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[Qualitative Protocol]

Healthcare workers' perceptions and experiences of communicating with people over 50 about vaccination: a qualitative evidence synthesis

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ABSTRACT

Objectives

This is a protocol for a Cochrane Review (qualitative). The objectives are as follows:

To explore healthcare workers' perceptions and experiences of communication between themselves and older adults about vaccination.

BACKGROUND

Description of the topic

The world's population is growing older. The United Nations estimates that people over 65 years of age will constitute 12% of the world's population by 2030, and 16% by 2050 (UN 2019). As a person becomes older, their immune system gradually deteriorates and they become more vulnerable to infections (Montecino-Rodriguez 2013). This is a major cause of illness and death among older adults, and healthcare systems in most settings are dealing with large numbers of older people with severe infectious disease-related health problems (Troeger 2018).

Healthy ageing is defined by the World Health Organization (WHO) as "the process of developing and maintaining the functional ability that enables well-being in older age" (WHO 2015). The prevention of infectious diseases through immunization can be an important component of ensuring healthy ageing. Vaccines are now available for several infectious diseases of relevance for older adults, including seasonal influenza, pneumococcal diseases and herpes zoster (shingles). Older adults may also benefit from booster doses of vaccines for pertussis, diphtheria, tetanus and polio. But while vaccination programmes for children have been a central element of health systems across the world for decades, vaccinations among older adults have far less uptake. In 2003, the World Health Assembly urged countries with national influenza vaccination policies to aim for vaccination coverage of the elderly population of at least 75% by 2010 (WHO 2003). However, many low- and middle-income countries do not have national influenza vaccination policies at all (Ortiz 2016). While these policies are more common in high-income countries, most countries have still not achieved this goal and many remain far below target (OECD 2019). The existence of national policies for other relevant diseases also varies greatly (ECDC 2020), and uptake of these vaccines is often low (Kanitz 2012; Drieskens 2020; Williams 2017).

Factors influencing vaccine uptake among older adults and communication about vaccines

This review focuses on communication between healthcare workers and older adults about vaccination. Recent work in the field of communication theory has conceptualised "communication" as "the way people create, convey, select, and interpret the messages that inform and shape their lives", within their context or environment (Ruben 2017). This view of communication moves away from more linear models that see communication as a one-way process in which a sender transmits a message to a receiver, who is then influenced by this message (Ruben 2017). Rather, it takes a more interactional perspective, with the aim of taking into account the complexity of the relationship between the sender and the receiver and the multi-directionality of the communication process (Ruben 2017).

Communication with healthcare workers can play an important role in older people's decision to vaccinate. However, as the definition above suggests, communication takes part within a specific context, and the contents of this communication and the person's decision to vaccinate or not are shaped by a number of factors that are likely to vary depending on the context. One such factor is the extent to which there is "evidence for action", including evidence of vaccine effectiveness (Aguado 2018). Systematic reviews of the safety and effectiveness of vaccines for preventing shingles, influenza and pneumococcal disease among older adults conclude that they may be effective in preventing these diseases (Demicheli 2018; Gagliardi 2019; Winje 2019). However, the reviews also show evidence gaps and uncertainties regarding the size of the effect, the effectiveness of vaccines over time, and their effectiveness among different subgroups of older adults. In addition, one of these reviews suggests that the shingles vaccine probably has some adverse effects (Gagliardi 2019).

Another factor is whether there are national policies or recommendations on vaccines for older people (Doherty 2018). As described above, this varies from country to country. Vaccination processes and systems (Aguado 2018) can influence people's access to vaccines; other barriers to uptake include cost (Kan 2018), transportation issues (Kan 2018), and the complexity of adult vaccine schedules and pathways (Aguado 2018). Equally important is the extent to which there is an individual and community demand for vaccines (Aguado 2018). Systematic reviews point to several issues influencing older adults' decisions to use or not use vaccines in general (Eilers 2014), and influenza vaccines specifically (Kan 2018; Ward 2008). These include demographic factors such as people's age, gender and the extent to which they live with other people; knowledge and information sources; health status or self-perceived health status, lifestyle, health habits and use of services; perceived susceptibility to and perceived severity of the disease; personal experiences with the disease; perceptions about the vaccine's efficacy and the possibility of side effects; the extent to which they receive advice, information and recommendations (e.g. from healthcare workers, family members or friends); and the accessibility and affordability of the vaccine (Eilers 2014; Kan 2018; Ward 2008). The type of healthcare worker giving these recommendations may also play a role (Kan 2018; Ward 2008).

