



Review article

Characterising trusted spokespeople in noncommunicable disease prevention: A systematic scoping review

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ABSTRACT

Noncommunicable diseases (NCD) are an increasing global threat. Utilising public policy to address NCDs can reduce incidence and prevalence. However, NCD-relevant public policy action is minimal in many countries as changing public policy is difficult and multifactorial. Two factors that may influence this process is the message people receive and the messenger delivering it. To date, much health communication research has focused on message content, with limited research on messengers that are trusted by policymakers and the public to communicate NCD matters. We aimed to review the literature to characterise who the public and policymakers consider to be trustworthy and/or credible for NCD messaging, and why this might be the case. Arksey and O'Malley's scoping review methodology guided the review. A systematic search of three databases up to June 2021 combined with hand searching of review reference lists was undertaken. Nineteen articles were included. Data extraction focused on study design, issue being influenced, spokesperson studied, and measures of trust. Results showed health professionals were the most-frequently trusted sources of information. Other spokespeople, such as government sources or religious leaders, were only trustworthy in some contexts, and even distrusted in others. Reasons why spokespeople were trusted included technical expertise, strategic engagement with stakeholders, and reputation. However, we also found the nature of trust and credibility of spokespeople is dependent on the studied population and context. Overall, characteristics of influential messengers were nonspecific. Thus, trusted messengers and their characteristics in NCD-messaging must be better understood to develop and maintain the trust of the public and policymakers.

1. Introduction

Noncommunicable diseases (NCD) are increasingly threatening the health of individuals and undermining socio-economic development globally (World Health Organization, 2013). Utilising public policy to address NCDs is an effective strategy (Hawkes et al., 2015; Mendis, 2010). Despite the increased recognition of NCD threats, relevant policy action from governments and key stakeholders has been minimal (Allen et al., 2019; Global status report on noncommunicable diseases, 2014; Jailobaeva et al., 2021; Collins et al., 2019).

The dynamic environment of public policy makes change a difficult process (Clavier and de Leeuw, 2013). The policy change process

involves a complex interplay of factors including interactions between numerous stakeholders, external changes to the political system, plus social and institutional constraints (Clavier and de Leeuw, 2013). One factor that may influence the policy change process is the messages people receive about an issue (Cullerton et al., 2018). The content of public health policy-related messages and strategies on how they should be framed have been extensively studied (Williamson et al., 2020; Larocca et al., 2012; Fish et al., 2017; World Health Organization, 2017). However, a key overlooked component, particularly relating to NCDs, is the impact of *who* delivers the message.

The importance of an effective spokesperson has been documented in communication scholarship for decades: *who* communicates a message is

Abbreviations: NCD, noncommunicable disease; FDA, US Food and Drug Administration.

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a key component to persuasion (Austin, 1976). Communication research also provides insight into why spokespeople can be so influential, suggesting a spokesperson's credibility can shape listener attitudes without the need for them to engage in any extensive issue-relevant thinking (Petty et al., 1981). Spokesperson credibility is closely related to trustworthiness (Ohanian, 1990). When the public trust a spokesperson, they are more likely to change their opinion than with a spokesperson they do not trust (Hovland and Weiss, 1951). Moreover, the World Health Organization recently identified that selecting 'the best' spokesperson (or messenger) is important to ensure that communications are trusted (World Health Organization, 2017). However, they do not define or clarify what is meant by 'the best' spokesperson, and instead, focus on how to support and prepare the communicator, irrespective of the context (World Health Organization, 2017).

While there are some general insights to take from communication research on health messaging, there is limited research relating to NCD-related spokespeople in particular. Instead, and notably in recent times of COVID-19, there are studies examining effective spokespeople in emergency or crisis situations (Henderson et al., 2020; Sledge and Thomas, 2021; Berg et al., 2021; Kossowska et al., 2021; Hamilton and Safford, 2020; Favero et al., 2021; Bennett and Should, 2020; Ahluwalia et al., 2021; Bayram and Shields, 2021; Chan, 2021; Kim and Tandoc, 2021; Varghese et al., 2021; Evans and Hargittai, 2020; Cairney and Wellstead, 2020; Abu-Akel et al., 2021; Lockman and Blendon, 2020; Chmel et al., 2021). For example, individuals who trust health experts are more likely to take on protective measures against COVID-19, such as mask-wearing (Ahluwalia et al., 2021). Further, research on public perceptions of the role of US government in the COVID-19 response, identified that those supporting US Democrats are more likely to view government (at the local and state level) as 'extremely important' actors, than those who follow the Republican party (Sledge and Thomas, 2021).

Despite the severity of COVID-19 and health emergency crises, NCDs are an even greater global burden; having an annual death toll of 41 million people worldwide (World Health Organization, 2021). NCDs differ from emergency situations in their long-term development and duration, necessitating long-term strategic solutions (Luna and Luyckx, 2020; Bennett et al., 2030). However as noted, limited attention and resources are provided in the prevention of NCDs. Changing this requires NCD advocates to engage not only with policymakers but the public too, as public opinion is an important lever for policy change (Cullerton et al., 2018; Burstein, 2003). Given the messenger acts as the conduit between the evidence and both policymakers and the public, it is important to address this gap and understand who is trusted to communicate about NCDs.

As such, we aimed to systematically review the literature to characterise who the public and policymakers consider to be trustworthy and/or credible for NCD messaging, and why this might be the case.

2. Methods

A systematic scoping review was conducted to map available peer-reviewed evidence describing NCD-related spokespeople perceived to be trustworthy by the public and/or policymakers. We followed a five-stage iterative process based on that of Arksey and O'Malley (2005) and refined by Levac et al. (2010) (Arksey and O'Malley, 2007; Levac et al., 2010); which involved: identifying the research question, identifying the relevant literature, screening the records, data charting, and finally, collating, summarising and reporting the results. The search strategy process was guided-by and presented using the Preferred Reporting Items for Systematic Reviews and meta-Analyses extension for scoping reviews flowchart (Tricco et al., 2018).

