



Erasmus + VET Strategic Partnerships
IENE 11 PROVAC Empowering nurses and healthcare professionals
to promote vaccination and tackle vaccine hesitancy
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Information Guide on Vaccination & Vaccination Hesitancy

Intellectual Output 1

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Executive summary

The main goal of the project *“IENE11- Empowering nurses and healthcare professionals to promote vaccination and tackle vaccine hesitancy- PROVAC project”* is to increase the level of knowledge on vaccine and vaccination of the healthcare professionals and support them to promote vaccination and tackle with vaccine hesitancy by provision of reliable, trustful and up-to-date information sources on vaccine and vaccination, by creating information tools addressing people coming from disadvantaged groups and people that are more vaccine hesitant to help them get better informed, overcome their fears and strengthening confidence in vaccines. Under this general aim, the aims of the Intellectual Output 1 (IO1) were to collect current understanding on the knowledge on vaccine and vaccination of general people and the way that healthcare professionals can be supported to promote vaccination and tackle with vaccine hesitancy by provision of reliable, trustful and up-to-date information sources on vaccine and vaccination. In other words, the aim of the IO1 of this project was the creation of a compendium of **valuable and trustful informative sources** on different issues of vaccination and immunization, promoting vaccination and tackle vaccine hesitancy.

Decision-making on having or not a vaccination has been found related to individuals’ education, emotional response, understanding, personal values, culture, and social norms. During the Covid-19 pandemic, vaccination rates have been found lower among people belonging to racial/ethnic minority populations and other underserved and socioeconomically disadvantaged groups. In addition, misinformation about COVID-19 and the vaccines has been easily accessible in many languages creating an urgency for health campaigns to face misinformation with factual, culturally and linguistically appropriate messaging. Health care professionals should be able to deal with ethical concerns for example those related to the use of fetal cell lines in some vaccines. The vaccination for Covid-19 is not the only case. It could be considered the tip of the iceberg, which is visible because of the pandemic.

Thus, this information guide includes informative **sources in four languages (EL, EN, ES, RO), referring to all types of vaccines**. This information guide is a tool to be used not only by the general population, but also by health professionals, as their advice is very important for people to decide whether to accept vaccines.

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Please, visit the project website www.iene11.eu

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INTERNATIONAL INFORMATION IN ENGLISH

Thematic Area 1 - Policies, strategies and legislation related to vaccination and immunization programmes

PEER REVIEWED ARTICLES (INTERNATIONAL)

	Title/Summary	Reference/Link
1	<p>Strategies that Promote Equity in COVID-19 Vaccine Uptake for Undocumented Immigrants: A Review. While intention to be vaccinated has been higher among adults in immigrant families than non-immigrant adults, uptake of the vaccine has been lower among immigrants and especially those who are undocumented. Strategies used to promote equity, include the use of trusted leaders as well as direct communication styles. Other strategies centered informational messaging from government agencies and the medical community, with a strong emphasis on coalescing broad engagement of the community and being responsive to language and cultural needs. In addition to communication and messaging to educate about COVID-19 vaccines, another important aspect of COVID-19 vaccine uptake was overcoming multiple obstacles that affect ease of access. This report suggests that vaccine uptake, and more generally pandemic response, in vulnerable communities may be better able to launch when they build on existing, trusted, culturally intelligent community-based organizations and local sociocultural processes. These organizations need continued support to contribute to population health equity in emerging health crises.</p>	<p>Demekke J, McFadden SM, Dada D, et al. Strategies that Promote Equity in COVID-19 Vaccine Uptake for Undocumented Immigrants: A Review [published online ahead of print, 2022 Jan 27]. <i>J Community Health</i>. 2022;1-9. doi:10.1007/s10900-022-01063-x https://link.springer.com/article/10.1007/s10900-022-01063-x</p>
2	<p>Ethnic/racial minorities' and migrants' access to COVID-19 vaccines: A systematic review of barriers and facilitators. It is a systematic review of ethnic minorities' and migrants' access to and acceptance of COVID-19 vaccines. 26 studies reported outcomes for ethnic minorities while 9 studies reported on migrants. There was consistent evidence of elevated levels of COVID-19 vaccine hesitancy among Black/Afro-Caribbean groups in the US and UK, while studies of Hispanic/Latino populations in the US and Asian populations in the UK provided mixed pictures,</p>	<p>Abba-Aji, M., Stuckler, D., Galea, S., & McKee, M. (2022). Ethnic/racial minorities' and migrants' access to COVID-19 vaccines: A systematic review of barriers and facilitators. <i>Journal of migration and health</i>, 5, 100086.</p>

	<p>with levels higher, lower, or the same as their White counterparts. Asians in the US had the highest COVID-19 vaccine acceptance compared to other ethnic groups. There was higher vaccine acceptance among migrant groups in Qatar and China than in the general population. However, migrants to the UK experienced barriers to vaccine access, mainly attributed to language and communication issues. Lack of confidence, mainly due to mistrust of government and health systems coupled with poor communication were the main barriers to uptake among Black ethnic minorities and migrants. This review found that low confidence in COVID-19 vaccines among Black ethnic minorities driven by mistrust and safety concerns led to high vaccine hesitancy in this group. Such vaccine hesitancy rates constitute a major barrier to COVID-19 vaccine uptake among this ethnic minority. For migrants, convenience factors such as language barriers, fear of deportation and reduced physical access reduced access to COVID-19 vaccines.</p>	<p>https://doi.org/10.1016/j.imh.2022.100086</p>
3	<p>Ethnic and minority group differences in engagement with COVID-19 vaccination programmes - at Pandemic Pace; when vaccine confidence in mass rollout meets local vaccine hesitancy Early studies attribute lower uptake of COVID-19 amongst ethnic minorities to the wider determinants of vaccine uptake, hesitancy or lack of vaccine confidence, including lower levels of trust and greater concerns about vaccine safety. Early sentinel studies are needed in all early adopter countries. One emerging theme among those of reproductive age in minority communities concerns a worry regarding COVID-19 vaccine's potential adverse effect on fertility. Respected professional groups reassure this is not a credible rationale. Drug and vaccine regulators use understandable, cautious and conditional language in emergency licencing of new gene-based vaccines. Technical assessments on whether there is any potential genotoxicity or reproductive toxicity should be more emphatic.</p>	<p>Reid JA, Mabhala MA. Ethnic and minority group differences in engagement with COVID-19 vaccination programmes - at Pandemic Pace; when vaccine confidence in mass rollout meets local vaccine hesitancy [published correction appears in Isr J Health Policy Res. 2021 Oct 28;10(1):60]. <i>Isr J Health Policy Res.</i> 2021;10(1):33. Published 2021 May 27. doi:10.1186/s13584-021-00467-9Review1 3</p>
4	<p>Vaccination: Concerns About Its Accessibility, Affordability, and Acceptability. By the mid of June 2021, after an almost 1.5-year-long COVID-19 pandemic that has significantly affected the world in multiple ways, various vaccines against COVID-19 have arrived and started worldwide. Yet, economic, (geo)political, and socio-cultural factors may influence its uptake at individual and country levels. Several issues will (and already have been reported in media) revolve around this vaccination regarding its accessibility, affordability, and acceptability at an individual level and a country level. Given that in this commentary, we provoke a discussion: Who-a country as well as the individuals-would have access to it, and who would economically afford it, and who would</p>	<p>Ali, I., Ali, S., & Iqbal, S. (2021). COVID-19 Vaccination: Concerns About Its Accessibility, Affordability, and Acceptability. <i>Frontiers in medicine</i>, 8, 647294. https://doi.org/10.3389/fmed.2021.647294</p>

	accept it? Centering these intriguing questions, we revisit the body of literature that explicates vaccine hesitancy, refusal, and resistance, and we also draw on the current literature and media reports about vaccination against COVID-19.	
5	Knowledge, attitudes and beliefs towards compulsory vaccination: a systematic review. Despite several studies having demonstrated the efficacy of mandatory vaccinations in ensuring herd immunity, opposition is widespread. The aim of this study was to systematically review published studies evaluating attitudes towards mandatory vaccination programs. Twenty-two studies assessed attitudes towards mandatory vaccination programs in general, while 9 papers focused specifically on the Human Papilloma Virus (HPV) vaccine. Most of the studies were performed in Europe and North America. According to the assessed studies, the majority of the population seems to be in favour of compulsory vaccinations, although attitudes differed among studies.	Gualano, M. R., Olivero, E., Voglino, G., Corezzi, M., Rossello, P., Vicentini, C., Bert, F., & Siliquini, R. (2019). Knowledge, attitudes and beliefs towards compulsory vaccination: a systematic review. <i>Human vaccines & immunotherapeutics</i> , 15(4), 918–931. https://doi.org/10.1080/21645515.2018.1564437
6	Communication around HPV vaccination for adolescents in low- and middle-income countries: a systematic scoping overview of systematic reviews. It is a systematic scoping overview of systematic reviews addressing a range of questions regarding communication around HPV vaccination. Four reviews assessed the effectiveness of communication interventions. These interventions intended to inform or educate about HPV and HPV vaccination, such as videos and fact sheets, or to remind or recall, such as text message reminders. Eight reviews assessed factors associated with HPV vaccination uptake, including communication-related factors such as whether the vaccine was recommended by a physician and people's knowledge regarding the vaccine. Nine reviews searched for studies from LMICs, but most found only a small number of studies from these countries. The small number of studies identified from LMICs is of concern as these countries face the largest burden of disease related to HPV.	Foss, H. S., Oldervoll, A., Fretheim, A., Glenton, C., & Lewin, S. (2019). Communication around HPV vaccination for adolescents in low- and middle-income countries: a systematic scoping overview of systematic reviews. <i>Systematic reviews</i> , 8(1), 190. https://doi.org/10.1186/s13643-019-1100-y
7	Addressing Parental Vaccine Hesitancy towards Childhood Vaccines in the United States: A Systematic Literature Review of Communication Interventions and Strategies. This systematic literature review attempts to aid public health professionals with a catalogue of health communication interventions and strategies to ultimately address and prevent parental vaccine hesitancy in the long term. Out of 1239 search results, a total of 75 articles were included for analysis, ranging from systematic reviews, quantitative surveys, and experimental designs to ethnographic and qualitative studies. For the presentation of results, a taxonomy was used to	Olson, O., Berry, C., & Kumar, N. (2020). Addressing Parental Vaccine Hesitancy towards Childhood Vaccines in the United States: A Systematic Literature Review of Communication Interventions and Strategies. <i>Vaccines</i> , 8(4), 590.

	<p>organize communication interventions according to their intended purpose. The catalogue of interventions was further broken down into specific components and themes that were identified in the literature as essential to either the success or failure in preventing and addressing parental vaccine hesitancy towards childhood vaccines.</p>	<p>https://doi.org/10.3390/vaccines8040590</p>
8	<p>Confidence and Receptivity for COVID-19 Vaccines: A Rapid Systematic Review. This review compared trends and synthesized findings in vaccination receptivity over time across US and international polls, assessing survey design influences and evaluating context to inform policies and practices. Declining vaccine acceptance (from >70% in March to <50% in October) with demographic, socioeconomic, and partisan divides was observed. Perceived risk, concerns over vaccine safety and effectiveness, doctors' recommendations, and inoculation history were common factors. Impacts of regional infection rates, gender, and personal COVID-19 experience were inconclusive. Unique COVID-19 factors included political party orientation, doubts toward expedited development/approval process, and perceived political interference. Many receptive participants preferred to wait until others have taken the vaccine; mandates could increase resistance. Survey wording and answer options showed influence on responses.</p>	<p>Lin, C., Tu, P., &Beitsch, L. M. (2020). Confidence and Receptivity for COVID-19 Vaccines: A Rapid Systematic Review. <i>Vaccines</i>, 9(1), 16. https://doi.org/10.3390/vaccines9010016</p>
9	<p>Simulating the impact of different vaccination policies on the COVID-19 pandemic in New York City. It analyzes the potential COVID-19 epidemic outcomes in New York City under different SARS-CoV-2 virus circulation scenarios and vaccine rollout policies from early Jan 2021 to end of June 2021. In anticipation of the potential arrival and dominance of the more infectious SARS-CoV-2 variant:Mass-vaccination would be critical to mitigating epidemic severity (26-52% reduction in infections, hospitalizations, and deaths, compared to no vaccination, provided the new UK variant supplants currently circulating variants).Prioritizing key risk groups for earlier vaccination would lead to greater reductions in hospitalizations and deaths than infections. Thus, in general, this would be a good strategy.Current vaccination prioritization policy is suboptimal. To avert more hospitalizations and deaths, mass-vaccination of all individuals 65 years or older should be done as soon as possible. For groups listed in the same phase, 65+ year-olds should be given first priority ahead of others.Available vaccine doses should be given to the next priority groups as soon as possible without awaiting hesitant up-stream groups. While efficacy of vaccination off-protocol is unknown, provided immune response following a first vaccine dose persists, delaying the 2nd vaccine dose by ~1 month (i.e. administer the two doses 8 weeks apart)</p>	<p>Yang, W., Kandula, S., & Shaman, J. (2021). Simulating the impact of different vaccination policies on the COVID-19 pandemic in New York City. <i>medRxiv : the preprint server for health sciences</i>, 2021.01.21.21250228. https://doi.org/10.1101/2021.01.21.21250228</p>

	<p>can substantially reduce infections, hospitalizations, and deaths compared to the 3-week apart regimen. Across all scenarios tested here, delaying the 2nd vaccine dose leads to the largest reduction in severe epidemic outcomes (e.g. hospitalizations and deaths). Therefore, to protect as many people as possible, this strategy should be considered if rapid increases in infections, hospitalization or deaths and/or shortages in vaccines were to occur.</p>	
10	<p>Racial and ethnic differences in COVID-19 vaccine hesitancy and uptake. medRxiv : the preprint server for health sciences This is a cohort study among U.S. and U.K. participants in the smartphone-based COVID Symptom Study (March 24, 2020-February 16, 2021). They used logistic regression to estimate odds ratios (ORs) of COVID-19 vaccine hesitancy (unsure/not willing) and receipt. In the U.S. (<i>n</i> =87,388), compared to White non-Hispanic participants, the multivariable ORs of vaccine hesitancy were 3.15 (95% CI: 2.86 to 3.47) for Black participants, 1.42 (1.28 to 1.58) for Hispanic participants, 1.34 (1.18 to 1.52) for Asian participants, and 2.02 (1.70 to 2.39) for participants reporting more than one race/other. In the U.K. (<i>n</i> =1,254,294), racial and ethnic minorities had similarly elevated hesitancy: compared to White participants, their corresponding ORs were 2.84 (95% CI: 2.69 to 2.99) for Black participants, 1.66 (1.57 to 1.76) for South Asian participants, 1.84 (1.70 to 1.98) for Middle East/East Asian participants, and 1.48 (1.39 to 1.57) for participants reporting more than one race/other. Among U.S. participants, the OR of vaccine receipt was 0.71 (0.64 to 0.79) for Black participants, a disparity that persisted among individuals who specifically endorsed a willingness to obtain a vaccine. In contrast, disparities in uptake were not observed in the U.K.</p>	<p>Nguyen, L. H., Joshi, A. D., Drew, D. A., Merino, J., Ma, W., Lo, C. H., Kwon, S., Wang, K., Graham, M. S., Polidori, L., Menni, C., Sudre, C. H., Anyane-Yeboah, A., Astley, C. M., Warner, E. T., Hu, C. Y., Selvachandran, S., Davies, R., Nash, D., Franks, P. W., ... Chan, A. T. (2021). Racial and ethnic differences in COVID-19 vaccine hesitancy and uptake. <i>medRxiv : the preprint server for health sciences</i>, 2021.02.25.21252402. https://doi.org/10.1101/2021.02.25.21252402</p>
GREY LITERATURE (INTERNATIONAL)		
	Title/Summary	Reference/ Link
1	<p>Overview of the implementation of COVID-19 vaccination strategies and deployment plans in the EU/EEA. This report published by the European Centre for Disease Prevention and Control, provides an updated overview of the progress with national COVID-19 vaccination strategies and deployment in European Union/European Economic Area (EU/EEA) countries, including updates on overall vaccine uptake and uptake by target group, vaccination strategies and policies and</p>	<p>ECDC2022. https://www.ecdc.europa.eu/sites/default/files/documents/Overview-of-COVID-</p>

	challenges and good practice with the roll-out, including vaccine acceptance and uptake to mitigate these challenges.	19-vaccination-strategies-deployment-plans-in-the-EU-EEA-Jan-2022_1.pdf
2	Vaccines National Strategic Plan: 2021–2025. The Vaccines National Strategic Plan 2021–2025 (Vaccine Plan) published by U.S.A Department of Health and Human Services provides a vision for the vaccine and immunization enterprise to eliminate vaccine-preventable diseases. The Vaccine Plan articulates a comprehensive strategy to promote vaccines and vaccination in the areas of research and development, vaccine safety monitoring, public knowledge and confidence, access and use across the lifespan, and global cooperation. It builds on previous plans and guides vaccine policy to address pressing issues such as vaccine hesitancy and disparities in vaccination coverage.	U.S. Department of Health and Human Services. 2021. https://www.hhs.gov/sites/default/files/HHS-Vaccines-Report.pdf
3	COVID-19 Vaccination Field Guide: 12 Strategies for Your Community. CDC has published a field guide which intended to support the work of health departments and community- and faith-based organizations across the United States by offering intervention strategies to promote COVID-19 vaccine confidence and uptake based on a rapid assessment of evidence that identified research-proven methods. It outlines 12 intervention strategies to increase COVID-19 vaccine confidence and uptake. The intervention strategies are based upon positive outcomes from historical vaccination efforts and the guide includes examples from communities using the strategies. Also, It highlights some common barriers that communities experience in vaccine confidence and uptake and offers tools to help assess barriers and find potential solutions for your community of focus.	CDC, 2021 https://www.cdc.gov/vaccines/covid-19/downloads/vaccination-strategies.pdf
4	European Immunization Agenda 2030. The European Immunization Agenda 2030 (EIA2030), a vision and strategy crafted by Member States for achieving the full benefits of immunization in the WHO European Region for the next decade, builds on the achievements and lessons learned from implementation of the European Vaccine Action Plan 2015–2020 (EVAP). Implementation of EVAP saw many successes — such as sustained polio-free status in the Region, an increased number of Member States verified as having eliminated measles and rubella, progress with documenting hepatitis B control, improved vaccine introduction decision making through national	WHO, 2021 https://apps.who.int/iris/bitstream/handle/10665/348002/9789289056052-eng.pdf

	immunization technical advisory groups, and most Member States achieving financial self-sufficiency for vaccine procurement. However, not all the EVAP targets were met, and a main aim of achieving equity in immunization remains elusive. In addition, there is a real risk that complacency will undermine past achievements.	
5	Communication From The Commission To The European Parliament, The European Council, The Council And The European Investment Bank Eu Strategy For Covid-19 Vaccines. As part of the effort to help protect people everywhere and EU citizens in particular, the EU Commission is proposing an EU strategy to accelerate the development, manufacturing, and deployment of vaccines against COVID-19. The strategy has as objectives to ensure the quality, safety and efficacy of vaccines for Member States and their population, to secure timely access to vaccines for all Member States and their population while leading the global solidarity effort and to ensure equitable access for all in the EU to an affordable vaccine as early as possible. The strategy rests on two pillars: to secure sufficient production of vaccines in the EU and thereby sufficient supplies for its Member States and to adapt the EU's regulatory framework to the current urgency and making use of existing regulatory flexibility.	European Commission, 2020 https://ec.europa.eu/info/sites/default/files/communication-eu-strategy-vaccines-covid19_en.pdf
MASS MEDIA (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	COVID-19 Vaccine Education and Equity Project: Updates on the latest public health guidance related to COVID-19 vaccine from CDC.gov.	https://twitter.com/COVIDVxProject/status/1499021967709589504?cxt=HHwWgMCy_bKizM0pAAAA https://twitter.com/covidvxproject
2	Podcast: Vaccine Voices. Promoting Equity in Vaccine Access. While some sources are quick to point to vaccine hesitancy as the main cause for the vaccination rate gap between racial and ethnic groups due to a history of mistrust of the medical community, others point to issues affecting how easily people can access the vaccines, such as a lack of access to accurate information and barriers to technology, time, and transportation. On this episode of "Beyond the White Coat," Karey Sutton, PhD, AAMC director of health equity research workforce and director of research for the AAMC Center for Health Justice, talks with experts Giselle Corbie	Podcast: VaccineVoices: Promoting Equity in Vaccine Access. [2021 May 28]. https://www.aamc.org/news-