Supporting informed vaccine decisions through communication between healthcare workers and older adults

The factors described above can all potentially influence the communication between healthcare workers and older people and can affect the older person's access to vaccines and vaccine uptake. However, communication between healthcare workers and older adults is not simply a means of convincing the individual to accept the vaccine. It can also have as its main objective to support the individual's informed choice. In an informed decision-making situation, the older person may choose to vaccinate but may also choose not to. However, this should not be a result of a lack of awareness of, or misinformation about, factors such as the risk or severity of the disease; vaccine effectiveness or side effects; national policies or guidelines; or vaccine costs or availability. When communicating with older adults about vaccines, the healthcare worker should therefore ideally be able to identify the individual's knowledge gaps, needs and concerns. They should also be able to share and discuss evidence-based information about the individual's disease risk, the severity of the disease, and the vaccine's effectiveness and safety; as well as practical information about how the individual can access vaccines. This places demands on the capability of the healthcare worker to understand and keep up-to-date with the underlying information. Equally important are the demands on healthcare workers' communication skills, including an awareness of the relational dimensions of communication and the uneven distribution of power and expertise in the healthcare worker-patient relationship (Rimal 2009; Ruben 2016). Ruben argues that health communication interactions should be viewed as cross-

cultural encounters that require careful observation, listening and care in translation (Ruben 2016). It is important that healthcare workers consider each individual's needs, views, and levels of understanding, and tailor information about vaccination accordingly; they also need to communicate this information in a way that is accessible. To have these skills requires training, support, time, opportunity and self-awareness.

Healthcare workers' own perceptions and experiences of vaccinations are likely to influence their communication with older adults. Individual studies from some European countries suggest that healthcare workers do not necessarily see routine vaccination of older adults as a priority, even when it is part of national guidelines. In one Dutch study, doctors questioned the use of age as the main eligibility criteria, suggesting that comorbidity might be more useful. They were also concerned that routine vaccination might cause older adults to perceive a disease as more serious. Some also argued that diseases such as pneumonia could be seen as "the old man's friend", and death as a redeemer (Eilers 2015). In studies from Germany and Switzerland, healthcare workers often forgot to advise older adults about available vaccines, and also had their own opinions about the importance of the disease, the individual's risk, and the vaccine's safety and effectiveness (Badertscher 2012; Klett-Tammen 2016).

Many healthcare workers are also encouraged to vaccinate themselves in order to protect their patients. A systematic review exploring healthcare workers' perceptions of influenza vaccines suggests that they are influenced by many of the same issues as older adults when deciding whether to vaccinate themselves (Lorenc 2017). These includes their perceptions of their susceptibility to influenza, the severity of influenza, the vaccine's efficacy and the possibility of side effects. Some healthcare workers justify their views with reference to scientific evidence, while others refer to 'non-standard views' about health and a belief in alternative therapies. As healthcare workers' perspectives on vaccination are likely to influence communication between themselves and older people, healthcare workers need to be aware of their own perceptions if they are to support informed decision making among older people. These are not small demands, and require training, support, time, opportunity and self-awareness.

How this review might inform or supplement what is already known in this area

Several reviews have focused on the topic of older adults and vaccinations (see Table 1). These reviews have explored healthcare workers' views and experiences of vaccinations offered to older adults and to healthcare workers themselves; factors that influence older adults' vaccine uptake; and the effectiveness of interventions to increase vaccine uptake among older adults. These reviews provide interesting and relevant information. However, most of these focus on vaccines for seasonal influenza, some have a Western focus, and most include English-language studies only. None of the published reviews focus specifically on communication regarding vaccination for older adults. Our Cochrane Review aims to explore healthcare workers' perceptions and experiences about communication strategies specifically, including the factors that healthcare workers consider as likely to facilitate or hamper the use of these strategies. We will explore this for all types of vaccines targeted at older adults, in any country. Our review will therefore add valuable information to this body of work.