2.1. Search strategy

KC and LB identified the research question and conducted an initial search to identify key words to use in the search strategy. Search terms

were guided by the Joanna Briggs Institute's 'Population, Concept and Context' (PCC) Framework (see Table 1) and included the following terms: "policy spokespeople" OR "policy spokesperson" OR messenger OR expert* OR champion* OR advoca* OR "source credibility"; concept: trust OR credib*; context: "public health" OR tobacco/smoking OR alcohol OR nutrition/sugar/obesity OR "physical activity" OR "chronic disease" OR "non communicable disease". Three electronic databases – Scopus, PsycInfo and Web of Science, were systematically searched by AD in June 2021 to identify relevant literature. These databases were selected due to their relevance to the social science and interdisciplinary research field of interest and widespread inclusivity (Burnham, 2006). The use of a non-exhaustive number of databases was in line with the aims of the scoping review methodology.

2.2. Screening the records

Publications were eligible for inclusion if they examined the perceived trust and/or credibility of public health spokespeople in relation to NCDs. Specifically, the screening process was guided by the eligibility criteria listed in Table 2.

Covidence, a reference management software, was used throughout the screening process (Covidence, 2020). AD and KC screened each of the identified records by title and abstract to determine which should go through to full-text screening. AD conducted a full-text review of all records and KC double screened 25 %. There was a high level of concordance. When conflicts arose, they were discussed in line with the eligibility criteria and dealt with accordingly.

2.3. Data charting process

Following the search, articles were exported into *Mendeley Desktop* (Mendeley Ltd, 2021). The study characteristics were extracted into a table to chart the data. Categories included: author, year, country, study design, data collection and sampling method, study context, participants whose perspective was studied, sample size, spokesperson of interest, what the spokesperson was influencing (public's perceptions or health policy), who was identified as trusted, characteristics of the spokesperson, and limitations of the research relevant to our eligibility criteria.

2.4. Data collating, summarising, and reporting

Extracted data was narratively summarised and thematically analysed. Due to the nature of scoping reviews involving wide-ranging results, this was deemed the most appropriate way to report the data (Arksey and O'Malley, 2007; Levac et al., 2010). Characteristics describing the reasons for why spokespeople were perceived as trustworthy, were tabulated for the studies that reported on the relevant details.

3. Results

3.1. Characteristics of studies

The search yielded 1261 records (see Fig. 1). Of these, 20 articles met the inclusion criteria. Two publications were based on the same dataset. To avoid 'double counting', only the most recent study was included, resulting in 19 included articles. The reference lists of four review

Table 1

Conceptual breakdown of the research question based on the 'Population, Concept, and Context' Framework.

Population	Public health spokespeople
Concept	Trustworthiness and credibility in the public's perspective and that of policymakers
Context	Public health factors relating to non-communicable diseases in adults

Table 2
Inclusion and exclusion criteria used for record screening.

Inclusion criteria	Exclusion criteria
Articles were included that: studied populations of adults 18 years or older; were published within the last ten years (between 2011 and 2021) as our aim was to understand more current perceptions of trusted spokespeople; were full-text peer-reviewed; studied <i>who</i> is perceived to be credible/trusted; focused on prevention of NCDs.	Articles were excluded if it: focused on management or treatment of NCDs, or was clinically focused; focused on paediatric health, infectious disease or health crises; focused on message content or the platform (e.g., social media, internet) ; a review (however, relevant review reference lists were scanned for primary reference harvesting) , commentary, or editorial; not available in the English language.

articles were searched for further relevant primary articles but none were found (Erku et al., 2021; Sarkies et al., 2017; Smith et al., 2013; Tonkin et al., 2015).

Detailed study characteristics are described in Table 3. Of the 19 included records, there was a combination of qualitative (n = 6), quantitative (n = 12), and mixed-methods (n = 1) study designs. The majority of studies (n = 18) were conducted in high-income countries including the USA (n = 11), UK (n = 2), Canada (n = 2), Australia (n = 1), and the Netherlands (n = 1). Ecuador was the only middle-income country represented. The year of publication ranged from 2011 to

2021. Study sample size ranged from 14 to 7764.

The studied public health issues were wide-ranging. The most common topics were tobacco, smoking or e-cigarettes (n = 6), and nutrition and physical activity programs in community settings (n = 2). Other topics included environmental and health risks in the Arctic, water fluoridation policy, health representatives in low-income US communities, evidence-based guidelines for preventative care, a soft-drinks industry levy, obesity public service announcements, general health information, partnerships between health researchers and policymakers, and US food policy councils. Studied groups included general population samples and those from specific community groups (Inuit residents; Ghanaian, Antillean, and Surinamese mothers living in the Netherlands; church groups; the elderly).

Of the 16 studies investigating the public’s opinion of trusted spokespeople, most (n = 12) were quantitative, involving cross-sectional surveys, vignette analysis, and/or eye-tracking. The remainder (n = 4) used qualitative methods, including interviews or community observation. The measures used to examine trust were heterogenous, though most used self-reported measures (n = 15). Objective measures of outcomes, for example, eye-tracking, and community observation, were less common (n = 4). Only three studies examined an NCD spokesperson’s influence on health policy- or decision-making. This research involved participants’ perspectives of their relationships (e.g., between policy-makers, researchers, health experts) and asking them (as participants in the policy process) who was perceived to be effective in influencing