	Smith, MD, and Aaron Gerstenmaier, MD, about the racial and ethnic disparities in COVID-19 vaccination rates and explores strategies to promote equity in vaccine access.	insights/podcast-vaccinevoices-promoting-equity-vaccine-access
3	Germany proposes \$2,800 fine for parents skipping measles vaccination. This article refers to the German policy about measles vaccination. A UNICEF study found that measles killed 110,000 people globally in 2017, mostly children. That is up 22% from the year before. The report concluded that the rise is due to 20 million children a year missing the first dose of the measles vaccine. Therefore, fines of up to €2,500 - \$2,800 are charged to the parents who fail to vaccinate their children against measles, as part of draft legislation from the country's health minister. It takes two doses of the vaccine to protect children from measles.	McKenzie S. Germanyproposes \$2,800 fine forparentsskippingmeaslesvaccination [published online 2019 May 7]. https://edition.cnn.com/2019/05/06/health/measles-vaccinationgermany-fine-grm-intl/index.html
4	Strategies for global vaccination. 1. Provide sustainable health returns and investment thru adult vaccination 2. Further reduce disease burden & reduce transmission through adolescent vaccination 3. Catalyze political will for at-risk investments 4. Strengthen primary health care systems.	https://twitter.com/ChaigaDestiny/status/1518859013399748609 https://twitter.com/search?q=strategies%20%20vaccination&src=typed_query&f=top

Thematic Area 2- Information on vaccine and vaccination

PEER REVIEWED ARTICLES (INTERNATIONAL)

	Title/Summary	Reference/Link
1	Cardiovascular and haematological events post COVID-19 vaccination: A systematic review. Since COVID-19 took a strong hold around the globe causing considerable morbidity and mortality, a lot of effort was dedicated to manufacturing effective vaccines against SARS-CoV-2. Many questions have since been raised surrounding the safety of the vaccines, and a lot of media attention to certain side effects. This caused a state of vaccine hesitancy that may prove problematic in the global effort to control the virus. This review was undertaken with the aim of	Al-Ali, D., Elshafeey, A., Mushannen, M., Kawas, H., Shafiq, A., Mhaimeed, N., Mhaimeed, O., Mhaimeed, N., Zeghlache, R., Salameh, M., Paul, P., Homssi, M., Mohammed, I., Narangoli, A., Yagan, L., Khanjar, B., Laws, S., Elshazly, M. B., & Zakaria, D. (2022).

	<p>putting together all the reported cardiovascular and haematological events post COVID-19 vaccination in published literature and to suggest possible mechanisms to explain these rare phenomena.</p>	<p>Cardiovascular and haematological events post COVID-19 vaccination: A systematic review. <i>Journal of cellular and molecular medicine</i>, 26(3), 636–653. https://doi.org/10.1111/jcmm.17137</p>
2	<p>Engineered ACE2 decoy mitigates lung injury and death induced by SARS-CoV-2 variants. Vaccine hesitancy and emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants of concern (VOCs) escaping vaccine-induced immune responses highlight the urgency for new COVID-19 therapeutics. Engineered angiotensin-converting enzyme 2 (ACE2) proteins with augmented binding affinities for SARS-CoV-2 spike (S) protein may prove to be especially efficacious against multiple variants. Using molecular dynamics simulations and functional assays, we show that three amino acid substitutions in an engineered soluble ACE2 protein markedly augmented the affinity for the S protein of the SARS-CoV-2 WA-1/2020 isolate and multiple VOCs: B.1.1.7 (Alpha), B.1.351 (Beta), P.1 (Gamma) and B.1.617.2 (Delta). In humanized K18-hACE2 mice infected with the SARS-CoV-2 WA-1/2020 or P.1 variant, prophylactic and therapeutic injections of soluble ACE2.v2.4-IgG1 prevented lung vascular injury and edema formation, essential features of CoV-2-induced SARS, and above all improved survival. These studies demonstrate broad efficacy in vivo of an engineered ACE2 decoy against SARS-CoV-2 variants in mice and point to its therapeutic potential.</p>	<p>Zhang, L., Dutta, S., Xiong, S., Chan, M., Chan, K. K., Fan, T. M., Bailey, K. L., Lindeblad, M., Cooper, L. M., Rong, L., Gugliuzza, A. F., Shukla, D., Procko, E., Rehman, J., & Malik, A. B. (2022). Engineered ACE2 decoy mitigates lung injury and death induced by SARS-CoV-2 variants. <i>Nature chemical biology</i>, 18(3), 342–351. https://doi.org/10.1038/s41589-021-00965-6</p>
3	<p>Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials: A Systematic Review and Meta-analysis. It compares the frequencies of AEs reported in the placebo groups of COVID-19 vaccine trials with those reported in the vaccine groups. Twelve articles with AE reports for 45 380 participants (22 578 placebo recipients and 22 802 vaccine recipients) were analyzed. After the first dose, 35.2% (95% CI, 26.7%-43.7%) of placebo recipients experienced systemic AEs, with headache (19.3%; 95% CI, 13.6%-25.1%) and fatigue (16.7%; 95% CI, 9.8%-23.6%) being most common. After the second dose, 31.8% (95% CI, 28.7%-35.0%) of placebo recipients reported systemic AEs. The ratio between placebo and vaccine arms showed that nocebo responses accounted for 76.0% of systemic AEs after the first COVID-19 vaccine dose and for 51.8% after the</p>	<p>Haas, J. W., Bender, F. L., Ballou, S., Kelley, J. M., Wilhelm, M., Miller, F. G., Rief, W., & Kaptchuk, T. J. (2022). Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials: A Systematic Review and Meta-analysis. <i>JAMA network open</i>, 5(1), e2143955. https://doi.org/10.1001/jamanetworkopen.2021.43955</p>

	<p>second dose. Significantly more vaccine recipients reported AEs, but the group difference for systemic AEs was small after the first dose (OR, -0.47; 95% CI, -0.54 to -0.40; P < .001; standardized mean difference, -0.26; 95% CI, -0.30 to -0.22) and large after the second dose (OR, -1.36; 95% CI, -1.86 to -0.86; P < .001; standardized mean difference, -0.75; 95% CI, -1.03 to -0.47). In this systematic review and meta-analysis, significantly more AEs were reported in vaccine groups compared with placebo groups, but the rates of reported AEs in the placebo arms were still substantial.</p>	
4	<p>Thromboembolic and hemorrhagic risks after vaccination against SARS-CoV-2: a systematic review and meta-analysis of randomized controlled trials. They performed a literature search to identify RCTs that reported thromboembolic, hemorrhagic events, and thromboembolism/hemorrhage-related death after SARS-CoV-2 vaccination. The primary aim of this systematic review and meta-analysis was to estimate the pooled thromboembolic risk related to SARS-CoV-2 vaccines compared to placebo. The secondary outcomes included estimating the risks of arterial thromboembolism (ATE), venous thromboembolisms (VTE), hemorrhage, thrombocytopenia, and thromboembolism/hemorrhage-related death. Eight RCTs of 4 vaccine platforms comprised of 195,196 participants were retrieved. SARS-CoV-2 vaccines were not associated with an increased risk of overall thromboembolism (risk ratio [RR], 1.14; 95% CI [confidence interval], 0.61-2.14; I² = 35%), ATE (RR, 0.97; 95% CI, 0.46-2.06; I² = 21%), VTE (RR, 1.47; 95% CI, 0.72-2.99; I² = 0%), hemorrhage (RR, 0.97; 95% CI, 0.35-2.68; I² = 0), and thromboembolism/hemorrhage-related death (RR, 0.53; 95% CI, 0.16-1.79; I² = 0). Compared to the baseline estimated risk of these outcomes in participants administered placebos, the risk differences with vaccines were very small and not statistically significant. These findings were consistent in the subgroup analysis across 4 vaccine platforms. Vaccines against SARS-CoV-2 are not associated with an increased risk of thromboembolism, hemorrhage, and thromboembolism/hemorrhage-related death.</p>	<p>Uaprasert, N., Panrong, K., Rojnuckarin, P., & Chiasakul, T. (2021). Thromboembolic and hemorrhagic risks after vaccination against SARS-CoV-2: a systematic review and meta-analysis of randomized controlled trials. <i>Thrombosis journal</i>, 19(1), 86. https://doi.org/10.1186/s12959-021-00340-4</p>

5	<p>Higher Vaccination Rate Predicts Reduction in SARS-CoV-2 Transmission across the United States. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) began proliferating widely throughout the world in late 2019/early 2020, creating a global pandemic and health crisis. Although vaccines became available to the public approximately one year after the onset of the pandemic, there still remains much hesitancy surrounding vaccination even two years into the pandemic. One key concern comes from reports of breakthrough infections among the vaccinated that show comparable levels of peak viral load as the unvaccinated, calling into question the ability of vaccines to slow or prevent transmission. Therefore young, healthy individuals who are at low risk of serious complications themselves have little incentive to receive a vaccine that they are not convinced will protect others around them. To address this important concern, this article analyzes COVID-19 incidence in the United States as a function of each state's vaccination rate. Results show that states with higher percentages of fully vaccinated individuals report fewer new cases among the remaining unvaccinated population. These data add to accumulating evidence that COVID-19 vaccinations can indeed slow the spread of SARS-CoV-2, and are an important tool in society's arsenal to put this pandemic behind us.</p>	<p>Au J. (2021). Higher Vaccination Rate Predicts Reduction in SARS-CoV-2 Transmission across the United States. <i>medRxiv : the preprint server for health sciences</i>, 2021.11.14.21266325. https://doi.org/10.1101/2021.11.14.21266325</p>
6	<p>Moving the Needle on Atherosclerotic Cardiovascular Disease and Heart Failure with Influenza Vaccination. They summarize the latest international observational research and clinical trials that examined the association between influenza, influenza vaccines, and cardiovascular disease, while contextualizing their findings within those of landmark studies. Most recent observational literature found that one in eight adults hospitalized with laboratory-confirmed influenza infection experienced an acute cardiovascular event. The latest meta-analysis of the cardioprotective effects of influenza vaccine found a 25% reduced risk of all-cause death. There are four large cardiovascular outcome trials assessing the cardioprotective effects of different influenza vaccine strategies. Among these, the INVESTED study showed there is no significant difference between the high-dose trivalent and standard-dose quadrivalent influenza vaccines in reducing all-cause mortality or cardiopulmonary hospitalizations in a high-risk patient group with pre-existing cardiovascular disease. Persons with cardiovascular disease represent a high priority group for viral vaccines; hence, using robust evidence to increase vaccine confidence among patients and practitioners is integral as we prepare for a possible influenza resurgence in the coming years.</p>	<p>Behrouzi, B., & Udell, J. A. (2021). Moving the Needle on Atherosclerotic Cardiovascular Disease and Heart Failure with Influenza Vaccination. <i>Current atherosclerosis reports</i>, 23(12), 78. https://doi.org/10.1007/s11883-021-00973-w</p>

GREY LITERATURE (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	<p>Immunization Program Policy Resource Guide. This toolkit is designed to equip members of the Association of Immunization Managers (AIM) and their staff with the tools and information necessary to appropriately and effectively engage with elected officials. Engaging with elected officials can support program efforts to rid the nation of vaccine-preventable diseases, ensure adequate resources for programs, and promote sound immunization policies. The guide is comprised of three chapters: chapter 1 covers the basics of educating policymakers, including how to distinguish among education, advocacy, and lobbying, an overview of the relevant rules and regulations to ensure appropriate engagement, and fundamental information about the legislative process to guide effective action. Chapter 2 covers the legislative landscape and highlights the roles of key players. Chapter 3 discusses avenues for mobilization, including how to engage in a variety of advocacy activities such as analysing legislation, crafting effective messages, and developing relationships with legislators where appropriate.</p>	<p>Association of Immunization Managers, 2022 https://www.immunizationmanagers.org/content/uploads/2022/03/Policy-Guide_033022.pdf</p>
2	<p>Vaccine crisis communication manual a step-by-step guidance for national immunization programmes. This manual was developed based on WHO Regional Office for Europe as a guidance on vaccine safety and crisis communication, in-country training sessions on vaccine safety communication and new vaccine introduction, and a desktop research in the field of crisis, risk and emergency communication. It was further informed by discussions with participants of communications workshops focused on vaccine safety, crises and adverse events following immunization (AEFIs) held at the regional and national levels in the WHO European Region.</p>	<p>WHO, 2022 https://apps.who.int/iris/bitstream/handle/10665/352029/WHO-EURO-2022-3471-43230-60590-eng.pdf?sequence=1&isAllowed=y</p>
3	<p>A Guide for Community Partners Increasing COVID-19 Vaccine Uptake Among Members of Racial and Ethnic Minority Communities. The Guide for Community Partners published by CDC can be used to support organizations with community-level reach—who play a critical role in increasing vaccine confidence and access in their communities—with delivering or supporting COVID-19 vaccination efforts. The Guide for Community Partners focuses on racial and ethnic minority communities because of the disproportionate effect of COVID-19 on these groups, but it is applicable to other communities that may be hard to reach, experience</p>	<p>CDC, 2021 https://www.cdc.gov/vaccines/covid-19/downloads/guide-community-partners.pdf</p>

	marginalization, discrimination, or disparities in receiving vaccines, or demonstrate hesitancy to get vaccines.	
4	<p>Vaccine Messaging Guide. This Guide was developed by the Yale Institute of Global Health and the UNICEF Demand for Immunization team. It was intended for public health professionals, communicators, advocates and anyone else who wishes to create pro-vaccine content to motivate people to vaccinate themselves and their entourage. An increasing body of formative research has identified a complex mix of determinants of people’s vaccine decisions, however there remains a paucity of implementation research that has applied these insights to the design and testing of messaging interventions.</p>	<p>Yale Institute of Global Health and UNICEF,2020 https://www.unicef.org/media/93661/file/Vaccinemessagingguide.pdf</p>
5	<p>Vaccine misinformation Management field guide. This resource was created by the UNICEF Programme Division, Health Section, Immunization Unit C4D team and was developed to facilitate the development of strategic and well-coordinated national action plans to rapidly counter vaccine misinformation and build demand for vaccination that are informed by social listening.</p> <p>This guide should help practitioners to: a) Develop an evidence grounded Understanding of misinformation in the context of vaccination, how it spreads and gets traction, what can be done to mitigate its impact, b) Implement evidence-based approaches to address misinformation and c)Develop a comprehensive and tailored national strategy for misinformation management.</p>	<p>United Nations Children’s Fund. Vaccine Misinformation Management Field Guide. New York, 2020. https://www.unicef.org/mena/media/10591/file/VACCINE+MISINFORMATION+FIELD+GUIDE_eng.pdf%20.pdf</p>
6	<p>Websites of health organizations. More reliable Information on vaccine and vaccination can be found in the official portals of scientific health organizations. This section provides links to the websites, in order to facilitate access to trusted sources of information.</p> <p>For example, WHO is working with partners to accelerate vaccine development and, through the COVAX Facility, to ensure equitable and fair access to COVID-19 vaccines throughout the world.This section brings together information on the vaccines being developed, how they work, safety and effectiveness monitoring, and WHO guidance on prioritizing target groups for COVID-19 vaccination.</p>	<ol style="list-style-type: none"> https://www.who.int/news-room/questions-and-answers/item/vaccines-and-immunization-what-is-vaccination https://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/covid-19-vaccines-and-vaccination/information-on-covid-19-vaccines https://vaccinesafetynet.org/

		<ol style="list-style-type: none"> 4. https://www.cdc.gov/coronavirus/2019-ncov/communication/print-resources.html?Sort=Date%3A%3Adesc 5. https://www.cdc.gov/vaccines/covid-19/vaccinate-with-confidence.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2F covid-19%2Fhealth-systems-communication-toolkit.html 6. https://search.cdc.gov/search/?query=VACCINES&dpage=1 7. https://www.ecdc.europa.eu/en/immunisation-and-vaccines 8. https://vaccination-info.eu/en 9. https://vaccination-info.eu/en/vaccination 10.10.
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MASS MEDIA (INTERNATIONAL)

	Title/Summary	Reference/Link
1	8 myths about the Covid-19 vaccine - Dr. Wen explains: CNN Medical Analyst Dr. Leana Wen, an emergency physician and visiting professor at George Washington University Milken Institute School of Public Health, shows how everyone can debunk myths, ease concerns and spread accurate information about the Covid-19 vaccines. In this article 8 common myths are addressed in order to make people less hesitant.	Chiu F. 8 myths about the Covid-19 vaccine - Dr. Wen explains. [published online 2021 Jan 26] CNN. https://edition.cnn.com/2021/01/26/health/covid-19-myths-vaccine-wellness/index.html
2	YouTube has removed more than 30,000 misleading Covid-19 vaccination videos in the past five months: A YouTube spokeswoman said the videos contradicted vaccine information from	Youtube deletes 30.000 vaccine misinformation videos. [published online 2021 Mar 12].

