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International Health

International Horizon Scanning and Learning Report

Communication campaigns for vaccine acceptance

Report 43, February 2023

Canolfan Gydweithredol Sefydliad Iechyd y Byd ar Fuddsoddi ar gyfer Iechyd a Llesiant

World Health Organization Collaborating Centre on Investment for Health and Well-being

Overview

The International Horizon Scanning and Learning reports were initiated as part of the COVID-19 public health response, to support dynamic response and recovery measures and planning in Wales. They varied in focus and scope, depending on the evolving COVID-19 situation and public health/policy needs at that time. The reports focussed on COVID-19 international evidence, data, experience, policy and public health measures, transition and recovery approaches. Learning and intelligence was collated and synthesized to understand and explore solutions for addressing the ongoing and emerging health, well-being, social, economic and environmental impacts (potential harms and benefits) of the pandemic.

The scope of the reports was expanded in spring 2022 to cover priority public health topics, including in the areas of health improvement and promotion, health protection, and health care public health. The report topics and findings are aligned with and help inform decision-making and on-going work in Welsh Government, the NHS and Public Health Wales. They are also disseminated to wider network of (public) health professionals and partners nationally and internationally.

This is part of a wider Public Health Wales' systematic approach to intelligence gathering and evidence translation into policy and practice, supporting coherent, inclusive and evidence-informed action, which progresses implementation of the Wellbeing of Future Generations (Wales) Act and A Healthier Wales strategic plan towards a healthier, more equal, resilient, prosperous and globally responsible Wales.

Disclaimer: The reports provide a high-level summary of learning from real life experiences from selected countries, and from a variety of scientific and grey literature, including sources of information to allow further exploration. The reports are not comprehensive and are not aimed at providing detailed, robust or in-depth evidence review, analysis or quality assurance. They are meant to offer a brief snapshot or current evidence, policy and practice, sharing relevant country examples and key (reputable) international bodies' guidance and principles.

In focus

- **Communication campaigns for vaccine acceptance**

Contents

At a glance: summary of international learning

"People forget the wonderful things that public health does to protect them. We are working to remind them how important public health is, with vaccines being one of them."

Greg Endler, Deputy Director of Health Promotion and Education, Washington State Department of Health[1]

Communication campaigns for vaccine acceptance: overview

- Vaccination prevents 3.5-5 million deaths annually
- Vaccination **rates are suboptimal** currently
- **The availability of vaccines is not enough** to protect health
  - ✓ **Vaccine hesitancy and digital misinformation** are main threats to global health
  - ✓ Vaccine **decision making is multifactorial**
- Communication campaigns can provide **information, generate demand, influence attitudes and behaviours** to increase vaccine acceptance, and may include:
  - ✓ Advocacy
  - ✓ Social mobilisation
  - ✓ Vaccine programme communication

Drivers and barriers to vaccine update

- **Drivers** of vaccine uptake include **trust**
- **Building and maintaining trust** includes:
  - ✓ Clear, understandable language, avoiding jargon
  - ✓ Listen and respond to concerns
  - ✓ Repetition of core messages; confidence in stating uncertainties
- **Behavioural and social drivers (BeSD)** of vaccine uptake include: thinking and feeling; social processes (e.g. social norms); practical issues (e.g. availability, affordability, etc.)
- **Barriers** of vaccine uptake include **vaccine hesitancy and (digital) misinformation**
- **Vaccine hesitancy** describes a **continuum of beliefs**, which **varies** by context, vaccine, time and place, and is influenced by the **"3 C's":**
  - ✓ **Complacency**: low perception of risks of vaccine-preventable diseases
  - ✓ **Convenience**: availability, accessibility, perceived quality, cultural context, etc.
  - ✓ **Confidence**: trust in safety and effectiveness, etc.
- **Techniques** used to **spread misinformation** include:
  - ✓ Creating fake experts and vilifying established experts
  - ✓ Skewing the science and cherry picking which "evidence" to present
  - ✓ Using false analogies to reach illogical conclusions
- **Misinformation correction** includes:
  - ✓ **Pre-emption ("pre-bunking")**, aiming to help people identify flaws before misinformation encounter
  - ✓ **Reaction ("debunking")**, dealing with misinformation on a case-by-case basis

[1] https://www.astho.org/communications/blog/a-conversation-on-vaccine-confidence-with-the-washington-state-department-of-health/

Key elements of vaccine communication campaigns

- **Tailor** messages for specific communities
- Message must be **culturally and linguistically appropriate** for the target community
- Focus on **benefits**
- **Appraisal** of vaccine information sources; **"prebunking"**
- Communication must go **alongside additional policies** and public health measures
- Increase **social media** presence
- Involve **healthcare professionals** to promote public trust
- Develop a strong foundation of **public/private multisectoral partnerships**
- Develop **consistent messaging** across different agencies to reduce confusion
- Collect **positive testimonies** from those who have received the vaccine

Improving equity of campaign reach

- **Tailoring Immunisation Programmes approach** to target strategies to improve uptake
- Acknowledge that **health literacy** is content and context specific
- **Community-centred** approaches
- Ensure **website accessibility**
- Include **disabled people's experiences** in campaigns
- Specific strategies can be employed to improve health equity targeting **vulnerable or disadvantaged** populations, including:
    - ✓ Ethnic, religious and racial minorities
    - ✓ Low literacy and language barriers
    - ✓ Persons who are pregnant
    - ✓ Disabled people
    - ✓ Asylum seekers and refugees
    - ✓ Children and young people

Vaccine-specific communication campaigns

- **HPV** vaccination, Denmark case study *(pp13)*
- **MMR** vaccination, Sweden case study *(pp15)*
- **Mpox** vaccination, United States case study *(pp16)*
- Campaigns to improve **COVID-19, influenza and polio** vaccination *(pp 17-21)*

Introduction

This report focuses on examples of government campaigns. Formative research and evaluation findings are often not publicly available. Examples are also drawn from other sources including research studies.

Vaccination prevents 3.5-5 million deaths annually:[2]

- Vaccinations will continue to be **key to protecting human health,** as new, animal borne diseases emerge[3]
- Vaccination **rates are suboptimal**, for example:
  - ✓ Globally, an estimated 25 million children aged under 1 did not receive their recommended vaccinations in 2021 (the most since 2009)[4]
  - ✓ UK data shows decreased coverage of childhood vaccinations in 2021/22 compared to 2020/21[5,6]
- The **availability of vaccines is not enough** to protect health:
  - ✓ **Vaccines must be accepted** by the population: behaviour can thwart the success of vaccination programmes, disease elimination, or eradication[3]
  - ✓ **Vaccine decision making is multifactorial**, including factors, which can be influenced by communication strategies[7,8,9] (Figure 1 and 2)
- Communication campaigns should be complemented by interventions **reducing barriers and promoting drivers** of vaccine acceptance (to overcome practical issues)[9]
- Communication campaigns can provide **information, generate demand, influence attitudes and behaviours to increase vaccine acceptance**, and may include:[10]
  - ✓ Advocacy
  - ✓ Social mobilisation
  - ✓ Vaccine programme communication

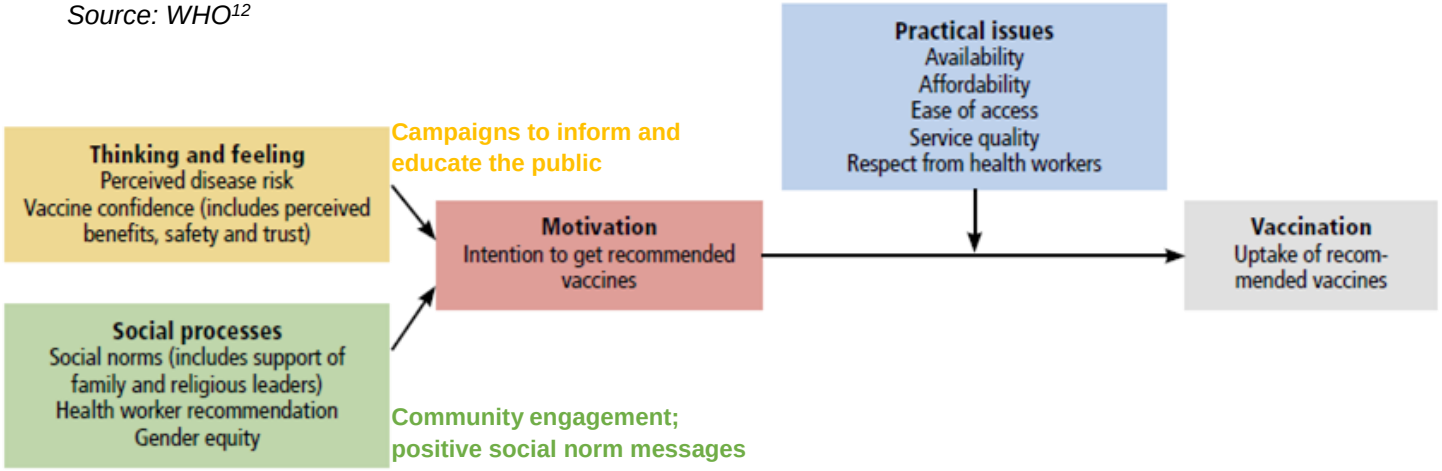
Drivers of vaccine uptake

Trust is an important driver of vaccine acceptance:

- **Mistrust in authorities** may lead to mistrust of vaccine delivery programmes
- **Building and maintaining trust**, and responding to adverse events includes:[8]
  - ✓ Clear, understandable language, avoiding jargon
  - ✓ Listen and respond to concerns
  - ✓ Repetition of core messages; confidence in stating uncertainties
- **Behavioural and social drivers (BeSD)** of vaccine uptake (Figure 1):[11]
  - ✓ Vaccination BeSD are: *"beliefs and experiences specific to vaccination that are potentially modifiable to increase vaccine uptake"*
  - ✓ Interventions known to improve vaccination are **mapped** to each domain[9]

[2] Vaccines and immunization (who.int)
[3] Wang Z, Bauch CT, Bhattacharyya S, d'Onofrio A, Manfredi P, Perc M, et al. Statistical physics of vaccination. Physics Reports. 2016 Dec 9;664:1–113.
[4] Immunization coverage (who.int)
[5] Data relates to the routine vaccinations offered to all children up to the age of 5 years, derived from the Cover of Vaccination Evaluated Rapidly (COVER)
[6] https://digital.nhs.uk/data-and-information/publications/statistical/nhs-immunisation-statistics/2021-22
[7] Vaccine hesitancy (tandfonline.com)
[8] https://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF
[9] https://apps.who.int/iris/bitstream/handle/10665/354458/WER9720-eng-fre.pdf
[10] https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/TER-Immunisation-and-trust.pdf
[11] https://www.who.int/publications/i/item/who-wer9720-209-224

Figure 1. The WHO behavioural and social drivers (BeSD) of vaccination uptake framework
Source: WHO[12]



Barriers to vaccine uptake

Vaccine hesitancy describes a continuum of beliefs from total acceptance to complete refusal (Figure 2)[13]

- Those who refuse vaccines are in the minority,[14,15] however, they remain problematic
- Highly infectious diseases require **high levels of population immunity**
- **Vaccine hesitancy is not evenly distributed across the population**: geographical clusters of hesitancy mean some communities have high levels of inadequately vaccinated people[16,17]
- **Hesitancy varies** by context, vaccine, time and place, influenced by the **"3 C's":**[18]
  - ✓ **Complacency:** low perception of risks of vaccine-preventable diseases; potentially due to past successful vaccination campaigns
  - ✓ **Convenience:** availability and accessibility of vaccines; perceived quality; cultural context; language and health literacy
  - ✓ **Confidence:** trust in safety and effectiveness, vaccine delivery programmes, and policy makers

Misinformation reduces vaccine acceptance

- An example of an unfounded vaccine scare includes the measles, mumps, and rubella (MMR) vaccine and its erroneous link to autism[19]
  - ✓ No evidence has been found to support this link[20,21,22]
  - ✓ Nevertheless, it remains a leading reason for MMR vaccine refusal or delay[23]

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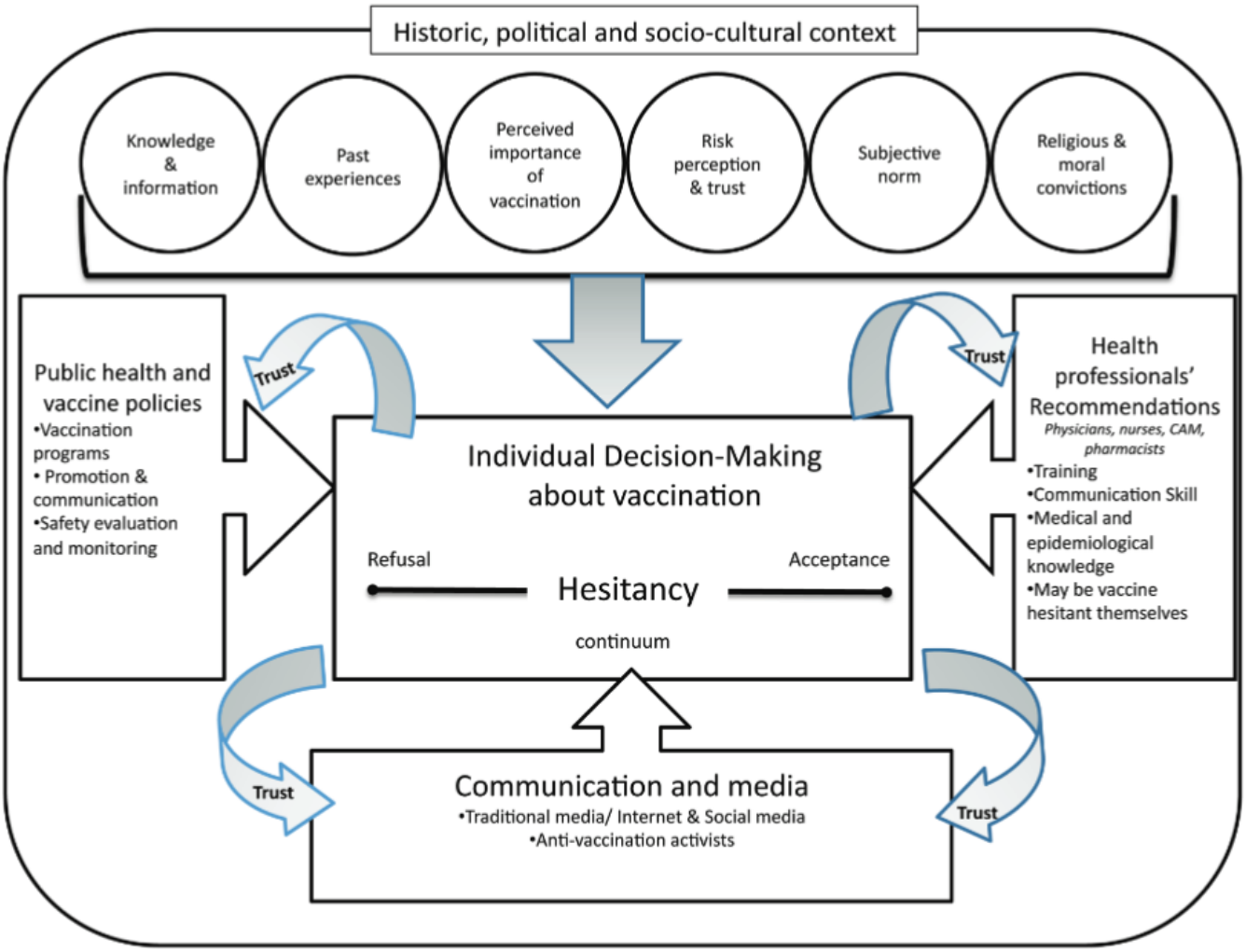
[12] https://apps.who.int/iris/bitstream/handle/10665/354458/WER9720-eng-fre.pdf
[13] MacDonald NE, SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: Definition, scope and determinants. Vaccine. 2015 Aug 14;33(34):4161–4
[14] Larson H, Figueiredo A de, Karafillakis E, Rawal M. State of vaccine confidence in the EU 2018 [Internet]. LU: Publications Office of the European Union; 2018 [cited 2022 Oct 23]. Available from: https://data.europa.eu/doi/10.2875/241099
[15] Luyten J, Bruyneel L, van Hoek AJ. Assessing vaccine hesitancy in the UK population using a generalized vaccine hesitancy survey instrument. Vaccine. 2019 Apr 24;37(18):2494–501
[16] Faasse, K., Chatman, C. J., & Martin, L. R. (2016). A comparison of language use in pro- and anti-vaccination comments in response to a high profile Facebook post. Vaccine, 34(47), 5808–5814. https://doi.org/10.1016/j.vaccine.2016.09.029
[17] Tomeny, T. S., Vargo, C. J., & El-Toukhy, S. (2017). Geographic and demographic correlates of autism-related anti-vaccine beliefs on Twitter, 2009-15. Social Science & Medicine (1982), 191, 168–175. https://doi.org/10.1016/j.socscimed.2017.08.041
[18] https://www.asset-scienceinsociety.eu/sites/default/files/sage_working_group_revised_report_vaccine_hesitancy.pdf
[19] Wakefield, A. J., Murch, S. H., Anthony, A., Linnell, J., Casson, D. M., Malik, M., Berelowitz, M., Dhillon, A. P., Thomson, M. A., Harvey, P., Valentine, A., Davies, S. E., & Walker-Smith, J. A. (1998). RETRACTED: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. The Lancet, 351(9103), 637–641. https://doi.org/10.1016/S0140-6736(97)11096-0
[20] Taylor, Miller, E., Farrington, C. P., Petropoulos, M. C., Favot-Mayaud, I., Li, J., & Waight, P. A. (1999). Autism and measles, mumps, and rubella vaccine: No epidemiological evidence for a causal association. Lancet (London, England), 353(9169), 2026–2029. https://doi.org/10.1016/s0140-6736(99)01239-8
[21] Taylor, Swerdfeger, A. L., & Eslick, G. D. (2014). Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies. Vaccine, 32(29), 3623–3629. https://doi.org/10.1016/j.vaccine.2014.04.085
[22] Hviid, A., Hansen, J. V., Frisch, M., & Melbye, M. (2019a). Measles, Mumps, Rubella Vaccination and Autism: A Nationwide Cohort Study. Annals of Internal Medicine, 170(8), 513–520. https://doi.org/10.7326/M18-2101
[23] https://www.statista.com/statistics/665592/reasons-families-refused-vaccinations-health-care-professionals-us/

