



Targeted Communications: Worth the Shot

Strategically Improving Adult Vaccination Rates

IFA



INTERNATIONAL FEDERATION ON AGEING
Global Connections

**VACCINES
4LIFE**

Authors

Dr Jane Barratt, Ms Megan Acton and Ms Paula Kimpton

Contributors

The International Federation on Ageing (IFA) Vaccines 4 Life Project aims to help build a world where healthy ageing and the functional ability of all older people are maintained with strong vaccination uptake rates. The V4L project has grown to be one of the leading voices and advocates for adult vaccination, working at global, national and regional levels with the aim of unifying messages and actions across to stakeholders in a coordinated effort to drive policy and practice change.

The IFA has formed strong, multi-sectoral partnerships to improve adult vaccination uptake rates, which was well demonstrated through the 'Fighting the Flu through Targeted Awareness Campaigns' expert meeting in Berlin, Germany. It brought together a diverse group of experts in the fields of ageing, immunisation, public health and communications, who worked together spectacularly to form viable strategies in ways that would never have been able to be formed separately.

The IFA acknowledges and thanks all delegates for their time and vital contributions to the meeting and resulting white paper.

Dr Jisun An

Prof Frederic Boudier

Ms Siobhan Casey

Ms Anne Clarke

Dr Luis Fernández-Luque

Mr Gary Finnegan

Dr Renate Heinisch

Ms Ruthe Isden

Ms Emilie Karafillakis

Ms Liora Kern

Ms Nadine Lages

Ms Krystle Lai

Ms Kimberley Littlemore

Ms Daniza Mahenthiran

Dr Guido Nöcker

Dr Abraham Palache

Mr Aaron Rak

Ms Linda Robinson

Ms Jessica-Rochman Fowler

Ms Ellen Sherwinski

Ms Emma Statham

Ms Diane Thomson

Dr Julian Wienert



The IFA expert meeting "Adult Vaccination: Fighting the Flu through Targeted Awareness Campaigns" and resulting white paper were made possible by an unrestricted educational grant from Seqirus.

Foreword

It is now an irrefutable fact that the world's population is ageing, and the need to maintain health and functional ability in later life is stronger than ever. From caring for grandchildren and spouses to volunteer work, older people contribute to society not only socially, but economically. It is critical to ensure health is promoted and ill-health is prevented through public health initiatives such as adult vaccination.

Influenza vaccination is a critical yet under-estimated element of a life course approach to healthy ageing. Older people experience a greater likelihood of influenza-related complications that can result in premature morbidity and mortality and severely limit functional ability. Older people are often hesitant to be vaccinated due to multiple factors such as misconceptions regarding the severity of influenza, the common belief that vaccines are only for children, as well as considering themselves 'healthy'. These misconceptions and other factors such as vaccine schedules and access give rise to low uptake rates and result in a greater cost to health and social care systems.

Traditional approaches and messages to increasing vaccination uptake rates are not working. Innovative strategies and new approaches are urgently needed to improve public understanding of the risk of influenza, as well as the social and economic advantages of investment in adult vaccines.

This report reflects the views of experts from across disciplines and sectors and the need for targeted communication strategies when mobilizing knowledge on adult vaccination. In an increasingly digital world, communication based on listening and understanding the target population is critical to ensuring the rights of older people are met. Organizations and authorities representing groups at-risk to influenza are encouraged to take the time to hear from the voices of older people, develop evidence-based approaches, bring the experts in communication to the table, test messages and modes of dissemination, and above all, measure impact. Knowledge gained from this white paper and other expert meetings will continue to help shape future communication strategies in partnership with organizations and government to increase adult vaccination rates around the world.

Sincerely,

Dr Jane Barratt
Secretary General
International Federation on Ageing

Background

Older people are disproportionately at risk for influenza¹ due to the normal decline in immune system function but also because a large proportion suffer from chronic diseases such as cardiovascular disease, respiratory disease and diabetes.² This growing global population is at a higher risk of frailty, loss of independence, impairments in daily living, and even death due to influenza,³ with about 90% of deaths related to influenza occurring in those aged 65 years and older.⁴

90%

of deaths related to influenza occur in those aged 65 years and older.

Prati, G., Pietrantonio, L., & Zani, B. (2012).