	the World Health Organization (WHO) or health authorities such as the NHS. She added that in the past year, more than 800,000 videos had been removed for coronavirus misinformation. They included false claims that the vaccine kills people, causes infertility, or contains a secret microchip that will be implanted into recipients. In the early stages of the pandemic, YouTube was home to many conspiracy theories about the disease and even false claims of non-existent "cures".	https://www.bbc.com/news/technology-56372184
3	COVID-19 vaccines do not cause COVID-19 infection, including pregnant women or their babies. Data on the safety of receiving an mRNA COVID-19 vaccine, Moderna or Pfizer-BioNTech, during pregnancy are reassuring. Data show that receiving an mRNA COVID-19 vaccine during pregnancy reduces the risk for infection and severe illness for pregnant women. New data show that completing a two- dose primary mRNA COVID-19 vaccine series during pregnancy can help protect babies younger than 6 months old from hospitalization due to COVID-19. No adverse pregnancy-related outcomes occurred in previous clinical trials that used the same vaccine platform as the J&J/Janssen COVID-19 vaccine. The vaccine is also recommended to women who are breastfeeding and those who are trying to get pregnant now or might become pregnant in the future, as well as their partners.	COVID-19 Vaccines While Pregnant or Breastfeeding.[Updated Mar. 3, 2022]. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/pregnancy.html https://twitter.com/CDCgov/media
4	CDC recommends vaccinations for children 7 to 18 years Old (including the Covid-19 vaccine), in order for parents to be informed.	https://www.cdc.gov/vaccines/schedule/easy-to-read/adolescent-easyread.html https://twitter.com/CDCgov/media
5	Podcast «Off the script: Vaccination Hesitancy- Understanding Both Sides». Two pharmacists explain the importance of vaccination, emphasize its necessity in a simple and understandable way. They inform people about any possible side effects and address hesitancy as a growing social phenomenon that has as supporters and public figures. Hesitation about all vaccines started with a doctor linking autism to vaccination. It turned out to be misinformation, but this movement had already begun. They also explain the importance of collective immunity.	Faizan, Chris. Off the Script Episode 3: Vaccination Hesitancy- Understanding Both Sides. [2019 Apr 8].
Thematic area 3-Behavior and attitudes towards vaccination		
PEER REVIEWED ARTICLES (INTERNATIONAL)		
	Title/Summary	Reference/Link

1	<p>Positive attitudes towards COVID-19 vaccines: A cross-country analysis This study investigates the trend in positive attitudes towards vaccines across ten countries since a positive attitude is important. Furthermore, it investigates those variables related to having a positive attitude, as these factors could potentially increase the uptake of vaccines. They derive their text corpus from vaccine-related tweets, harvested in real-time from Twitter. The results show that more information about vaccines' safety and the expected side effects are needed to increase positive attitudes towards vaccines. Additionally, government procurement and the vaccine rollout should improve. Accessibility to the vaccine should be a priority, and a collective effort should be made to increase positive messaging about the vaccine, especially on social media. The results of this study contribute to the understanding of the emotional challenges associated with vaccine uptake and inform policymakers, health workers, and stakeholders who communicate to the public during infectious disease outbreaks. Additionally, the global fight against COVID-19 might be lost if the attitude towards vaccines is not improved.</p>	<p>Greyling, T., & Rossouw, S. (2022). Positive attitudes towards COVID-19 vaccines: A cross-country analysis. <i>PloS one</i>, 17(3), e0264994. https://doi.org/10.1371/journal.pone.0264994</p> <p>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0264994</p>
2	<p>Antecedents and consequences of COVID-19 conspiracy beliefs: A systematic review. The aim of this systematic review is to provide a comprehensive overview of the available research on COVID-19 conspiracy beliefs and to synthesise this research to make it widely accessible. They identify a number of potential antecedents of COVID-19 conspiracy beliefs (individual differences, personality traits, demographic variables, attitudes, thinking styles and biases, group identity, trust in authorities, and social media use), their consequences (protective behaviours, self-centred and misguided behaviours such as hoarding and pseudoscientific health practices, vaccination intentions, psychological wellbeing, and other negative social consequences such as discrimination and violence), and the effect sizes of their relations with the conspiracy beliefs. They conclude that understanding both the potential antecedents and consequences of conspiracy beliefs and how they are context-dependent is highly important to tackle them, whether in the COVID-19 pandemic or future threats, such as that of climate change.</p>	<p>van Mulukom, V., Pummerer, L. J., Alper, S., Bai, H., Čavojová, V., Farias, J., Kay, C. S., Lazarevic, L. B., Lobato, E., Marinthe, G., Pavela Banai, I., Šrol, J., & Žeželj, I. (2022). Antecedents and consequences of COVID-19 conspiracy beliefs: A systematic review. <i>Social science & medicine (1982)</i>, 301, 114912. Advance online publication. https://doi.org/10.1016/j.socscimed.2022.114912</p>
3	<p>Potential factors influencing COVID-19 vaccine acceptance and hesitancy: A systematic review. The aim of this review was to identify an up-to-date and concise assessment of potential factors influencing COVID-19 vaccine acceptance and refusal intention, and to outline the key message in order to organize these factors according to country count. In total, 11</p>	<p>Roy, D. N., Biswas, M., Islam, E., & Azam, M. S. (2022). Potential factors influencing COVID-19 vaccine acceptance and hesitancy: A systematic</p>

	<p>potential factors were identified, of which the greatest number of articles (n = 28) reported "safety" (34.46%; 95% CI 25.05–43.87) as the overarching consideration, while "side effects" (38.73%; 95% CI 28.14–49.32) was reported by 22 articles, which was the next common factor. Other potential factors such as "effectiveness" were identified in 19 articles (29.98%; 95% CI 17.09–41.67), followed by "trust" (n = 15 studies; 27.91%; 95% CI 17.1–38.73), "information sufficiency" (n = 12; 34.46%; 95% CI 35.87–63.07), "efficacy" (n = 8; 28.73%; 95% CI 9.72–47.74), "conspiracy beliefs" (n = 8; 14.30%; 95% CI 7.97–20.63), "social influence" (n = 6; 42.11%; 95% CI 14.01–70.21), "political roles" (n = 4; 16.75%; 95% CI 5.34–28.16), "vaccine mandated" (n = 4; 51.20%; 95% CI 20.25–82.15), and "fear and anxiety" (n = 3; 8.73%; 95% CI 0.59–18.05). The findings for country-specific influential vaccination factors revealed that, "safety" was recognized mostly (n = 14) in Asian continents (32.45%; 95% CI 19.60–45.31), followed by the United States (n = 6; 33.33%; 95% CI 12.68–53.98). "Side effects" was identified from studies in Asia and Europe (n = 6; 35.78%; 95% CI 16.79–54.77 and 16.93%; 95% CI 4.70–28.08, respectively), followed by Africa (n = 4; 74.60%, 95% CI 58.08–91.11); however, public response to "effectiveness" was found in the greatest (n = 7) number of studies in Asian countries (44.84%; 95% CI 25–64.68), followed by the United States (n = 6; 16.68%, 95% CI 8.47–24.89). In Europe, "trust" (n = 5) appeared as a critical predictor (24.94%; 95% CI 2.32–47.56). "Information sufficiency" was identified mostly (n = 4) in articles from the United States (51.53%; 95% CI = 14.12–88.74), followed by Asia (n = 3; 40%; 95% CI 27.01–52.99). More concerns was observed relating to "efficacy" and "conspiracy beliefs" in Asian countries (n = 3; 27.03%; 95% CI 10.35–43.71 and 18.55%; 95% CI 8.67–28.43, respectively). The impact of "social influence" on making a rapid vaccination decision was high in Europe (n = 3; 23.85%, 95% CI -18.48–66.18), followed by the United States (n = 2; 74.85%). Finally, "political roles" and "vaccine-mandated" were important concerns in the United States.</p>	<p>review. <i>PloS one</i>, 17(3), e0265496. https://doi.org/10.1371/journal.pone.0265496</p>
4	<p>Self-reported COVID-19 vaccine hesitancy and uptake among participants from different racial and ethnic groups in the United States and United Kingdom. They performed a cohort study among U.S. and U.K. participants who volunteered to take part in the smartphone-based COVID Symptom Study (March 2020-February 2021) and used logistic regression to estimate odds ratios of vaccine hesitancy and uptake. In the U.S. (n = 87,388), compared to white participants, vaccine hesitancy was greater for Black and Hispanic participants and those reporting more than one or other race. In the U.K. (n = 1,254,294), racial and ethnic minority participants showed similar levels of vaccine hesitancy to the U.S. However, associations</p>	<p>Nguyen, L. H., Joshi, A. D., Drew, D. A., Merino, J., Ma, W., Lo, C. H., Kwon, S., Wang, K., Graham, M. S., Polidori, L., Menni, C., Sudre, C. H., Anyane-Yeboah, A., Astley, C. M., Warner, E. T., Hu, C. Y., Selvachandran, S., Davies, R., Nash, D., Franks, P. W., ... COPE Consortium (2022). Self-reported COVID-19 vaccine</p>

	<p>between participant race and ethnicity and levels of vaccine uptake were observed to be different in the U.S. and the U.K. studies. Among U.S. participants, vaccine uptake was significantly lower among Black participants, which persisted among participants that self-reported being vaccine-willing. In contrast, statistically significant racial and ethnic disparities in vaccine uptake were not observed in the U.K sample. In this study of self-reported vaccine hesitancy and uptake, lower levels of vaccine uptake in Black participants in the U.S. during the initial vaccine rollout may be attributable to both hesitancy and disparities in access.</p>	<p>hesitancy and uptake among participants from different racial and ethnic groups in the United States and United Kingdom. <i>Nature communications</i>, 13(1), 636. https://doi.org/10.1038/s41467-022-28200-3</p>
5	<p>Global COVID-19 Vaccine Acceptance: A Systematic Review of Associated Social and Behavioral Factors. The aim of this systematic review is to examine how and why the rates of COVID-19 vaccine acceptance and hesitancy differ across countries and continents. The analysis shows that there are global variations in vaccine acceptance among different populations. The vaccine-acceptance rates were the highest amongst adults in Ecuador (97%), Malaysia (94.3%) and Indonesia (93.3%) and the lowest amongst adults in Lebanon (21.0%). The general healthcare workers (HCWs) in China (86.20%) and nurses in Italy (91.50%) had the highest acceptance rates, whereas HCWs in the Democratic Republic of Congo had the lowest acceptance (27.70%). The differences in vaccine-acceptance rates were statistically significant ($H(49) = 75.302, p = 0.009^*$) between the analyzed countries. However, the reasons behind vaccine hesitancy and acceptance were similar across the board. Low vaccine acceptance was associated with low levels of education and awareness, and inefficient government efforts and initiatives. Furthermore, poor influenza-vaccination history, as well as conspiracy theories relating to infertility and misinformation about the COVID-19 vaccine on social media also resulted in vaccine hesitancy.</p>	<p>Shakeel, C. S., Mujeeb, A. A., Mirza, M. S., Chaudhry, B., & Khan, S. J. (2022). Global COVID-19 Vaccine Acceptance: A Systematic Review of Associated Social and Behavioral Factors. <i>Vaccines</i>, 10(1), 110. https://doi.org/10.3390/vaccines10010110</p>
6	<p>Willingness, refusal and influential factors of parents to vaccinate their children against the COVID-19: A systematic review and meta-analysis We aimed to estimate parents' willingness and refusal to vaccinate their children against the COVID-19, and to investigate the predictors for their decision. The overall proportion of parents that intend to vaccinate their children against the COVID-19 was 60.1%, while the proportion of parents that refuse to vaccinate their children was 22.9% and the proportion of unsure parents was 25.8%. The main predictors of parents' intention to vaccinate their children were fathers, older age of parents, higher income, higher levels of perceived threat from the COVID-19, and positive attitudes towards vaccination (e.g. children's complete vaccination history, history of children's and parents'</p>	<p>Galanis, P., Vraka, I., Siskou, O., Konstantakopoulou, O., Katsiroumpa, A., & Kaitelidou, D. (2022). Willingness, refusal and influential factors of parents to vaccinate their children against the COVID-19: A systematic review and meta-analysis. <i>Preventive medicine</i>, 157, 106994.</p>

	<p>vaccination against influenza, confidence in vaccines and COVID-19 vaccines, and COVID-19 vaccine uptake among parents). Parents' willingness to vaccinate their children against the COVID-19 is moderate and several factors affect this decision. Understanding parental COVID-19 vaccine hesitancy does help policy makers to change the stereotypes and establish broad community COVID-19 vaccination.</p>	<p>https://doi.org/10.1016/j.ypped.2022.106994</p>
7	<p>A Rapid Systematic Review of Factors Influencing COVID-19 Vaccination Uptake in Minority Ethnic Groups in the UK. COVID-19 has disproportionately affected minority ethnic groups in the United Kingdom. To maximise the effectiveness of the vaccination programme, it is important to understand and address disparities in vaccine uptake. The aim of this review was to identify factors influencing COVID-19 vaccination uptake between minority ethnic groups in the UK. A search was undertaken in peer-reviewed databases, polling websites and grey literature from January 2020-May 2021. Studies were included if they reported data on vaccine uptake or the reasons for or against accepting the COVID-19 vaccination for minority ethnic groups in the UK. Twenty-one papers met the inclusion criteria, all of which were rated as either good or moderate quality. Ethnic minority status was associated with higher vaccine hesitancy and lower vaccine uptake compared with White British groups. Barriers included pre-existing mistrust of formal services, lack of information about the vaccine's safety, misinformation, inaccessible communications, and logistical issues. Facilitators included inclusive communications which address vaccine concerns via trusted communicators and increased visibility of minority ethnic groups in the media. Community engagement to address the concerns and informational needs of minority ethnic groups using trusted and collaborative community and healthcare networks is likely to increase vaccine equity and uptake.</p>	<p>Kamal, A., Hodson, A., & Pearce, J. M. (2021). A Rapid Systematic Review of Factors Influencing COVID-19 Vaccination Uptake in Minority Ethnic Groups in the UK. <i>Vaccines</i>, 9(10), 1121. https://doi.org/10.3390/vaccines9101121</p>
8	<p>COVID-19 Vaccine Hesitancy in the LGBTQ+ Population: A Systematic Review. The coronavirus 2019 (COVID-19) pandemic has disproportionately impacted lesbian, gay, bisexual, transgender, queer (LGBTQ+) people. Despite developing safe and effective COVID-19 vaccines, LGBTQ+ communities still faces challenges due to inequitable access and vaccine hesitancy. Various studies have explored and tried to address factors influencing vaccine hesitancy. However, the LGBTQ+ population remains under- and misrepresented in many of these</p>	<p>Garg, I., Hanif, H., Javed, N., Abbas, R., Mirza, S., Javaid, M. A., Pal, S., Shekhar, R., & Sheikh, A. B. (2021). COVID-19 Vaccine Hesitancy in the LGBTQ+ Population: A Systematic Review. <i>Infectious disease reports</i>, 13(4),</p>

	<p>studies. According to the few studies that have focused on the LGBTQ+ population, several factors influencing vaccine hesitancy have been identified, with the most common factors in studies being concern about vaccine safety, vaccine efficacy, and history of bad experiences with healthcare providers. In order to rebuild the confidence of LGBTQ+ people in vaccines, governments, healthcare policymakers, and healthcare providers need to start by acknowledging, and then resolving, these disparities; building trust; dismantling systemic suppression and discrimination; and prioritizing the inclusion of LGBTQ+ people in research studies and public health policies.</p>	<p>872–887. https://doi.org/10.3390/idr13040079</p>
9	<p>Factors Associated with COVID-19 Vaccine Hesitancy among Visible Minority Groups from a Global Context: A Scoping Review. Vaccine hesitancy is one of the top ten greatest threats to global health. During the COVID-19 era, vaccine hesitancy poses substantial risks, especially in visible minorities, who are disproportionately affected by the pandemic. Although evidence of vaccine hesitancy exists, there is minimal focus on visible minorities and the reasons for hesitancy in this group are unclear. Identifying these populations and their reasons for vaccine hesitancy is crucial in improving vaccine uptake and curbing the spread of COVID-19. Themes were grouped into 8 factors and the top 3 recurring factors were safety and effectiveness of the vaccine, mistrust, and socioeconomic characteristics. Shedding light on these factors could help mitigate health inequities and increase overall vaccine uptake worldwide through interventions and policies targeted at these factors. Ultimately, this would help achieve global herd immunity.</p>	<p>Ochieng C, Anand S, Mutwiri G, Szafron M, Alphonsus K. Factors Associated with COVID-19 Vaccine Hesitancy among Visible Minority Groups from a Global Context: A Scoping Review. <i>Vaccines (Basel)</i>. 2021;9(12):1445. Published 2021 Dec 7. doi:10.3390/vaccines9121445</p>
10	<p>Vaccination uptake amongst older adults from minority ethnic backgrounds: A systematic review. They conducted a systematic review and convergent synthesis to systematically examine perceptions of vaccinations amongst older adults from minority ethnic backgrounds. They included studies that reported on perceptions, beliefs, and attitudes towards vaccinations in older adults aged ≥65 years from a minority ethnic background. In total, 28,262 individuals with an estimated mean age of 69.8 years were included, 63.2% of whom were female. Thirteen themes categorised as barriers or facilitators were identified and grouped into structural factors-healthcare provider and system related, patient related, and policy and operational-and were analysed by minority ethnic group. They found that factors influencing vaccination uptake involve healthcare provider and system, patient-related, and governance-level factors that are specific to the older ethnic minority community being served. The</p>	<p>Bhanu, C., Gopal, D. P., Walters, K., & Chaudhry, U. (2021). Vaccination uptake amongst older adults from minority ethnic backgrounds: A systematic review. <i>PLoS medicine</i>, 18(11), e1003826. https://doi.org/10.1371/journal.pmed.1003826</p>

	<p>evidence included in this review is supported by high or moderate certainty and can be translated to practice and policy. A tailored, multi-level approach combining increased education, access, and culturally competent discussions with trusted healthcare professionals to address health beliefs can maximise the potential impact of widespread vaccination policies.</p>	
11	<p>Healthcare Providers' Vaccine Perceptions, Hesitancy, and Recommendation to Patients: A Systematic Review. The goal of this review was to examine HCP vaccine perceptions, knowledge, and reservations and how these attitudes affect their recommendations and vaccination practices. In total, 96 papers from 34 countries were included, covering 17 vaccines (HPV and influenza vaccines the most studied). Recommendation was positively associated with provider knowledge and experience, beliefs about disease risk, and perceptions of vaccine safety, necessity, and efficacy. HCP vaccination attitudes and practices varied across specialties, vaccines, and countries; demographic impact was inconclusive. Barriers included anticipation of patient/parental concerns or refusal, lacking clear guidelines, time constraints, and cost. For HPV, vaccines were more often recommended to older, female adolescents and by physicians who discussed sexual health. HCPs are vital advocates for patients and the public, but studies indicated a prevalence of provider hesitancy pertaining to inadequate knowledge, low vaccine confidence, and suboptimal uptake themselves.</p>	<p>Lin, C., Mullen, J., Smith, D., Kotarba, M., Kaplan, S. J., & Tu, P. (2021). Healthcare Providers' Vaccine Perceptions, Hesitancy, and Recommendation to Patients: A Systematic Review. <i>Vaccines</i>, 9(7), 713.</p> <p>https://doi.org/10.3390/vaccines9070713</p>
12	<p>Hesitant or Not Hesitant? A Systematic Review on Global COVID-19 Vaccine Acceptance in Different Populations. This systematic review aimed at assessing anti-COVID-19 vaccine acceptance rates worldwide and at identifying populations more prone to vaccine hesitancy, for which specific interventions should be planned. One hundred out of the 9243 studies retrieved were considered pertinent and thus included in the analyses. VH rate was analyzed according to patient geographical origin, ethnicity, age, study setting, and method used for data collection; data from specific populations were separately analyzed. Overall, this study demonstrated significant differences in terms of VH in the general population and in the specific subgroups examined according to geographical, demographic factors, as well as associated comorbidities, underlining the need for purposely designed studies in specific populations from the different countries, to design targeted programs aimed at increasing awareness for confidence and complacency toward COVID-19 vaccines.</p>	<p>Salomoni, M. G., Di Valerio, Z., Gabrielli, E., Montalti, M., Tedesco, D., Guaraldi, F., & Gori, D. (2021). Hesitant or Not Hesitant? A Systematic Review on Global COVID-19 Vaccine Acceptance in Different Populations. <i>Vaccines</i>, 9(8), 873.</p> <p>https://doi.org/10.3390/vaccines9080873</p>