Figure 2. Conceptual model of vaccine hesitancy

Source: Dube et al[24]



- An **"epidemic" of misinformation** has accompanied the COVID-19 pandemic[25]
- **Techniques** used **to spread misinformation** include:[26,27,28]
  - ✓ Creating fake experts and vilifying established experts
  - ✓ Skewing the science and cherry picking which "evidence" to present
  - ✓ Using false analogies to reach illogical conclusions
- **Misinformation correction campaigns** typically aim to **dismantle** these techniques via:
  - ✓ **Pre-emption ("pre-bunking"),** which aims to help people identify flaws in misinformation before they encounter it[29,30]
  - ✓ **Reaction ("debunking"),** which deals with pieces of misinformation on a case-by-case basis[29,31,32]

[24] Vaccine hesitancy (tandfonline.com)
[25] https://www.unicef.org/media/93661/file/Vaccinemessagingguide.pdf
[26] Kata A. Anti-vaccine activists, Web 2.0, and the postmodern paradigm--an overview of tactics and tropes used online by the anti-vaccination movement. Vaccine. 2012 May 28;30(25):3778–89
[27] Leask JA, Chapman S. An attempt to swindle nature: press anti-immunisation reportage 1993-1997. Aust N Z J Public Health. 1998 Feb;22(1):17–26
[28] https://apps.who.int/iris/handle/10665/343301
[29] Ecker UKH, Lewandowsky S, Cook J, Schmid P, Fazio LK, Brashier N, et al. The psychological drivers of misinformation belief and its resistance to correction. Nat Rev Psychol. 2022 Jan;1(1):13–29
[30] Vivion M, Anassour Laouan Sidi E, Betsch C, Dionne M, Dubé E, Driedger SM, et al. Prebunking messaging to inoculate against COVID-19 vaccine misinformation: an effective strategy for public health. Journal of Communication in Healthcare. 2022 Jul 3;15(3):232–42.
[31] https://www.climatechangecommunication.org/debunking-handbook-2020/
[32] Swire-Thompson B, Cook J, Butler LH, Sanderson JA, Lewandowsky S, Ecker UKH. Correction format has a limited role when debunking misinformation. Cognitive Research: Principles and Implications. 2021;6.

Vaccine hesitancy and digital misinformation are key threats to global health:[33,34]

- Information online **lacks gatekeeping and fact checking**[35]
- **Exposure** to misinformation for 5-10 minutes can decrease vaccine intentions[36,37,38]
- **Modelling of the effect of misinformation on COVID-19 vaccine acceptance** in Canada (March 1 - Nov 30, 2021) estimated vaccine **hesitancy for 2.35 million** people, which contributed to an additional:[39] 198,000 COVID-19 cases; 13,000 hospitalisations; 2,800 deaths; $300 million hospital costs

Communication campaigns providing vaccine education

- **Best practice** guidelines on responding to vocal vaccine deniers in public (Box 1)[40]
- **Approaches** for vaccine communication campaigns include (Table 1):
  - ✓ Compiled from **multiple "best practice"** and effective communication guidance
  - ✓ Structured using the **"Five W's" model** of communication[41]
- Vaccine **communication toolkits** (Box 2)

Box 1. Summary of best practice guidance on responding to vocal vaccine deniers in public[40]

1)	Prepare three key simple messages; repeat them
2)	Communicate what has been achieved so far and what needs to be done
3)	Tell the truth; be honest and transparent
4)	Do not repeat anti-vaccine arguments (this may inadvertently reinforce misinformation); respond with facts
5)	Use inclusive terms to underline a shared identity with the audience
6)	Underline scientific consensus regarding vaccine safety and efficacy
7)	Emphasise social benefits (e.g., community immunity)

Box 2. Vaccine communication toolkits

Europe

- Communication guides on immunisation (ECDC)
- COMMISSION STAFF WORKING DOCUMENT on communicating with the public and the media on Pandemic (H1N1) 2009 (ECDC)
- #UnitedInProtection Toolkit (ECDC)
- Social media toolkit for healthcare professionals
- Guidance on the provision of support for medically and socially vulnerable populations in EU/EEA countries and the United Kingdom during the COVID-19 pandemic (ECDC)

United States

- Toolkit for Reaching Parents and Patients (CDC)
- Community Education Toolkit COVID-19 Vaccine Education Initiative (Ad Council)
- Toolkit for Black Communities (Ad Council)
- New Communication Guide Offers Research-Based Tips and Language for Physicians (de Beaumont Foundation)
- Vaccine Communications Tips (de Beaumont Foundation)
- Vaccine education toolkit (National Association of Broadcasters)
- Website Accessibility: Enhancing Access to COVID-19 Vaccine Registration and Beyond (ASTHO)

Global

- Vaccine Messaging Guide (UNICEF)
- Toolbox of communication and community engagement resources to increase vaccine uptake (Coalition for Vaccination / IMMUNION)
- Vaccine confidence toolkit (Doctors of the World)
- Supporting vaccination: A toolkit for community health workers (Stanford University)
- Polio Eradication Toolkit (CORE Group)

[33] https://www.weforum.org/reports/global-risks-report-2022/digest/
[34] https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019
[35] https://doi.org/10.1177/1529100612451018
[36] Betsch C, Renkewitz F, Betsch T, Ulshöfer C. The influence of vaccine-critical websites on perceiving vaccination risks. J Health Psychol. 2010 Apr;15(3):446–55
[37] Jolley D, Douglas KM. The effects of anti-vaccine conspiracy theories on vaccination intentions. PLoS One. 2014;9(2):e89177.
[38] Loomba S, de Figueirdo A, Piatek SJ, de Graaf K, Larson H. Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA. Nature Human Behaviour. 2021;5:338–48.
[39] https://cca-reports.ca/reports/the-socioeconomic-impacts-of-health-and-science-misinformation/
[40] https://www.who.int/europe/publications/i/item/WHO-EURO-2017-2899-42657-59427
[41] https://www.healthknowledge.org.uk/public-health-textbook/organisation-management/5a-understanding-itd/effective-communication

Table 1. Approaches for communication campaigns

Approach	Examples within communication campaigns
Planning / formative research	
Define the **target audience and segments within this group**[42]	– The **WHO Tailoring Immunization Programmes (TIP) approach identifies:**[43] ✓ Groups within population with suboptimal vaccination rates ✓ Barriers to/drivers of vaccine uptake ✓ **Tailored interventions to improve vaccination uptake**
Identify **specific barriers and messaging channels**	– **Listen to public opinion**[42] (e.g., via media) and follow surveys/reports[44] to understand perception, fears and attitudes[45]
Who should be told?	
Tailor messages for specific communities[46,47] Community-driven strategies specific to different groups work well.[48] **Invest in diversity, equity and inclusion**.[48]	– The Washington State Department of Health in the US, took a "**mile wide**" (mass campaigns covered the entire state) and "**mile deep**" (going into different communities e.g., different racial and ethnic groups, socioeconomic groups and regions) **approach increased COVID-19 vaccination uptake**[48] – WHO advise tailoring to cultural context:[42] ✓ Individualistic cultures: focus on individual risk and personal preferences ✓ Collectivist cultures: focus on risks to others; shared norms – The Washington State Department of Health[48] worked with the Latinx community and tailored their COVID-19 campaign by using **Mariachi singers to promote messages through song** *See table 2*
When should they be told?	
Alignment with special events or **vaccination programme delivery;** such as **European Immunisation Week**[49]	– Advocacy and social mobilisation initiatives in rural and remote communities in Niger aim to encourage polio vaccine uptake through **national immunisation days**[50] – **In Brazil,** high HPV vaccination rates in females aged 10-16 years (three dose completion rate 97%) was achieved via a **school-based HPV vaccination campaign.**[51] **The campaign** (undertaken two weeks before vaccine rollout in 19 schools) included: ✓ HPV school projects ✓ Nurse-led information session ✓ Healthcare professional-led school meeting for parents/guardians ✓ Support from teachers for illiterate parents/guardians
What should they be told?	
Keep it simple, avoid technical jargon.[52] The message must be culturally and linguistically appropriate for the target community, understandable, respectful, and non-judgmental.[46]	– The national **"It's up to you"** campaign in the US[53] emphasises **choice and informed decisions through an empathetic approach** ✓ Partnerships of public health, marketing, and media organisations, enable customisation and dissemination of messages to targeted audiences ✓ One video shows arms of different skin colours and a robotic arm ✓ Collaborations with a range of organisations including: faith-based organisations, brands (e.g., Apple, Disney) and media (e.g., Facebook, Fox) to amplify reach
Be positive and **focus on the benefits for getting vaccinated**, not just the risks of not being vaccinated.[48] UK research recommends communications that lead with:[54]	– **Self-protection from COVID-19** was the top motivator for vaccine acceptance in England[55] and the US[56] – HSE Ireland campaign video "***Every vaccine is a little victory***" shows reassuring images of content children[57]

