reliable information is particularly high (0.93), indicating that the classifier was also successful in the identification of reliable information about HPV vaccination, although it was trained on texts about early-childhood vaccines. Regarding the identification of unreliable information, the recall score is considerably lower (0.59); therefore, the model is better used to classify reliable information compared to unreliable information.	
MacFarlane 2021 (38)	• Type of intervention ○ Monitoring and fact-checking ○ Educational • Detail of intervention ○ Refuting (fact-checking) • Condition studied ○ Vitamin E for COVID-19 • Gender/sex analysis ○ No	Publication date: 2021 Jurisdiction studied: Australia Methods used: Behavioural research (experimental study)	The study investigated the impact of such misinformation on hypothetical demand (i.e., willingness-to-pay) for an unproven treatment, and propensity to promote (i.e., like or share) misinformation online. The study included a control group, and tested two interventions to counteract the misinformation, contrasting a tentative refutation based on materials used by health authorities (mentions that there is not enough evidence) with an enhanced refutation based on best-practice recommendations (also mention that there is misleading information in websites). Effectively enrolled: 678 participants (344 women, 3 non-binary)	Both tentative and enhanced refutations reduced demand (18% and 25%, respectively) and misinformation promotion (29% and 55%). The study found that pre-existing attitudes predicted demand and propensity to promote misinformation, whereas the study found no effects of COVID-19 concerns. The study also found that prior exposure to misinformation increased misinformation promotion (by 18%), although willingness to pay was not reliably affected by the misinformation relative to control. Compared to the misinformation condition, both refutation types substantially reduced willingness-to-pay and misinformation promotion, underscoring the general utility of refutations beyond inferential reasoning measures. The enhanced refutation was more effective than the tentative refutation in reducing misinformation	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				promotion, reinforcing the best-practice recommendations used.	

Freeze 2021 (39)	• Type of intervention
	  ○ Credibility labelling
	• Detail of intervention
	  ○ Warnings
	• Condition studied
	  ○ Affordable care act
	  ○ Another political (non-health) misinformation
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			Participants were then randomly assigned to one of six conditions: a post-event description condition was crossed with exposure to a retrospective misinformation warning condition in a 3 × 2 between-subjects design (three description conditions: Control, Misinformation, Information by two warning conditions: No Warning, Misinformation Warning).
			
			Following the buffer period, participants were randomly exposed to one of three possible post-event descriptions (fabricated news articles) that had the same basic format but differed slightly in their content.
			
			In the Control Condition, the news article provided only a vague description of the original event/CSPAN video.
			
			In the Information Condition, specific facts from the floor speeches were inserted into the news article.
			
			In the Misinformation Condition, a subset of the specific facts was altered so the details no longer correctly reflected the original CSPAN video content.
			
			Each news article was formatted to look like a real article with a vague but plausible source: Jane Ross, a staff member the Globe.
			
			Effectively enrolled: 434 participants (282 women)
				The study found evidence that valid retrospective warnings of misleading news can help individuals discard erroneous information, although the corrections are weak; however, when informative news is wrongly labelled as inaccurate, these false warnings reduce the news' credibility.
				
				The study found that invalid misinformation warnings can damage source credibility and cause people to reject accurate information that is associated with the tainted source.
				
				Warnings of misinformation can also cause people to feel more uncertain about their memory, especially when they were in fact not exposed to any information and the warnings are completely invalid.
				
				While valid warnings of misinformation enable people to reject false information, misdirected and imprecise warnings may counter the positive influence of misinformation warnings on memory.
				
				While many warnings about political misinformation are valid and enable people to reject misleading information, the quality and validity of misinformation warnings can vary widely.
				
				The warning effects in the Information and Misinformation Conditions are not statistically different from those established in the Control Condition, warning effects emerge within the post-event description treatment conditions.
				
				Invalid misinformation warnings taint the truth, lead individuals to discard authentic information, and impede political memory.
				
				In the absence of warning, individuals presented with an accurate news article in the Information Condition were more likely to be certain about their memory compared to those in the Control or Misinformation Conditions; but once exposed to a misinformation warning,
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				individuals doubt their memory and response uncertainty jumps to average levels seen in the other condition.	

Ramirez 2022 (40)	• Type of intervention
	  ○ Narrative
	• Detail of intervention
	  ○ Psychological inoculation
	• Condition studied
	  ○ COVID-19 vaccination
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental pilot study)
			In this pilot study, the effects of different messages on actions leading to vaccination were tested.
			
			Two theory-based advertisements were produced for Facebook, which provided video testimonials from peer role models recommending vaccination and its benefits while providing psychological inoculation through the models' acknowledging misinformation, rejecting it and receiving the vaccine.
			
			These ads were paid to appear on Facebook users' feeds in rural counties in South Texas, along with a generic vaccine promotion ad from the CDC without peer models or psychological inoculation.
			
			Ad viewers could click a link to 'find a vaccine near you'; these responses served as the outcome variable for assessing experimental effects.
			