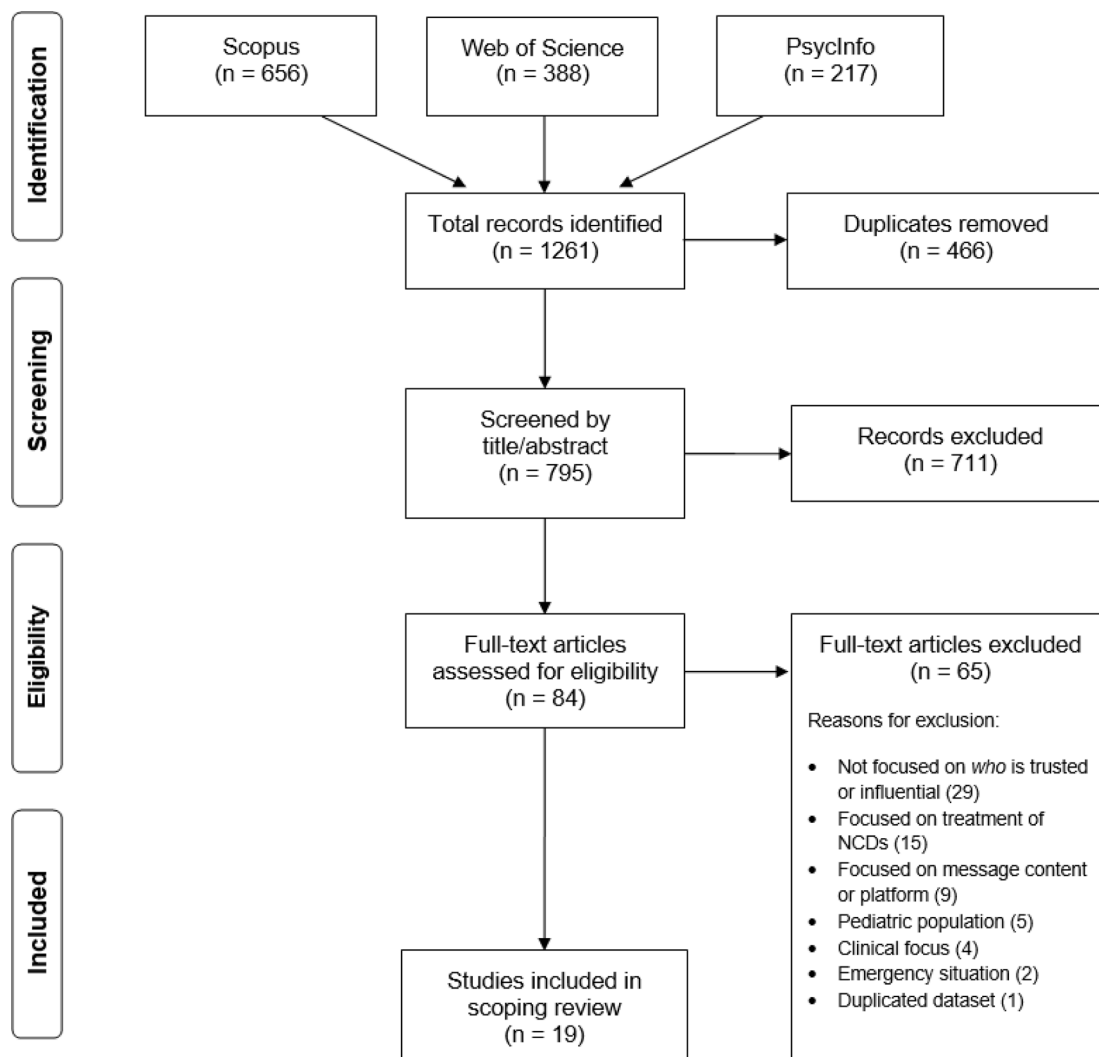


Fig. 1. PRISMA flowchart of the selection process.

Table 3
Study characteristics.

First author, year (Country)	Study design and data collection	Issue being influenced	Participants studied	Sample size	Spokesperson studied	Who are the spokespeople influencing?	How was trust/credibility/influence assessed?
Boyd, 2019 (Canada)	Qualitative study; In-depth interviews	Environmental and health risks in the Kuujuaq (Arctic) community	Self-identified Inuit adults	n = 112	Health professionals (e.g., doctors, nurses), health organisations, and close relationships (e.g., family, friends, elders, etc.).	Public	Responses to: who (individuals and organisations) are trusted as sources of health risk communication messages? Frequency of common responses and quotes to the open-ended question were presented.
Bull, 2020 (UK)	Cross-sectional study; experimental (3x3) vignette questionnaire survey (x9 scenarios)	Role authenticity and health behaviour change agenda relating to smoking cessation, preventing cot death, and fire safety	Adults (convenience sample recruited in public spaces in north-west England) 49 % women, 64 % white British or Irish, age-range: 16–83.	n = 369	General practitioner, health visitor, or firefighter	Public	Three source credibility dimensions as part of a validated multidimensional 18-item source credibility tool - competence, caring, and trustworthiness were rated on a 7-point Likert scale (McCroskey and Teven, 1999), and averaged to compare traditional and expanded role scenarios.
Case, 2017 (USA)	Cross-sectional study; Mailed questionnaire and/or random digit dialling	Health information about the effects of e-cigarettes, and general health	Adults (nationally representative sample)	n = 3738	Doctors, government health agencies, and health organizations or groups; pharmacists/healthcare providers, government health agencies, health organization or groups, tobacco companies, and e-cigarette companies.	Public	A mean 'trust in source' single-item measure was created for each spokesperson with responses ranging from 1 ("not at all") to 4 ("a lot").
Chung, 2012 (USA)	Qualitative study; In-depth interviews	Health representatives in low-income communities	African American and Latinx adults	n = 14	Community health representatives (e.g., doctor, local elected official, religious leader)	Public	Responses to a series of questions about who in their community would best represent their health interests and why. Prompted protocol answers relating to specific characteristics were provided as respondents struggled to conceptualise answers.
Clayton, 2015 (USA)	Qualitative study; In-depth interviews	Food policy councils (FPC) across the US	FPC members and policy experts (identified by the FPCs)	FPCs, n = 12. Policy experts, n = 6	FPCs and policy experts	Policymakers	Responses to questions about how and why FPCs engage in specific policies, barriers and opportunities to policy engagement, and strategies for advancing FPC priorities through partnerships.
Hartman, 2013 (Netherlands)	Mixed-methods study; observation of community and interviews	Ghanaian, Antillean and Surinamese mothers' physical activity program	Ghanaian, Antillean and Surinamese mothers in the Netherlands	Mothers, n = 32. Ethnically matched 'key figures/recruiters', n = 14.	Ethnically specific channels/organisations/key figures as recruiters	Public	Quantitative data reporting on observation of program participation and receptivity based on the recruiter used plus qualitative data examining why the recruiter was

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Table 3 (continued)