Preaud et al., (2014) projected up to 31,400 hospitalizations and 14,300 deaths could be prevented annually in the European Union (EU) if all countries were to meet the target of vaccinating 75% of their population against influenza, averting costs of up to €226 million each year.⁵ Despite improved access and strong evidence supporting the importance and safety of influenza vaccination to those most at-risk, uptake rates remain well below the EU target.⁶ To illustrate, Germany, Spain and the Netherlands reported influenza vaccination uptake rates of 34.8%, 51.4% and 66.8% respectively for those aged 65 years and older in 2017.⁷

Contents

The Problem	4
Targeted Communication Strategies	5
Audience Analysis	6
Message Framing.....	7
Optimizing Communication Methods and Channels.....	8
Digital Media	8
Narratives.....	9
Measuring and Evaluating Communication Strategies.....	10
Conclusion	11
References.....	12

The Problem

Suboptimal influenza vaccination rates hinder the prevention of influenza and contribute to a significant decline in functional ability and health in later life, leading to increased stress on already struggling healthcare systems, decreased societal participation, and negative economic impacts.⁸ Considering Europe's rapidly ageing population (with people aged 65 and older expected to reach close to 30% of the population in 2060),⁹ low adult vaccination uptake rates must be addressed.

Vaccine hesitancyⁱ is one of the several barriers to adult vaccination in Europe. Individuals hesitate to accept influenza vaccination due to multiple factors, including poor awareness about influenza, misconceptions around the severity of influenza,¹⁰ the belief that vaccines are only for children,¹¹ and increased mistrust of vaccines.⁶

While vaccine hesitancy is not a new phenomenon (with concerns about their efficacy and safety dating back as far as the 18th century),¹² advancements in communication technologies have increasingly greater influence on the dynamic of discussions surrounding vaccines, including patient-physician interactions. A shift of perceived expertise from doctors to patients has occurred due to an increase in the availability and accessibility of health information online.¹³ While information has become more easily accessible through digital and social media, the "echo chamber" effect¹⁴ has magnified misinformation which can reinforce existing hesitancies through websites, forums and other media outlets.

The "echo chamber" effect has magnified misinformation which can reinforce existing hesitancies.

Jamieson, K. H., & Cappella, J. N. (2008).

Difficulties remain in how to translate scientific evidence supporting influenza vaccination into communication, as traditional approaches to increase vaccination uptake rates such as information pamphlets and encouragement from health care professionals are no longer sufficient.⁵ Innovative strategies are urgently needed to improve public understanding of the risk of influenza and the benefits of vaccination and to address communication challenges between health care professionals and their patients.

ⁱVaccine hesitancy refers to the delay in vaccine acceptance or rejection of vaccination despite the vaccine being readily available.

The Importance of Health Communication Strategies

Improving vaccination uptake rates is a complex issue that requires a multi-pronged approach, one being communication. The International Federation on Ageing works to build the capacity of national and international organizations on healthy ageing, and believes that collaboration between multidisciplinary organizations, sectors, and experts in health communications, behavioural science, risk communication, sociology, digital media, and social marketing is required for impactful, outcome driven communication strategies to “fight the flu.”

“**Current strategies promoting influenza vaccination to at-risk groups are *simply not working*.**

In order to break through the onslaught of often inaccurate information most commonly found on digital media, governments and community leaders working to raise awareness face significant challenges in changing knowledge, attitudes and beliefs towards influenza vaccines.¹⁵ Health communication strategies have shown wide success throughout the years in addressing a variety of public health issues ranging from breast cancer awareness to anti-smoking campaigns.¹⁶ However, current strategies promoting influenza vaccination to at-risk groups are *simply not working*. A stronger understanding is needed on what communications are effective and through which channels.

This white paper argues that communication strategies should target populations at-risk for influenza and be optimized and expanded upon by communication channels and methods such as digital media and narratives to increase influenza vaccination rates for older people, therein to encourage healthy ageing and prevent functional decline.