			Effectively enrolled: Not mentioned
				Ads featuring peer modelling with psychological inoculation yielded a significantly higher rate of positive responses than CDC ads (30.5 versus 14.9/1000 people reached in English and 49.7 versus 31.5/1000 in Spanish; $P < 0.001$ for both English and Spanish rate comparisons).
				
				The study approximately $2000 expenditure yielded a total of 125,287 impressions (exposures) in the two counties, 26,564 for the theory-based ad with Jesus Larralde and 32,636 for Rosa Herrera and 31,354 and 34,733 for the respective CDC ads in Spanish and English.
				
				Both theory-based ads achieved a lower cost per click to find a vaccine ($2.66 per click for Jesus in English and $3.14 per click for Rosa in Spanish), compared to the CDC generic ads ($4.03 in English and $5.43 in Spanish).
				
				The rate per 1000 exposed Facebook users who responded by taking action toward obtaining vaccination was 14.9/1000 for the CDC ad and 30.5/1000 for the theory-based ad ($P < 0.001$, Fisher exact test) for English ads; regarding Spanish ads, the corresponding rates were 31.5/1000 for the CDC ad and 49.7/1000 for the theory-based ad ($P < 0.001$, Fisher exact test).
				
				The study peer modelling with psychological inoculation (theory-based ad) doubled the effects seen with a conventional CDC ad in English and yielded a 58% higher response rate in Spanish.
					Pending

Hayawi 2022 (41)	• Type of intervention
	  ○ Technical and algorithmic
	  ○ Credibility labelling
	• Detail of intervention
		Publication date: 2022
		
		Jurisdiction studied: Online
		
		Methods used: Machine Learning–Based Approaches
			The goal of this research was to introduce a novel machine learning-based COVID-19 vaccine misinformation detection framework.
			
			The study collected and annotated COVID-19 vaccine tweets and trained machine learning algorithms to classify vaccine misinformation.
				Consistent with the literature, superior performance was obtained using the deep learning models compared with XGBoost for a relatively larger training set; BERT was recommended because was able to predict most of the misinformation.
				
				The best classification performance was obtained using BERT, resulting in 0.98 F1-score on the test set.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Machine learning detection framework • Condition studied ○ COVID-19 vaccination • Gender/sex analysis ○ No		More than 15,000 tweets were annotated as misinformation or general vaccine tweets using reliable sources and validated by medical experts. Three models were explored belonging to different categories of machine learning models; from the traditional machine learning, XGBoost was utilized; from the deep learning models, LSTM was utilized; and from the transformer models, BERT was utilized. Set: 15,465,687 tweets were collected	The precision and recall scores were 0.97 and 0.98, respectively.	
Jiang 2022 (42)	• Type of intervention ○ Monitoring and fact-checking ○ Educational • Detail of intervention ○ Inoculation • Condition studied ○ COVID-19 vaccination • Gender/sex analysis ○ No	Publication date: 2022 Jurisdiction studied: Hong Kong Methods used: Behavioural research (experimental randomized study)	This study examined the effectiveness of the inoculation strategy in countering vaccine-related misinformation among Hong Kong college students. A three-phase 1 × 3 between-subjects experiment was conducted to compare the persuasive effects of inoculation messages (two-sided messages forewarning about misinformation related to COVID-19 vaccines), supportive messages (conventional health advocacy), and no message control. In the first phase, the participants were pre-tested for their demographic information, issue involvement, and pre-attitudes toward COVID-19 vaccines. In the second phase, they were randomly assigned to read an inoculation message, supportive message, or no message (control), and then assessed for vaccine attitudes and intention and checked for manipulation. In the third phase, all the participants are exposed to an attack message that used a set of conspiracies to argue against COVID-19 vaccines and assessed again for vaccine attitudes and intention. Effectively enrolled: 123 participants (77 women)	Participants who received inoculation messages reported higher vaccine attitudes and vaccine intention than those in the supportive condition, both attitudinal threat and counterarguing moderated the relationships between the experimental conditions and the outcome variables. Inoculation messages were superior to supportive messages at generating resistance to misinformation, as evidenced by more positive vaccine attitudes and stronger vaccine intention. It was expected that the inoculation condition would produce more resistance than the control condition, but it was little evidence in favour of this prediction. Attitudinal threat and counterarguing moderated the experimental effects; issue involvement and political trust were found to directly predict vaccine attitudes and intention.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Wang 2022 (43)	• Type of intervention
	  ○ Technical and algorithmic
	  ○ Credibility labelling
	• Detail of intervention
	  ○ Factual information vs misinformation (Twitter)
	• Condition studied
	  ○ COVID-19 (wearing masks and social distancing)
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: US
		
		Methods used: Machine Learning–Based Approaches
			This study investigated the temporal correlations between factual information and misinformation, and intended to answer whether previously predominant factual information can suppress misinformation.
			