[42] https://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF
[43] https://www.who.int/europe/activities/tailoring-immunization-programmes-(tip)
[44] https://health.ec.europa.eu/system/files/2022-11/vaccination_vaccine-preventable-diseases_factsheet_en.pdf
[45] https://health.ec.europa.eu/publications/state-vaccine-confidence-eu-2022_en
[46] Community Partners Offer Key Insights to Health Departments for Increasing Vaccine Confidence (astho.org)
[47] https://eurohealthnet.eu/publication/improving-vaccine-equity-addressing-barriers-and-building-capacity-to-improve-vaccine-uptake/
[48] A Conversation on Vaccine Confidence with the Washington State Department of Health | ASTHO
[49] https://health.ec.europa.eu/system/files/2022-11/vaccination_vaccine-preventable-diseases_factsheet_en.pdf
[50] Hard-to-reach areas and long commutes? Challenge accepted – GPEI (polioeradication.org)
[51] A school-based human papillomavirus vaccination program in barretos, Brazil: final results of a demonstrative study - PubMed (nih.gov)
[52] 1108_MER_flu_behaviour.pdf (europa.eu)
[53] https://www.comminit.com/global/content/its-you-covid-19-vaccine-education-campaign
[54] https://www.frameworksinstitute.org/wp-content/uploads/2022/09/WellcomeTrust-uk-vaccine-project-Strategic-brief.pdf
[55] https://www.sciencedirect.com/science/article/pii/S0264410X20313219?via%3Dihub
[56] https://www.frontiersin.org/articles/10.3389/fpos.2021.630133/full
[57] https://www.youtube.com/watch?v=SZ2zbISsY-0

– Discussing the immune system, then cueing that **vaccines "train" the immune system** – **Collective benefit of vaccines,** followed by individual decisions	
Provide information about the vaccine approval process.[58] Safety is a large concern particularly when vaccines are developed quickly.[59]	– In the US, the de Beaumont Foundation developed a guide for **communicating about Food and Drug Administration approval to build confidence in COVID-19 vaccines**. They found it useful to explain that the government didn't cut corners[58] – Scottish Government and Public Health Scotland developed an explainer video **about the process for developing and safety of the COVID-19 vaccine**[60]
Critical thinking and appraisal of vaccine information sources; "prebunking"	– Six randomised controlled trials and a YouTube ad campaign found humorous videos of common misinformation manipulation techniques[61] can improve viewers' ability to identify manipulation techniques; discern trustworthiness; and influence decisions to share content[62]
Signposting to valid resources that are researched, written and approved by subject matter experts and based on peer-reviewed science[63]	– The WHO provides the **Vaccine Safety Net**, a gateway which lists reputable sources for the public and health professionals to easily identify verified sources of reliable information on vaccine safety online[64]
Where should the message be conveyed?	
Communication must go **alongside additional policies and public health measures**.[65]	– The Washington State Department of Health[66] worked with the Latinx community and tailored their COVID-19 campaign by arranging **community-driven public vaccination events** with local organisations who found the location, provided education and outreach, and became "the voice of the events"
Increase social media presence. Public health and medical experts can share good information where audiences find misinformation.[67]	– In Germany, the **Ministry of health tweets using the hashtag #FokusImpfen**[68] *("focus on vaccination"*) to: ✓ Form an **identifiable brand** ✓ Identify information as **trustworthy** – **Regularly** communicate
Multimodal communication strategies: diversify outreach by utilising social and traditional media and in-person events to reach people without internet access.[67]	– Scottish Government created and posted **clinician-led COVID-19 and influenza content on Facebook, Twitter and Instagram for pregnant people**[69] – In the US, multiple strategies targeting the **parents of 9–11-year-old boys and healthcare providers** led to a 34% increase in HPV vaccine uptake compared to controls:[70] ✓ **Radio adverts** ✓ **Posters and leaflets (in English and Spanish)** with the message: "*One in two people will get HPV, which can lead to genital warts and cancer*" ✓ **Online training for healthcare providers**
Educational videos/film	– **Short educational videos** have, in studies: ✓ Improved polio vaccination knowledge in the US[71] ✓ Increased informed decision making and reduced decisional conflict regarding HPV vaccination amongst Korean and Latino American parents[72] ✓ Increased influenza vaccination in elderly participants in China[73]
Who should control the communications process?	
Involve healthcare professionals to promote public trust.[65]	– Health professionals are often the most trusted information source regarding influenza prevention/vaccination[75]

[58] FDA-APPROVAL_8.24.3.pdf (debeaumont.org)
[59] Resiliency, Communication, and Partnerships: Insights From the de Beaumont Foundation | ASTHO
[60] COVID-19 Vaccine - NHS Scotland Explainer Video - Safety - YouTube
[61] https://inoculation.science/inoculation-videos/
[62] https://www.science.org/doi/10.1126/sciadv.abo6254
[63] Finding Credible Vaccine Information | CDC
[64] Vaccine Safety Net
[65] 1108_MER_flu_behaviour.pdf (europa.eu)
[66] A Conversation on Vaccine Confidence with the Washington State Department of Health | ASTHO
[67] Community Partners Offer Key Insights to Health Departments for Increasing Vaccine Confidence (astho.org)
[68] https://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF
[69] Scottish Government Marketing News (prgloo.com)
[70] Intervention effects from a social marketing campaign to promote HPV vaccination in preteen boys - PubMed (nih.gov)
[71] Videotape Increases Parent Knowledge About Poliovirus Vaccines and Choices of Polio Vaccination Schedules (silverchair.com) Videotape Increases Parent Knowledge About Poliovirus Vaccines and Choices of Polio Vaccination Schedules | Pediatrics | American Academy of Pediatrics (aap.org)
[72] Design and efficacy of a multilingual, multicultural HPV vaccine education intervention - PubMed (nih.gov)
[73] Impact of video-led educational intervention on uptake of influenza vaccine among the elderly in western China: a community-based randomized controlled trial | BMC Public Health | Full Text (biomedcentral.com)
[75] https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/1108_MER_flu_behaviour.pdf

UK research recommends building on this trust, **without dismissing the influence of friends and family**.[74]	– In New Zealand, **a hospital-based educational campaign** increased influenza vaccination during pregnancy, through:[76] ✓ Presentation at lectures for healthcare professionals ✓ Staff attendance at antenatal clinical meetings ✓ Patient information brochure on benefits, effectiveness, and safety (English-language only; support with interpreting and cultural liaison staff from hospital multicultural unit) – Article in GP email newsletter
Develop a strong foundation of public/private multisectoral partnerships (health departments, academic, community-based organisations and clinical care providers).[77]	– In Latvia, the **Ministry of Health collaborated with a trusted LGBT civil society organisation**[78] to offer a smooth and judgement-free route to mpox vaccination – The **Coalition for Vaccination encourages collaboration between health professionals with media, civil society and others**[79]
Develop consistent messaging across different agencies to reduce confusion and increase trust.[80]	**HPV vaccine rollout success** (94% of girls aged 12-14 in 2022) in Uzbekistan[81] due, in part, to the **national communication plan.** – WHO provided: ✓ **Training for journalists (TV, radio, print)** prior to vaccine rollout ✓ List of experts to interview – **Key authority leaders were trained** (religious leaders, healthcare professionals, teachers, ministers) - research indicates they are more trusted than the media – Messaging **focused on healthy lives** rather than sexual health – **Vaccine uptake was monitored.** When vaccine uptake dropped in one school (Tashkent), a crisis communication plan was implemented via a meeting with teachers, parents and healthcare professionals. Professionals addressed misinformation from social media.
Collect positive testimonies from those who have received the vaccine; engage audiences through **sharing lived experiences**[74, 80] Encourage **authority figures** to receive their vaccines publicly (e.g., during events / post videos online).[80]	– In Israel, vaccine uptake was low following a temporary suspension of the influenza vaccination campaign. To increase trust, the **Minister for Health** (an 80-year-old man) **received his vaccine and was interviewed on live television**[82]