Targeted Communication Strategies

Communication strategies are too often based on the assumption that if people are simply given the evidence supporting influenza vaccination, it will result in the decision to be vaccinated. Unfortunately, this is not always the case. While knowledge is important for the understanding and acceptance of influenza vaccination, the most effective interventions are those which target specific concerns and specific populations, while at the same time make the need for listening and engagement clearer.¹⁷

Targeted public health communications aim to “promote health changes to individuals and communities, using strategies and tactics based on science and consumer

research.”¹⁸ Targeted communication strategies take time to understand the unique characteristics of the stakeholders involved and construct messaging that factors not only similarities but differences so that individuals are engaged more effectively.¹⁹

Audience Analysis

In the initial stages of forming a targeted communication strategy, an audience analysis (which identifies the audience and adapts strategies to their attributes)²⁰ is essential to deepen the understanding of what motivates people or prevents action, and helps to determine effective paths forward for behavior change.²¹

An audience analysis helps promoters of the influenza vaccine to understand how the chosen audience views and values vaccination as well as to analyze how the audience engages and receives information they trust and value. Communication strategies and messages should therefore be tailored and created with the target population of older people and those with chronic diseases in mind.¹⁵

However, older people are not a homogenous group. As they come from different backgrounds and cultures, a “one size fits all” approach or unified message is not the answer. The population of older people have varying perceptions of risk, ways of processing information, and levels of interaction with media.²² Their values, leisure activities, and specific concerns surrounding vaccination must be factored into the planning of campaigns and communication strategies, and engagement must be made with the target groups’ ‘inner circle’ such as caregivers, children, and grandchildren who can impact their decision to be vaccinated.¹⁰

Messages can often be perceived in different ways, especially among vulnerable populations where skepticism is more pronounced.¹⁰ Research by Betsch, Korn and Holtmann (2015) suggests that “rather than attempting to convert a small number of anti-vaccinators, it seems more promising to target the larger group of fence-sitters (the group of individuals who are neither for nor against vaccination) because they may be more responsive to interventions.”²³ This population does not reject vaccines, are more susceptible to changing their beliefs and behaviours, and therefore more likely to engage with content on vaccines in the hopes of gaining a deeper understanding.¹⁹

Rather than attempting to convert a small number of anti-vaccinators, it seems more promising to target the larger group of fence-sitters because they may be more responsive to interventions.

Betsch, C., Korn, L., & Holtmann, C. (2015).

Ultimately, an audience analysis helps to determine the target group’s current views towards vaccination and ensures efforts made to raise awareness are reaching the most receptive population group.

Message Framing

Message framing refers to “the way in which messages are formulated and which aspects of the messages are emphasized.”²⁴ Prospect theory suggests that depending on whether the message is described in terms of gains or losses can result in distinct decisions.²⁴ Messages that make recipients feel they were to regret or fear the decision to abstain from vaccination (loss-framed) are often interpreted as unprofessional and do not result in increased uptake rates.²⁵ On the other hand, social-aspect or gain-framed messages (i.e. promoting protection for oneself and their family) have been found to have a positive influence on the decision to be vaccinated, due to its emphasis on benefits²⁶ which leverage people’s thoughts towards vaccination.¹²

“**Be transparent on the risks of influenza vaccination (...) with commitment to accuracy and avoidance of spin.**

At all times it is essential to be transparent on the risks of influenza vaccination when framing messages.²⁷ Risk communication refers to an approach used in “situations when people need good information to make sound choices. It is distinguished from public affairs (or public relations) by its commitment to accuracy and its avoidance of spin.”²⁸ Some individuals are skeptical of the transparency of vaccination messages when the benefits of influenza vaccination are communicated extensively but the risks are not. Therefore, when forming messages about vaccines, credibility can be heightened by describing risks, citing reputable sources, identifying experts, and providing extra detail where possible.²⁹

The delivery of messaging can also be framed. While exposure to a message suggests awareness after at least three encounters, the point of incidence itself has the greatest impact on receptiveness to the message. Identifying spokespeople to share core messages is an approach that enables credible, recognizable and relatable influencers to initiate the conversation, expand the audience organically, and to avoid a preaching tone.³⁰ In addition, timing, situational awareness and selecting the appropriate channel are all aspects of delivery that should be taken into consideration to ensure retention of messages.

In summary, communication strategies should positively frame messages that target the population in which the individual is trying to influence, identify risks, and be delivered through channels that build trust and are seen as credible.