			It focused on two prevention measures, wearing masks and social distancing, using tweets collected from April 3 to June 30, 2020.
			
			The study trained support vector machine classifiers to retrieve relevant tweets and classify tweets containing factual information and misinformation for each topic concerning the prevention measures' effects.
			
			Set: 22,111,831 English tweets
				In tweets relevant to topics of "wearing masks" and "social distancing," the study found that the increasing percentage of factual information from the previous day led to a decrease in the percentage of misinformation significantly.
				
				Based on cross-correlation analyses of factual and misinformation time series for both topics, the study found that the previously predominant factual information leads a decrease of misinformation (i.e., suppression) with a time lag.
				
				The increasing number of tweets containing factual information from the previous day led to a significant decrease in the number of tweets containing misinformation, while the significant time lags for the two topics were different.
				
				In addition to the "suppression" effect of factual information (in scales of number and percentage) on misinformation, the study also found that; a) the number of misinformation-relevant tweets increased significantly over time for both topics; b) the number of factual tweets from the same day had a positive significant correlation with the number of misinformation tweets; and c) the number of misinformation tweets also had significant correlations with the number of factual tweets in future days but the effects varied when the time lags were different.
					Pending

Gavin 2022 (44)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Accuracy of nudge intervention
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ Yes
		Publication date: 2022
		
		Jurisdiction studied: Kyrgyzstan, India, and the United States
		
		Methods used: Behavioural research (experimental randomized study)
			This preregistered experiment sought to replicate the work of Pennycook et al. (2020) about the accuracy nudge and test the generalizability of their findings to three different countries: Kyrgyzstan, India, and the United States.
			
			The present study also explored whether findings extend to information related to COVID-19 vaccine acceptance, a timely and important topic at the time of data collection.
			
			Effectively enrolled: 2,581 (1,404 women)
			- Kyrgyzstan: 1,049 participants (815 women)
			- India: 703 participants (224 women)
			- United States: 829 participants (365 women)
				The accuracy nudge's effectiveness in reducing the spread of misinformation appeared to depend on location and information type; in India, decreased the willingness to share false general COVID-19 information but did not decrease willingness to share vaccine information, while in the United States, the nudge decreased willingness to share false information related to the COVID-19 vaccine but not information related to COVID-19 generally.
				
				The accuracy nudge's effect did not replicate in the Kyrgyzstan sample and was mixed in India and the United States; the nudge decreased willingness to share some misinformation, but it did not significantly increase willingness to share true information.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Vlasceanu 2023 (45)	• Type of intervention
	  ○ Educational
	  ○ Credibility labelling
	• Detail of intervention
	  ○ Belief change
	• Condition studied
	  ○ Child's untreated wandering eye
	  ○ Abortion
	• Gender/sex analysis
	  ○ No
		Publication date: 2023
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			The study investigated the impact of belief change on behavioural change across two experiments.
			
			Participants rated the accuracy of a set of health-related statements and chose corresponding campaigns to which they could donate funds in an incentivized-choice task.
			
			Participants were then provided with relevant evidence in favour of the correct statements and against the incorrect statements.
			
			Finally, participants rated the accuracy of the initial set of statements again and were given a chance to change their donation choices.
			
			Effectively enrolled: 576 participants (346 women)
			- Experiment 1: 183 participants (115 women)
			- Experiment 2: 393 participants (231 women)
				The study found that changing beliefs triggers corresponding changes in behaviours, in both political and nonpolitical contexts, suggesting that targeting beliefs might be a viable strategy of behavioural change.
				
				The study found that evidence changed beliefs and this, in turn, led to behavioural change.
				
				In a preregistered follow-up experiment, the researchers replicated these findings with politically charged topics and found a partisan asymmetry in the effect, such that belief change triggered behavioural change only for Democrats on Democratic topics, but not for Democrats on Republican topics or for Republicans on either topic.
				
				Experiment 1: The study found a significant effect of belief at the pretest, $\beta=0.17$, $SE=0.01$, $t(1,449)=9.26$, $p<.001$, on behaviour at the pretest, which means that people's beliefs predict their corresponding behaviours.
				
				Experiment 2: With a linear mixed model with behaviour change as the dependent variable, belief change, and behaviour at pretest as fixed effects, including by-participant and by-item random intercepts, and found a significant effect of belief change, $\beta=0.01$,$SE= 0.004$,$t(396)=3.36$, $p<.001$, on behavioural change, successfully replicating the impact of belief change on behavioural change in an ideological context (among Republicans and Democrats).
					Pending

Berlotti 2023 (46)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Prebunking-counterfactual
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2023
		
		Jurisdiction studied: Italy
		
		Methods used: Behavioural research (experimental randomized study)
			This research tested whether counterfactual thinking can be employed as a prebunking strategy to prompt critical consideration of fake news spread online.
			
			In two experiments, the study asked participants to read or generate counterfactuals on the research and development of COVID-19 treatments and then to evaluate the veridically and plausibility of a fake news headline related to the topic.
			