Through this review, we aim to explore healthcare workers' own perceptions and experiences of communicating with older adults about vaccination issues. This can help us understand more about how best to train health workers and design good communication strategies. This review is part of an EU-funded project entitled VITAL (Vaccines and InfecTious diseases in the Ageing popuLation) that aims to develop strategies to train and educate healthcare workers about vaccines and vaccine communication for older adults. This will involve developing a framework containing comprehensive and innovative educational resources for healthcare workers engaged in the care of older adults. To ensure that the framework addresses the needs of healthcare workers, we need a clear understanding of their views and experiences of communicating with older adults and informal caregivers about vaccination, and factors that influence this communication. In addition to providing information for the VITAL project, the findings of this synthesis will be helpful to health service managers and other stakeholders involved in developing strategies to enhance the uptake of vaccination among older adults.

OBJECTIVES

To explore healthcare workers' perceptions and experiences of communication between themselves and older adults about vaccination.

METHODS

Criteria for considering studies for this review

Types of studies

- We will include primary studies that use qualitative study designs such as ethnography, phenomenology, case studies, grounded theory studies and qualitative process evaluations. We will include studies that use both qualitative methods for data collection (e.g. focus group discussions, individual interviews, observation, diaries, document analysis, open-ended survey questions) and qualitative methods for data analysis (e.g. thematic analysis, framework analysis, grounded theory).
- We will exclude studies that collect data using qualitative methods but do not analyze these data using qualitative analysis methods (e.g. open-ended survey questions where the response data are analyzed using descriptive statistics only).
- We will include both published and unpublished studies and studies published in any language (see also section on "Translation of languages other than English", below).
- We will include studies regardless of when they were undertaken or published.
- We will include mixed-methods studies where it is possible to extract the data that were collected and analyzed using qualitative methods.
- We will include studies regardless of whether they were conducted alongside studies of the effectiveness of interventions to improve healthcare providers' communication with older adults and informal caregivers.
- We will not exclude studies based on our assessment of methodological limitations. We will use this information about methodological limitations to assess our confidence in the review findings.

Topic of interest

We will include studies where the main focus is directly relevant to the focus of our review, i.e.:

- healthcare workers' perceptions and experiences about communicating with older adults and their informal caregivers about vaccination;
- healthcare workers' perceptions and experiences of training and education in vaccine communication with older adults, including the factors that healthcare workers consider as likely to facilitate or hamper the use of these training and education strategies.

Preliminary searches suggest that few studies have the issues listed above as their primary focus. We will therefore also include studies that focus on:

- healthcare workers' perceptions and experiences of vaccines and vaccine uptake among adults of any age (providing there are data that specifically refer to their perceptions and experiences of older adults and vaccines);
- healthcare workers' perceptions and experiences of vaccines and vaccine uptake among healthcare workers (providing there are data that specifically refer to their perceptions and experiences of older adults and vaccines).

While the focus of these studies differs from the focus of this review, such studies may also include data about healthcare workers' perceptions and experiences about older adults and vaccine communication specifically.

Types of participants

In this review, we are primarily interested in the perceptions and experiences of healthcare workers and other health system staff rather than the perceptions and experiences of older adults. We will therefore include studies that explore the views and experiences of the following participants.

- Any healthcare worker involved in delivering vaccination to older adults, and/or advising or providing information on vaccination to older adults or their informal caregivers
  - Healthcare workers: for example, doctors, nurses, lay health workers or pharmacists working in any setting, including home-based or community settings, primary care hospitals or nursing homes. This also includes student healthcare workers if they are providing healthcare as part of their training.
  - Older adults: we define an older adult as any person over 50. We have chosen this cut-off to align with the VITAL project, and because at least one vaccine targeted at older adults (Shingrix for shingles) is recommended in some countries, including the USA and Canada, for adults of 50 years and older. However, the VITAL project organizes "older adults" into pre-elderly (50 to 64) and elderly (65 and over). We will therefore consider stratifying according to age group as part of any subgroup analysis (see below).
  - Informal caregivers: we define an informal caregiver in this context as anyone directly involved in caring for a person over 50, often a family member or friend, making the decision to vaccinate that person (where that person cannot make that decision themselves) or having the responsibility for helping that person to access immunisation services. This person is not caring for the individual as a formal healthcare worker.
- Any person involved in training healthcare workers to deliver vaccines to, or communicate about vaccines with, older adults
- Health service managers and other staff involved in, or responsible for, communicating with older adults about vaccination services

This review focuses on healthcare workers who communicate to older adults about vaccines because of their age. We will exclude studies that focus on healthcare worker communication with older adults who are offered vaccines because they are considered medical high-risk groups in relation to their immune status (for example, older adults with haematological cancers or who are HIV-positive) and who are therefore likely to require a much wider range of vaccinations as part of specialized care services.