Optimizing Communication Methods and Channels

In order to target communications towards older people and adults with chronic disease who are at increased risk to influenza, communication channels such as digital media and communication methods such as narratives must be utilized. Audience segmentation helps to understand which channels and methods would work best for which audiences within the target group.³¹ In an increasingly digital world, there is greater opportunity to share targeted messages in an impactful way to larger groups of people.

Digital Media

Digital and social media, through which substantial amounts of health-related information are circulated daily,³² should be optimized when forming targeted communication strategies. Despite the lower rates of internet usage among older people in comparison to their younger counterparts,²² rates of social media usage by this age group are increasing, particularly on Facebook.³³ Translating scientifically-sound messages to the intended audience on this medium must be done in order for a life-course approach to influenza vaccination to occur.

Additionally, new technologies are emerging to monitor online vaccination hesitancy and deliver interventions using digital channels. However, there is a lack of larger scale studies on how to adjust such type of interventions to specifically the older population.

For example, research by Ward et al., (2014) analyzed websites critical of vaccines to understand how different information shared on vaccination may contribute to ranging levels and forms of vaccine hesitancy.³⁴ When searching keywords like “vaccination” and “immunization” on Google, Davies, Chapman and Leask (2002) found that 43% of the first 100 search results returned anti-vaccination websites.³⁵ When looking more specifically at search results for YouTube videos, Keelan et al., (2007) found that 32% of videos on the topic of vaccines were categorized as anti-vaccination, and

43%

**of the first 100
“vaccination” search
results returned anti-
vaccination websites.**

Davies, P., Chapman, S., & Leask, J. (2002)

the anti-vaccine videos received significantly higher ratings and views than their counterparts.³⁶

Thus, communication strategies should use digital media as a channel to spread more positive information on influenza vaccination to both debunk misconceptions and to spread information of the positive benefits of vaccination on health and functional ability. Researchers and authorities who often consider social media as a less “prestigious” platform, may need to reevaluate the latest trends and place value in the capabilities of a social media pipeline to spread the message of the importance of vaccination.³⁷

Researchers who often consider social media as a less “prestigious” platform, may need to reevaluate.

Jervelund, S. S. (2018).

Narratives

While digital channels are increasingly used amongst older people, traditional communication channels such as events that older people attend and the tools and brands they engage with should continue to be considered to frame a successful campaign.

Using a narrative (in the form of anecdotes, stories or testimonials) is a method often underused by public health professionals wanting to increase influenza uptake rates. A study by Prati, Pietrantoni and Zani (2012) of 311 older Italians found that narrative communication was related to an increased perception of risk to influenza and an increase in perceived efficacy of the influenza vaccine.⁴

“ A new narrative with personal stories and testimony (...) framing the importance of vaccination is needed.

The current rhetoric of the anti-vaccination movement uses personal narrative and propaganda on a variety of mediums to shift hypotheses, attack critics, and claim false statements.¹² Vaccine promoters however don’t use narratives to their full potential, and while these narratives are dependent on culture and audience, a new narrative with personal stories and testimony that frame the importance of vaccination is needed as part of the larger communication strategy to increase uptake rates. Qualitative methodologies should be used to ‘pretest’ messages and narratives within a cross section of the primary audience to determine which ideas or concepts connect well with the target audience.³⁸

Narratives can also support communication gaps between doctors and patients. As consultation times with health care professionals are increasingly limited, spending the time to discuss patients' beliefs surrounding influenza and vaccines is not always possible. In most cases, beliefs are based on experiences or stories from others rather than the quick statistics or information provided by the doctor. Therefore, sharing positive narratives about vaccines outside of the doctor's office could help to bridge these gaps, as well as inside the doctor's office, as patients are strongly influenced by their doctor's personal views towards vaccination.

In summary, narratives illustrating the importance of vaccination to healthy ageing can be better utilized to increase influenza vaccination uptake rates.³⁹

Measuring and Evaluating Communication Strategies

While the amount of research on vaccine hesitancy and communication strategies to address vaccine hesitancy has increased,¹⁷ there is a significant gap in assessing its effectiveness.⁴⁰ Ongoing measurement and evaluation is a crucial part of targeted communications, and knowledge surrounding the uptake rates and attitudes of a population before and after the strategy is implemented is critical.⁴¹

According to Valente and Kwan (2001), evaluating communication strategies serves three main functions. Firstly, evaluation increases the likelihood of achieving success (i.e. increased influenza vaccination), secondly, it assists future public health advocates in understanding why a particular campaign worked or not, and lastly, it provides information necessary to planning future campaigns.⁴² Both quantitative and qualitative tools should be used to evaluate targeted strategies both during and after the campaign.