			Participants' conspiracy mentality was also measured.
				Among participants with higher levels of conspiracy mentality, those exposed to counterfactual prebunking rated the fake news headline less plausible than those in the control condition and than those exposed to another type of prebunking, that is, forewarning of the existence of misinformation.
				
				Study 1: Among participants with high conspiracy mentality the counterfactual message was successful in reducing the plausibility and veridically attributed to the fake headline compared to the control condition.
				
				Study 2: The counterfactual message was successful in reducing the plausibility (but not the veridically)
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			Effectively enrolled: 1,446 participants (746 women) - Study 1: 952 participants (504 women) - Study 2: 494 participants (242 women)	attributed to the headline among participants with higher levels of conspiracy mentality, and further showed that this was not the case with the simple prebunking message, thus indicating a relative advantage of the study approach compared to the more straightforward forewarning used in other studies in the past.	
Blomberg 2023 (47)	• Type of intervention o Monitoring and fact-checking • Detail of intervention o Correction • Condition studied o Vitamin C o COVID-19 • Gender/sex analysis o No	Publication date: 2023 Jurisdiction studied: US Methods used: Behavioural research (experimental randomized study)	This dissertation research project explored the impact of emotion (positive or negative) and presentational modality (text-only, multimodal, motion imbued styles) in correcting online misinformation for older adults. Using the theoretical foundation of the heuristic and systematic processing model, along with the emotion-based broaden and build and socioemotional selectivity theories, participants in an online experiment, were exposed to social media misinformation rebuttals for two topics: that vaccines cause magnetism and COVID can be cured through the intake of vitamin supplements (such as Vitamin C or D). Effectively enrolled: 302 participants (139 women)	Results showcased the effectiveness of crafting positively framed misinformation corrections for the bolstering of message credibility within typically incongruent ideological groups, and in the use of motion within correctional content for the elevation of positive affect. The study also exposed a link between medical mistrust and the perceived credibility toward vaccine and COVID-19 misinformation corrections, a reminder for health communication practitioners of the underlying political factors behind belief in health misinformation. Results from a thought-listing exercise displayed the prominence of heuristic thinking styles with rare exceptions for systematic processing spurned by skepticism and a desire to preserve original vaccination and COVID-19 beliefs. For scholars and practitioners, results, in general, point to a de facto reliance on heuristic cues in the evaluation of online information, with important considerations for systematic processing, and two, the use of positive affect in aiding the acceptance of misinformation corrections that may run counter to the beliefs of your target audience. This lends credibility to theories that prioritize the use of positive emotion for bolstering message reception and effectiveness for older adults.	Pending
Altay 2023 (48)	• Type of intervention o Technical and algorithmic o Educational • Detail of intervention	Publication date: 2023 Jurisdiction studied: France Methods used:	This study introduced and tested a novel messaging strategy: A chatbot that answers people's questions about COVID-19 vaccines. The study compared participants who had interacted with the chatbot to a control group who only read a brief text about how vaccines	The study found that interacting with this chatbot for a few minutes significantly increases people's intentions to get vaccinated (s = 0.12) and positively impacts their attitudes toward COVID-19 vaccination (s = 0.23). The results suggest that a properly scripted and regularly updated chatbot could offer a powerful resource to help	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	○ Chatbot • Condition studied ○ COVID-19 • Gender/sex analysis ○ No	Behavioural research (experimental randomized study)	work in general. Effectively enrolled: 701 participants (291 women)	fight hesitancy toward COVID-19 vaccines. The amount of change in attitudes was related to time spent interacting with the chatbot, which suggests that participants did change their minds thanks to the information provided by the chatbot. The study did not observe any backfire effect, on the contrary, the participants whose initial attitudes were the most negative shifted the most toward positive attitudes (for the most negative third, average attitude change = 0.54 on a scale of 1 to 7, and0.39 for the other two thirds).	
Mourali 2022 (60)	• Type of intervention ○ Monitoring and fact-checking • Detail of intervention ○ Correction and debunking • Condition studied ○ COVID-19 (masking) • Gender/sex analysis ○ No	Publication date: 2022 Jurisdiction studied: US Methods used: Behavioural research (experimental randomized study)	This study examined the impact of extended back and forth between false claims and debunking attempts on observers' dispositions toward behaviour that science favours. The study tested competing predictions about the effect of extended exposure on people's attitudes and intentions toward masking in public during the early days of the COVID-19 pandemic and explore several psychological processes potentially underlying this effect. US residents took part in an online experiment in October 2020, reporting on their attitudes and intentions toward wearing masks in public. Then, they were randomly assigned to one of four social media exposure conditions (misinformation only vs. misinformation + correction vs. misinformation + correction + rebuke vs. misinformation + correction + rebuke + second correction) and reported their attitudes and intentions for a second time. Participants also indicated whether they would consider sharing the thread if they were to see it on social media and answered questions on potential mediators and covariates. Effectively enrolled: 479 participants (257 women)	The extended exposure to false claims and debunking attempts weakens the belief that there is an objectively correct answer to how people ought to behave in this situation, which leads to less positive reactions toward masking as the prescribed behaviour. Exposure to misinformation had a negative impact on attitudes and intentions toward masking (beta = -.35, 95% CI = [-.42, -.29], P < .001). Initial debunking of a false claim generally improves attitudes and intentions toward masking (beta = .35, 95% CI = [.16, .54], P < .001). However, this improvement is washed out by further exposure to false claims and debunking attempts (beta = -.53, 95% CI = [-.72, -.34], P < .001). The study found that initial debunking of a false claim generally improves attitudes and intentions toward masking. This effect is partially explained by a decrease in the perceived strength of the argument underlying the false claim. However, this improvement is washed out by further exposure to false claims and debunking attempts. The latter result is partially explained by a decrease in the perceived objectivity of truth.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias

Silesky 2023 (50)	• Type of intervention
	  ○ Counter-misinformation campaigns
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Media monitoring findings for developing campaigns
	• Condition studied
	  ○ COVID-19 vaccination
	• Gender/sex analysis
	  ○ No
		Publication date: 2023
		
		Jurisdiction studied: US
		
		Methods used: Implementation research
			The Public Good Projects, Hispanic Communications Network and World Voices Media joined forces to launch a nationwide, multifaceted campaign which aimed to increase vaccine confidence and decrease misinformation on social media within Hispanic communities.
			
			This study created a Spanish vaccine misinformation tracking system to detect and assess misinformation circulating in online Spanish conversations.
			
			The study used the media monitoring findings to work with Hispanic social media (SM) influencers, volunteers, and celebrities to spread pro-vaccine messaging online.
			
			The study created misinformation-responsive SM assets, newsletters, talking points and trainings for Hispanic-serving community-based organizations (CBOs) to help them respond to misinformation and increase vaccine uptake.
			
			The study used the misinformation findings to inform the creation of mass media communications such as radio PSAs and op-eds.
			
			Set: 212,700,000 messages captured
				The study was effective at reaching the target audience with fact-based COVID-19 misinformation prebunk and debunk messaging.
				In Year 1, the new Spanish monitoring system captured and organized 35 M Spanish and 212.7 M English posts about COVID-19 misinformation.
				
				The study recruited 496 paid influencers, 2 Hispanic celebrities and 1,034 digital volunteers.
				
				The study sent 70 newsletters to an average of 1539 CBO subscribers, containing 206 talking points and 344 resources (SM assets, toolkits, videos) in English and Spanish to support their outreach.
				
				The radio PSAs reached 26.9 M people and the op-eds reached 2.9 M people.
				
				This project showed the proliferation of misinformation circulating in online Spanish conversations.
					Pending

Talabi 2022 (51)	• Type of intervention
	  ○ Educational
	• Detail of intervention
	  ○ Counselling
	• Condition studied
	  ○ COVID-19 vaccination
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: Nigeria
		
		Methods used: Behavioural research (Quasi-experimental study)
			The aim of this study was to understand the impact of counselling in countering fake news-related COVID-19 vaccine.
			
			The study conducted two separate experiments, the first exposed the treatment group to fake news on COVID-19 vaccine through a WhatsApp group chat while the control group was not; then, was tested the effectiveness of such fake news on their perception.
			
			The second experiment, exposed the treatment group to a social media-based counselling intervention wherein was attempted to counter the earlier fake news on COVID-19 vaccine which they were exposed to.
				Social media users who received counselling intervention on the COVID-19 vaccine reported more positive intention to make themselves available for vaccination than their counterparts who were not exposed to such an intervention.
				
				The study found that respondents who were exposed to fake news reported greater negative perception about COVID-19 vaccine than their counterparts in the control group.
				