First author, year (Country)	Study design and data collection	Issue being influenced	Participants studied	Sample size	Spokesperson studied	Who are the spokespersons influencing?	How was trust/credibility/influence assessed?
Haynes, 2012 (Australia)	Qualitative study; Semi-structured interviews	Australian policymakers' engagement with researchers	Civil servants, ministers, and ministerial advisors	n = 26	Health researchers peer-nominated participants for the study based on whom they previously worked with in the policymaking process	Policymakers	considered trusted/effective. Responses to questions relating to the identification and assessment of health researchers that participants chose to work with throughout the policymaking process.
Jackson, 2019 (USA)	Cross-sectional study (five timepoints); mailed questionnaire and/or random digit dialling	Trust in general health information sources	Adults over the age of 18 (nationally representative sample)	2005, n = 5586 2008, n = 7764 2011, n = 3959 2013, n = 3185 2015, n = 3738	Government health agencies, doctors, family/friends, charitable organizations, and religious leaders/organizations	Public	Trust was assessed by asking: in general, how much would you trust information about health/medical topics from *listed spokespersons*? Responses were on a scale of trust "a lot", "some", "a little" and "not at all".
Jarman, 2018 (USA)	Experimental study; eye tracking (to four visual messages) and survey.	Impact of communication about cigarette smoke constituents	18–65-year-old current cigarette smokers (defined as: smoked > 100 cigarettes in their life, and smoking cigarettes some days or every day in the last 30 days) Mean age: 36 yrs; 60 % female, 95 % non-Hispanic (58 % white, and 36 % black or African-American); 18 % identified as gay, lesbian, bisexual, or other.	n = 211	FDA	Public	Gaze time (eye tracking) was summed across four ads. After viewing each message, participants answered x4 questions about (1) believability of the message, (2) discouragement from wanting to smoke, (3) how much the message made them want to quit smoking, and (4) how much the message helps them to quit smoking. Responses were scored on a scale of 1–9 where 1 = Strongly Disagree, 5 = Neutral, 9 = Strongly Agree.
Jovanova, 2021 (USA)	Experimental study; survey	Tobacco and smoking perceptions in lower-socioeconomic populations	Adult smokers Mean age: 43 yrs (SD = 14.3); 50 % male; 55 % White, 40 % African American, 6 % Hispanic/Latino/a/x; 8 % Other; 7 % with college degree; 69 % yearly household income <\$20 K.	n = 242	FDA and American Cancer Society	Public	Participants viewed a set of nine cigarette pack images, featuring the original FDA-proposed graphic warning labels. Sponsors were manipulated to generate three between-subject conditions: no sponsor information, FDA, or American Cancer Society. After viewing the images, participants completed a survey assessing who they believed put the warning labels on the packs, source credibility perceptions, and demographics, on a six-item scale. Ratings were averaged into three-point credibility scales.
Kowitz, 2019 (USA)	Experimental 2x2x2 study; web-based survey	Perceptions of tobacco constituents	Adults (≥18) who reported smoking cigarettes in the past 30 days.	n = 1669	FDA	Public	Source of the message (FDA vs no source) was one manipulated factor. After viewing

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Table 3 (continued)

First author, year (Country)	Study design and data collection	Issue being influenced	Participants studied	Sample size	Spokesperson studied	Who are the spokespeople influencing?	How was trust/credibility/influence assessed?
			55.4 % women; 88.5 % white non-Latino mean age: 34 yrs				the message, respondents rated its believability, perceived effectiveness, source credibility (based on three items: credible, trustworthy, and an expert), and action expectancies (i.e., likelihood of seeking additional information and help with quitting as a result of seeing the message). Credibility scores were averaged and compared.
Lantz, 2016 (USA)	Experimental vignette study; Internet-based survey via KnowledgePanel	US public's knowledge of and attitudes toward evidence-based guidelines for preventative care (breast and prostate cancer)	US adults (KnowledgePanel nationally representative sample)	n = 2529	US Preventive Services Task Force – e.g., doctors, nurses, researchers/medical scientists, government health agencies, etc.	Public	Likert-scale attitudinal questions measured respondents' opinions about what professionals or groups participate in developing guidelines for preventive services, and who they trust most to do this.
Owusu, 2019 (USA)	Cross-sectional study (three timepoints); Internet-based survey via KnowledgePanel	US public health messaging relating to e-cigarettes	US adults who reported awareness of e-cigarettes	2015, n = 5389 2016, n = 5273 2017, n = 5389	Health experts and scientists, FDA, CDC, companies that manufacture and sell cigarettes/cigars, companies that manufacture and sell electronic vapor products, vape shop employees, and news media (newspapers, magazines, TV, internet). In 2016–17, six sources added: family & friends, your doctor/other medical provider, people who use electronic vapour products, social media sites, NIH, health organisations or groups (i.e., American Cancer Society).	Public	Trust in health information sources was assessed by asking: "how much do you trust what each of the following say about health effects of electronic vapour products?". Responses were recorded on a five-point scale of (–2 = strongly distrust to 2 = strongly trust) or "don't know"; weighted mean scores were calculated and compared.
Pell, 2019 (UK)	Cross-sectional study; Self-completed web-based survey	Soft drinks industry levy attitudes and trust, based on 2017 International Food Policy Study	UK adults; Mean age: 38yrs (SD = 13); 48 % female; 61 % had equivalent of school-leaving or lower.	n = 3104	Health experts and food and drinks industry	Public	Trust in experts and the food industry were measured on a 7-point Likert scale (Strongly agree to strongly disagree; including neither agree or disagree and refuse to answer) in response to the statement "I trust messages from X on sugary drinks".
Perrella, 2015 (Canada)	Experimental study; telephone survey	Water fluoridation in Canada - residents in a 2010 referendum voted to stop water fluoridation in Waterloo	Waterloo adults	n = 376	Celebrity spokesperson from the Council of Canadians and WHO/health experts	Public	Credibility heuristic was measured by manipulating the source (three groups) and assessing whether opinions about the relative risks and

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Table 3 (continued)