Evaluation provides information necessary to planning future campaigns.

Valente, T. W., & Kwan, P. P. (2001).

Research by Neiger et al., (2012) explains that social media campaigns are frequently used to promote health, however people often fail to evaluate engagement with followers. eTools embedded within social media platforms can be an easy method to get real time analysis on the effectiveness of one post, ad, or strategy compared to another and to identify modifications that could be made, even throughout a campaign.⁴³

Ultimately, evaluation allows organizations to assess aspects of strategies that worked, and aspects that did not, which can further help to fine-tune targeted approaches for future strategies.⁴⁴

Conclusion

Influenza vaccination protects older people and those with chronic diseases from functional decline, while maintaining and improving healthy ageing. Targeted health communication, based on listening and understanding of target populations, is an important strategy to raise awareness and address barriers to influenza vaccination uptake, particularly in the current digital era.

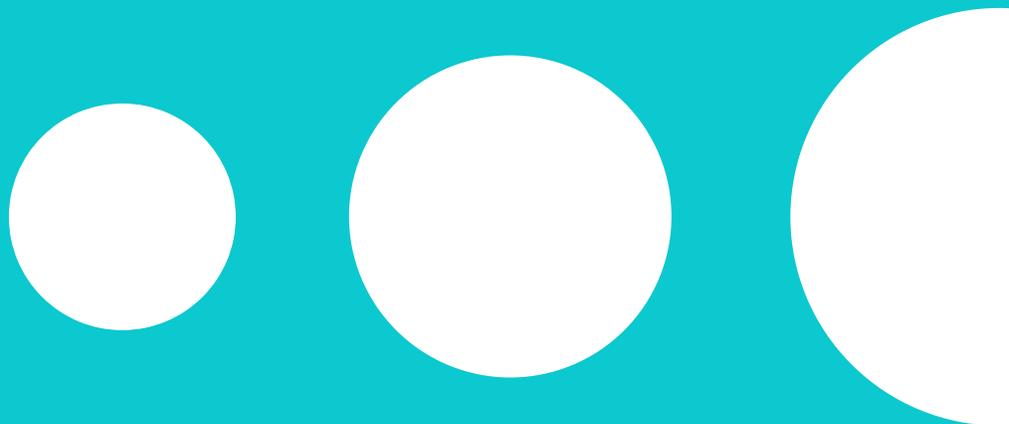
“ Targeted health communication is an important strategy to raise awareness and address barriers to influenza vaccination uptake.

Such strategies should be created with the population of older people and at-risk groups in mind, with messages framed in terms of vaccination gains, while at the same time transparently communicating the risks. Narratives have the potential to play an important role in restoring trust and changing emotional reactions on the importance and safety of influenza vaccination. Communication strategies and mechanisms should be measured and evaluated more consistently, in order to assess their effectiveness in reaching and influencing targeted populations.