				The study also found that as a result of the counselling intervention, the respondents in the treatment group reported more positive perception regarding COVID-19 vaccine while their counterparts in the control group
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			Effectively enrolled: 705 participants (210 women) - Experiment 1: 470 participants - Experiment: 235 participants	who were earlier exposed to fake news on COVID-19 did not significantly change their perception.	
Zhang 2021 (10)	• Type of intervention o Monitoring and fact-checking o Credibility labelling • Detail of intervention o Fact-checking labelling • Condition studied o Vaccines • Gender/sex analysis o No	Publication date: 2021 Jurisdiction studied: US Methods used: Behavioural research (experimental randomized study)	This study aimed to test the effects of fact-checking labels for misinformation on attitudes toward vaccines. An online survey experiment with participants recruited from a U.S. national sample was conducted in 2018. Participants were randomly assigned to six conditions: misinformation control, or fact-checking label conditions attributed to algorithms, news media, health institutions, research universities, or fact-checking organizations. The study analyzed differences in vaccine attitudes between the fact-checking label and control conditions; further, compared perceived expertise and trustworthiness of the five categories of fact-checking sources. Effectively enrolled: 1,198 participants (601 women)	Fact-checking labels attached to misinformation posts made vaccine attitudes more positive compared to the misinformation control condition; universities and health institutions were rated significantly higher on source expertise than other sources. Fact-checking labels attached to misinformation posts made vaccine attitudes more positive compared to the misinformation control condition (P = .003, Cohen's d= 0.21). Conspiracy ideation moderated the effect of the labels on vaccine attitudes (P = .02). Universities and health institutions were rated significantly higher on source expertise than other sources. Mediation analyses showed that labels attributed to universities and health institutions indirectly resulted in more positive attitudes than other sources through perceived expertise. Exposure to fact-checking labels on misinformation can generate more positive attitudes toward vaccines in comparison to exposure to misinformation. Incorporating labels from trusted universities and health institutions on social media platforms is a promising direction for addressing the vaccine misinformation problem.	Pending
Song 2022 (52)	• Type of intervention o Educational • Detail of intervention o Evidence type and presentation	Publication date: 2022 Jurisdiction studied: Hong Kong Methods used: Behavioural	This study examined the impact of evidence type and presentation mode on individuals' responses to corrective messages about COVID-19 on social media. The study conducted a web-based experiment with a 2 (evidence type: assertions with versus without statistical evidence) × 3 (presentation	The results showed that the presence of statistical evidence in assertions reduced message elaboration, which in turn reduced the effects of the message in correcting misperceptions, decreased perceived message believability and lowered social media users' intentions to further engage with and disseminate the corrective message.	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
	mode on individuals' responses to corrective messages • Condition studied o COVID-19 • Gender/sex analysis o No	research (experimental randomized study)	mode: text-only versus image-only versus text-plus-image) × 2 (misinformation topic: coronavirus origin versus face mask effectiveness) factorial design, with evidence type and presentation mode as between-subjects factors and misinformation topic as a within-subjects factor (repeated measures). Effectively enrolled: 610 participants (309 women)	The main effect of presentation mode on message elaboration for the thought-listing measure was also significant, $F(2, 602) = 4.72$, $p < 0.01$, $\eta 2 = 0.02$. Compared to the text-only modality and the text-plus-image modality, the image-only modality triggered significantly lower message elaboration levels $M = 1.08$, $SE = 0.06$) in comparison to the text-only group ($M = 1.36$, $SE = 0.06$), $p = 0.002$, subsequently heightened message believability and increased user engagement intentions. Neither the difference between the text-plus-image condition and the text-only condition ($p = 0.22$) nor the difference between the text-plus-image condition and the image-only condition ($p = 0.07$) was significant. Evidence type had a significant main effect on self-report message elaboration, $F(1, 602) = 6.79$, $p < 0.01$, $\eta 2 = 0.01$. Contrary to the prediction, assertions with statistical evidence elicited less elaboration ($M = 4.78$, $SE = 0.06$) than assertions without statistics ($M = 4.99$, $SE = 0.06$).	
Yang 2022 (53)	• Type of intervention o Monitoring and fact-checking • Detail of intervention o Rumour debunking • Condition studied o COVID-19 • Gender/sex analysis o No	Publication date: 2022 Jurisdiction studied: China Methods used: Qualitative research (content analysis)	This study utilized content analysis to code the text data of health-related rumour cases in China during the COVID-19 pandemic. Set: 354 cases of health-related rumours	The study found that socialized rumour-debunking models could be divided into the following five categories: the government-led model, the media-led model, the scientific community-led model, the rumour-debunking platform-led model, and the multi-agent collaborative model. Since rumours in public health crises often involve different objects, rumour refutation requires various information sources; therefore, different rumour-debunking models apply. Government-led model: This model features authenticity; when a rumour emerges and draws public attention, the corresponding clarification issued by related government departments has limited scope of dissemination, due to the traditional communication channels it utilizes. Media-led model: When a rumour emerges and gains	Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				public attention, the media can utilize its resources to quickly contact relevant departments and parties and verify the rumour, before releasing rumour-debunking information. This model has the advantage of being instantaneous. Scientific community-led model: The model acquires rumour-debunking information through means such as knowledge exchange, joint publication, and mutual reviews, which are then followed by releasing rumour-debunking articles on its accounts. Therefore, it features the advantage of being scientifically viable. Rumor-Debunking Platform-Led Model: a rumour-debunking platform-led system that collects clarifications on local rumours released by departments and media platforms is required to eliminate the regional barrier of disseminating rumour-debunking information. Multi-agent collaborative model: The emergence of rumour-debunking platforms has enabled the collaboration of multiple agents, promoting the transition of the rumour-debunking model from the traditional path of "rumour emerges–government and media dispel the rumour" to "rumour emerges–users report the rumour–the rumour is dispelled jointly".	

Lohiniva 2022 (54)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ The infodemic management system
	• Condition studied
	  ○ COVID-19 vaccination
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: Ghana
		
		Methods used: Implementation research
			This study described an infodemic management system workflow based on digital data collection, qualitative methodology, and human-centered systems to support the COVID-19 vaccine rollout in Ghana with examples of system implementation.
			