First author, year (Country)	Study design and data collection	Issue being influenced	Participants studied	Sample size	Spokesperson studied	Who are the spokespeople influencing?	How was trust/credibility/influence assessed?
Phua, 2016 (USA)	Experimental 2x2 study; Interviewed in a prominent mall location	Obesity public service announcements; diet/exercise, information seeking, and electronic word-of-mouth intention	US residents that visited a shopping mall Age: 18–21 yrs (37 %), 22–34 yrs (40.5 %) 58 % female; 64 % single; 55.5 % earned <\$20,000 per year 51 % Caucasian, 35 % African American, 4 % Asian, 4 % Latino/Hispanic, and 7 % other.	n = 200 (100 overweight and 100 non-overweight participants by BMI)	Real person (with type II diabetes) vs actor spokesperson (defined by text at start of PSA)	Public	benefits of fluoridation were dependent on the messenger. Responses were coded on a continuous scale ranging from 1 (agree) to 0 (disagree). Three dimensions of credibility were measured on a 7-point Likert scale containing six items using a validated multidimensional 18-item source credibility tool (McCroskey and Teven, 1999). This included trustworthiness, competence, and goodwill. Experimental conditions compared real person and actor spokespeople.
Smith, 2018 (UK)	Case study; Documentary data (consultation exercise and semi-structured, narrative interviews)	EU tobacco control and health inequalities policy (Marmot Review) in England	Policymakers, researchers, advocacy groups and other individuals who were involved in policy discussions relating to each case study	Case study 1 (CS1), n = 35. Case study 2 (CS2), n = 38	Stakeholders such as policymakers, researchers, and advocacy groups, who contributed to the cases of interest	Policymakers	Qualitative accounts from those involved with the policy process and what was believed to be successful (thematic analysis). Policy documents reviewed to find data in response to the consultation questions and network analysis. Qualitative accounts from respondents over seven months, and observations of their dietary changes, food shopping routines, cooking practices, and community relationships (including what nutritional information they found useful and how this was circulated).
Suarez, 2021 (Ecuador)	Qualitative ethnographic study; Participant observation in their homes, in-depth interviews, informal conversations, and follow-up visits	Understandings of nutrition in elderly populations through an ethnographic approach	Elderly residents; nutritional experts and health practitioners	Residents n = 17. Nutritionists n = 7. Health practitioners n = 6	Physicians and nutritionists	Public	Assessed program implementation outcomes based on core components (included items relating to sharing messages and engaging pastors). Items were rated on a 4-point Likert scale reflecting frequency of conducting each activity (1 = “rarely or never”, and 4 = “about weekly” or “almost all of the time”. Mean scores were calculated for multi-item scales.
Wilcox, 2021 (USA)	Quasi-experimental study; telephone surveys at baseline and 12 months (completed by pastors/church leaders)	Faith-based organisations' role in promoting health and managing chronic disease - part of the 'Faith, Activity, Nutrition' program dissemination and implementation study	Churches in the 'Conference of the United Methodist Church' trained by Community Health Advisors	n = 93	Churches/their group leaders	Public	Assessed program implementation outcomes based on core components (included items relating to sharing messages and engaging pastors). Items were rated on a 4-point Likert scale reflecting frequency of conducting each activity (1 = “rarely or never”, and 4 = “about weekly” or “almost all of the time”. Mean scores were calculated for multi-item scales.

FDA: US Food and Drug Administration; CDC: US Centre for Disease Control; FPC: Food Policy Council; NIH: National Institute of Health; WHO: World Health Organization; PSA: public service announcement; EU: European Union.

policy.

The types of spokespersons studied included individual health professionals (e.g., doctors, health researchers, nutritionists), community and national health organisations, government bodies, industry stakeholders, and community members including individuals such as family and friends. The characteristics of spokespersons who were trusted and the reasons for why this might be the case, will now be discussed from the perspective of the public and in the policymaking setting.

3.2. Spokespeople trusted by the public

3.2.1. Health professionals

Health professionals were most-frequently identified as trusted spokespersons when it came to the public's perception on NCD-related issues. Specifically, 85–95 % of participants in any study reported they had trust in doctors (Lantz et al., 2016; Jackson et al., 2019; Owusu et al., 2019; Case et al., 2018; Boyd et al., 2019). Nurses, medical researchers, medical providers, pharmacists and overall 'health experts' were also among the most trusted sources of information studied (Pell et al., 2019; Chung et al., 2012; Lantz et al., 2016; Jackson et al., 2019; Owusu et al., 2019; Case et al., 2018). They were also the most frequently studied spokespersons for the public to select or discuss across the included literature (n = 12).

3.2.2. Health agencies, organisations, and government

Health agencies were somewhat trusted by the public for communicating NCD-related public health matters, though less than individual health professionals (Lantz et al., 2016; Jackson et al., 2019; Owusu et al., 2019). Disease advocacy groups, government health agencies (i.e., Centre for Disease Control, the US Food and Drug Administration (FDA), and the American Cancer Society), professional associations, and government health experts were trusted to a lesser degree than doctors, nurses, and researchers (Lantz et al., 2016; Jackson et al., 2019; Owusu et al., 2019). Notably, the FDA's role in the perceived credibility of health messages was frequently studied (n = 6). In three cases it was found that FDA-sponsored tobacco labels did not improve credibility judgements compared to control labels with no sponsors (Jarman et al., 2018; Jovanova et al., 2021; Kowitt et al., 2019).

3.2.3. Community, family, and close relationships

There was no consensus on the trustworthiness of peers as spokespersons. In certain community settings and specifically Canadian Inuit and elderly Ecuadorian populations (Boyd et al., 2019; Suarez et al., 2021); some reported family and friends as more trustworthy than health experts. Whereas in other studies, family and friends were perceived to be moderately trustworthy or less so than doctors, other health experts, and/or health organisations (Jackson et al., 2019; Owusu et al., 2019).

The concept of familiarity or cultural similarity was somewhat influential when key community figures were used during targeted nutrition and/or physical activity programs. A study of migrant communities reported that Ghanaian mothers living in the Netherlands were more likely to be receptive and participate in a physical activity program when messages were delivered by a key community figure, as compared to delivery by a Dutch health educator; but this was not the case for Surinamese and Antillean mothers (Hartman et al., 2013). Likewise, trust in religious organisations or leaders was not consistent (Jackson et al., 2019; Chung et al., 2012; Wilcox et al., 2021). A study of US church communities reported the institutions and their pastors as being influential when communicating health benefits as part of a 'Faith, Activity, Nutrition' program in US churches (Wilcox et al., 2021). While other US studies studying African American and Latinx low-income communities, and the general adult population, found that religious organisations and leaders were perceived to be untrustworthy or some of the least trusted individuals (compared to, e.g., government health agencies, doctors, family/friends, charitable organizations) (Jackson

et al., 2019; Chung et al., 2012).