[74] https://www.frameworksinstitute.org/wp-content/uploads/2022/09/WellcomeTrust-uk-vaccine-project-Strategic-brief.pdf
[76] Improving influenza vaccination coverage in pregnancy in Melbourne 2010–2011 - McCarthy - 2012 - Australian and New Zealand Journal of Obstetrics and Gynaecology - Wiley Online Library
[77] A Conversation on Vaccine Confidence with the Washington State Department of Health | ASTHO
[78] https://www.who.int/europe/news/item/27-12-2022-listen--listen--listen----how-cooperation-and-communication-with-at-risk-groups-are-increasing-access-to-mpox-vaccination-in-latvia
[79] https://eurohealthnet.eu/publication/improving-vaccine-equity-addressing-barriers-and-building-capacity-to-improve-vaccine-uptake/
[80] Community Partners Offer Key Insights to Health Departments for Increasing Vaccine Confidence (astho.org)
[81] Uzbekistan achieves high HPV vaccination coverage against cervical cancer (who.int)
[82] https://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF

Improving campaign reach

Table 2. Strategies employed to improve health equity through targeting vulnerable or disadvantaged populations

Population	Rationale	Strategies employed
Ethnic, religious and racial minorities	– Racial and ethnic disparities exist among Black, Hispanic and Indigenous populations with respect to influenza vaccination. Complex drivers – including misinformation, distrust of public health authority and systematic barriers to care[83] – Religious reasons underpinning vaccine hesitancy include religious convictions; vaccine ingredients; and the belief that vaccines promote unwanted behaviours[84]	– In England, use of **TIP** approach improved vaccination among the Charedi Orthodox Jewish community via:[85] ✓ **Support from religious leader**s to promote vaccination – Use of **community communication channels** (e.g., local newsletters) to reach those with little to no access to national media or internet)
Low literacy and language barriers	– Associated with reduced uptake of preventative care[86] – Reduces access, understanding and effective use of health-related information[86] – Communication campaigns often fail to consider literacy levels[86]	– Acknowledge that **health literacy is content and context specific** – individuals from different population groups or with different conditions develop different health literacy skills[86] – Provision of **accessible materials in multiple languages**[87] – Scottish Government developed a **Flu Vaccine and COVID-19 vaccine explainer videos in several languages including sign language**[88]
Persons who are pregnant	– Pregnant people may have additional concerns about risks to unborn babies[89]	– Scottish Government with Public Health Scotland developed an **informational video** on the COVID-19 vaccine targeting pregnant people and those who breastfeed[90]
Disabled people	– Disabled people may be vaccine hesitant due to lack of accessibility, previous trauma, and unknown interactions with health conditions[91]	– **Website accessibility** is essential to ensure disabled people have equitable access to digital information[92] – The Association of State and Territorial Health Officials (ASTHO) in the US **include disabled people's experiences in campaign** (e.g., why disabled people and their caregivers chose to get the COVID-19 vaccine)[93]
Asylum seekers and refugees	– Language barriers limit access to reliable information[94] – Migrants are often not explicitly included in national vaccination programmes[95] – Barriers due to distrust of authority[95]	– **UN Women's Oasis centres in Syrian refugee camps** provided a **safe virtual space** to share information from trusted sources (e.g., a campaign to spread awareness about COVID-19[96])
Children and young people	– Parents may have concerns about the necessity, efficacy and safety of vaccines[97]	– The de Beaumont Foundation in the US developed **materials on how to communicate with parents** about children, schools and vaccines[98]

[83] Public Health and Healthcare Partner to Promote Influenza Vaccination | ASTHO
[84] Frontiers | Vaccine Hesitancy Among Religious Groups: Reasons Underlying This Phenomenon and Communication Strategies to Rebuild Trust (frontiersin.org)
[86] 1108_MER_flu_behaviour.pdf (europa.eu)
[87] A Conversation on Vaccine Confidence with the Washington State Department of Health | ASTHO
[88] View the full-length Flu Vaccine and COVID-19 Vaccine Explainer Video video via YouTube here
[89] A review of research into vaccine uptake in the UK | Local Government Association
[90] COVID-19 Vaccine - NHS Scotland Explainer Video - Pregnancy and Breastfeeding - YouTube
[91] Reducing Vaccine Hesitancy for People Living With Disabilities (astho.org)
[92] Website Accessibility: Enhancing Access to COVID-19 Vaccine Registration and Beyond (astho.org)
[93] Why I Got the Vaccine: A PSA Series on Vaccination for People Living with Disabilities and Their Caregivers | ASTHO
[94] The New Humanitarian | On COVID vaccinations for refugees, will the world live up to its promises?
[95] https://apps.who.int/iris/bitstream/handle/10665/344793/WHO-2019-nCoV-immunization-refugees-and-migrants-2021.1-eng.pdf
[96] Protecting refugees from COVID-19 misinformation | United Nations
[97] Children | Free Full-Text | Vaccine Hesitancy in Children—A Call for Action (mdpi.com)
[98] parents-and-school.pdf (debeaumont.org)

Vaccine-specific communication campaigns

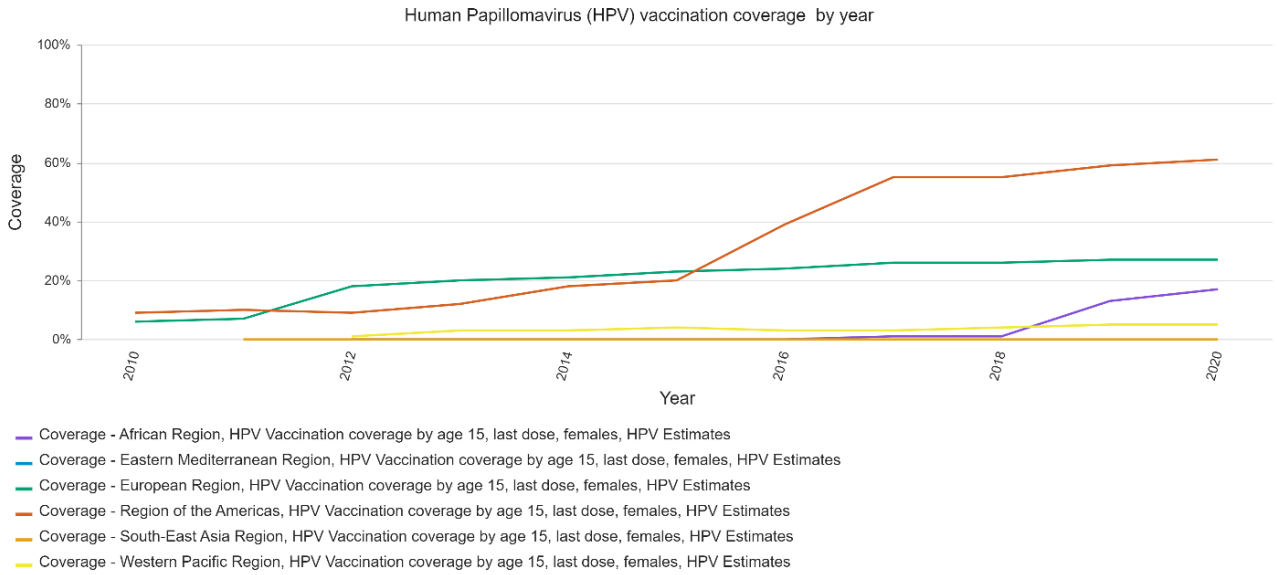
Human papillomavirus (HPV)

60% of WHO Member States include HPV vaccination in their national routine immunisation schedule

- There is significant regional variation in coverage (Figure 3)
- Only 13% of females (up to age 15) worldwide received the recommended two doses in 2021[99]
- 125 countries offer the HPV vaccine to females; 47 also vaccinate males within the national immunisation programme[100]
- Wales offers HPV immunisation to young people of all genders[101]

Figure 3. HPV vaccination coverage by year and world region

Source: WHO Immunization Data portal, 2022[102]



Barriers to HPV vaccination include:[103,104,105,106,107]

- Perception that HPV vaccine will encourage sexual activity
- Knowledge imbalance between parents and young people
- Low perceived risk of HPV and benefit of the vaccine including links to cervical cancer and other conditions, particularly amongst parents of boys
- Limited healthcare professionals' knowledge regarding HPV-related diseases, particularly in men