13	<p>Attitudes, acceptance and hesitancy among the general population worldwide to receive the COVID-19 vaccines and their contributing factors: A systematic review A systematic literature search of studying which investigate attitudes, hesitancy, and/or barriers to COVID-19 vaccine acceptability among a given population. Overall, vaccine acceptance rates ranged considerably between countries and between different time points, with Arabian countries showing the highest hesitancy rates compared with other parts of the world. A variety of different factors contributed to increased hesitancy, including having negative perception of vaccine efficacy, safety, convenience, and price. Some of the consistent socio-demographic groups that were identified to be associated with increased hesitancy included: women, younger participants, and people who were less educated, had lower income, had no insurance, living in a rural area, and self-identified as a racial/ethnic minority.</p>	<p>Cascini, F., Pantovic, A., Al-Ajlouni, Y., Failla, G., & Ricciardi, W. (2021). Attitudes, acceptance and hesitancy among the general population worldwide to receive the COVID-19 vaccines and their contributing factors: A systematic review. <i>EclinicalMedicine</i>, 40, 101113.</p>
14	<p>The Approach of Pregnant Women to Vaccination Based on a COVID-19 Systematic Review. This is a systematic review concerning the approach of pregnant women towards vaccination against COVID-19, with particular regard to determinants of vaccination acceptance. In various studies, the percentage of pregnant women accepting the COVID-19 vaccine was between 29.7% and 77.4%. The strongest factors co-existing with the acceptance of the COVID-19 vaccination in pregnancy were trust in the importance and effectiveness of the vaccine, explicit communication about the safety of COVID-19 vaccines for pregnant women, acceptance of other vaccinations such as those for influenza, belief in the importance of vaccines/mass vaccination in one's own country, anxiety about COVID-19, trust in public health agencies/health science, as well as compliance to mask guidelines. The remaining factors were older age, higher education, and socioeconomic status. This review allowed us to show that geographic factors (Asian, South American countries) and pandemic factors (different threats and risks from infection) significantly influence the acceptance of vaccines. The most significant factors affecting acceptance are those related to public awareness of the risk of infection, vaccine safety, and the way in which reliable information about the need and safety of vaccines is provided. Professional and reliable patient information by obstetricians and qualified medical personnel would significantly increase the level of confidence in vaccination against COVID-19.</p>	<p>Januszek, S. M., Faryniak-Zuzak, A., Barnaś, E., Łoziński, T., Góra, T., Siwec, N., Szczerba, P., Januszek, R., & Kluz, T. (2021). The Approach of Pregnant Women to Vaccination Based on a COVID-19 Systematic Review. <i>Medicina (Kaunas, Lithuania)</i>, 57(9), 977. https://doi.org/10.3390/medicina57090977</p>

15	<p>Prevalence of unwillingness and uncertainty to vaccinate against COVID-19 in older people: A systematic review and meta-analysis. It aimed to investigate the prevalence of unwillingness and the uncertainty to vaccinate against COVID-19 in older people and the factors that can be associated with the unwillingness to vaccinate. They included 15 studies for a total of 9753 older adults. The prevalence of unwillingness to vaccinate against COVID-19 in older people was 27.03% (95%CI: 15.10-38.95%), whilst the correspondent figure of uncertainty was 19.33% (95%CI: 12.28-26.39). The risk of being unvaccinated was significantly higher in Hispanics (OR=1.197; 95%CI: 1.010-1.418) and in case of low education (OR=1.678; 95%CI: 1.170-2.408) and low income (OR=1.287; 95%CI: 1.127-1.469). In conclusion, the hesitancy for COVID-19 vaccination is a relevant problem in older people, particularly in those with a low income, a low level of education, and in Hispanics living in the United States.</p>	<p>Veronese, N., Saccaro, C., Demurtas, J., Smith, L., Dominguez, L. J., Maggi, S., &Barbagallo, M. (2021). Prevalence of unwillingness and uncertainty to vaccinate against COVID-19 in older people: A systematic review and meta-analysis. <i>Ageing research reviews</i>, 72, 101489.</p>
16	<p>Worldwide Vaccination Willingness for COVID-19: A Systematic Review and Meta-Analysis.This systematic review and meta-analysis estimated the vaccination intention and identified determinants of willingness and hesitancy. This study updates the existing body of literature on vaccination willingness, and was conducted according to the PRISMA guidelines. The search identified 411 articles, of which 63 surveys were included that accounted for more than 30 countries worldwide. The global COVID-19 vaccination willingness was estimated at 66.01% [95% CI: 60.76-70.89% I²= 99.4% [99.3%; 99.4%]; τ²= 0.83]. The vaccination willingness varied within as well as between countries. Age, gender, education, attitudes and perceptions about vaccines were most frequently observed to be significantly associated with vaccine acceptance or refusal.</p>	<p>Nehal, K. R., Steendam, L. M., Campos Ponce, M., van der Hoeven, M., & Smit, G. (2021). Worldwide Vaccination Willingness for COVID-19: A Systematic Review and Meta-Analysis. <i>Vaccines</i>, 9(10), 1071. https://doi.org/10.3390/vaccines9101071</p>
17	<p>HPV vaccination in a context of public mistrust and uncertainty: a systematic literature review of determinants of HPV vaccine hesitancy in Europe. Europe is increasingly described as the region in the world with the least confidence in vaccination, and particularly in the safety of vaccines. The aim of this systematic literature review was to gather and summarise all peer-reviewed and grey literature published about determinants of Human Papillomavirus (HPV) vaccine hesitancy in Europe. Ten thematic categories were identified across the 103 articles which were included in the review. Participants from European studies most commonly reported issues with the quantity and quality of information available about HPV vaccination; followed by concerns about potential side effects of the vaccine; and mistrust of health authorities, healthcare workers, and new vaccines. Comparative analyses indicated that</p>	<p>Karafillakis, E., Simas, C., Jarrett, C., Verger, P., Peretti-Watel, P., Dib, F., De Angelis, S., Takacs, J., Ali, K. A., PastoreCelentano, L., & Larson, H. (2019). HPV vaccination in a context of public mistrust and uncertainty: a systematic literature review of determinants of HPV vaccine hesitancy in Europe. <i>Human vaccines & immunotherapeutics</i>, 15(7-8), 1615–</p>

	<p>confidence determinants differed by country and population groups. This evidence supports the need to develop context-specific interventions to improve confidence in HPV vaccination and design community engagement strategies aiming to build public trust.</p>	<p>1627. https://doi.org/10.1080/21645515.2018.1564436</p>
<p>18</p>	<p>Beliefs around childhood vaccines in the United States: A systematic review: The goal of this systematic review was to identify and summarize the range of beliefs around childhood vaccines elicited using open-ended questions, which are better suited for discovering beliefs compared to closed-ended questions. Seven themes emerged: Adverse effects were most prominent, followed by mistrust, perceived lack of necessity, pro-vaccine opinions, skepticism about effectiveness, desire for autonomy, and morality concerns. The most commonly described beliefs included that vaccines can cause illnesses; a child's immune system can be overwhelmed if receiving too many vaccines at once; vaccines contain harmful ingredients; younger children are more susceptible to vaccine adverse events; the purpose of vaccines is profit-making; and naturally developed immunity is better than that acquired from vaccines. Nearly a third of the studies exclusively assessed minority populations, and more than half of the studies examined beliefs only regarding HPV vaccine. Few studies used open-ended questions to elicit beliefs about vaccines. Many of the studies that did so, focused on HPV vaccine. Concerns about vaccine safety were the most commonly stated beliefs about childhood vaccines, likely because studies were designed to capture barriers and challenges to vaccination.</p>	<p>Gidengil, C., Chen, C., Parker, A. M., Nowak, S., & Matthews, L. (2019). Beliefs around childhood vaccines in the United States: A systematic review. <i>Vaccine</i>, 37(45), 6793–6802. https://doi.org/10.1016/j.vaccine.2019.08.068</p>
<p>19</p>	<p>Factors affecting the vaccination choices of pregnant women for their children: a systematic review of the literature. In recent years, an increase in vaccine hesitancy has led to a decrease in vaccination coverage in several countries. We conducted a systematic review of studies that assessed knowledge of and attitudes toward paediatric vaccinations, and the vaccination choices and their determinants among pregnant women. A total of 6,277 records were retrieved, and 16 full texts were included in the narrative synthesis. The published literature on the topic shows that, overall, pregnant women believe that vaccines are important for the protection of their children and the community, but various concerns and misunderstandings persist around vaccine safety and efficacy, which reduce the trust of expectant mothers in immunization. Nevertheless, such attitudes and choices vary depending on the vaccine being</p>	<p>Rosso, A., Massimi, A., Pitini, E., Nardi, A., Baccolini, V., Marzuillo, C., De Vito, C., & Villari, P. (2020). Factors affecting the vaccination choices of pregnant women for their children: a systematic review of the literature. <i>Human vaccines & immunotherapeutics</i>, 16(8), 1969–1980. https://doi.org/10.1080/21645515.2019.169</p>

	considered and the corresponding determinants should therefore be studied in the context of each specific vaccination. Further research on this topic is needed, particularly in non-western countries.	
20	<p>Resurgence of Measles in Europe: A Systematic Review on Parental Attitudes and Beliefs of Measles Vaccine: The three objectives of this study are to synthesize and critically assess parental attitudes and beliefs toward MMR uptake, to develop strategies and policy recommendations to effectively improve MMR vaccine uptake accordingly, and ultimately to identify areas for further research. In all, 20 high-quality studies were identified. Vaccine hesitancy or refusal were mainly due to concerns about vaccine safety, effectiveness, perception of measles risk and burden, mistrust in experts, and accessibility. Factors for MMR uptake included a sense of responsibility toward child and community health, peer judgement, trust in experts and vaccine, and measles severity. Anthroposophical and Gypsy, Roma, and Traveler populations presented unique barriers such as accessibility. A multi-interventional, evidence-based approach is vital to improve confidence, competence, and convenience of measles vaccination uptake. Healthcare professionals need an understanding of individual contextual attitudes and barriers to MMR uptake to tailor effective communication. Effective surveillance is needed to identify under-vaccinated populations for vaccination outreach programs to improve accessibility and uptake.</p>	<p>Wilder-Smith, A. B., & Qureshi, K. (2020). Resurgence of Measles in Europe: A Systematic Review on Parental Attitudes and Beliefs of Measles Vaccine. <i>Journal of epidemiology and global health</i>, 10(1), 46–58. https://doi.org/10.2991/jegh.k.191117.001</p>
21	<p>A systematic review of studies that measure parental vaccine attitudes and beliefs in childhood vaccination. They aimed to examine how parental attitudes and beliefs towards childhood vaccination were measured in questionnaires through a systematic review of the literature. A total of 116 studies met the inclusion criteria, 99 used a cross sectional study design, 5 used a case control study design, 4 used a pre-post study design and 8 used mixed methods study designs. Sample sizes of included studies ranged from 49 to 12,259. The most commonly used tool was the Parent Attitudes about Childhood Vaccines (PACV) Survey (n = 7). The most common theoretical framework used was the Health Belief Model (n = 25). Questions eliciting vaccination attitudes and beliefs varied widely. There was heterogeneity in the types of questionnaires used in studies investigating attitudes and beliefs about vaccination in parents. Methods to measure parental attitudes and beliefs about vaccination could be</p>	<p>Dyda, A., King, C., Dey, A., Leask, J., & Dunn, A. G. (2020). A systematic review of studies that measure parental vaccine attitudes and beliefs in childhood vaccination. <i>BMC public health</i>, 20(1), 1253. https://doi.org/10.1186/s12889-020-09327-8</p>

	improved with validated and standardized yet flexible instruments. The use of a standard set of questions should be encouraged in this area of study.	
22	<p>Resources for assessing parents' vaccine hesitancy: a systematic review of the literature. The concept of Vaccine Hesitancy has begun to appear in the scientific landscape, referring to the reluctance of a growing proportion of people to accept the vaccination offer. A variety of factors were identified as being associated with vaccine hesitancy but there was no universal algorithm and currently there aren't any established metrics to assess either the presence or impact of vaccine hesitancy. The aim of this study was to systematically review the published questionnaires evaluating parental vaccine hesitancy, to highlight the differences among these surveys and offer a general overview on this matter. This study offers a deeper perspective on the available questionnaires, helping future researches to identify the most suitable one according to their own aim and study setting.</p>	<p>Cella, P., Voglino, G., Barberis, I., Alagna, E., Alessandroni, C., Cuda, A., D'Aloisio, F., Dallagiacoma, G., DE Nitto, S., DI Gaspare, F., Gallipoli, O., Gentile, L., Kundisov, L., Navaro, M., Provenzano, S., Santangelo, O. E., Stefanizzi, P., & Gianfredi, V. (2020). Resources for assessing parents' vaccine hesitancy: a systematic review of the literature. <i>Journal of preventive medicine and hygiene</i>, 61(3), E340–E373. https://doi.org/10.15167/2421-4248/jpmh2020.61.3.1448</p>
23	<p>Barriers of Influenza Vaccination Intention and Behavior - A Systematic Review of Influenza Vaccine Hesitancy,: Potential barriers of influenza vaccination need to be identified to inform interventions to raise awareness, influenza vaccine acceptance and uptake. This review aims to: (1) identify relevant studies and extract individual barriers of seasonal and pandemic influenza vaccination for risk groups and the general public; and (2) map knowledge gaps in understanding influenza vaccine hesitancy to derive directions for further research and inform interventions in this area. Most studies were conducted in the American and European region. Health care personnel (HCP) and the general public were the most studied populations, while parental decisions for children at high risk were under-represented. This study also identifies understudied concepts. A lack of confidence, inconvenience, calculation and complacency were identified to different extents as barriers to influenza vaccine uptake in risk groups. Many different psychological, contextual, sociodemographic and physical barriers that are specific to certain risk groups were identified. While most sociodemographic and physical variables may be significantly related to influenza vaccine hesitancy, they cannot be used to explain its emergence or intensity. Psychological determinants were meaningfully related to uptake and should therefore be measured in a valid and comparable way. A compendium of measurements for future use is suggested as supporting information.</p>	<p>Schmid, P., Rauber, D., Betsch, C., Lidolt, G., & Denker, M. L. (2017). Barriers of Influenza Vaccination Intention and Behavior - A Systematic Review of Influenza Vaccine Hesitancy, 2005 - 2016. <i>PloS one</i>, 12(1), e0170550. https://doi.org/10.1371/journal.pone.0170550</p>

24	<p>The benefit of the doubt or doubts over benefits? A systematic literature review of perceived risks of vaccines in European populations. This literature review examined studies on vaccine and vaccination risk perceptions and concerns across European populations. A total of 145 articles were selected, most of which were conducted in the UK, the Netherlands and France and studied seasonal influenza, HPV and pandemic influenza vaccination. Across all countries and vaccines, the primary area of concern was vaccine safety, followed by perceptions of low likelihood of contracting vaccine-preventable diseases (VPDs), perceived low severity of VPDs, beliefs that vaccines do not work, and overall lack of information. Concerns were found to be vaccine-, country- and population-specific. In addition to identifying concerns about vaccination in Europe, this study confirmed the notion that individuals have many safety concerns about vaccination and often believe that the risks of vaccination outweigh their benefits. More research needs to be conducted to explore the impact of different types of communication strategies, which would frame the benefits of vaccination as well as risks of not vaccinating. Strategies to better inform public perceptions of vaccines should include the provision of unbiased, comprehensive information tailored to population information needs, and delivered using multiple and new communication technologies such as social media.</p>	<p>Karafillakis, E., Larson, H. J., & ADVANCE consortium (2017). The benefit of the doubt or doubts over benefits? A systematic literature review of perceived risks of vaccines in European populations. <i>Vaccine</i>, 35(37), 4840–4850. https://doi.org/10.1016/j.vaccine.2017.07.061</p>
25	<p>Measuring trust in vaccination: A systematic review. This systematic review analyses the current breadth and depth of vaccine research literature that explicitly refers to the concept of trust within their stated aims or research questions. The studies examined a range of trust relationships as they pertain to vaccination, including trust in healthcare professionals, the health system, the government, and friends and family members. Three studies examined generalized trust. Findings indicated that trust is often referred to implicitly (19/35), rather than explicitly examined in the context of a formal definition or discussion of the existing literature on trust in a health context. Within the quantitative research analysed, trust was commonly measured with a single-item measure (9/25). Only two studies used validated multi-item measures of trust. Three studies examined changes in trust, either following an intervention or over the course of a pandemic. The findings of this review indicate a disconnect between the current vaccine hesitancy research and the wider health-related trust literature, a dearth in research on trust in low and middle-income settings, a need for studies on how trust levels change over time and investigations on how resilience to trust-eroding information can be built into a trustworthy health system.</p>	<p>Larson, H. J., Clarke, R. M., Jarrett, C., Eckersberger, E., Levine, Z., Schulz, W. S., & Paterson, P. (2018). Measuring trust in vaccination: A systematic review. <i>Human vaccines & immunotherapeutics</i>, 14(7), 1599–1609. https://doi.org/10.1080/21645515.2018.1459252</p>

26	<p>COVID-19 Vaccine Acceptance among Low- and Lower-Middle-Income Countries: A Rapid Systematic Review and Meta-Analysis. Widespread vaccination against COVID-19 is critical for controlling the pandemic. Despite the development of safe and efficacious vaccinations, low- and lower-middle income countries (LMICs) continue to encounter barriers to care owing to inequitable access and vaccine apprehension. This study aimed to summarize the available data on COVID-19 vaccine acceptance rates and factors associated with acceptance in LMICs. In country-specific sub-group analyses, India showed the highest rates of vaccine acceptancy (76.7%, 95% CI: 65.8-84.9%, $I^2= 98\%$), while Egypt showed the lowest rates of vaccine acceptancy (42.6%, 95% CI: 16.6-73.5%, $I^2= 98\%$). Being male and perceiving risk of COVID-19 infection were predictors for willingness to accept the vaccine. Increasing vaccine acceptance rates in the global south should be prioritized to advance global vaccination coverage.</p>	<p>Patwary, M. M., Alam, M. A., Bardhan, M., Disha, A. S., Haque, M. Z., Billah, S. M., Kabir, M. P., Browning, M., Rahman, M. M., Parsa, A. D., & Kabir, R. (2022). COVID-19 Vaccine Acceptance among Low- and Lower-Middle-Income Countries: A Rapid Systematic Review and Meta-Analysis. <i>Vaccines</i>, 10(3), 427. https://doi.org/10.3390/vaccines10030427</p>