References

- ¹ Schaffner, W., van Buynder, P., McNeil, S., & Osterhaus, A. D. (2018). Seasonal influenza immunisation: Strategies for older adults. *International journal of clinical practice*, 72(10), e13249.
- ² Bödeker, B., Remschmidt, C., Schmich, P., & Wichmann, O. (2015). Why are older adults and individuals with underlying chronic diseases in Germany not vaccinated against flu? A population-based study. *BMC Public Health*, 15(1), 618.
- ³ Weinberger, B. (2018). Vaccines for the elderly: current use and future challenges. *Immunity & ageing*, 15(1), 3.
- ⁴ Prati, G., Pietrantonio, L., & Zani, B. (2012). Influenza vaccination: The persuasiveness of messages among people aged 65 years and older. *Health Communication*, 27(5), 413-420.
- ⁵ Preaud, E., Durand, L., Macabeo, B., Farkas, N., Sloesen, B., Palache, A., ... & Samson, S. I. (2014). Annual public health and economic benefits of seasonal influenza vaccination: a European estimate. *BMC public health*, 14(1), 813.
- ⁶ Rizzo, C., Rezza, G., & Ricciardi, W. (2018). Strategies in recommending influenza vaccination in Europe and US. *Human vaccines & immunotherapeutics*, 14(3), 693-698.
- ⁷ Larson, H., de Figueiredo, A., Karafillakis, E., & Rawal, M. (2018). STATE OF VACCINE CONFIDENCE IN THE EU 2018.
- ⁸ Fournet, N., et al. "Under-Vaccinated Groups in Europe and Their Beliefs, Attitudes and Reasons for Non-Vaccination; Two Systematic Reviews." *BMC Public Health*, vol. 18, no. 1, 2018, doi:10.1186/s12889-018-5103-8.
- ⁹ Jacob, L., Breuer, J., & Kostev, K. (2016). Prevalence of chronic diseases among older patients in German general practices. *GMS German Medical Science*, 14.
- ¹⁰ Klett-Tammen, C. J., Krause, G., Seefeld, L., & Ott, J. J. (2015). Determinants of tetanus, pneumococcal and influenza vaccination in the elderly: a representative cross-sectional study on knowledge, attitude and practice (KAP). *BMC public health*, 16(1), 121.
- ¹¹ Busby, C. (2018). Not just for kids: how to improve adult vaccination uptake in Canada.
- ¹² Azhar, H., Ali, S., Ahmed, M., & Sheharyar, H. (2018). The Anti-vaccination Movement: A Regression in Modern Medicine. *Cureus*, 10(7).
- ¹³ Forkner-Dunn, J. (2003). Internet-based patient self-care: the next generation of health care delivery. *Journal of Medical Internet Research*, 5(2).
- ¹⁴ Jamieson, K. H., & Cappella, J. N. (2008). *Echo chamber: Rush Limbaugh and the conservative media establishment*. Oxford University Press.
- ¹⁵ Nowak, G. J., Sheedy, K., Burse, K., Smith, T. M., & Basket, M. (2015). Promoting influenza vaccination: insights from a qualitative meta-analysis of 14 years of influenza-related communications research by US Centers for Disease Control and Prevention (CDC). *Vaccine*, 33(24), 2741-2756.
- ¹⁶ Snyder, L. B., Hamilton, M. A., Mitchell, E. W., Kiwanuka-Tondo, J., Fleming-Milici, F., & Proctor, D. (2004). A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States. *Journal of health communication*, 9(S1), 71-96.
- ¹⁷ Jarrett, C., Wilson, R., O'Leary, M., Eckersberger, E., & Larson, H. J. (2015). Strategies for addressing vaccine hesitancy—A systematic review. *Vaccine*, 33(34), 4180-4190.
- ¹⁸ Centers for Disease Control and Prevention (CDC), 2011. What is health communications? Retrieved from <https://www.cdc.gov/healthcommunication/healthbasics/WhatIsHC.html>
- ¹⁹ Bourne, L. (2016). Targeted communication: The key to effective stakeholder engagement. *Procedia-Social and Behavioral Sciences*, 226, 431-438.
- ²⁰ University of Pittsburgh, (2019). Audience analysis. Retrieved from <https://www.comm.pitt.edu/oral-comm-lab/audience-analysis>
- ²¹ Ramanadhan, S., Galarce, E., Xuan, Z., Alexander-Molloy, J., & Viswanath, K. (2015). Addressing the Vaccine Hesitancy Continuum: An Audience Segmentation Analysis of American Adults Who Did Not Receive the 2009 H1N1 Vaccine. *Vaccines*, 3(3), 556-578.
- ²² Betsch, C., Rossmann, C., Pletz, M. W., Vollmar, H. C., Freytag, A., Wichmann, O., ... & Eitze, S. (2018). Increasing influenza and pneumococcal vaccine uptake in the elderly: study protocol for the multi-methods prospective intervention study Vaccination60+. *BMC public health*, 18(1), 885.
- ²³ Betsch, C., Korn, L., & Holtmann, C. (2015). Don't try to convert the antivaccinators, instead target the fence-sitters. *Proceedings of the National Academy of Sciences*, 112(49), E6725-E6726.
- ²⁴ Ohlrogge, A. W. & Suggs, L. S. (2018). Flu vaccination communication in Europe: What does government communicate and how? *Vaccine*.
- ²⁵ Mowbray, F., Marcu, A., Godinho, C. A., Michie, S., & Yardley, L. (2016). Communicating to increase public uptake of pandemic flu vaccination in the UK: Which messages work?. *Vaccine*, 34(28), 3268-3274.
- ²⁶ Frew, P. M., Saint-Victor, D. S., Owens, L. E., & Omer, S. B. (2014). Socioecological and message framing factors influencing maternal influenza immunization among minority women. *Vaccine*, 32(15), 1736-1744.
- ²⁷ Boudier, F., Way, D., Löfstedt, R., & Evensen, D. (2015). Transparency in Europe: a quantitative study. *Risk Analysis*, 35(7), 1210-1229.
- ²⁸ Fischhoff, B. (2012). *Communicating risks and benefits: An evidence based user's guide*. Government Printing Office.