Types of communication

- We will include studies that describe communication between a healthcare worker and a person over 50 or their informal caregiver. For the purposes of this review, we define a communication intervention as "a purposeful, structured, repeatable and adaptable strategy to inform and influence individual and community decisions in relation to personal and public health participation, disease prevention and promotion, policy making, service improvement and research" (Hill 2011; Lewin 2011). A communication strategy implemented by a health authority could include more than one intervention and have multiple purposes for communicating about vaccination. We will use the comprehensive "Communicate to vaccinate" taxonomy of vaccination communication interventions to organize communication interventions outlined in the included studies (Kaufman 2017).
- We will include studies of any type of bi-directional communication, including face-to-face interactions during a doctor's consultation; discussions of vaccination in a group setting, such as a care home; and communication via digital, analogue or printed communication in which a healthcare worker is involved directly (for example, healthcare providers communicating with older adults via text messaging, apps or other communication channels). This includes text messages that are sent by healthcare workers to groups of older adults, if each older adult is able to reply to the message, for example to request further information.
- We will exclude studies of communication that is not mediated through a healthcare worker or does not involve communication between an older person and a healthcare worker in any direct way (for example, untargeted communication via mass media channels such as radio, television and the internet).

Search methods for identification of studies

Electronic searches

The Cochrane Effective Practice and Organisation of Care (EPOC) Information Specialist will develop the search strategies in consultation with the review authors.

We will search the following electronic databases:

- MEDLINE, Ovid;
- CINAHL, EbscoHost;

- Scopus, Elsevier.

We will develop search strategies for each database. We will not apply any limits on language or publication date. We will search all databases from inception to the date of search. See Appendix 1 for the MEDLINE search strategy, which we will adapt for other databases. We will provide appendices for all strategies used in the final review.

We will also search the Epistemonikos database of systematic reviews (www.epistemonikos.org) for related reviews in order to identify eligible studies for inclusion.

Grey literature

We will conduct a grey literature search in the following sources to identify studies not indexed in the databases listed above:

- OpenGrey (www.opengrey.eu);
- Grey Literature Report (New York Academy of Medicine; www.greylit.org)

Searching other resources

We will review the reference lists of all the included studies and key references (i.e. relevant systematic reviews). We will conduct a cited reference search for all included studies in Web of Science Core Collection, Clarivate Analytics.

We will check the reference lists of studies that were included in linked intervention reviews in order to identify any qualitative studies that were associated with these studies. We will also contact researchers with expertise relevant to the review topic to request studies that might meet our inclusion criteria.

We will select the included studies that most closely match the review objectives. We will carry out a 'related studies' search for these in Google Scholar and will assess the first two pages of that search for potentially relevant studies.

Selection of studies

Two review authors will independently assess each title and abstract of the identified records to evaluate eligibility. We will retrieve the full text of all the papers identified as potentially relevant by either or both review authors. Two review authors will then assess these papers independently. We will resolve disagreements by discussion or, when required, by involving a third review author. Where appropriate, we will contact the study authors for further information. Where review authors are also authors of any of the studies identified in the searches, they will not assess these studies for inclusion.

We will include a PRISMA flow diagram to show our search results and the process of screening and selecting studies for inclusion. Where the same study (i.e. using the same sample and methods) has been presented in different reports, we will collate these reports so that each study (rather than each report) is the unit of interest in our review. We will include a table listing studies that we excluded from our review at full-text stage, and the main reasons for exclusion.

Language translation

For titles and abstracts that are published in a language in which none of the review team are proficient in (i.e. languages other than English, Scandinavian languages, German, French, Hungarian, Dutch and Spanish), we will carry out an initial translation through open source software (Google Translate). If this translation indicates inclusion, or if the translation is inadequate to make a decision, we will retrieve the full text of the paper. We will then ask members of Cochrane networks or other networks proficient in that language to assist us in assessing the full text of the paper for inclusion. If a paper in a particular language cannot be assessed, it will be listed as "awaiting classification", to ensure transparency in the review process.