GREY LITERATURE (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	<p>Attitudes on vaccination against COVID-19 (Flash Eurobarometer 494), 2021. A Flash Eurobarometer survey was commissioned by the European Commission’s Directorate-General for Communication, with the aim to obtain input from citizens in the European Union (EU) regarding their attitudes on vaccination against COVID-19. The survey explored a) EU citizens’ willingness to get vaccinated against COVID-19, their reasons for getting vaccinated or not, and what would make them more eager to get vaccinated, b) General attitudes to vaccination and the real or perceived benefits and risks of vaccination in general and COVID-19 vaccines in particular c) General attitudes to the vaccination strategy and satisfaction levels with how public authorities handled the vaccination strategy d) Favored sources for reliable information on COVID-19 vaccines and which topics EU citizens would prefer to have more information about and e) Personal experiences with COVID-19 and fear of future infection.</p>	<p>European Commission, 2021 https://europa.eu/eurobarometer/surveys/detail/2512</p>

2	<p>COVID-19 Global Behaviours and Attitudes: The Year in Review. This report was led by Imperial College London’s Institute of Global Health Innovation (IGHI) and YouGov and presents the results of a survey across 29 countries, which has been running on a weekly/biweekly basis since the beginning of April 2020 and has shed light on the complexity of changing behaviours and attitudes related to the pandemic over time. The report highlights findings from a selection of survey questions. Section One looks at how preventative behaviours , with a spotlight on people’s attitudes towards face mask usage and missed vaccines. In Section Two, they look at how people’s life satisfaction has changed between April 2020 and April 2021. In Section Three of this report it looks at trust from two angles: trust in the government’s handling of the pandemic and trust in COVID 19 vaccines. Changes over a full year are followed for the 14 countries that have been a part of our survey uninterruptedly for most of the full year. Spotlight questions include responses from all countries that were part of the survey at the time that question was asked. As we enter our second year of data collection for a subset of 15 countries, many continue to struggle with rising cases, new variants and vaccine roll out challenges. It is our hope that our learnings from this report can support this ongoing effort, and continue to shed light on the causes and consequences of the COVID 19 pandemic.</p>	<p>Imperial College London’s, Institute of Global Health Innovation (IGHI), 2021, https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/Full-Year_ICL-YouGov-Covid-19-Behaviour-Tracker_20212603_final.pdf</p>
3	<p>COVID-19 Vaccination Communication: Applying Behavioral and Social Science to Address Vaccine Hesitancy and Foster Vaccine Confidence. This report by National Institutes of Health (U.S.A) outlines evidence-informed communication strategies in support of national COVID-19 vaccine distribution efforts across federal agencies and their state and local partners. The recommendations put forth are actionable and responsive to the unique challenges faced by the United States in responding to the COVID-19 pandemic. The report relies on a few foundational practices of effective health communication, namely coordinated communication and consistent messaging, trust building through partnerships, consideration of different health literacy levels in the population, and importantly, prioritizing equity in all aspects of communication, to outline three intersecting considerations for communication efforts (What is being communicated, Who is the target of the message, and How the message is communicated), along with concrete</p>	<p>National Institutes of Health , 2020 https://www.obssr.od.nih.gov/sites/obssr/files/inline-files/OBSSR_VaccineWhitePaper_FINAL_508.pdf</p>

	recommendations for targeted and tailored communication that responds to the needs and perspectives of the intended audience.	
4	State of Vaccine Confidence in the EU+UK, 2020. The Vaccine Confidence Project has been published by the European Commission and deals with confidence in vaccination in the EU+UK both among the public and HCPs. The State of Vaccine Confidence report shows that large majority of the EU+UK public surveyed has high confidence in vaccines. Compared to 2018, a growing majority of the EU+UK public agrees that vaccines are important (92%, an increase of 3% since 2018), effective (90%, an increase of 3%), safe (87%, an increase of 5%) and compatible with their religion (79%, an increase of 2%). The report shows that countries can experience significant changes in vaccine confidence, stressing the importance of continuous monitoring to allow rapid responses and mitigate possible effects on vaccine uptake. Preparedness is particularly important in the context of the COVID-19 pandemic, and countries facing low or decreasing vaccine confidence should take the necessary steps to rebuild confidence.	European Commission, 2020 https://ec.europa.eu/health/system/files/2020-12/2020_confidence_rep_en_0.pdf
5	Europeans' attitudes towards vaccination (Special Eurobarometer 488), 2019. In this report published by European Commission were investigated the beliefs and the levels of knowledge and patterns of behavior about vaccines among the citizens of the European Union. According to the report the overall attitudes of Europeans towards vaccination was positive, with more than four in five thinking that vaccines can be effective in preventing infectious diseases. However, knowledge about infectious diseases and vaccines varies considerably. Around half of Europeans were aware that the flu and meningitis are still causing deaths in the European Union, while fewer think this of hepatitis, measles and tetanus. In the case of the flu, meningitis and measles, there are considerable country-level differences in awareness. While there was a high level of awareness that vaccines are rigorously tested before being authorized for use, Europeans were significantly less well informed about the effects of vaccines: nearly half think vaccines can often produce serious side effects and close to four in ten that vaccines can cause the disease they are intended to protect against.	European Commission, 2019 https://ec.europa.eu/health/system/files/2019-04/20190426_special-eurobarometer-sp488_en_0.pdf

MASS MEDIA (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	<p>Blind people in Wales frustrated by Covid 19 vaccine access. A lack of communication and access to Covid-19 vaccines in Wales is frustrating according to some visually impaired people. Some have said they have considered not getting a jab due to little digital information and distance from centers. Cardiff and Vale University Health Board apologized for the incident and said they will continue to ensure members of our community who are blind or visually impaired are supported when attending our vaccination sites. This includes making sure all our staff is reminded that anyone attending with a guide dog or assistance animal should be allowed access. A Welsh government official said: "Health boards provide support to people with a visual impairment to ensure they can take up their offer of a vaccine; Anyone who has not had their vaccine and needs advice or assistance, should contact their local health board." We have worked with the RNIB on making the appointment letter more accessible. Large print materials are available at vaccination centers.</p>	<p>Heard D. Blind people in Wales frustrated by Covid vaccine access. [published online: 2021 Jul 30]. https://www.bbc.com/news/uk-wales-58013982</p>
2	<p>I was fortunate to get my vaccination, but the hurdles are too great for many other Deaf people. This article refers to the experience of Sara Novic, a deaf person, with the covid 19 vaccination procedure. She describes the challenges she was facing while navigating medical settings, even before the pandemic. As for the day of her vaccination, due to the lack of sign language interpreters she found it almost impossible to follow the verbal instructions. A confluence of factors puts the Deaf community at higher risk for negative health outcomes, Covid-related and otherwise. Because of communication barriers, deaf people tend to avoid going to the doctor, resulting in more frequent visits to the ER with higher rates of misdiagnosis. The most telling data point about deaf health and care access is that research shows Deaf people report higher-than-average levels of mistrust in health care providers. The heart of the problem goes beyond any sole individual's good or bad experience with another individual doctor or vaccination clinic; it reflects a history of violence brought against deaf people by the medical community.</p>	<p>Novic S. I was fortunate to get my vaccination, but the hurdles are too great for many other Deaf people. [published online 2021 Apr 13]. CNN. https://edition.cnn.com/2021/04/13/opinions/deaf--vaccine-hesitancy-health-care-equity-novic/index.html</p>

3	<p>Needle Fears and Phobia – Find Ways to Manage. Many people do not like needles as part of medical procedures when they receive care. But for some, the fear of needles is so great that it might prevent them from getting life-saving medical care, like vaccinations. This fear often affects children but can affect adults, too. Fear of needles is also common in people with certain conditions that cause difficulties with managing strong sensations, such as in people with mental, emotional, or behavioral disorders. Fear of needles can also be common in people with disabilities that make it hard for them to understand the procedures and communicate their concerns. Fears and phobias can vary from mild to severe. For milder cases, preparation, support, and pain management can help.</p>	<p>https://www.cdc.gov/childrensmenalth/features/needle-fears-and-phobia.html</p> <p>https://twitter.com/CDCgov/media</p>
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Thematic Area 4 - Interventions to promote vaccination and tackling of vaccine hesitancy		
PEER REVIEWED ARTICLES (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	<p>The Effectiveness of Interventions for Increasing COVID-19 Vaccine Uptake: A Systematic Review. The aim of this systematic review is to identify and evaluate the effectiveness of interventions to increase COVID-19 vaccine uptake. Studies included interventions relating to communication content, communication delivery, communication presentation, policy or vaccination delivery, with 7 measuring vaccination uptake and 32 measuring vaccination intention. A narrative synthesis was conducted, which highlighted that there is reasonable evidence from studies investigating real behaviour suggesting that personalising communications and sending booking reminders via text message increases vaccine uptake. Findings on vaccination intention are mixed but suggest that communicating uncertainty about the vaccine does not decrease intention, whereas making vaccination mandatory could have a negative impact. Although much of the research used experimental designs, very few measured real behavioural outcomes.</p>	<p>Batteux, E., Mills, F., Jones, L. F., Symons, C., & Weston, D. (2022). The Effectiveness of Interventions for Increasing COVID-19 Vaccine Uptake: A Systematic Review. <i>Vaccines</i>, 10(3), 386.</p> <p>https://doi.org/10.3390/vaccines10030386</p>

2	<p>Understanding and addressing vaccine hesitancy in the context of COVID-19: development of a digital intervention. They report the development of a scalable digital intervention seeking to address COVID-19 vaccine hesitancy and enhance uptake of COVID-19 vaccines in the United Kingdom. Guided by motivational interviewing (MI) principles, the intervention includes a series of therapeutic dialogues addressing 10 key concerns of vaccine-hesitant individuals. Development of the intervention occurred linearly across four stages. During stage 1, we identified common reasons for COVID-19 vaccine hesitancy through analysis of existing survey data, a rapid systematic literature review, and public engagement workshops. Stage 2 comprised qualitative interviews with medical, immunological, and public health experts. Rapid content and thematic analysis of the data provided evidence-based responses to common vaccine concerns. Stage 3 involved the development of therapeutic dialogues through workshops with psychological and digital behaviour change experts. Dialogues were developed to address concerns using MI principles, including embracing resistance and supporting self-efficacy. Finally, stage 4 involved digitisation of the dialogues and pilot testing with members of the public. The digital intervention provides an evidence-based approach to addressing vaccine hesitancy through MI principles. The dialogues are user-selected, allowing exploration of relevant issues associated with hesitancy in a non-judgmental context. The text-based content and digital format allow for rapid modification to changing information and scalability for wider dissemination.</p>	<p>Knight, H., Jia, R., Ayling, K., Bradbury, K., Baker, K., Chalder, T., Morling, J. R., Durrant, L., Avery, T., Ball, J. K., Barker, C., Bennett, R., McKeever, T., & Vedhara, K. (2021). Understanding and addressing vaccine hesitancy in the context of COVID-19: development of a digital intervention. <i>Public health, 201</i>, 98–107. https://doi.org/10.1016/j.puhe.2021.10.006</p>
3	<p>Vaccine hesitancy and behavior change theory-based social media interventions: a systematic review. This systematic review aims to identify the breadth and effectiveness of behavior change theories and tools. The result shows that the Health Belief Model was the most frequently deployed theory, and the most common social media tool was educational posts, followed by dialogue-based groups, interactive websites, and personal reminders. Theory-based interventions were generally more measurable and comparable and had more evidence to trigger the positive behavior change. Fifteen studies reported the effectiveness in knowledge gain, intention increase, or behavior change. Educational messages were proved to be effective in increasing knowledge but less helpful in triggering behavior change. Dialogue-based social media intervention performed well in improving people's intention to vaccinate. Interventions informed by behavior change theory and delivered via social media platforms</p>	<p>Li, L., Wood, C. E., & Kostkova, P. (2022). Vaccine hesitancy and behavior change theory-based social media interventions: a systematic review. <i>Translational behavioral medicine, 12</i>(2), 243–272. https://doi.org/10.1093/tbm/ibab148</p>

	<p>offer an important opportunity for addressing vaccine hesitancy. This review highlights the need to use a multitheory framework and tailoring social media interventions to the specific circumstances and needs of the target audience in future interventions. The results and insights gained from this review will be of assistance to future studies.</p>	
4	<p>Nudging toward vaccination: a systematic review: They present a comprehensive synthesis of evidence regarding the value and impact of nudges to address Vaccine hesitancy (VH). Identified interventions are presented according to a framework for behaviour change, MINDSPACE. Articles (n=48) from 10 primarily high-income countries were included in the review. Nudging-based interventions identified include using reminders and recall, changing the way information is framed and delivered to an intended audience, changing the messenger delivering information, invoking social norms and emotional affect (eg, through storytelling, dramatic narratives and graphical presentations), and offering incentives or changing defaults. The most promising evidence exists for nudges that offer incentives to parents and healthcare workers, that make information more salient or that use trusted messengers to deliver information. The effectiveness of nudging interventions and the direction of the effect varies substantially by context. Evidence for some approaches is mixed, highlighting a need for further research, including how successful interventions can be adapted across settings. Nudging-based interventions show potential to increase vaccine confidence and uptake, but further evidence is needed for the development of clear recommendations. The ongoing COVID-19 pandemic increases the urgency of undertaking nudging-focused research.</p>	<p>Reñosa, M., Landicho, J., Wachinger, J., DalGLISH, S. L., Bärnighausen, K., Bärnighausen, T., & McMahon, S. A. (2021). Nudging toward vaccination: a systematic review. <i>BMJ global health</i>, 6(9), e006237. https://doi.org/10.1136/bmjgh-2021-006237</p>
5	<p>Improving vaccination uptake among adolescents. The aim was to evaluate the effects of interventions to improve vaccine uptake among adolescents. Various strategies have been evaluated to improve adolescent vaccination including health education, financial incentives, mandatory vaccination, and class-based school vaccine delivery. However, most of the evidence is of low to moderate certainty. This implies that while this research provides some indication of the likely effect of these interventions, the likelihood that the effects will be substantially different is high. Therefore, additional research is needed to further enhance adolescent immunization strategies, especially in low- and middle-income countries where there are limited adolescent vaccination programs. In addition, it is critical to understand the factors that influence hesitancy, acceptance, and demand for adolescent vaccination in</p>	<p>Abdullahi, L. H., Kagina, B. M., Ndze, V. N., Hussey, G. D., & Wiysonge, C. S. (2020). Improving vaccination uptake among adolescents. <i>The Cochrane database of systematic reviews</i>, 1(1), CD011895. https://doi.org/10.1002/14651858.CD011895.pub2</p>

	different settings. This is the topic of an ongoing Cochrane qualitative evidence synthesis, which may help to explain why and how some interventions were more effective than others in increasing adolescent HPV vaccination coverage.	
6	<p>A Rapid Systematic Review of Public Responses to Health Messages Encouraging Vaccination against Infectious Diseases in a Pandemic or Epidemic. Public health teams need to understand how the public responds to vaccination messages in a pandemic or epidemic to inform successful campaigns encouraging the uptake of new vaccines as they become available. A rapid systematic review was performed by searching PsycINFO, MEDLINE, healthvidence.org, OSF Preprints and PsyArXiv Preprints in May 2020 for studies including at least one health message promoting vaccine uptake of airborne-, droplet- and fomite-spread viruses. Most studies reported messages for seasonal influenza ($n = 11$; 31%) or H1N1 ($n = 11$; 31%). Evidence from moderate to high quality studies for improving vaccine uptake included providing information about virus risks and vaccination safety, as well as addressing vaccine misunderstandings, offering vaccination reminders, including vaccination clinic details, and delivering mixed media campaigns across hospitals or communities. Behavioural influences (beliefs and intentions) were improved when: shorter, risk-reducing or relative risk framing messages were used; the benefits of vaccination to society were emphasised; and beliefs about capability and concerns among target populations (e.g., vaccine safety) were addressed. Clear, credible, messages in a language target groups can understand were associated with higher acceptability. Two studies (6%) described PPI in the research process. Future campaigns should consider the beliefs and information needs of target populations in their design, including ensuring that vaccine eligibility and availability is clear, and messages are accessible.</p>	<p>Lawes-Wickwar, S., Ghio, D., Tang, M. Y., Keyworth, C., Stanescu, S., Westbrook, J., Jenkinson, E., Kassianos, A. P., Scanlan, D., Garnett, N., Laidlaw, L., Howlett, N., Carr, N., Stanulewicz, N., Guest, E., Watson, D., Sutherland, L., Byrne-Davis, L., Chater, A., Hart, J., ... Epton, T. (2021). A Rapid Systematic Review of Public Responses to Health Messages Encouraging Vaccination against Infectious Diseases in a Pandemic or Epidemic. <i>Vaccines</i>, 9(2), 72. https://doi.org/10.3390/vaccines9020072</p>
7	<p>Parents' and informal caregivers' views and experiences of communication about routine childhood vaccination: a synthesis of qualitative evidence: The specific objectives of the review were to identify, appraise and synthesize qualitative studies exploring: parents' and informal caregivers' views and experiences regarding communication about childhood vaccinations and the manner in which it is communicated; and the influence that vaccination communication has on parents' and informal caregivers' decisions regarding childhood vaccination. They included 38 studies, mostly from high-income countries, many of which explored mothers' perceptions of vaccine communication. Some focused on the MMR</p>	<p>Ames, H. M., Glenton, C., & Lewin, S. (2017). Parents' and informal caregivers' views and experiences of communication about routine childhood vaccination: a synthesis of qualitative evidence. <i>The Cochrane database of systematic reviews</i>, 2(2), CD011787.</p>