-
- ²⁹ Johnson, K. A., & Wiedenbeck, S. (2009). Enhancing perceived credibility of citizen journalism web sites. *Journalism & Mass Communication Quarterly*, 86(2), 332-348.
- ³⁰ Heldman, A. B., Schindelar, J., & Weaver, J. B. (2013). Social media engagement and public health communication: implications for public health organizations being truly "social". *Public Health Reviews*, 35(1), 13.
- ³¹ Slater, M. D. (1996). Theory and method in health audience segmentation. *Journal of health communication*, 1(3), 267-284.
- ³² Andreasen, A. R. (1994). Social marketing: Its definition and domain. *Journal of public policy & marketing*, 108-114.
- ³³ Yu, R. P., Ellison, N. B., & Lampe, C. (2018). Facebook Use and Its Role in Shaping Access to Social Benefits among Older Adults. *Journal of Broadcasting & Electronic Media*, 62(1), 71-90.
- ³⁴ Ward, J. K., Peretti-Watel, P., Larson, H. J., Raude, J., & Verger, P. (2015). Vaccine-criticism on the internet: new insights based on French-speaking websites. *Vaccine*, 33(8), 1063-1070.
- ³⁵ Davies, P., Chapman, S., & Leask, J. (2002). Antivaccination activists on the world wide web. *Archives of disease in childhood*, 87(1), 22-25.
- ³⁶ Keelan, J., Pavri-Garcia, V., Tomlinson, G., & Wilson, K. (2007). YouTube as a source of information on immunization: a content analysis. *jama*, 298(21), 2482-2484.
- ³⁷ Jervelund, S. S. (2018). How social media is transforming the spreading of knowledge: Implications for our perceptions concerning vaccinations and migrant health.
- ³⁸ Roper, W. L. (1993). Health communication takes on new dimensions at CDC. *Public Health Reports*, 108(2), 179.
- ³⁹ Roberts, B. (2004). Health narratives, time perspectives and self-images. *Social Theory & Health*, 2(2), 170-183.
- ⁴⁰ Betsch, C., Schmid, P., Heinemeier, D., Korn, L., Holtmann, C., & Böhm, R. (2018). Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. *PloS one*, 13(12), e0208601.
- ⁴¹ Lluçà, A., Mena, G., Olivé, V., Quesada, S., Aldea, M., Sequera, V. G., ... & Trilla, A. (2013). Evaluating influenza vaccination campaigns beyond coverage: a before-after study among health care workers. *American journal of infection control*, 41(8), 674-678.
- ⁴² Valente, T. W., & Kwan, P. P. (2001). Evaluating communication campaigns. *Public communication campaigns*, 4, 105-24.
- ⁴³ Neiger, B. L., Thackeray, R., Burton, S. H., Giraud-Carrier, C. G., & Fagen, M. C. (2013). Evaluating social media's capacity to develop engaged audiences in health promotion settings: use of Twitter metrics as a case study. *Health promotion practice*, 14(2), 157-162.
- ⁴⁴ Council, W. C. (2011). *Evaluating Your Communication Tools What Works, What Doesn't? The Westminster Model*.



International Federation on Ageing

1 Bridgepoint Drive, Suite G.238
Toronto, ON, M4M 2B5, CANADA
Tel: +1 416 342 1655
ifa-fiv.org

Published June 2019 © International Federation on Ageing 2019