[99] who-hpv-vaccine-global-market-study-april-2022.pdf
[100] https://www.who.int/publications/i/item/who-wer9750-645-672
[101] https://phw.nhs.wales/topics/immunisation-and-vaccines/vaccination-information1/hpv/
[102] https://immunizationdata.who.int/pages/coverage/hpv.html?GROUP=WHO_REGIONS&ANTIGEN=15HPVC_F&YEAR=&CODE=
[103] Fracaso_HPV (1).pdf
[104] ASPECTOS SOCIALES QUE HAN AFECTADO LA ACEPTACIÓN DE LA VACUNACIÓN CONTRA EL VIRUS DEL PAPILOMA HUMANO EN COLOMBIA. UNA REVISIÓN SISTEMÁTICA (scielo.org.co)
[105] Barriers to human papillomavirus vaccination among US adolescents: a systematic review of the literature - PubMed (nih.gov)
[106] Full article: Facilitators and Barriers of HPV Vaccine Acceptance, Initiation, and Completion among LGBTQ Community in the U.S.: A Systematic Review (tandfonline.com)
[107] Young Danish HPV vaccinated women's knowledge, barriers and facilitators towards cervical cancer screening: A qualitative study - PMC (nih.gov)

Case study: Denmark[108,109,110]

HPV vaccine acceptance dropped from 90% in 2014 to 40% in 2016 amongst 12-year-old girls due to concerns about vaccine safety and adverse effects.

Concerns originated from extensive negative media coverage:

- There were 1329 negative news articles in 2015, compared to 140 in 2014
- A documentary ("The Vaccinated Girls – Sick and Abandoned") showcased
  - ✓ Girls who (wrongly) attributed their illnesses to the HPV vaccination
  - ✓ Apparent reticence of health authorities to acknowledge adverse effects

In 2017, the Danish Cancer Society, the Danish Medical Association and other partners launched the **"Stop HPV, Stop Cervical Cancer"** campaign.

Media analysis, focus groups, interviews, and surveys indicated:

- A **lack of awareness of:**
  - ✓ **Benefits of the HPV vaccine**
  - ✓ When it should be given **(prior to sexual debut)**
- **Mothers are the decision makers** regarding their daughters' HPV vaccination
- A distinction between:
  - ✓ Parents unlikely to change their minds
  - ✓ Hesitant parents who may be amenable to the campaign

The campaign targeted mothers of girls aged 10-14 with doubts about HPV vaccination to:

- **Rebuild confidence in the vaccine**
- **Improve health literacy** on HPV, cervical cancer, HPV vaccine, and relative risk of cervical cancer far outweighs vaccine adverse effects

Campaign messages were evidence-based and included:

- *"At least 80% of all sexually active people will be infected with HPV one or more times during their lifetime"*
- *"HPV infections are most prevalent among adolescents. About four in ten Danes under the age of 30 are infected with HPV at the moment"*
- *"HPV vaccination can prevent 70% of all cases of cervical cancer"*

Campaign content included medical facts and personal stories of women who had experienced precancerous change / cervical cancer.

Campaign channels included:

- **Traditional media** (e.g., articles published in newspapers and lifestyle magazines)
- **Digital platforms** (e.g., campaign website and campaign social media accounts)
  - ✓ **Digital presence**: parents' concerns were shared online (e.g., Facebook) enabling **campaign partners to address concerns**
  - ✓ The website included an "**evidence pyramid**" to **help people understand how studies are evaluated including quality and trustworthiness**.
  - ✓ **Twitter hashtags** (e.g., #stophpv)
- **Health professional-led community meetings**
- Communication between parents: "*My daughter is HPV vaccinated because*…"
- **Printed materials** distributed in healthcare settings, schools, etc., with information and links to campaign website

[108] Denmark campaign rebuilds confidence in HPV vaccination (who.int)
[109] Danish health literacy campaign restores confidence in HPV vaccination (who.int)
[110] https://www.clinicalkey.com/#!/content/playContent/1-s2.0-S0264410X19316615?returnurl=https:%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0264410X19316615%3Fshowall%3Dtrue&referrer=https:%2F%2Fpubmed.ncbi.nlm.nih.gov%2F

– **Materials for health professionals**

Evaluation at nine months demonstrated return to baseline (2009-2013) vaccine uptake levels (31,000 girls started the vaccination schedule compared to 15,000 in 2016).

Measles, Mumps, Rubella (MMR)

Suboptimal MMR vaccine coverage is associated with measles outbreaks[111]

– Perceived (debunked) associations between the MMR vaccine and autism remains a major barrier to vaccine uptake[112]

Case study: Somali community, Stockholm, Sweden[113,114,115,116]

Prior to **TIP** implementation in 2013, child health clinics in two districts in Stockholm reported low MMR vaccine uptake (around 70%).[117]

Phase 1. Formative research to identify knowledge gaps, questions, and concerns identified:

– **Parental concerns of autism** mean MMR vaccine is refused/delayed, particularly for sons
– **Fathers play a prominent role in vaccine decision making**
– **Oral methods of communication preferred** (especially mother-mother)

Phase 2. Planning and implementation; focus on:

– **Vaccine education** and **persuasive communication**
– **Communication skills seminar series** for clinic nurses: aim to facilitate dialogue with parents
– **Co-production**: seminars and related information disseminated using existing community networks

Interventions included:

– **Dialogue-based public seminars** delivered by healthcare professionals (with experience of working with vulnerable and migrant communities; trained in cultural competence):
  ✓ How the vaccine works, factors influencing child development and autism
  ✓ Seminars conducted in **Somali and Swedish with simultaneous interpretations**
  ✓ Invitation to **free seminars** were posted in local arenas
  ✓ Parents invited by nurses at clinics; social media; text message
– **Narrative short (14 minute) film with Somali role models, featuring:**
  ✓ **Parents sharing personal stories** about vaccination decisions
  ✓ **Health professionals shared evidence-based vaccination knowledge**
  ✓ A **religious leader** supporting prevention to improve health

  The film was in **Somali with Swedish translation** and was presented to parents in different venues, made **available on YouTube** and **featured in film events to facilitate dialogue around the content**
– **Animated cartoon:** requested by parents, a 7-minute Swedish language (with Swedish subtitles to be accessible to a wider audience) was developed, discussing how vaccinations work and the immune system

– **Information cards in Somali and Swedish with information on the:**
  ✓ Importance of following the childhood vaccination schedule
  ✓ Vaccination programme
  ✓ Role of child health clinics staff

[111] *https://www.euro.who.int/__data/assets/pdf_file/0004/329647/Vaccines-and-trust.PDF*
[112] *https://www.statista.com/statistics/665592/reasons-families-refused-vaccinations-health-care-professionals-us/*
[113] *https://www.sciencedirect.com/science/article/pii/S2666535222000817#bib37*
[114] *https://gh.bmj.com/content/7/7/e009250*
[115] *https://www.vhpb.org/files/html/Meetings_and_publications/Presentations/LJUBL512.pdf*
[116] *https://journals.sagepub.com/doi/full/10.1177/17579139221093238*
[117] *Folkhälsomyndigheten. Barriers-Motivating-Factors-Mmr-Vaccination-Communities-Low-Coverage-Sweden. Stockholm: The Public Health Agency;2015 978-91-7603-451-4.*

- **Peer-peer training:** 32 **mothers actively involved in community** were trained on vaccine education, with follow-up peer meetings and use of WhatsApp to maintain engagement

Findings:

- Health centres outside the intervention area also used the films and information cards
- Community engagement, involvement of Somali speaking experts, trainers, peers and community networks facilitated dialogue, understanding, and knowledge sharing
- **Interdisciplinary expertise essential**

Mpox (monkeypox)

Mpox is usually a prominent regional epidemic in Western and Central African countries, with occasional export to other regions[118,119]

- The 2022 multinational outbreak of mpox cases in Europe was declared a Public Health Emergency of International Concern[118]
- The outbreak demonstrates a **changing epidemiological trend**: cases did not have a history of travel to endemic areas; a high proportion of cases were gay and bisexual men who have sex with men (MSM)[120, 121]
  - ✓ A core group of people with a dense sexual network within the community may explain the higher risk of mpox transmission
  - ✓ Increased prevalence has led to **discrimination and stigma**. This may cause symptomatic individuals to avoid medical attention

Reducing stigma

Communication strategies must provide the **facts without attributing blame**[122]

- Messages should be accompanied by **admissions of uncertainty** (e.g., a certain group is at risk now, but the virus does not discriminate, and anyone could become infected)
- This **prevents a false sense of security** amongst the general public and **reduces confusion** when information is updated
- Messaging should be **approved and echoed by groups trusted** by the target population (e.g., HIV Scotland,[123] Love Tank[124])