	<p>(measles, mumps, rubella) vaccine. In general, parents wanted more information than they were getting (high confidence in the evidence). Lack of information led to worry and regret about vaccination decisions among some parents (moderate confidence). Parents wanted balanced information about vaccination benefits and harms (high confidence), presented clearly and simply (moderate confidence) and tailored to their situation (low confidence in the evidence). Parents wanted vaccination information to be available at a wider variety of locations, including outside health services (low confidence) and in good time before each vaccination appointment (moderate confidence). Parents viewed health workers as an important source of information and had specific expectations of their interactions with them (high confidence). Poor communication and negative relationships with health workers sometimes impacted on vaccination decisions (moderate confidence). Parents generally found it difficult to know which vaccination information source to trust and challenging to find information they felt was unbiased and balanced (high confidence). The amount of information parents wanted and the sources they felt could be trusted appeared to be linked to acceptance of vaccination, with parents who were more hesitant wanting more information (low to moderate confidence). Our synthesis and comparison of the qualitative evidence shows that most of the trial interventions addressed at least one or two key aspects of communication, including the provision of information prior to the vaccination appointment and tailoring information to parents' needs. None of the interventions appeared to respond to negative media stories or address parental perceptions of health worker motives.</p>	<p>https://doi.org/10.1002/14651858.CD011787.pub2</p>
8	<p>Face-to-face interventions for informing or educating parents about early childhood vaccination. The aim of this review is to assess the effects of face-to-face interventions for informing or educating parents about early childhood vaccination on vaccination status and parental knowledge, attitudes and intention to vaccinate. Most studies evaluated the effectiveness of a single intervention session delivered to individual parents. The interventions were an even mix of short (ten minutes or less) and longer sessions (15 minutes to several hours). There is low- to moderate-certainty evidence suggesting that face-to-face information or education may improve or slightly improve children's vaccination status, parents' knowledge, and parents' intention to vaccinate. Face-to-face interventions may be more effective in populations where lack of awareness or understanding of vaccination is identified as a barrier (e.g. where people are unaware of new or optional vaccines). The effect of the intervention in a population where concerns about vaccines or vaccine hesitancy is the primary</p>	<p>Kaufman, J., Ryan, R., Walsh, L., Horey, D., Leask, J., Robinson, P., & Hill, S. (2018). Face-to-face interventions for informing or educating parents about early childhood vaccination. <i>The Cochrane database of systematic reviews</i>, 5(5), CD010038. https://doi.org/10.1002/14651858.CD010038.pub3</p>

	barrier is less clear. Reliable and validated scales for measuring more complex outcomes, such as attitudes or beliefs, are necessary in order to improve comparisons of the effects across studies.	
GREY LITERATURE (INTERNATIONAL)		
	Title/ Summary	Reference/ Link
1	<p>Operational considerations for planning and implementing catch-up vaccination in the WHO European Region. The purpose of this operational considerations document is to assist national immunization programmes in establishing and refining a catch-up vaccination strategy, as an essential component of a well-functioning immunization programme, to ensure individuals who have missed their routine vaccine doses can receive their overdue doses at the earliest possible opportunity and provide practical guidance in operationalizing the global guidance for planning and implementing catch-up vaccination using a structured algorithm.</p>	<p>WHO, Europe 2022 https://apps.who.int/iris/bitstream/handle/10665/351183/WHO-EURO-2022-4751-44514-63005-eng.pdf?sequence=1&isAllowed=y</p>
2	<p>Enhancing acceptance and demand for vaccination in the Western Pacific Region: a guide for program managers on strategies for assessing and addressing hesitancy and sustaining vaccination uptake. The Vaccine-Preventable Diseases and Immunization unit of the WHO Regional Office for the Western Pacific initiated the development of a regional guide to support countries to overcome vaccine hesitancy and to enhance acceptance and demand in an effort to achieve high vaccination uptake. This guide is structured around the goal of identifying and addressing hesitancy and enhancing acceptance and demand, leading to sustainable vaccination uptake. This document has three main components: 1) general background, concepts in vaccine hesitancy and demand, and the situation in the Western Pacific Region; 2) reasons for under vaccination and vaccine hesitancy; and 3) strategies to enhance acceptance and demand for vaccination. Vaccine hesitancy and its determinants are often highly context specific and may change over time. Targeted and tailored approaches are therefore required, along with close monitoring and evaluation of interventions. The main intended users of this guide are national and subnational government health authorities, medical associations, other government stakeholders (education ministry, occupational health, etc.), private sector immunization providers, development partners and civil society.</p>	<p>WHO Regional Office for the Western Pacific, 2021 https://apps.who.int/iris/bitstream/handle/10665/340353/9789290619338-eng.pdf?sequence=8&isAllowed=y</p>

3	<p>Enhancing public trust in COVID-19 vaccination: The role of governments. Trust in the vaccines is vital, and is critically dependent on the ability of governments to communicate the benefits of vaccination, and to deliver the vaccines safely and effectively. This brief published by OECD addresses the role of governments in promoting confidence in the effectiveness and safety through effective communication, as well as trust in their ability to procure and distribute them efficiently and equitably. While only a small minority of the population holds strong anti-vaccination views, hesitancy about COVID-19 vaccination is evident in many countries. Recognizing that vaccination campaigns of the magnitude needed are unprecedented, government actions to garner trust will be essential to their success, and to the emergence of more resilient societies after the crisis. The OECD Trust Framework identifies five main policy dimensions that drive people’s trust in government institutions: responsiveness, reliability, integrity, openness and fairness.</p>	<p>OECD 2021, https://read.oecd-ilibrary.org/view/?ref=1094_1094290-a0n03doefx&title=Enhancing-public-trust-in-COVID-19-vaccination-The-role-of-governments</p>
4	<p>Countering online vaccine misinformation in the EU/EEA. This study, commissioned by ECDC, set out to explore the main sources of online vaccine misinformation in the EU/European Economic Area (EEA), the evidence base for how to counter online vaccine misinformation, the current strategies used by national public health authorities in the EU/EEA and other organisations to counter online vaccine misinformation and the training needs of national public health authorities in the EU/EEA for how to develop effective strategies for countering online vaccine misinformation. The focus of this study was misinformation relating to vaccination against measles (in combination with mumps and rubella), human papillomavirus (HPV), influenza, and COVID-19. The findings from this study provide insights for national public health authorities into the factors behind the spread of vaccine misinformation online and the options and capacities needed for responding to it. The findings will also serve to inform the development of a training package to support those authorities (and other interested organisations) in their work in this area.</p>	<p>European Centre for Disease Prevention and Control (ECDC), 2021 https://www.ecdc.europa.eu/sites/default/files/documents/Countering-online-vaccine-misinformation-in-the-EU-EEA.pdf</p>
5	<p>Systematic scoping review on social media monitoring methods and interventions relating to vaccine hesitancy, Technical Report. The aim of this research project is to map, analyse and summarise knowledge and research on social media and vaccination. The key objectives were to identify preferences for using different social media platforms as a source of information on vaccination and the influence that social media have on individuals’ perceptions of vaccination; to identify different social media monitoring methods or tools in the context of vaccination and their strengths and weaknesses; to review how social media monitoring methods and</p>	<p>European Centre for Disease Prevention and Control (ECDC), 2020 https://www.ecdc.europa.eu/sites/default/files/documents/vaccine-hesitancy-systematic-scoping-review-social-media.pdf</p>

	<p>information gathered from monitoring can be used to inform communication strategies, and to identify the uses, benefits and limitations of social media as an intervention tool around vaccination (i.e. to determine how effective social media are as a tool for increasing vaccination uptake).his review has found that while many studies have been conducted with the aim of analysing online content relating to vaccination, the methodologies used are extremely varied. As a minimum, it is recommended that health authorities, health professionals or others with an interest in monitoring social media around vaccination collect data relating to the sentiments and content of social media posts, the reach and influence of these posts, and if available, geo-location data.</p>	
6	<p>COVID-19 Vaccination: Reducing vaccine hesitancy, Review & Recommendations. This report produced by Hertfordshire County Council Behavior Change Unit(UK) presents a rapid review of the literature to inform decisions on how local authorities can increase the uptake of the COVID-19 vaccination amongst their residents, using a behaviorally informed approach. Three areas of research are reviewed: vaccination intentions and behaviors for previous pandemics, population surveys to measure attitudes and intentions towards COVID-19 vaccination, and the influence of misinformation upon vaccination decision making.</p> <p>A series of guiding principles and evidence-based recommendations to reduce vaccine hesitancy, with a particular focus upon communications, are presented below in brief.</p> <p>The evidence-informed recommendations to address vaccine hesitancy are based upon the research discussed within this paper, including the behavioral analysis (capability, opportunity, and motivation) outlined in the previous section. Recommendations are applied to the influencing factors of complacency, confidence and convenience, with a specific focus upon communication and engagement.</p>	<p>Hertfordshire County Council Behaviour Change Unit,2020 https://www.bsphn.org.uk/_data/site/54/pg/675/COVID-19-Vaccination-Reducing-Vaccine-Hesitancy.pdf</p>
7	<p>Strengthening COVID-19 vaccine demand and uptake in refugees and migrants. This document has been developed by WHO, as an operational guide to support policy-makers, planners and implementers at national and local levels, including in governments, nongovernmental organizations (NGOs), WHO country offices and other stakeholders responsible for the rollout of COVID-19 vaccines to refugee and migrant populations. The guide is designed to provide practical support, strategies and good practices for understanding and addressing personal, social and practical barriers to COVID-19 vaccines among refugee and migrant populations,</p>	<p>WHO, Europe 2019 https://www.who.int/publications/i/item/WHO-2019-nCoV-immunization-demand_planning-refugees_and_migrants-2022.1</p>

	<p>acknowledging that they may face a range of unique barriers to accessing immunization systems that need to be better considered by policy-makers and planners.</p> <p>This guide provides an overview of key activities and considerations for increasing confidence and uptake of COVID-19 vaccines in refugee and migrant populations with the aim of supporting the operationalization of the recent WHO interim guidance COVID-19 Immunization in Refugees and Migrants: Principles and Key Considerations. The guide covers data collection, coordination of policy and planning, implementing communication strategies, social media monitoring, community engagement, capacity-building, and monitoring and evaluation.</p>	
8	<p>Tailoring Immunization Programmes. WHO Regional Office for Europe has developed the Tailoring Immunization Programmes (TIP) approach. It provides stakeholders working in the field of immunization with proven tools to identify sub optimally vaccinated populations, determine barriers and drivers and design interventions. It is grounded in scientific evidence and country experience and aims to integrate people-centred research and behavioural insights into immunization programme planning and policy. The TIP approach is founded on three main pillars: 1) six values and principles; 2) a theoretical model; and 3) a phased process with detailed exercises. The phases and steps of a TIP process are described in detail in this document, supported by inspiration examples and exercises for TIP planning workshops.</p>	<p>WHO, Europe 2019 https://apps.who.int/iris/bitstream/handle/10665/329448/9789289054492-eng.pdf</p>
MASS MEDIA (INTERNATIONAL)		
	Title/Summary	Reference/Link
1	<p>These Black women are on the frontlines of the fight against Covid-19. Black women, doctors and health advocates step up as people from their own communities face higher death and hospitalization rates due to the covid19 pandemic. They are also determined to use their platforms and credibility to combat vaccine hesitancy and prevent further devastation among Black and brown people. This article describes these women stories and how they managed to affect positively many people of their community.</p>	<p>Ellis N. These Black women are on the frontlines of the fight against Covid-19. [published online 2021 Mar 2]. CNN. https://edition.cnn.com/2021/03/02/us/black-women-covid19-leaders/index.html</p>
2	<p>Covid-19: Charities urge vulnerable people to book Vaccines. Millions of vulnerable people with underlying health conditions, such as cancer, diabetes and heart disease, are being urged to book their Covid jabs. Charities including Cancer Research UK, Mencap and the Terrence</p>	<p>Covid-19: Charities urge vulnerable people to book vaccines [published online 2021 Mar 12].</p>

	Higgins Trust have written an open letter to those in priority. They are trying to reassure people that vaccines are safe and effective.	https://www.bbc.com/news/technology-56372184
3	How France is persuading its citizens to get vaccinated. The article deals with the vaccination in France, with emphasis on measles vaccine. It mentions the negative impact of fake news in social media and suggests how people’s hesitancy can be decreased. Emphasis is given on the importance of mandatory vaccination and how it has helped the French public health.	Whiting A. How France is persuading its citizens to get vaccinated.[published online 2019 Nov 5]. CNN. https://edition.cnn.com/2019/07/03/health/france-fighting-vaccine-skepticism-partner-intl/index.html
4	New York officials plan to redouble efforts to fix racial disparities in vaccination rates. New York officials acknowledged the racial disparity among the people who have received vaccine doses to date and the city needs to redouble its efforts to address inequitable access. The city will focus on getting the vaccine supply to the grass-roots level, and communicating in many different languages, among its efforts to address this concern. Based on data, the need of redoubling the efforts around addressing equity and particularly racial equity was emphasized by New York City Health Commissioner Dave Chokshi. One strategy is to allow people with vaccination appointments to bring other eligible family members so they can get vaccinated. The mayor stressed that one way to get past vaccine hesitancy is to ramp up supply, explaining that more people are likely to take the vaccine if they see someone they know have access to it first hand.	Sgueglia K, Vitagliano B, Setty G. New York plan to redouble efforts to fix racial disparities in vaccination rates [published online 2021 Feb 1]. CNN. https://edition.cnn.com/2021/02/01/us/racial-disparities-covid-19-vaccine-access-new-york/index.html
5	Podcast «Delivering Covid 19 vaccines to minority communities». For African Americans and other minorities it is difficult to access the vaccine as many do not have access to the internet to make an appointment, or a means of transportation to go to the vaccination center. Strategies that increase vaccine access are: appointment booking through phone calls, information available in different languages, information about covid-19 vaccination in posters at supermarkets, churches etc. And vaccination reminder phone calls to high- risk groups. Also, it is emphasized that in order to attract more people from minorities to get vaccinated the registration system has to make clear that vaccines are free and do not apply to those who have insurance.	New England journal of medicine interviews. Rubin E Baden L Del Rio C, Morrissey S.[2021 Mar 31].

INFORMATION ABOUT CYPRUS OR IN GREEK

Thematic Area 1 - Policies, Strategies and legislation related to vaccination and immunization programs

PEER REVIEWED ARTICLES (CYPRUS)

	Title/Summary	Reference/Link
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GREY LITERATURE NATIONAL (CYPRUS)

	Title/Summary	Reference/Link
1	<p>Updated vaccination schedule for children and adolescents. The policy for the Vaccination Program for Children and Adults in Cyprus is designated by the Ministry of Health, following the relevant recommendations of the World Health Organization (WHO) and in particular the Extended Vaccination Program (EIA). The Pediatric Vaccination Program in Cyprus is also shaped and updated according to the epidemiology of infectious diseases, the level of hygiene and the socio-economic conditions of the country, as well as the International scientific data. Under this program, preschool and school-age children are covered with vaccines against infectious diseases that can pose a serious threat to public health. A proper and well-organized vaccination schedule is in fact a key element for a healthy health system as it is a key indicator of the health system evaluation for each country. The last revision of the Vaccination Scheme took place in 2019.</p>	<p>Available at: https://www.moh.gov.cy/moh/moh.nsf/All/B132061A6C8F10F7C2257AFB003E0096?OpenDocument&highlight=%CE%B5%CE%BC%CE%B2%CE%BF%CE%BB%CE%B9%CE%B1 PDF https://www.moh.gov.cy/Moh/moh.nsf/All/B132061A6C8F10F7C2257AFB003E0096/\$file/2021%20%CE%95%CF%80%CE%B9%CE%BA%CE%B1%CE%B9%CF%81%CE%BF%CF%80%CE%BF%CE%B9%CE%B7%CE%BC%CE%AD%CE%BD%CE%BF%20%CF%83%CF%87%CE%AE%CE%BC%CE%B1%20%CE%B5%CE%BC%CE%B2%CE%BF%CE%BB%CE%B9%CE%B1%CF%83%CE%BC%CF%8E%CE%BD%20%CF%80%CE%B1%CE%B9%CE%B4%CE%B9</p>

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2	Implementation of National Adult Vaccination Scheme - Public Awareness (2022). Phase A 'and B' of the National Adult Vaccination Scheme is implemented, which concerns the vaccination against Pneumococcus and Shingles (Herpes Zoster). Beneficiaries for free vaccination and timing for booster doses are presented in flow chart.	Available at: https://www.gesy.org.cy/sites/Sites?d=Desktop&locale=el_GR&lookuphost=/el-gr/&lookuppage=hionewsandannouncements
MASS MEDIA NATIONAL (CYPRUS)		
	Title/Summary	Reference/Link
1	The free vaccination program is expanded. The decision to expand the National Immunization Program for Children and Adolescents, with the addition of three vaccines, was recently taken by the Ministry of Health of Cyprus. The three new vaccines that will be made available free of charge within the first quarter of 2020, are the ACWY Meningococcus vaccine, the Varicella vaccine, as well as the Hepatitis A vaccine.	https://simerini.sigmalive.com/article/2019/9/22/epekteinetai-to-skhedio-dorean-emboliasmon/
2	National Vaccination Plan for COVID 19 (Press Release) presented by the Cypriot Minister of Health. - Receipt of vaccines, storage, distribution, and transport of vaccines - Vaccination Centres - Vaccination Program Software - Vaccination procedure - Population Groups	https://www.pio.gov.cy/%CE%B1%CE%BD%CE%B1%CE%BA%CE%BF%CE%B9%CE%BD%CF%89%CE%B8%CE%AD%CE%BD%CF%84%CE%B1-%CE%AC%CF%81%CE%B8%CF%81%CE%BF.html?id=17453#flat

3	Ministry of Health: Announcement for the initiation of the administration Of a booster dose (4rth dose) of a vaccine against the COVID-19 disease.	👉 Έναρξη χορήγησης... - Υπουργείο Υγείας Κυπριακή Δημοκρατία Facebook
4	PRESS RELEASE - Pharmaceutical Services Answer Frequently Asked Questions About COVID-19 Vaccines (05 May 2021). Pharmaceutical Services Answer Frequently Asked Questions About COVID-19 Vaccines based on the data available so far and current recommendations of European and global organizations for Public Health issues which are constantly updated.	https://www.pio.gov.cy/coronavirus/search-results?search=%CF%83%CF%85%CF%87%CE%BD%CE%AD%CF%82+%CE%B5%CF%81%CF%89%CF%84%CE%AE%CF%83%CE%B5%CE%B9%CF%82+%CE%B3%CE%B9%CE%B1+%CF%84%CE%B1+%CE%B5%CE%BC%CE%B2%CF%8C%CE%BB%CE%B9%CE%B1+%CE%BA%CE%B1%CF%84%CE%AC+%CF%84%CE%B7%CF%82+COVID-19
5	PRESS REALSE – CYPRUS PAEDEATRIC SOCIETY. The problems observed in the availability and distribution of vaccines within the General Health System, with the prolonged shortages and delays in the processing of their orders and which have already been repeatedly pointed out to the Minister of Health by the PEK, must be resolved immediately.	https://twitter.com/PediatricCy/status/1271926170754461696
Thematic Area 2 - Information on vaccine and vaccination		
PEER REVIEWED ARTICLES (CYPRUS)		
	Title/Summary	Reference/Link