3.2.4. Celebrities

Finally, a celebrity endorsement was associated with lower support for water fluoridation in one Canadian study (Perrella and Kiss, 2015). Mean perception levels of fluoride's benefits were significantly lower for individuals who were told that a celebrity (Maude Barlow – Canadian author and activist) representing the Council of Canadians opposed fluoridation, compared to the control who received no prompt, and those who were told Health Canada and the WHO support fluoridation (Perrella and Kiss, 2015).

4. Spokespeople least trusted or highly distrusted by the public

Low levels of trust and at times, high levels of distrust, were reported for business-oriented institutions or individuals (i.e., e-cigarette/cigarette companies, social media, economists), legislative authorities (i.e., lawyers, legislators, police), or individuals seen to have a conflict of interest (i.e., e-cigarette users, vape shop employees, food and beverage industry), when communicating public health knowledge relating to NCDs (Lantz et al., 2016; Owusu et al., 2019; Case et al., 2018; Boyd et al., 2019; Pell et al., 2019; Chung et al., 2012).

An interesting finding that went against the body of literature (Lantz et al., 2016; Jackson et al., 2019; Owusu et al., 2019; Case et al., 2018; Boyd et al., 2019; Pell et al., 2019; Chung et al., 2012); was that nutrition and physician expert advice was distrusted and disregarded in an elderly Ecuadorian population as it was perceived as restrictive, difficult to comprehend, and a limitation to the elderly community's ways of life (Suarez et al., 2021). Also, in a Canadian Inuit community, 13 % of participants reported that they trusted no organisations at all in communicating health messages, while 26 % rated *themselves* as more trustworthy sources for communicating health risk messages at the individual-level above doctors, nurses, community members, and elders (Boyd et al., 2019).

5. Spokespeople trusted in health policymaking

Similar to the findings on public trust, health researchers and health professionals were considered to be trustworthy in the public health policymaking setting. Specifically, a "strong scientific consensus" was identified as an important driver when health experts, advocacy groups, and policymakers came together to implement European Union tobacco control policy. Here, health experts were identified as credible stakeholders when presenting public health arguments to achieve the desired policy outcome (Smith and Weishaar, 2018). From the perspective of Australian policymakers working in state or federal health departments, researchers with connections to policymakers and high-profile reputations were considered to be trustworthy experts (Haynes et al., 2012). Finally, when examining interactions with US policymakers, a study identified that Food Policy Councils that partnered with policy experts (who were not defined), were trusted when progressing policymaking agendas (Clayton et al., 2015).

6. Reasons why the identified spokespersons were trusted and the context-dependent nature of trust

Eleven studies explored *why* identified spokespersons were trusted. Reasons were wide-ranging (e.g., technical/scientific skills, interpersonal skills, role), context dependent (e.g., socio-economic factors, culture) and audience specific (e.g., familiarity). Findings broadly identified that it was not just a matter of the individual spokesperson's characteristics, but also the dynamics of the community and socio-political environment that assisted with effective health messaging with the public. The characteristics that were reported to be important for trusted spokespersons, for both the public and/or policy setting, are summarised in Table 4. More detailed information about the reasons for

why spokespersons were trusted are presented in Supplement 2.

6.1. Why were the identified spokespersons trusted?

Technical expertise involving the use of scientific evidence and medical expert opinions were the most commonly perceived reasons why spokespersons were trusted (Lantz et al., 2016; Boyd et al., 2019; Chung et al., 2012; Smith and Weishaar, 2018; Haynes et al., 2012; Clayton et al., 2015; Bull et al., 2021). Strategically engaging with stakeholders to develop partnerships and connecting with community was also associated with trust (Boyd et al., 2019; Hartman et al., 2013; Smith and Weishaar, 2018; Clayton et al., 2015). Additionally, having a ‘good reputation’ and evidence of previous effective performance contributed to trust in spokespersons; some specified that the length of relationship or track record was relevant (Boyd et al., 2019; Chung et al., 2012; Haynes et al., 2012; Clayton et al., 2015).

Effective interpersonal skills were also said to be significant for a credible or trusted spokesperson (Chung et al., 2012; Smith and Weishaar, 2018; Haynes et al., 2012); as well as leadership, relationship-building, and collaborative skills (Smith and Weishaar, 2018; Haynes et al., 2012). Explanations for why spokespersons were trusted by the public often related to empathetic qualities. Value similarity (the perceived correspondence in values between the communicator and audience) (Boyd et al., 2019; Suarez et al., 2021; Wilcox et al., 2021); care and altruism relating to the cause or community (Chung et al., 2012; Suarez et al., 2021; Wilcox et al., 2021); passion and enthusiasm for the cause (Hartman et al., 2013; Wilcox et al., 2021); and transparency and openness of an individual (Boyd et al., 2019); were reported as important characteristics for credibility and/or trustworthiness.

Role authenticity or role expansion of the spokesperson was studied in multiple papers (Boyd et al., 2019; Chung et al., 2012; Bull et al., 2021; Phua and Tinkham, 2016). For example, one study found that those delivering information directly relevant to their professional expertise (i.e., firefighter discussing fire safety, a physician discussing smoking cessation, and a health visitor explaining cot death prevention) were perceived as competent, trustworthy, intelligent, caring, and

Table 4
Explored reasons for why spokespersons were perceived to be trusted and/or credible in the NCD-related public health context.