Behavioural and cultural insights can support mpox control and elimination strategies through tailored policies, interventions and communication following **formative research** to understand the **context, perceptions and behaviours** of priority populations, including:[125]

1. **Targeted research** to address knowledge gaps
2. Identify and assess **available data**
3. **Effective communication**
   - ✓ Locate **trusted channels and community spokespeople** through community engagement

[118] https://www.who.int/news-room/questions-and-answers/item/monkeypox
[119] https://www.who.int/news-room/fact-sheets/detail/monkeypox
[120] https://idpjournal.biomedcentral.com/articles/10.1186/s40249-022-01007-6
[121] https://www.science.org/content/article/why-the-monkeypox-outbreak-is-mostly-affecting-men-who-have-sex-with-men
[122] https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00456-X/fulltext
[123] https://www.hiv.scot/sh/monkeypox
[124] https://www.gov.uk/government/news/innovative-projects-to-trial-new-ways-to-improve-sexual-health-and-hiv-outcomes
[125] https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6784-46550-67554

- ✓ Use behavioural science and community insights to **co-produce messages** with target populations
- ✓ Support sharing of MSM-developed messages

4. **Development and implementation** of initiatives
5. **Monitoring and evaluation**

Case study: CDC, United States[126]

The CDC utilise their **Health Equity Guiding Principles for Inclusive Communication health equity lens** in communication planning, development and dissemination to be **inclusive, avoid bias and stigmatization, and effectively reach intended audiences**

Messaging for general audiences:

- **Information on mpox:** mechanisms of spread (including how it is not spread); prevention; management (e.g., Digital Resources | Mpox | Poxvirus | CDC)
- **Visuals should include images of a range of severity** (e.g., rash); and a **range of demographic backgrounds including racial/ethnic group**

Messaging to Gay, Bisexual, and other MSM:

- Messages should be **clear, non- judgmental, avoid stigmatizing any sexual practice or community, and ensure content is not homo-/bi-/trans-phobic or heterosexist**
- **Channels should be used to reach specific groups**, e.g., certain websites or apps
- **Use of personal stories of "people like me"** so messages resonate with intended audiences
- **Consider collaboration with local stakeholders/event organisers** for dissemination of information, e.g., letters Important Message to All Visitors Regarding the Monkeypox Virus (cdc.gov)

COVID-19 / SARS-CoV-2

COVID-19 vaccine **development was rapid**: following publication of the SARS-CoV-2 sequence, emergency use authorisation was granted 11 months later[127]

- **Over 13 billion** COVID-19 vaccine doses administered globally (31 January 2023)[128]
- **Booster vaccinations** are recommended[129]
- **Vaccination rates vary** within populations: in the UK, rates of unvaccinated adults were higher, for example, amongst Black Caribbean, Black African and White Other ethnic groups; and people living in deprived areas[130]

Barriers to vaccination

Unwillingness or uncertainty about receiving the COVID-19 vaccines include:[131,132]

- **Vaccine safety concerns** (e.g., speed of development)
- **Low perception of COVID-19 risk**
- **Misinformation** on public platforms
- **Lack of trust** due to healthcare inequalities and structural racism

[126] https://www.cdc.gov/healthcommunication/Health_Equity_Lens.html
[127] Fast-forward: Will the speed of COVID-19 vaccine development reset industry norms? | McKinsey
[128] WHO Coronavirus (COVID-19) Dashboard | WHO Coronavirus (COVID-19) Dashboard With Vaccination Data
[129] effective-ways-to-increase-vaccination-rates.pdf (wellcome.org)
[130] Coronavirus (COVID-19) latest insights - Office for National Statistics (ons.gov.uk)
[131] COVID-19 vaccine refusal, UK - Office for National Statistics (ons.gov.uk)
[132] Covid-19 vaccination hesitancy | The BMJ

Hesitancy is common among pregnant people due to:[133,134,135]

- Inconsistent guidance
- Non-inclusion in clinical trials
- Fear about potential harms to the parent or baby

Educational communication campaigns

Case studies: Communication campaigns to promote COVID-19 vaccination	
Israel[136]	**Educational video** included explanation of vaccine development, potential adverse effects, and vaccination recommendations
Italy[137]	The Italian Ministry of Health, National Institute of Health, and partners developed a **cartoon series, "*Leo & Giulia*",** to **educate 5–11-year-olds** on COVID-19. A vaccine-related episode was released during **European Immunization Week 2022**
Romania[138]	The European Commission, Romanian media, and health agencies collaborated to develop short videos consisting of **testimonies of people who lost loved ones to COVID-19**, which were broadcasted on Romanian TV and radio
England[139]	Councils applied **behavioural science techniques**: ✓ Rapid segmentation of target audience ✓ Used COM-B framework ✓ Developed toolkits for businesses, staff, and public ✓ Considered the message and messenger when approaching minority groups
United States[140]	"*The Conversation: Between Us, About Us*" removes barriers for Black Americans: ✓ **Debut video with a comedian launched on social media;** now working with **YouTube and Google to amplify reach** ✓ Features **Black healthcare professionals and researchers** offering credible information ✓ **Creates a "healthy rabbit hole"** ✓ **Respects people's concerns**

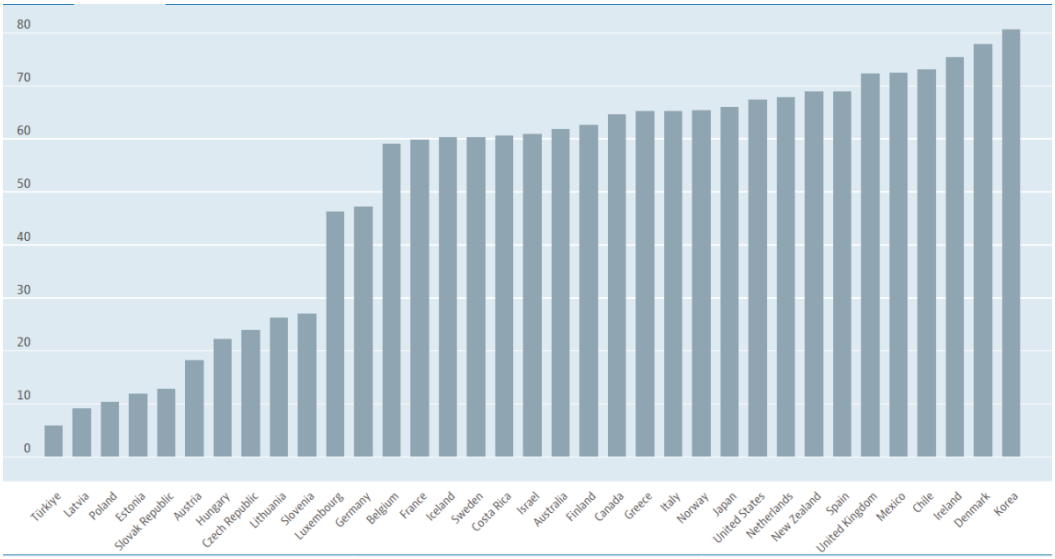
Influenza virus

The WHO recommends that **influenza vaccine coverage reaches or exceeds 75% uptake for people aged 65 and over**[141]

- There is **significant global variation in vaccination coverage** (Figure 4)
- Annual boosters are recommended

[133] COVID-19 vaccination during pregnancy: coverage and safety - ScienceDirect
[134] Women's views on accepting COVID-19 vaccination during and after pregnancy, and for their babies: a multi-methods study in the UK | SpringerLink
[135] COVID-19 Vaccination in Pregnancy: The Benefits Outweigh the Risks - PMC (nih.gov)
[136] Effect of a Concise Educational Program on COVID-19 Vaccination Attitudes - PMC (nih.gov)
[137] ASPHER - Secretariat updates
[138] Vaccination communication campaign (europa.eu)
[139] https://www.local.gov.uk/our-support/coronavirus-information-councils/covid-19-good-council-practice/covid-19-behavioural
[140] https://www.thenationshealth.org/content/51/3/7
[141] Adult flu vaccination coverage | The Nuffield Trust

Figure 4. Influenza vaccination rates (% of population aged 65+, 2021 or latest available)
Source: OECD[142]



Barriers to vaccination

Potential reasons for reduced influenza vaccine coverage include:[143]

- **Low influenza activity in the previous** season
- **Changes in healthcare seeking behaviour** resulting in fewer visits to vaccine providers
- **Vaccine fatigue** caused by ongoing COVID-19 vaccination efforts
- Belief that the **COVID-19 vaccine will protect** against influenza