	0	
GREY LITERATURE NATIONAL (CYPRUS)		
	Title/Summary	Reference/Link
1	<p>Vaccine against Human papillomavirus (HPV). Vaccines boost acquired immunity and in combination with natural immunity build a firewall that reduces or eliminates the possibility of disease by certain microorganisms (viruses or germs). One of the 20 diseases that vaccines prevent is the Human papillomavirus (HPV) infection, an extremely common virus that is transmitted mainly through sexual contact. Although most HPV infections go away on their own without causing symptoms, a persistent infection can cause cervical cancer. Vaccination, along with preventive tests (Pap test) and timely treatment can prevent most cases of cervical cancer.</p>	<p>Available at: https://iliaktida.eu/%ce%b5%ce%bc%ce%b2%cf%8c%ce%bb%ce%b9%ce%bf-%ce%ad%ce%bd%ce%b1%ce%bd%cf%84%ce%b9-%cf%84%ce%bf%cf%85-%ce%b9%ce%bf%cf%8d-%cf%84%cf%89%ce%bd-%ce%b1%ce%bd%ce%b8%cf%81%cf%89%cf%80%ce%af%ce%bd%cf%89%ce%bd/</p>
2	<p>The 3 vaccines that almost eliminated the risk of serious illness - hospitalization or death. Covid-19 vaccines approved for use provide significant protection against Covid-19 disease. Without vaccination, there is no protection against Covid-19. Therefore we receive whatever vaccine is available and offered to us. This is the best decision one can make about his health. There are still unanswered questions about all the vaccines and for that reason there is conditional license for their use. The scientific community agrees that this particular coronavirus will be with us, unfortunately for quite some time or years, at some stage it will become endemic and at some point in the future the vaccination will be seasonal. The goals of vaccination are:</p> <ol style="list-style-type: none"> 1. Minimization of death and serious illness due to COVID-19. And at the moment our data show that this is what all the vaccines we have at our disposal do. 2. Minimize the spread of infection and control the epidemic. All available vaccines can achieve this. 	<p>Available at: https://www.unic.ac.cy/el/dr-chr-petroy-ta-3-emvolia-schedon-midenisan-ton-kindyno-sovaris-nosisis-nosileias-i-thanatoy/</p>

	3. Ensuring basic social functions.	
3	<p>Cyprus Paediatric Society</p> <p>Factors Affecting the Body's Immune Response to a Vaccine. Numerous studies and surveys have found that there is significant variation between individuals in the immune response to a vaccine. Many factors affect both the chemical and cellular response of vaccines in humans in a variety of ways. These may be inherent factors of the host, perinatal factors, external factors, environmental factors, behavioural factors, nutritional factors, vaccine-related factors, and administration factors.</p> <p>Understanding all of these factors and their effect on planning vaccine studies and making decisions about vaccination programs offers ways to improve immunogenicity and vaccine efficacy.</p>	Available at: https://child.org.cy/ti-kanei-ena-emvolio/
MASS MEDIA NATIONAL (CYPRUS)		
	Title/Summary	Reference/Link
1	BioNTech developed mRNA vaccination against cancer. Trial with melanoma, the most aggressive skin cancer.	https://medlabgr.blogspot.com/2021/07/embolio-mrna-kata-tou-karkinou-dokimi-me-to-melanoma-ton-pio-epithetiko-karkino-tou-dermatos.html?fbclid=IwAR2_y-4FI3bJ1My49FWz6UxcGRSF8owc0-p3hYMpkCLlslsfgBIOfPmiELQ#ixzz77DH9IDT4
2	The vaccines that the children of A', E' and S' Primary School must have.	https://phileneews.com/koinonia/eidiseis/article/1297195
3	Vaccinate means protect. Public health is the issue of timely vaccination of children, while its omission due to ignorance or misinformation can lead to epidemics and even deadly diseases - Unvaccinated children spread their cheeks at school.	https://simerini.sigmalive.com/article/2019/10/6/em-boliaz0-semainei-prostateuo/

	<p>view. The research was conducted by the IMR Organization / University of Nicosia in collaboration with the Cyprus Patients' Association.</p>	<p>%CE%BD%20%CE%9A%CF%8D%CF%80%CF%81%CE%BF_02.09.2021_final.pdf</p>
2	<p>Vaccine against Covid-19. Conspiracy theories. The issue of the Covid-19 vaccine has been and remains one of the issues around which various theories have been developed. From scientific to conspiracy. Theories that flourish more in times of crisis and to some extent affect social and political behavior and reality. And which come from experts and non-experts, scientists, politicians, journalists and ordinary citizens. Theories with possible and improbable explanations. In every public health crisis, there are phenomena of misinformation and a tendency to create a climate of fear, mainly by people who lack specialization and serve other purposes. In the end, however, vaccines serve to protect individual and public health, so the reason we decide to make a vaccine is to protect ourselves and those around us, and this decision should not be influenced by others motivations or theories.</p>	<p>Available at: https://iliaktida.eu/%ce%b5%ce%bc%ce%b2%cf%8c%ce%bb%ce%b9%ce%bf-%ce%ad%ce%bd%ce%b1%ce%bd%cf%84%ce%b9-%cf%84%ce%bf%cf%85-covid-19-%ce%b8%ce%b5%cf%89%cf%81%ce%af%ce%b5%cf%82-%cf%83%cf%85%ce%bd%cf%89%ce%bc%ce%bf%cf%83%ce%af/</p>
3	<p>Hesitancy against vaccines: Why some people are not vaccinated and what can be done. In Cyprus, about one in three people who can get the vaccine have chosen not to. The current government strategy to increase vaccinations, which is based on enforcement and threat, is not effective and has the opposite effect.</p> <p>A different strategy is needed, the aim of which will be to build public confidence in vaccines. Trust is built and maintained in relationships that inspire mutual respect, are transparent and honest. Relationships that affect people's confidence in vaccines are identified on two levels: 1) interpersonal, e.g. with the personal physician or a close friend, and 2) at institutional level, between the citizen and the scientific community, the government and the pharmaceutical industry. The more active and organized involvement of doctors in the government vaccination strategy will have multiple benefits if combined with a communication strategy.</p>	<p>Available at: https://www.cut.ac.cy/news/article/?contentId=449010</p>

	Title/Summary	Reference/Link
1	<p>Negative first for Cyprus: They say "no" to citizens' vaccinations (VIDEO). Survey of Commission finds another negative first of Cyprus:26 out of 100 Cypriots do not want to be vaccinated. A percentage twice that of Greece and more than double the average in the whole European Union, in which only 12% of the citizens are not interested in vaccinations. However, according to the Commission, most of those who refuse to be vaccinated are younger, and the rate decreases with age.</p>	<p>https://www.alphanews.live/cyprus/arnitiki-protia-gia-tin-kypro-den-empisteyontai-ta-embolia-oi-polites-binteo?gclid=Cj0KCQjwl7qSBhD-ARIsACvV1X0himune6Tz826WcjOpUi673sTDpH0vzUktr6IVAoRrQXX6gGBC_olaAks1EALw_wcB</p>
2	<p>No drug intervention is completely safe, as all drugs and vaccines are accompanied by the possibility of side effects. There should be no doubt about safety, safety is above all, especially for vaccines given to healthy people to prevent a disease.</p>	<p>www.facebook.com/chpetrou/posts/10158239109062737</p>
3	<p>PRESS RELEASE - Announcement of the Cyprus Paediatric Society for vaccination of breastfeeding mothers, May 2021. The Cyprus Paediatric Society adopts the position of the World Health Organization, as well as other breastfeeding organizations, such as the Academy of Breastfeeding Medicine, as breastfeeding mothers receive the COVID-19 vaccine without discontinuation of breastfeeding, to protect themselves and the community. Data from countries that have administered the vaccine to nursing mothers so far confirm its safety, both for the mother and the baby, and show that there is a possibility of protecting the baby through antibodies in breast milk. The Cyprus Paediatric Society supports the position of the Cyprus Gynaecological Society and the Cyprus Perinatal Medicine Society as pregnant women and couples wishing to have children are vaccinated against coronavirus.</p>	<p>https://child.org.cy/deltio-typou-emvoliasmos-covid19-miteres/</p>
4	<p>The ideology of vaccination in the crisis of history</p>	<p>https://simerini.sigmalive.com/article/2022/1/10/e-ideologia-tou-anti-emboliasmou-sten-krise-tes-istorias/</p>

5	Tracing the root of anti-vaccines. From the disease of smallpox to the experimentation of 1796 and the coronavirus vaccines today.	https://simerini.sigmalive.com/article/2021/1/3/ikhnelatontas-te-riza-ton-anti-emboliaston/
Thematic Area 4 - Interventions to promote vaccination and tackling of vaccine hesitancy		
PEER REVIEWED ARTICLES (CYPRUS)		
	Title/Summary	Reference/Link
	0	
GREY LITERATURE NATIONAL (CYPRUS)		
	Title/Summary	Reference/Link
1	<p>Cyprus Pediatric Society. The Cyprus Paediatric Society (CPS), in a press conference organized on Tuesday, October 5, 2021, announced the start of its information campaign for the vaccination of children against Covid-19 disease. The campaign is organized by CPS with the primary goal of informing the public about the need for immediate vaccination of children over 12 years against Covid-19 disease. The main concern of CPS is the protection of the children but also the widest possible vaccination coverage of our population, with the unique vision of the gradual exit from the uncertainty, the danger and the limitations that the pandemic has brought. The information material that has been prepared as part of the campaign includes:</p> <p>Answers to frequently asked questions about vaccinating children over 12 years of age with Covid-19</p>	Available at: https://child.org.cy/covid-19/
2	<p>Vaccine Coverage Survey 2019-Ministry of Health, Medical Services and Public Health Services. The Vaccine Coverage Survey aims to describe the vaccination coverage picture</p>	Available at: https://www.moh.gov.cy/Moh/MOH.nsf/All/EC15B0A9A

	<p>of the child population of our country. Specifically, the degree of protection of children living in the areas controlled by the Republic of Cyprus against the main infectious diseases that can be prevented by vaccination. In addition, it collects data on the reasons why some parents refuse to vaccinate their children. The survey lasted two weeks from 20/05/2019 until 31/05/2019. It covered a sample of 610 children, aged 17-24 months. The sampling method used was that of stratified random sampling with a total of five layers, which concerned the provinces of Nicosia, Limassol, Larnaca, Paphos and Famagusta. Results: Vaccination rates against major infectious diseases were high, above 95%.</p> <p>The main reason for not vaccinating children was that the child was ill with 29.2% of the total number of responses.</p> <p>The organized reaction against the vaccines was small at this stage (0.7% of the responding parents had negative views about the vaccine).</p>	8F5E240C22586000024697A/\$file/%CE%91%CF%80%CE%BF%CF%84%CE%B5%CE%BB%CE%AD%CF%83%CE%BC%CE%B1%CF%84%CE%B1%20%CE%88%CF%81%CE%B5%CF%85%CE%BD%CE%B1%CF%82%20%CE%95%CE%BC%CE%B2%CE%BF%CE%BB%CE%B9%CE%B1%CF%83%CE%BC%CF%8E%CE%BD%202019.pdf
3	<p>EUROPEAN VACCINATION INFORMATION PORTAL. The main purpose of this website is to provide accurate, objective, up-to-date evidence on vaccines and vaccination in general. It also provides an overview of the mechanisms in place in the European Union (EU) to ensure that available vaccines conform to the highest standards of safety and effectiveness.</p>	https://vaccination-info.eu/el
MASS MEDIA NATIONAL (CYPRUS)		
	Title/Summary	Reference/Link
1	<p>Members of Cyprus Paediatric Society administered the vaccine against Covid-19 disease to children aged 5-11 in the vaccination centres that operate in Nicosia and Limassol.</p>	https://twitter.com/PediatricCy/status/1487373358597648449
2	<p>The president of Cyprus Paediatric Society informs people about the importance of vaccination.</p>	https://twitter.com/PediatricCy/status/1450461807194300422

3	World Immunization Week. April 24 – 30 2021	https://twitter.com/PediatricCy/status/1385911523068059648
4	European Immunization Week: World Immunization Week – which is celebrated in the last week of April – aims to promote the use of vaccines to protect people of all ages from disease.	https://twitter.com/PediatricCy/status/1255769109016596480
5	Efforts to promote vaccination are intensifying against COVID-19. In the context of the actions of the Ministry of Health to strengthen its vaccination of the population, especially among young women, the contribution of private organizations and bodies is considered important, which include the COVID-19 vaccination information on various actions they organize.	https://www.pio.gov.cy/coronavirus/uploads/15092021_prospatheiesg_iaproothisiemboliasmouEL.pdf

INFORMATION ABOUT GREECE OR IN GREEK

Thematic Area 1 - Policies, Strategies and legislation related to vaccination and immunization programmes

PEER REVIEWED ARTICLES - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	<p>Εμβολιασμοί και πολιτικές δημόσιας υγείας Η ελληνική πραγματικότητα.</p> <p>Vaccination and public health policies: The Greek experience. (English). Vaccinations are considered one of the main pillars of public health. They constitute a major measure for disease prevention and their implementation is an important public health concern. Public health services have come under constant pressure during the continuing fiscal crisis in Greece, and the need for organizational reform is imperative, especially with respect to the vaccination policy. A background study was made of current vaccination data, including the vaccination rates of children against diphtheria and measles. Data</p>	<p>Μπροτζάκη, Ε., Λάμπρου, Γ. Ι. and Κουτσούρης, Δ. (2019) 'Εμβολιασμοί και πολιτικές δημόσιας υγείας Η ελληνική πραγματικότητα', <i>Archives of Hellenic Medicine / ArheiaEllenikeslatrikes</i>, 36(6), pp. 734–743.</p> <p>https://www.mednet.gr/archives/2019-6/pdf/734.pdf</p>

	<p>were obtained from the European Statistical Authority, the Greek Statistical Authority, the UK Statistical Office, the World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD). Vaccination rates in Greece remained at high levels, reaching 99% for both diphtheria and measles. A significant positive correlation was demonstrated between diphtheria vaccination and the out-of-pocket expenditure ($r=0.942$), and vaccination against measles ($r=0.962$). The Greek fiscal crisis has created many problems in primary health care, but without serious effects on vaccination rates.</p>	
2	<p>Επιδημιολογία και πολιτική του εμβολιασμού κατά του ιού HPV στην Ελλάδα και άλλες χώρες του κόσμου</p> <p>Epidemiology and HPV vaccination policy in Greece and other countries. (English). The introduction of human papillomavirus vaccination is one of the most important developments in modern gynecology. Today, most European Union member states have adopted the cervical cancer vaccine. About ten years ago, coverage for regular HPV vaccination ranged between 17% and 81%, with the highest rates (80% to 81%) coming from Portugal and the United Kingdom. It has recently been estimated that in France the vaccination coverage of young adolescents remains low (19%). In the United Kingdom and Spain it is estimated to be over 80%, while in the United States and Germany the rates are lower and range between 40% and 50%. Similarly estimated are the rates of HPV vaccination coverage in Australia. Vaccination coverage against HPV virus in young women in Greece is not sufficiently recorded, with the general assessment that vaccination coverage rates remain low. In most countries the cost of vaccinating women is fully covered by national health authorities. Exceptions are Austria, Belgium and France. In Austria the HPV vaccination is fully covered by each woman privately, while in Belgium and France women are required to pay privately 75% and 35% of the total cost of the vaccination, respectively. In all European countries, the HPV vaccination policy adopted from the beginning only concerned girls. The exception was Austria, where the target population was both girls and young boys. Apart from Austria, a gender-independent HPV vaccination program is also proposed in the United States, Canada and Australia. While in several European countries the school infrastructure is responsible for</p>	<p>Θανασάς, Ι. Κ. et al. (2020) Επιδημιολογία και πολιτική του εμβολιασμού κατά του ιού HPV στην Ελλάδα και άλλες χώρες του κόσμου. <i>Epistimonika Chronika</i>, 25(3), pp. 424–437.</p> <p>https://search.ebscohost.com/login.aspx?direct=true&site=eds-live&db=edb&AN=148899795&authtype=uid&user=rmaprowserextension&password=BrOwserExtension789!</p> <p>(Accessed: 29 March 2022).</p>

	national vaccination programs, in the United States the availability of HPV vaccines is based primarily on health care benefits and vaccination policy implementation varies from country to country.	
GREY LITERATURE - NATIONAL (GREECE)		
	Title/Summary	Reference/Link
1	<p>National Strategic Plan for Public Health 2019-2022</p> <p>Axis 5: Vaccine and vaccination management: prevention and immunization. The National Vaccination Program (NVP) is determined by the Ministry of Health and the recommendations of the National Vaccination Committee. Vaccines of NVP are provided free of charge to all those who legally reside in Greece, including immigrants. The main challenges regarding the vaccination system in Greece are described, as well as the proposed strategies for addressing them:</p> <ol style="list-style-type: none"> 1. Preparation and implementation of a National Vaccination Register - Vaccination Information System. 2. Formulation / amendment of the legislative framework for mandatory vaccination policies 3. National communication strategy at all levels in order to increase vaccination knowledge and awareness 4. Monitoring and responding to concerns about vaccine safety 5. Vaccination of children and adult refugees and Immigrants (keeping a vaccine register, monitoring vaccination coverage, vaccine supply, organizing and conducting mass vaccination campaigns, information materials in various languages on the benefits of vaccination.) 6. National vaccine supply strategy. 	<p>Available at:</p> <p>https://www.moh.gov.gr/articles/health/domes-kai-draseis-gia-thn-ygeia/ethnika-sxedia-drashs/6237-ethniko-sxedio-drashs-gia-thn-dhmosia-ygeia?fdl=14940</p>
2	<p>Recommendation of National Bioethics & Technoethics Committee</p> <p>For the mandatory vaccination in certain professional groups in the field of Health Care. In this Recommendation, the Commission has specifically addressed the mandatory vaccination of staff of health care facilities and care of vulnerable groups during the current period of the COVID-19 pandemic. The issue of mandatory vaccination in facilities of health care or care of vulnerable groups raises the basic dilemma of protection of patients and vulnerable persons treated against the basic</p>	<p>Available at:</p> <p>https://www.isathens.gr/images/PDFs/RECOMMENDATION-Mandatory-vaccination-certain-professional-groups-FINAL-GR.pdf</p>

	<p>principle of self-determination (autonomy) of those working in these structures. In other words, so long as the pandemic continues to threaten and cost lives and so long as there are approved vaccines that are safe and effective, is it morally acceptable to take mandatory measures to vaccinate workers in health facilities?The Commission emphasizes that, due to the divergence of perceptions about vaccination among health workers, but also the phenomenon of vaccination apathy, specialized information and awareness-raising initiatives (to increase vaccinations) need to be taken not only by the State , but also by the administrations of the facilities.</p> <p>In conclusion, it is necessary to give priority to choices aimed at convincing of the importance of vaccination with - national, regional or local - targeted information and awareness campaigns in order to encourage voluntary vaccination.</p>	
3	<p>"National Program for Adult Vaccinations 2022" Ministry of Health, General Management of Public Health & Quality of Life, Management of Public Health & Environmental Sanitation. The National Adult Vaccination Program 2022 with relevant explanations, as formulated by the National Vaccination Committee, includes the following:</p> <p>Table 1. National Adult Vaccination Program, by age group, 2022.</p> <p>Table 2. National Adult Vaccination Program, by disease or other indication, 2022.</p> <p>Table 3. Indications for administration of PCV13 and PPSV23 in adults.</p> <p>Table 4. Vaccination indications for tetanus in trauma patients.</p>	<p>https://www.moh.gov.gr/articles/health/dieythyns-h-dhmosias-ygieinhs/emboliasmoi/ethniko-programma-emboliasmwn-epe-enhlikwn/9968-ethniko-programma-emboliasmwn-enhlikwn-2022</p>
MASS MEDIA - NATIONAL (GREECE)		
	Title/Summary	Reference/Link
1	<p>National vaccination programme 2022 – notifications .The vaccination against rotavirus is now part of the basic vaccination program and will be covered fully by the insurance funds. Vaccination against HPV infection is included in the basic vaccination program for girls and boys from the age of 9 and is fully reimbursed by the insurance funds. Vaccination against hepatitis A is carried out in</p>	<p>https://www.facebook.com/paidiatros.stokidis/posts/959595011427094</p>