			The infodemic management system was developed by the Health Promotion Division of the GHS and the UNICEF Country Office.
			
			It uses Talkwalker, a social listening software platform, to collect misinformation on the web.
			
			The methodology relies on qualitative data analysis and interpretation as well as knowledge cocreation to verify the findings.
				It was implemented in Ghana a process that identify misinformation within the posts, rating the risk of identified misinformation posts, and developing proposed responses to address them.
				
				A multi-sectoral National Misinformation Task Force was established to implement and oversee the misinformation management system.
				
				Two members of the task force were responsible for carrying out the analysis.
				
				With the use of Talkwalker were found posts that include keywords related to COVID-19 vaccine–related discussions.
				
				They then assessed the significance of the posts on the basis of the engagement rate and potential reach of the
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
				posts, negative sentiments, and contextual factors. The analysis results are shared weekly with the Misinformation Task Force for their review and verification to ensure that the risk assessment and responses are feasible, practical, and acceptable in Ghana.	

Verduci 2021 (55)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Chatbot Nutripedia
	• Condition studied
	  ○ Nutrition during Pregnancy and Early Life
	• Gender/sex analysis
	  ○ No
		Publication date: 2021
		
		Jurisdiction studied: Italy
		
		Methods used: Implementation research
			"Nutripedia-Informati per Crescere" was a tool delivering information and education on appropriate nutrition for mothers and babies during pregnancy and the first years of life.
			
			Nutripedia provided the readers with evidence-based scientific content in an easy-to-access fashion through a website, a social media page and a personalized advice app called "Nutripedia Chatbot".
				Nutripedia is a mobile campaign developed specifically to promote correct information for the general population (Nutripedia website) and to address individual doubts and questions from parents (Nutripedia app).
				
				Forty articles were published on Nutripedia website with more than 220,000 total views.
				
				Social channel activation via bloggers reached over 9 million parents.
				
				14,698 users downloaded Nutripedia chatbot, through which a total of 1930 questions were directed to experts while over 24,000 responses were provided by the app.
					Pending

Au 2021 (56)	• Type of intervention
	  ○ Financial incentives and legislation
	• Detail of intervention
	  ○ Financial incentives and legislation
	• Condition studied
	  ○ Different health topics
	• Gender/sex analysis
	  ○ Yes
		Publication date: 2021
		
		Jurisdiction studied: Hong Kong
		
		Methods used: Behavioural research (experimental randomized study)
			This study conducted an online experiment to test the role of financial incentives and legislation in disseminating online healthcare misinformation.
			
			Participants were showed six pieces of healthcare information (three real and three fake) and asked how likely they would be to share it., for each of the articles, they were asked about the perceived believability of the article (predictor), their familiarity with the article (predictor), and the likelihood they would share the article (outcome).
			
			Participants were also asked a yes-no question about whether the article was true or false.
			
			The questions about the likelihood of sharing were repeated, assuming the presence of incentives (predictor) or legislation (predictor) that punishes Internet users for disseminating
				Financial incentives have a positive but diminishing impact on the likelihood of sharing online healthcare information regardless of validity; legislation may deter the sharing of healthcare information that users perceive as true but cannot deter them from sharing the healthcare misinformation they perceive as fake.
				
				Financial incentives have a stronger impact on attracting readers to share healthcare misinformation that they perceive to be fake.
				
				Female respondents were more likely to share online health information, and participants who were older or having a higher education level were less likely to share online health information.
				
				Perceived believability and financial incentives may increase the likelihood of sharing healthcare information.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			online misinformation regardless of intention. The two monetary levels were chosen as 10 HKD (approximately USD 1.28, i.e., the price of a local magazine) and 50 HKD (approximately USD 6.41, i.e., the price of a set meal in a local restaurant), respectively as a hypothetical incentive for encouraging the participants to share the news for testing the diminishing returns. Effectively enrolled: 363 participants (137 women)	Although respondents, in general, will be more motivated to share online healthcare information when given financial incentives, the impact created by the financial incentives is stronger when the respondents consider the information to be fake. The power of financial incentives may demonstrate a marginal diminishing effect, while a small financial incentive may help foster healthcare information dissemination, increasing the size of financial incentives may not foster the same level of additional dissemination effect.	

Sun 2021 (57)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Correction
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ Yes
		Publication date: 2022
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			Drawing on the influence of presumed influence model and cognitive appraisal theory, an online experiment was conducted to examine how exposure to corrective messages with regard to COVID-19 misinformation induced individuals' threat appraisals of the influence of the misinformation on others and how these threat appraisals and the corresponding emotional responses motivated individuals to take corrective actions.
			
			Effectively enrolled: 400 participants (176 women)
				The findings suggested that people's perceptions of the severity of the influence of misinformation on others engendered anticipated guilt, which, in turn, strengthened their intentions to correct misinformation related to COVID-19.
				