Sampling of studies

Qualitative evidence synthesis aims for variation in concepts rather than an exhaustive sample, and large amounts of study data can impair the quality of the analysis. Once we have identified all studies that are eligible for inclusion, we will assess whether their number or data richness is likely to represent a problem for the analysis, and will consider selecting a sample of studies.

To allow for the broadest possible variation within the included studies, we will use maximum variation purposive sampling to select from the eligible studies (Ames 2017; Suri 2011). Key potential areas of variation may include the study methods, the type of healthcare worker, the type of communication strategy, the type of vaccine, the country (country income level as well as organisation of care, including physical access and cost of vaccine), the age group, and the setting (e.g. community, clinic, nursing home or hospital). Once these variables have been determined, we will create a sampling frame and will map all eligible studies onto the frame. We will then review the studies within each cell of the frame, including their number and level of detail, and reach a decision regarding how many studies to include in the review.

Data extraction

We will use a data extraction form designed specifically for this synthesis. We will extract information about first author, publication date, study language, country, setting (e.g. nursing home or primary healthcare clinic), type of healthcare worker, type of vaccine, and target audience (e.g. women over 65 years), as well as any other information relevant for any planned subgroup analyses. We will extract information about how the study was designed and conducted. Finally, we will extract all data relevant to the review's objective, including descriptions of themes and categories as well as illustrative quotes. One review author (CG) will extract data from all the sampled studies. One additional review author (BC, SL, RE or MW) will double-check the data extraction done by the first review author and verify that all relevant data were extracted.

Assessing the methodological limitations of included studies

Our inclusion criteria specify that studies need to use both qualitative data collection and analysis methods. This criterion also constitutes a basic quality threshold. In addition, at least two review authors will independently assess methodological limitations for each study using a list of criteria that we have used in previous Cochrane Reviews (Ames 2017; Ames 2019; Houghton

2020; Karimi-Shahanjarini 2019; Munabi-Babigumira 2017). This list was originally based on the Critical Appraisal Skills Programme (CASP) tool (CASP 2018), but has since gone through several iterations. For instance, we did not include questions about the appropriateness of qualitative methodology or the specific research design used as this was already covered in our inclusion criteria.

We will assess methodological limitations according to the following domains.

- Are the settings and context described adequately?
- Is the sampling strategy described, and is this appropriate?
- Is the data collection strategy described and justified?
- Is the data analysis described, and is this appropriate?
- Are the claims made/findings supported by sufficient evidence?
- Is there evidence of reflexivity?
- Does the study demonstrate sensitivity to ethical concerns?
- Any other concerns?

We will resolve disagreements by discussion or, when required, by involving a third review author. Review authors who are also authors of any of the included studies will not assess the methodological limitations of these studies.

We will report our assessments in a "Methodological limitations" table. We will use these assessments to support our GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative research) assessment of our confidence in the review findings.

Data management, analysis and synthesis

Data synthesis

Based on our previous experiences within the topic of vaccinations and communication (Ames 2017), we suspect that the data we extract will mainly offer thin description and is likely to be largely descriptive as opposed to highly theorized or conceptual. We will therefore analyze and synthesize qualitative evidence using a thematic synthesis approach. Thematic synthesis is one of several approaches recommended by the Cochrane Qualitative and Implementation Methods Group (Noyes 2018) and may be particularly appropriate for this type of data.

We will apply a five-step process for data extraction and synthesis. Firstly, one author (CG) will choose the article judged to most closely answer the review objectives. They will do this by comparing the objective or main topic of interest of each article with the objective and main topic of interest of our review, and choose the best match. Secondly, we will code this article using a thematic analysis approach. Thirdly, we will create a data extraction sheet based on the codes that emerge from step two. Fourthly, we will code the next article using the data extraction sheet. If necessary, we will make additions to the data extraction sheet if new themes emerge from the subsequent articles. Finally, we will repeat this process until we have extracted data from all of the sampled articles.

Four other authors (BC, SL, MW, ER) will verify data extraction and add any other data that they feel should be included. We will synthesize the data from the themes identified during the constant comparison thematic data extraction and identify the review findings. Afterwards, we will re-read the included studies to check that we have extracted all data relevant to the findings.