Influenza vaccine education interventions

- Vaccination rates could improve through **clear, evidence-based information, coupled with widespread education campaigns** *(e.g., European Influenza Awareness Day/Week)* addressed to all populations[144]
- **Non-facial educational interventions**, such as messages or personalised letters focused on the safety and effectiveness of the influenza vaccine, particularly for children and the elderly, could promote vaccine uptake[145]

Case studies: Influenza campaigns to increase risk awareness and vaccine acceptance	
Uzbekistan[146] **(2019)**	The WHO and Ministry of Health of Uzbekistan conducted a public awareness campaign. Materials were made available in **English, Russian, and Uzbek** and included: – **Information flyers** distributed in medical institutions, schools, kindergartens, and busy public places such as bazaars and beauty salons – **Videos highlighting vaccination as the most effective method for preventing influenza** screened in polyclinics, hospitals, supermarkets, and markets
Turkmenistan[147] **(2018)**	**The Ministry of Health campaign, with medical industry partners, targeted high-risk groups**: – Elderly – Pregnant – Young children

[142] Health care use - Influenza vaccination rates - OECD Data
[143] Early, Low Estimates for Flu Vaccination Coverage in Some Groups Raise Concerns at CDC | CDC
[144] 1108_MER_flu_behaviour.pdf (europa.eu)
[145] Effectiveness of Educational Intervention on Influenza Vaccine Uptake: A Meta-Analysis of Randomized Controlled Trials - PMC (nih.gov)
[146] WHO conducts campaign to increase uptake of influenza vaccination in Uzbekistan
[147] Turkmenistan runs first Flu Awareness Campaign (who.int)

	– People with comorbidities – Health workers Campaign materials were prepared in **Turkmen and Russian** and included: – **Posters** in polyclinics, hospitals, and educational institutions – **A drawing competition** (with commemorative prizes) for school children
Kaunas, **Lithuania**[148] (2017)	Influenza vaccine acceptance amongst pregnant women increased after a trial project for **WHO/Europe's Tailoring Immunization Programmes for seasonal influenza (TIP FLU)** Activities included: ✓ A series of **lectures for healthcare professionals** ✓ Provision of **information materials** and **large adverts on buses**

Poliomyelitis (polio)

The **Global Polio Eradication Initiative (GPEI)**, launched by the World Health Assembly in 1998, decreased wild poliovirus cases by over 99%.[149]

- **Two of the three strains** of wild poliovirus have been **eradicated**[149,150]
- Type 1 is still **endemic in two countries: Pakistan and Afghanistan**
- Poliovirus has still been reported in non-endemic countries including the UK
  - ✓ In June 2022, the UK Health Security Agency declared a 'rare national incidence' following identification of poliovirus in sewage in London for the first time in nearly 40 years[151]
- The WHO developed **communication and social mobilisation guides** to support eradication efforts:[152]
  - ✓ Channels of communication
  - ✓ Appropriate messaging for different audiences
  - ✓ Responding to rumours
  - ✓ Reaching seldom heard voices
  - ✓ The updated 'Polio Eradication Strategy 2022-2026: Delivering on a Promise'[153] includes communications as a core component (Figure 5)

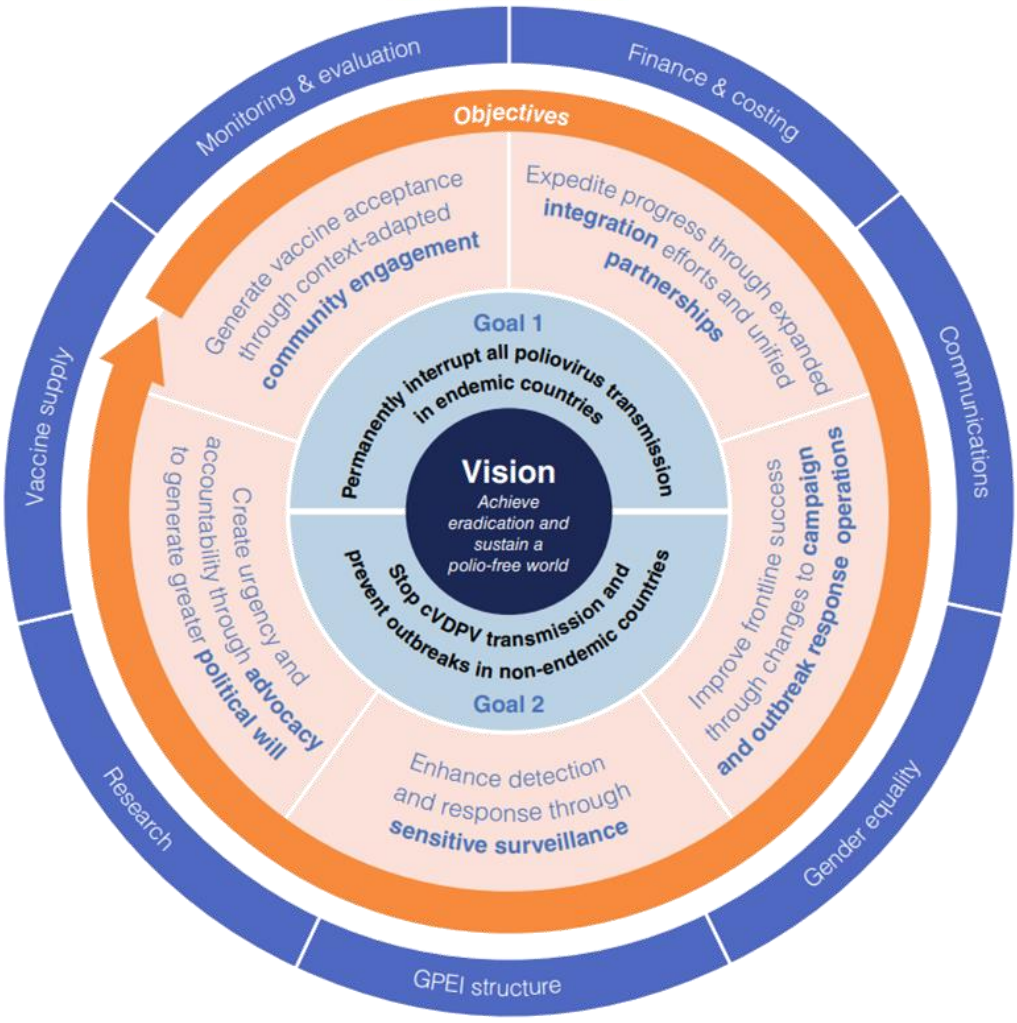
Educational communication campaigns

Case studies: Communication campaigns to improve polio vaccine update	
UNICEF[154]	– Increased community engagement through **different communication strategies appropriate for social and cultural norms** ✓ **Evidence-based**; focus on **community dialogue and participation** ✓ **Local community workers and volunteers visit all households** to inform and support polio immunisation, address concerns and misinformation ✓ **Buy in from religious and civic leaders** – **Integration of prevention and public health messages** (e.g., nutrition, and water, sanitation and hygiene services into polio vaccination campaigns

[148] *"When I got more information, I was sure I needed the vaccine" – immunizing pregnant women against influenza in Kaunas, Lithuania (who.int)*
[149] *Poliomyelitis (polio) (who.int)*
[150] *GPEI – Global Polio Eradication Initiative*
[151] *Poliovirus returns to the UK after nearly 40 years: current efforts and future recommendations (bmj.com)*
[152] *2-ct-polio (who.int)*
[153] *GPEI Strategy 2022-2026 – GPEI (polioeradication.org)*
[154] *Eradicating polio | UNICEF*

Afghanistan [155]	– The **National Emergency Action Plan for Polio Eradication** (NEAP) 2021 identified reasons for vaccine refusal including religious objection and campaign fatigue – NEAP focussed on communication interventions, building on previous success, including: ✓ **Providing polio branded promotional materials to communities at risk** to enhance vaccine uptake and promote other relevant health practices (e.g., hygiene promotion) ✓ Conducting **national level training of National Islamic Advisory Group members and religious scholars/mullahs** focusing on vaccination, child health, and interpersonal communication skills for polio and routine immunisation promotion – **Effective use of mass media and social media to reach large audiences**, including a polio website and social media platforms
Israel[156]	– **Wild poliovirus was detected in 2013 by surveillance systems**; **subsequent vaccination campaigns were met with resistance** due to a lack of understanding that vaccinated children could still spread polio – **Communication surveillance on public opinion and concerns**, e.g., **monitoring of social media,** identified a planned anti-vaccination protest – **The Ministry of Health asked people who developed polio-related paralysis to speak at the protest**

Figure 5. Polio Eradication Strategy 2022–2026 strategic framework
Source: GPEI[157]



[155] Afghanistan_NEAP_2021.pdf (polioeradication.org)
[156] Vaccination and trust: How concerns arise and the role of communication in mitigating crises (who.int)
[157] GPEI Strategy 2022-2026 – GPEI (polioeradication.org)

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