				The results show that corrective messages stressing susceptibility and severity regarding the influence of misinformation on others can evoke proper emotional responses and motivate audiences to join the combating force against misinformation.
				
				The study offers guidance on how to effectively craft a corrective message to encourage audiences to counter misinformation together.
					Pending

Yoon 2022 (58)	• Type of intervention
	  ○ Counter-misinformation campaigns
	• Detail of intervention
	  ○ Using network logic of YouTube
	• Condition studied
	  ○ Cancer
	• Gender/sex analysis
	  ○ No
		Publication date: 2022
		
		Jurisdiction studied: Korea
		
		Methods used: Qualitative research (content analysis)
			The aim of this study was to, first, identify the spread structure of cancer misinformation on YouTube; second, the study aimed to suggest an action strategy for disrupting misinformation diffusion on YouTube by exploiting the network logic of YouTube information flow and the recommendation system.
			
			The study gathered Korean YouTube videos about the self-administration of fenbendazole.
			
			Using the YouTube application programming interface for the query "fenbendazole," 702 videos from 227 channels were compiled, but only videos with at least 50,000 views were
				By exposing stakeholders to multiple information sources on fenbendazole self-administration and by linking them through a recommendation algorithm, YouTube has become the perfect infrastructure for reinforcing the belief that fenbendazole can cure cancer, despite government warnings about the risks and dangers of self-administration.
				
				The study found evidence of complex contagion by human and machine recommendation systems.
				
				Given YouTube's role as a hub for complex contagion, three strategies to fight against social media cancer misinformation networks are recommended.
					Pending

Reference	Dimension of organizing framework	Study characteristics	Sample description and intervention	Summary of key findings in relation to the outcome	Risk of bias
			selected, resulting in 90 videos. Finally, 10 recommended videos for each of the 90 videos were compiled, totalling 573 videos. Social network visualization for the recommended videos was used to identify three intervention strategies for disrupting the YouTube misinformation network. Set: 573 videos were reviewed	First, health authorities need to upload a variety of pertinent information through multiple channels; second, health authorities must take into account YouTube's recommendation system, current viewing habits, and information flow network between patients and caregivers; third, relying on the news media does not resolve the issue: health authorities must take an active role in resolving social media misinformation.	

Pennycook 2020 (59)	• Type of intervention
	  ○ Monitoring and fact-checking
	• Detail of intervention
	  ○ Nudging
	• Condition studied
	  ○ COVID-19
	• Gender/sex analysis
	  ○ No
		Publication date: 2020
		
		Jurisdiction studied: US
		
		Methods used: Behavioural research (experimental randomized study)
			Study 1 tested for a dissociation between accuracy judgments and sharing intentions when participants evaluated a set of true and false news headlines about COVID-19.
			
			Study 2 experimentally tested whether subtly making the concept of accuracy salient increased the quality of COVID-19 information that people were willing to share online.
			
			Each participant was randomly assigned to one of two conditions.
			
			In the accuracy condition, they were asked, "To the best of your knowledge, is the claim in the above headline accurate?" (yes/no).
			
			In the sharing condition, they were asked, "Would you consider sharing this story online (for example, through Facebook or Twitter?)" (yes/no); the validity of this self-report sharing measure is evidenced by the observation that news headlines that Mechanical Turk participants report a higher likelihood of sharing indeed receive more shares on Twitter.
			
			Headlines were presented in a random order.
			
			Effectively enrolled: 1,709 participants (945 women)
			- Study 1: 853 participants (482 women)
			- Study 2: 856 participants (463 women)
				The study suggests that people share false claims about COVID-19 partly because they simply fail to think sufficiently about whether or not the content is accurate when deciding what to share.
				
				In Study 1, participants were willing to share fake news about COVID-19 that they would have apparently been able to identify as being untrue if they were asked directly about accuracy, this means that they were far worse at discerning between true and false content when deciding what they would share on social media relative to when they were asked directly about accuracy.
				
				In Study 2, a simple accuracy reminder at the beginning of the study (i.e., judging the accuracy of a non-COVID-19-related headline) nearly tripled the level of truth discernment in participants subsequent sharing intentions.
					Pending

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Vélez CM, Wilson MG, Patiño-Lugo DF, Cura J, Smith M, Brehaut J, Gretton J, Nicklin W, Lavis JN, Misinformation Living Evidence Synthesis Team*. Living evidence synthesis 22.1: Impact of strategies to mitigate health-related misinformation in diverse settings and populations: Living Evidence Synthesis. Hamilton: McMaster Health Forum, 15 April 2024.

This evidence synthesis was funded by the Canadian Institutes of Health Research (grant number PJT-185898). The McMaster Health Forum receives both financial and in-kind support from McMaster University. The views expressed in the living evidence synthesis are the views of the authors and should not be taken to represent the views of the Canadian Institutes of Health Research or McMaster University.

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