Assessing the transferability of the findings and conducting subgroup analyses

Using the TRANSFER approach (Munthe-Kaas 2020), we plan to identify, prioritize and assess hypothesized factors that may influence the transferability of our review findings to the contexts of interest in our review. We will identify stakeholders from diverse settings who have knowledge of, or experience with, the topic of the review. This could include members of the broader VITAL project team. We will invite these stakeholders to participate in a structured discussion using the TRANSFER conversation guide (Munthe-Kaas 2020). During this discussion, stakeholders will identify contextual factors that they believe are likely to influence the findings. Factors they may identify could be associated with, for instance, the type of setting, health worker, communication strategy, vaccine or older adult. Where stakeholders identify multiple transferability factors, the review team, together with stakeholders, will prioritize them and only include the most important three to five factors in order to keep data extraction and subgroup analyses manageable.

We will use these identified factors in the following ways.

- We will consider these factors if we decide to use a purposive sampling strategy to select from the eligible studies.
- We will consider these factors when assessing the "relevance" component of our GRADE-CERQual assessment (see below).
- We will treat these factors as hypotheses which we will then test through subgroup analyses.

Assessing our confidence in the review findings

At least three review authors will use the GRADE-CERQual approach to assess their confidence in each finding (Lewin 2018a), based on the following four key components.

1. Methodological limitations of included studies: the extent to which there are concerns about the design or conduct of the primary studies that contributed evidence to an individual review finding.
2. Coherence of the review finding: an assessment of how clear and cogent (i.e. well-supported or compelling) the fit is between the data from the primary studies and a review finding that synthesizes those data.
3. Adequacy of the data contributing to a review finding: an overall determination of the degree of richness and quantity of data supporting a review finding.
4. Relevance of the included studies to the review question: the extent to which the body of evidence from the primary studies supporting a review finding is applicable to the context (perspective or population, phenomenon of interest, setting) specified in the review question.

After assessing each of the four components, we will make a judgement about our overall confidence in the evidence supporting the review finding. We will judge confidence as being high, moderate, low, or very low. The final assessment will be based on consensus among the review authors. All findings start as high confidence and will be graded down if there are important concerns regarding any of the GRADE-CERQual components.

'Summary of qualitative findings' table and evidence profile

We will present summaries of the findings and our assessments of confidence in these findings in the 'Summary of qualitative findings' table. We will present detailed descriptions of our confidence assessment in an evidence profile (Lewin 2018b).

Integrating the review findings with reviews of effectiveness

As part of the data synthesis, we will explore how we can integrate the findings from our review with those of a related Cochrane Review assessing the effectiveness of interventions to increase the uptake of influenza vaccination in people aged 60 years and older in the community (Thomas 2018). We will also explore how we can integrate our findings with those of a non-Cochrane intervention review that is being prepared as part of the VITAL project, that focuses on educational and training interventions for healthcare workers communicating to older adults about vaccination.

One potential approach when linking our review to the intervention reviews is to use a matrix model approach similar to that used in Candy 2011. This would involve exploring whether the interventions studied in these reviews contained the features of vaccination communication that healthcare workers in our own synthesis identify as important to the success of communication strategies. This process involves: a) examining each of the review findings and identifying features of communication interventions that healthcare workers perceive as positive or important; and b) creating a table, listing these features, and then assessing whether the interventions in each study included in the intervention reviews reflect these features. Another potential method is to use our review findings to develop categories or hypotheses for testing in future updates of the intervention reviews. Our choice of approach will also depend on which of the two reviews is finished first.

Review author reflexivity

In keeping with quality standards for reflexivity within qualitative research, we will maintain a reflexive stance throughout all stages of the review process. We will consider how our individual and collective views and beliefs could influence the choices we make in terms of the scope of the review and our review methods; our interpretation of the data; and our interpretation of our own findings.

Four of the six review authors (CG, SL, BW, BC) are over 50 years of age. Five of the review authors (CG, SL, BW, MW, RE) are also employed by national public health institutes: three (CG, SL, BW) at the Norwegian Institute of Public Health and two (MW, RE) at the National Institute of Public Health and the Environment in the Netherlands. The sixth review author (BC) works at a university. Three review authors (CG, SL, BC) are social scientists who primarily work with research related to health systems issues. The other authors are: a public health researcher who primarily works in the field of vaccines (BW); a health scientist, primarily working in the field of social sciences on elderly vaccination (the VITAL project) and antibiotic resistance (RE); and a PhD candidate, working on the VITAL project (MW).