Characteristics identified to be important for trusted spokespersons	Studies that reported the characteristic	Does the characteristic relate to – influencing the public, policymakers, or both?
Technical expertise and/or credibility due to professional status	(50,54,56,64–67)	Both
Strategic engagement and/or connection to the involved stakeholders	(54,61,64,66)	Both
Reputation and evidence of effective outcomes delivered during their past professional role or in the community	(54,56,65,66)	Both
Role authenticity	(54,56,67,68)	Public
Interpersonal skills	(56,64,65)	Both
Value similarity	(54,60,62)	Public
Care and altruism relating to the cause or community	(56,60,62)	Public
Passionate and enthusiastic about the cause	(61,62)	Public
Leadership, relationship-building and collaborative skills	(64,65)	Both
Transparency and openness of an individual	(54)	Public
Pragmatic problem-solving approach that is considerate of the context	(65)	Policymakers

trained. Alternatively, professionals that gave advice outside their expertise were perceived to be less credible and competent (Bull et al., 2021). Role authenticity was also relevant for credibility when studying the influence of actors (someone playing a role in a fictional encounter) versus people with lived experience (e.g., individuals with type II diabetes) for obesity public service announcements. Here, people with lived experience were more highly rated in trustworthiness, competence, and goodwill (Phua and Tinkham, 2016).

6.2. How did the characteristics of the population affect perceptions of trust in a spokesperson?

Income status, race, and education were all associated with trustworthiness (Jackson et al., 2019). In particular, African American communities and those with lower levels of education attributed greater trust to health messages delivered by religious bodies (Jackson et al., 2019; Wilcox et al., 2021). Further, participants’ existing beliefs relating to the spokesperson or issue, affected levels of reported credibility. Specifically, individuals who perceived the FDA as credible (Jarman et al., 2018; Kowitt et al., 2019); or who supported a sugar beverage industry levy (Pell et al., 2019); were more likely to perceive the respective source delivering the message to be credible. While individuals who had lower perceptions of harm regarding conventional cigarettes, or were ‘ever-users’ of e-cigarettes, were more likely to have greater trust in tobacco and e-cigarette companies (Case et al., 2018).

In qualitative studies, culture and the structure of communities played an important role in perceived trustworthiness (Suarez et al., 2021; Hartman et al., 2013; Wilcox et al., 2021). Specifically, a study examining effective recruitment for a physical activity program for ethnic minority groups living in the Netherlands found that a ‘tight-knit’ Ghanaian community with low levels of Dutch language comprehension, were more likely to be influenced by the use of a key community figure as a recruiter for the program. Whereas for Surinamese and Antillean communities in the same study, who were less interconnected and had good Dutch language skills, participation was low, and they were less likely to be influenced by a key community figure to join the program (Hartman et al., 2013).

6.3. How much does the audience relate-to and identify-with the spokesperson?

The extent of audience connection to a spokesperson was key in several studies (Case et al., 2018; Haynes et al., 2012; Phua and Tinkham, 2016; Suarez et al., 2021; Hartman et al., 2013; Wilcox et al., 2021). For example, individuals identified as trusted figures in ethnic communities had familiarity with the community, were able to translate and appropriately tailor messages, and motivate enthusiasm (Hartman et al., 2013). Moreover, instead of health-trained spokespersons, the characteristics of kinship, friendship, and customs had a higher weight of importance among an elderly Ecuadorian community when it came to nutritional behaviours (Suarez et al., 2021). In one study, e-cigarette user status (ever-user versus never-user) did not significantly impact trust in doctors or health organizations (Case et al., 2018). Though, it did impact trust in government health agencies, with ever-users of cigarettes reported significantly less trust for these information sources (Case et al., 2018). Finally, in the policymaking setting, health researchers who had a solid understanding of government processes and policy reform were more likely to be sought-after as credible collaborators for policymakers (Haynes et al., 2012).

7. Discussion

To our knowledge, this scoping review is the first to systematically review and summarise literature relating to credible and trustworthy spokespersons in the context of NCD prevention. While numerous studies have recently emerged examining the credibility of spokespersons in

crisis situations (Henderson et al., 2020; Sledge and Thomas, 2021; Berg et al., 2021; Kossowska et al., 2021; Hamilton and Safford, 2020; Favero et al., 2021; Bennett and Should, 2020; Ahluwalia et al., 2021; Bayram and Shields, 2021; Chan, 2021; Kim and Tandoc, 2021; Varghese et al., 2021; Evans and Hargittai, 2020; Cairney and Wellstead, 2020; Abu-Akel et al., 2021; Lockman and Blendon, 2020; Chmel et al., 2021); we found few studies have been undertaken in the context of NCD prevention. Further, despite the aim to describe trusted spokespeople in both the public and policymaking setting, we found few studies on the latter.

From the 19 studies, medical and health professionals were found to be the most-frequently trusted sources of information. While other spokespeople, such as government sources, were trustworthy in some contexts, and even distrusted in others. The most common reasons for why spokespeople were trusted included technical expertise, strategic engagement with stakeholders, and reputation. However, the findings also revealed that perceptions of trust and credibility of spokespeople is dependent on population and context.

7.1. Medical and health professionals are the most-frequently trusted sources of information

In line with research from clinical health contexts, health professionals were the most trusted sources of information by the public (Bleich et al., 2007; Hardie and Critchley, 2008; Hall et al., 2006). Health professionals are valued by people not only for the care that they provide in times of sickness, but also for their contribution to broader societal well-being (Gilson, 2003). Reflecting this, technical expertise and/or credibility due to professional status was the most frequent reason for why spokespeople were trusted. As both health professionals and the importance of technical expertise were considered significant in influencing both the public and policymakers, this highlights their value and potential role in future health policy communication.

The importance of shared values or identity-similarity was reiterated in our findings (Nelson and Garst, 2005). Familiarity was considered more important than expertise for some, including elderly Ecuadorian and Canadian Inuit populations, suggesting that spokespeople who resonate with the public, can influence health beliefs and behaviours. This is similar in the emergency context of COVID-19, where political ideologies affect US citizens' trust of scientists in their health risk reporting, and in public health reform (Evans and Hargittai, 2020; Lockman and Blendon, 2020). Despite our finding that health and medical experts are the most trusted spokespeople for NCD-related information, identity-similarity may be a stronger factor for some groups and suggests that different spokespeople may be required for different audiences (Lancet, 2007; Allsop, 2006).