Cosidering our status as mostly "older adults" — and also reflecting our own personal values as well as our institutes' recommendations — we support the individual's right to make their own healthcare decisions, including about vaccination. We also believe it is important for people to have easy access to evidence-based information about vaccination, including information about side effects, evidence gaps and uncertainties. However, we also have a public health perspective, and regard adherence to the currently recommended vaccines as an important public health measure. We will continue to discuss and be aware of the potential tensions between the perspectives of the individual and public health perspectives throughout the review process.

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ADDITIONAL TABLES

Table 1. Table 1. Summary of related systematic reviews

Author/ date	Title	Review objective	Included studies
Bach 2019	'Addressing common barriers in adult immunizations: a review of interventions'	To assess the effectiveness of interventions in the adult population that aimed to address barriers to vaccine uptake	Controlled studies or before-after studies English-language studies of adults aged 18 years or over. Studies relevant to USA context
Eilers 2014	'Factors affecting the uptake of vaccination by the elderly in Western society'	To explore factors related to vaccine uptake by elderly persons	Qualitative and quantitative studies English-language studies of adults aged 50 years and older from Western countries
Kan 2018	'Factors influencing seasonal influenza vaccination behaviour among elderly people: a systematic review'	To explore behaviour-related factors influencing influenza vaccination among elderly people	Cross-sectional, longitudinal and qualitative studies English-language studies of adults aged 60 years or older. No restriction on country
Lorenc 2017	'Seasonal influenza vaccination of healthcare workers: systematic review of qualitative evidence'	To explore healthcare workers' perceptions and experiences of vaccination for seasonal influenza	Qualitative studies English-language studies of healthcare workers. No restriction on country
Nagata 2013	'Social determinants of health and seasonal influenza vaccination in adults ≥65 years: a systematic review of qualitative and quantitative data'	To assess the social determinants of health preventing adults ≥ 65 years old from accessing and accepting seasonal influenza vaccination	Qualitative and quantitative studies English-language studies of adults aged 65 years and older. No restriction on country

Table 1. Table 1. Summary of related systematic reviews *(Continued)*

Rusli 2018	'Maximising influenza vaccination awareness and uptake among older adults in Singapore'	To identify the need and priorities for influenza vaccination and strategies to increase uptake among adults <65	Papers from peer-reviewed journals English-language studies published between 2001 and 2016. No restriction on country
Thomas 2018	'Interventions to increase influenza vaccination rates of those 60 years and older in the community'	To assess the effectiveness of access, provider, system, and societal interventions to increase the uptake of influenza vaccination	Randomized trials or cluster-randomized trials Adults aged 60 years or older. No restriction on study language or country
Ward 2008	'A review of the factors involved in older people's decision making with regard to influenza vaccination: A literature review'	To explore factors involved in older people's decision making with regard to influenza vaccination	Papers from peer-reviewed journals English-language studies of adults aged 65 years or older. Studies relevant to UK context

APPENDICES

Appendix 1. MEDLINE search strategy

MEDLINE and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions 1946 to March 19, 2020, Ovid

#	Searches	Results
1	exp Vaccines/	225255
2	exp Immunization/	172736
3	(vaccin* or immuni*).ti,ab,kf.	530955
4	or/1-3	618129
5	Aged/	3026801
6	"Aged, 80 and over"/	893990
7	Frail Elderly/	11081
8	Middle Aged/	4280600
9	"Health Services for the Aged"/	17533
10	(middle age or aged or elderly or senior? or adult? or old or older).ti,ab,kf.	2906590
11	or/5-10	6829813
12	4 and 11	109946

(Continued)

13	Qualitative Research/	52587
14	Interviews as Topic/	60749
15	(qualitative or interview* or thematic analysis or themes or mixed method?).ti,ab,kf.	529958
16	or/13-15	548562
17	12 and 16	3720

HISTORY

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CONTRIBUTIONS OF AUTHORS

CG, SL, BW, MW, RE and BC devised this review. CG led the protocol preparation process with input and revisions from SL, BW, MW, RE and BC. CG is the guarantor of this review.

DECLARATIONS OF INTEREST

CG, SL, BW, MW, RE and BC declare no known financial conflicts of interest. SL is the Joint Co-ordinating Editor for the Cochrane EPOC Review Group. A number of non-financial issues, including personal, political and academic factors, could have influenced the review authors' input when conducting this review. The review authors have discussed this further in the Methods section (under "Review author reflexivity").

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