Further, public trust in professional groups may change over time. Recent evidence suggests public trust in nutrition science and public health practitioners appears to be declining (Penders et al., 2017; Ward, 2017). This weakening of trust corresponds with what has been labelled the 'post-truth' era, where evidence is increasingly challenged with widespread access to health information and 'health influencers' (Lewandowsky et al., 2017; Cullerton et al., 2016). Growing access to health information, that is not always accurate, may result in a change in the perceived status of health professionals amongst the general public over time, resulting in challenges for communicating public health information.

7.2. The nature of trust and influence of spokespeople is context-dependent

Spokespeople perceived to be trustworthy varied based on the characteristics of the studied population – often those with a similar identity were trusted. This is in line with social identity theory, which posits that group identification can evoke identity-similarities that become salient in different contexts (Hogg and Abrams, 1999; Tajfel,

1978; Abrams et al., 2021). This results in people being more trusting and willing to cooperate with in-group members when compared to out-group members (Hogg and Abrams, 1999; Tajfel, 1978; Abrams et al., 2021). Identity-similarity can be particularly important for marginalised segments of the population (e.g. migrant communities, elderly), as was found with the elderly Ecuadorian population and community of Ghanaian mothers in the Netherlands, in this review. Similarly, in emergency settings, political ideology (right- or left-wing adherence), religion, gender, race/ethnicity and existing risk perceptions, were found to affect trust in scientists and governments when responding to COVID-19 (Evans and Hargittai, 2020; Mason, 2018; Sledge and Thomas, 2021; Berg et al., 2021; Kossowska et al., 2021). However, these associations were contested in another review examining recipient characteristics and public health emergency communication, suggesting that more robust evidence is required to better understand the relationship between population characteristics, message content and the effectiveness of spokespeople (Lungu et al., 2021).

Perceptions of who was a credible spokesperson also varied based on the studied issue – differing between tobacco, nutrition, cancer prevention, etc. In these contexts, there were notable differences related to the credibility of health agencies and government. Interestingly, our findings demonstrated no consensus on whether religious organisations were trustworthy or not, while the FDA (a government agency) did not improve credibility judgements on nicotine and tobacco products (Jarman et al., 2018; Jovanova et al., 2021; Kowitt et al., 2019). This finding may be because the FDA is a large, amorphous body responsible for food and drug regulation across the USA, so their responsibility and expertise on tobacco and e-cigarettes may not be well known to the general public. It may also reflect the long-lasting effects of the tobacco industry previously undermining and distorting science resulting in ongoing mistrust in the federal agency (Brownell and Warner, 2009; Brandt, 2012; Pechacek, 2021).

7.3. Information on who is a credible spokesperson, and their successful characteristics is limited

The generic descriptors of trusted spokespeople used by various authors in this review, for example 'strategic engagement', limits the ability to clearly identify the characteristics or skills of those who may effectively influence policy-making and public perceptions relating to NCDs. Similarly, a review of pandemic literature found descriptions of spokesperson characteristics were lacking and clarity of reasons why individuals were trusted unclear (Berg et al., 2021). Overall, there is limited evidence relating to the characteristics and types of influential communicators in the context of NCDs, therefore further investigation is required to address the research gap, including clearly defined study constructs (Roundtable on Population Health Improvement, 2015).

7.4. Limitations of the studies in the review

There are several limitations of the articles included in this scoping review. Firstly, few papers were found which limits the generalisability of findings. Additionally, the way that trust was measured was heterogeneous and the varied methods of reporting and defining trust, limited synthesis. Further, when determining who was most trusted in the respective study contexts, outcomes were dependent on which spokespeople were listed. Thus, the 'most trusted' spokespeople may be due to these individuals being most-frequently examined and could be due to preconceptions by researchers as to who is influential. Finally, there were few papers describing policy settings (n = 3), but for these studies, the spokespeople of interest were interviewed about their own trustworthiness/influence.

7.5. Limitations of our review

Our scoping review was limited to English-language articles and

focused on adults. Consequently, we may have missed relevant publications that are outside of this scope. Only including peer-reviewed articles also limits the findings to the academic knowledgebase, and there may be valuable information relating to the question of interest in the grey-literature. Further, most studies were from high-income countries; over half focussed on US populations. Gaining insight into this issue from the USA may be limiting due to the cultural differences, even when comparing the US to other high-income nations (OECD, 2017). Furthermore, the inclusion of only one study from a low- and middle-income country limits the utility of our knowledge in this field. Therefore, overall,

8. Conclusions

The rise of NCD prevalence worldwide requires new thinking about how to best translate evidence into public policy. The important role that specific spokespersons or messengers can play in influencing beliefs has been identified in other health fields, albeit mostly clinical care and emergency settings. We found limited research on the topic of spokespersons and NCD prevention. For the included studies, medical and health professionals were the most-frequently trusted spokespersons for NCD messages. However, the influence of spokespersons varied based on context, population, and were often influenced by recipient characteristics. Further, information about the characteristics of why someone was influential in different public health settings was limited and lacking detail. Therefore, we were unable to clearly determine the characteristics of who the public and policymakers consider to be trustworthy and/or credible for the topic of NCD prevention due to the wide variety of contexts, methods, and topics included in the study. This has important implications for health bodies attempting to communicate with the public or policymaking actors about NCD prevention policies whether at the agenda setting stage or the policy implementation stage. Given our findings, we would encourage further research in the NCD-prevention setting to provide a better understanding of trusted and/or credible messengers while recognising the nuances of specific contexts. Additionally, more exploratory research including qualitative studies, may need to be conducted to understand the range of options for spokespersons in the different contexts. Developing this knowledge will enable evidence-based decisions to be made around choosing the most appropriate spokespersons for the different stages of policymaking.

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CRedit authorship contribution statement

Anastassia Demeshko: Methodology, Formal analysis, Writing – original draft. **Lisa Buckely:** Conceptualization, Methodology, Validation, Writing – review & editing. **Kylie Morphet:** Conceptualization, Writing – review & editing. **Jean Adams:** Writing – review & editing. **Roger Meany:** Writing – review & editing. **Katherine Cullerton:** Conceptualization, Methodology, Validation, Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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