	2 doses in toddlers of 2-6 years. It is recommended to perform it at the age of 2. Mantoux tuberculous reaction testing and immunization with BCG vaccine against tuberculosis shall be carried out only in people at high risk for tuberculosis groups.	
2	The Council of State ruled that it is constitutional and legal to remove children from kindergartens when parents refuse to vaccinate them.	https://www.facebook.com/newpostgr/posts/3749139355107349
3	Everything is changing about children vaccination. Revolution in health booklets as they are digitized and pediatricians will now create a digital file for each child they examine. Significant changes in pediatric vaccines as well.	https://www.dikaiologitika.gr/eidhseis/ygeia/381261/allazoun-ola-sta-paidika-emvolia

Thematic Area 2 - Information on vaccine and vaccination

PEER REVIEWED ARTICLES - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	Εμβόλια έναντι του Coronavirus 2019 (COVID-19): Πρόσφατα Δεδομένα. Vaccines against Coronavirus 2019 (COVID-19): Recent Data. (English). The COVID-19 pandemic overwhelms health care systems and especially Intensive Care Units (ICUs). When demand for ICU beds exceeds supply, triage becomes necessary, i.e., the physician is asked to decide which patients will be admitted to the ICU and which will not. We present the suggested triage criteria along with their ethical foundations and limitations. The main issue is whether, besides the prognosis of acute disorder, prognosis of chronic underlying diseases and/or age should also be considered. Many European countries have launched relevant guidelines that differ from each other.	Themeli-Digalaki, K. (2020) Εμβόλια έναντι του Coronavirus 2019 (COVID-19): Πρόσφατα Δεδομένα. <i>Scientific Chronicles / EpistimonikaChronika</i> , 25(4), pp. 564–572. https://doccdn.simplesite.com/d/b4/ae/282600882036256436/ea41e114-f245-436c-9e51-4f8edc0e83ba/%2B%2B-%2B%2B25%2B%2B4%2B2020.pdf
2	Καταγραφή γνώσης εφήβων για τον HPV και αποδοχής του εμβολιασμού μέσω αγωγής υγείας	Θανασάς, Ι., Λαβράνος, Γ. and Γκόγκου, Π. (2021) 'Καταγραφή γνώσης εφήβων για τον HPV και αποδοχής του εμβολιασμού μέσω

<p>Recording adolescents' knowledge of HPV and acceptance of vaccination through health education. The review aims to determine the effectiveness of existing school curricula through health education to educate adolescents about their protection against the human papillomavirus (HPV) through vaccination. PURPOSE: The purpose of this systematic review was to determine the level of knowledge, adolescents have about HPV, about the HPV vaccine and to determine the willingness to proceed with the vaccination. METHOD: From 2010 to January 2019 a systematic review of evaluation studies on teen knowledge and education on HPV vaccine, documented on Medline/ Pubmed and Google scholar database was carried out, covering information on adolescent attitudes towards HPV vaccination and their perceptions of vaccination and the need for more training to inform the public about the HPV virus and vaccine. RESULTS: This study concludes that adolescents are poorly informed about HPV and preventive vaccination issues, thus underestimating the likelihood of infection by the virus. The way to improve knowledge about HPV and the implications of HPV infection is to provide information through the framework of compulsory schooling, primary health care, and the development of informative interactive interventions. CONCLUSIONS: Awareness of the need for HPV training should be broadened to address the major barrier to vaccination, which is referred to as a lack of information. Knowledge and perceived susceptibility to HPV infection and HPV-related diseases among adolescents demonstrates the need for a well-designed training program to bridge the gap of knowledge about the HPV virus and to accept the vaccine against it.</p>	<p>αγωγής υγείας. <i>Nursing Care & Research / Nosileia kai Ereuna</i>, (59), pp. 24–39.</p> <p>https://eds.s.ebscohost.com/eds/detail/detail?vid=0&sid=fa3db3f6-139e-4b99-a790-2f7e30d6e9ca%40redis&bdata=JnNpdGU9ZWRzLWxpdmU%3d#AN=152584199&db=rzh</p> <p>(Accessed: 29 March 2022).</p>
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GREY LITERATURE - NATIONAL (GREECE)		
	Title/Summary	Reference/Link
1	<p>World Immunization Week: History and Importance of Vaccines. Vaccination protects people who have been vaccinated and those around them who are vulnerable to disease, reducing the risk of spreading disease among members of the</p>	<p>Available at: https://www.helmsic.gr/blog/2021/04/27/vaccinehistory/</p>

	<p>community. When a large part of the population has acquired immunity to an infectious disease, then it is rather unlikely that the disease will spread from person to person. This is known as "collective immunity" (also known as "herd immunity"), which also allows for the indirect protection of unvaccinated individuals.</p> <p>In addition, immunization programs help reduce the social, psychological and economic burden of the disease on the population and governments, reducing pressures on health and social care systems and allowing individuals to engage in productive activities such as training and work.</p>	
2	<p>Vaccines: Child protection shield. Every child starting school should be fully vaccinated according to the National Vaccination Program. It is now well-established that vaccinations provide children with timely, effective and long-term protection against many paediatric infections. Parents should be aware that safety studies precede the release of the vaccine and at the same time there is constant vigilance for any side effects. Active immunization is the most important achievement of medicine for the prevention of disease and complications from serious infectious diseases</p>	<p>Available at: https://www.mitera.gr/arthra-ygeias/emvolia-i-aparaititi-amyna-gia-kathe-mathiti/</p>
3	<p>Training Manual for Vaccination Centers COVID19 Version 1.2, National Vaccination Committee - January 2021</p> <p>PART A</p> <p>The handbook includes information on the epidemiology of COVID-19 disease, its pathogenesis, treatment, vaccination schedule, description of available vaccines, side effects and reporting procedure, contraindications and precautions, vaccination recommendations for COVID-19 mRNA vaccines, vaccination of people with underlying diseases , storage, transport and distribution of vaccines, operation of a vaccination center and process of vaccination, vaccination in special cases, troubleshooting during administration of vaccines and reporting.</p>	<p>Available at: https://www.moh.gov.gr/articles/health/dieythynsh-dhmosias-ygieinhs/emboliasmoi/ekpaideytiko-yliko-gia-emboliasmoys-covid19/8252-ekpaideytiko-egxeiridio-gia-emboliastika-kentra-covid19</p>

	<p>PART B</p> <p>Includes annexes for PART A and in addition:</p> <ol style="list-style-type: none"> 1. Public information on COVID-19 vaccination 2. Anaphylaxis management algorithm. 	
4	<p>Influenza and Pneumococcal Vaccines in the COVID-19 Era. Proper adherence to vaccination programs depending on age, co-morbidities, but also the time of year and any outbreaks of infectious diseases, is a cornerstone of preventive medicine. This winter, the flu viruses and the new coronavirus are expected to spread simultaneously in the community, creating increased morbidity from respiratory infections, confusion among patients and their families, more hospital visits and the need for increased use of diagnostic tests by doctors. Early vaccination is therefore particularly important, especially with the two main vaccines for the prevention of respiratory infections, influenza and pneumococcus.</p>	<p>Available at: https://www.hygeia.gr/emvolia-gripis-amp-pneymoniokokkoy-stin-epochi-toy-covid-19/</p>

MASS MEDIA - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	<p>Vaccine: Truths and lies about the risks and benefits: Some among us are reluctant to get vaccinated in the hope that the SARS-CoV-2 coronavirus pandemic will pass or the vaccination of our fellow citizens will cover us as well.</p>	<p>https://www.tovima.gr/2021/07/20/science/emvolio-alitheies-kai-psemata-gia-tous-kindynous-kai-ta-ofeli/</p>
2	<p>Five Greek doctors speak about vaccination, the long-term side effects and much more</p>	<p>https://www.facebook.com/permalink.php?story_fbid=192173232980532&id=100065635705322</p>
3	<p>The national medicines agency presents the aggregated data on the reports it had for all side effects from the coronavirus vaccine</p>	<p>https://www.facebook.com/ethnosonline/posts/4816257225167061</p>
4	<p>Coronavirus vaccines: EOF's list of all side effects</p>	<p>https://twitter.com/Sofokleousin/status/1512150985854046210</p>

5	Chickenpox: What we need to know about its vaccine	https://www.iatropedia.gr/paidi/anemovlogia-ti-prepei-na-gnorizoume-gia-to-emvolio-tis/126063/
6	How much measles threatens Greece The World Health Organization announced that our country joins the "club" of countries in which the disease has not been eliminated. What the WHO, the Greek officials and the experts say in "Βήμα"	https://www.tovima.gr/2019/09/15/science/poso-apeilei-tin-ellada-i-ilara/
7	History of infectious diseases and vaccination	https://www.youtube.com/watch?v=2BHicqCgSP0&t=23s

Thematic Area 3 - Behaviour and attitudes towards vaccination

PEER REVIEWED ARTICLES - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	Διερεύνηση των στάσεων, γυναικών επαγγελματιών υγείας ως προς τον εμβολιασμό έναντι του ιού των Ανθρώπινων Θηλωμάτων (HPV). Investigation of attitudes of female health professionals to vaccination against Human Papilloma Virus (HPV). Vaccination against HPV is one of the most important preventive interventions in the fight against cervical cancer. In our country, the two-volume (HPV2) and the four-volume (HPV4) vaccine against HPV are available to teenagers and young women. ΤΟ ΒΗΜΑ ΤΟΥ ΑΣΚΛΗΠΙΟΥ® Τόμος 18, Τεύχος 2 (Απρίλιος - Ιούνιος 2019) Σελίδα 167 ISSN: 2241-6005 Περιοδικό το ΒΗΜΑ του ΑΣΚΛΗΠΙΟΥ © 2018 www.vima-asklpiou.gr Aim: To record the attitude and receptiveness of women's occupational health on vaccination against HPV. Material and Method: For the collection of the data, used the questionnaire of the research program "Lysistrate", from University of Thessaloniki during the period March - April 2016, in women health professionals of the General Hospital of Karditsa (N = 235). Results: The 59.4% of women knew about the presence of the vaccine with 57.4% being	Zoe, R., Georgia, G., Maria, N., Agoritsa, K., Charalambos, C. and Aristidis, V., (2019) Investigation of attitudes of female health professionals to vaccination against Human Papilloma Virus (HPV). <i>Rostrum of Asclepius/Vimatou Asklipiou</i> , 18(2). https://eds.p.ebscohost.com/eds/pdfviewer/pdfviewer?vid=1&sid=6a615bb6-2a87-4e14-8f8e-dd0b13ec808e%40redis

<p>susceptible to administration. The main reasons for denying vaccination are distrust, fear and lack of information. Women who visited the gynecologist more than 3 times a year had performed the Pap test at least once in their life than those who had never visited it ($x^2 = 11,858$, $p = 0.008$). Conclusions: The findings of this study demonstrate and reflect on how HPVs perceive or act on HPV prevention. Disapproved and inadequate knowledge of the benefits of the vaccine are negative stimuli to acceptance by the general population.</p>	
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GREY LITERATURE - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	<p>The role of the media in the development of the anti-vaccination movement and misinformation during the Covid-19 pandemic .The purpose of this study is to investigate and clarify the risk of misinformation arising in relation to the COVID-19 pandemic vaccination. In addition, it carries out a development of the reasons that push the population to movements of distrust and challenge through a literature review in research studies that collect data on the anti-vaccination movement during the COVID-19 pandemic. It undermines the impact of media misinformation on disseminating false news and shaping views against public health and the well-being of the population, promoting panic and fear.The results of the research showed that participants are not able to distinguish between true and false content of events and news posted and shared on social networks related to the COVID-19 pandemic and vaccination issues. In addition, the dissemination of information seems to be guided by the interaction that characterizes each social media as well as by the specific patterns of interaction of user groups dealing with the issue. The same problem is found in the print media and a more rigorous evaluation of the information by their authors is recommended. Finally, when the use of the Internet poses risks to public health, governments should develop</p>	<p>Tsironis,G. (2021) The role of the media in the development of the anti-vaccination movement and misinformation during the Covid-19 pandemic (Master Thesis)</p> <p>Available at: https://polynoe.lib.uniwa.gr/xmlui/bitstream/handle/11400/578/Tsironis_18066.pdf?sequence=1&isAllowed=y</p>

	strategies for controlling health information on the Internet, but without censoring the population.	
2	<p>Conspiracy theories, fear of COVID-19 and attitudes towards vaccination. The purpose of this study was to investigate the relationship between gender, age, and the COVID-19 intention of vaccination, and then the relationship of these three parameters with popular conspiracy theories (existence of coronavirus, pandemic as collusion or a plot against humanity). The study involved 680 people (75% women) with a mean age of 32 (SD: 12 / Range: 18-70 years old) who completed the relevant questionnaires on an online form. Throughout the sample, conspiracy theories were negatively correlated with age, fear of coronavirus, and willingness to be vaccinated. The two genders did not differ in the size of their belief in conspiracy theories, and although women had a higher fear of coronavirus, they were less likely to get vaccinated. The analysis showed that in both genders the reluctance to get vaccinated could be predicted mainly by believing in conspiracy theories, but secondarily by the lower fear of the coronavirus and the younger age. Men and women who said they would NEVER get the vaccine were also characterized by greater belief in conspiracy theories, less fear of COVID-19, and younger age. The present findings are close enough to the expected direction. At the same time they emphasize the need for more reliable information for the younger ones -and also for women- about the need for vaccination against COVID-19, as well as about the safety of vaccines.</p>	<p>Mpeina,M. (2021). Conspiracy theories, fear of COVID-19 and attitudes towards vaccination (Master Thesis)</p> <p>Available</p> <p>at:https://dspace.lib.uom.gr/bitstream/2159/25711/1/MpeinaMariaMsc2021.pdf</p>
3	<p>Preventive Medicine and Confidence in Vaccination: The Case Study of a Rural Area. Primary prevention helps to neutralize risk factors and improve functionality, quality of life and life expectancy. Vaccination, on the otherhand, is the "spearhead" of primary prevention and contributes greatly to reducing child mortality and promoting health, in general. Both, nowadays, for various reasons, are degraded, criticized and challenged.</p>	<p>Sarris,N. (2021) Preventive Medicine and Confidence in Vaccination: The Case Study of a Rural Area (Thesis)</p> <p>Available at:</p> <p>https://apothesis.eap.gr/bitstream/repo/51043/1/std504448_%CE%A3%CE%91%CE%A1%CE%A1%CE%97%CE%A3_%CE%9D%CE%99%CE%9A%CE%9F%CE%9B%CE%91%CE%9F%CE%A3.pdf</p>

	<p>Aim: The purpose of this study is to investigate the degree of familiarity of the inhabitants of a small rural area, with the values of prevention and to determine their level of confidence in vaccination.</p> <p>Method: This survey was conducted for the period from March 30, 2021 to May 18, 2021, with the help of a structured questionnaire, which was shared, either live or by e-mail. The sample of the study consisted of adults, over 18 years old and residents of Mylopotamos province.</p> <p>Results: According to this research, the majority of participants are monitored by a private doctor, of a similar specialty, whom they visit when they are ill. Their diet is considered moderate to good, while most of them are of normal weight. Most of these people do not smoke, while consuming alcohol occasionally. Microbiological laboratory tests are performed, for most, every year and are informed and careful about hereditary diseases. As for the vaccination, they are mostly informed by their personal doctor, whom they trust. They are mainly vaccinated in government structures and their access is considered easy. They do not show reluctance and do not appear to be affected by external immunosuppressive agents. A fairly large percentage, are vaccinated annually for the flu and their confidence in the vaccine is generally considered high.</p>	
MASS MEDIA - NATIONAL (GREECE)		
	Title/Summary	Reference/Link
1	<p>Coronavirus – Research: Vaccine denial may be linked to the existence of childhood traumas. The hesitancy or refusal to get the coronavirus vaccine may be related to the existence of traumatic experiences from childhood, such as neglect or abandonment by one's parents, domestic violence or substance abuse in the family environment, according to a new British scientific study.</p>	<p>https://www.kathimerini.gr/world/561698683/koronoios-ereyna-i-arnisi-ton-emvolion-syndeetai-kai-me-tin-yparxi-paidikon-traymaton/</p>

2	Coronavirus: How social media "stimulates" vaccine denial – The algorithm and role of ads. A new study has been conducted on the role social media plays in the denial of coronavirus vaccines and the data is revealing, as they seem to contribute significantly in several ways, beyond the spread of fake news.	https://www.newsbeast.gr/technology/arthro/8331820/koronoios-pos-ta-social-media-ypokinoun-tin-arnisi-sta-emvolia-o-algorithmos-kai-o-rolos-ton-diafimiseon
3	An X-ray of anti-vaxxers everywhere. A twitter survey—through the Academic Research Access program—measures the tweets of anti-vaxxer circles that revolve around their central idea: "Vaccines are bad, take drugs instead."	https://www.facebook.com/insidestory.gr/posts/4802874053130614
4	Thessaloniki: Gathering of vaccine deniers .Some of the demonstrators held Greek flags while others had a flag of Vergina on their shoulders.	https://www.facebook.com/Ant1news.gr/posts/5762526573821921

Thematic Area 4 - Interventions to promote vaccination and tackling of vaccine hesitancy

GREY LITERATURE - NATIONAL (GREECE)

	Title/Summary	Reference/Link
1	HANDBOOK: Influenza vaccination of health services personnel. The transmission of vaccine-preventable diseases and the outbreak of hospital epidemics, continue to be a challenge for health care providers even in countries with long-term vaccination programs. This handbook has been prepared to contribute scientifically evidence based knowledge for policy making in health care units, with the aim of increasing staff vaccination coverage against influenza. It covers significant issues, from the rationale behind influenza vaccination recommendations to the planning of actions to increase vaccination coverage. Develops practical issues such as recording influenza vaccination. It is addressed mainly to the scientific staff that is responsible for the control of infections (Hospital Infections Committees) and occupational health (Occupational Physicians), but also to the administrations of the health units and regions of the country. It can also be a reference for scientists interested in controlling hospital infections, vaccinations and occupational health.	Coordinating Committee for Vaccination of Health Professionals for Influenza, General Secretariat of Public Health, Ministry of Health (2019) Available at: https://eody.gov.gr/wp-content/uploads/2019/01/antigripikos-emvoliasmos-prosopikou-yy.pdf

2	<p>Influenza: 10 Myths and Truths About Vaccination. Every year in Greece 1,000 people are lost from the flu and its complications. The number is considered unjustified, as there is the possibility of vaccination, which can increase the levels of defense. Nowadays, especially in developed countries, skepticism about vaccines is flourishing and myths are often prevalent, some of which are debunked in this article.</p>	<p>Patrozou, E. (2020)-HYGEIA Available at: https://www.hygeia.gr/gripi-10-mythoi-kai-alitheies-gia-ton-emvoliasmo/</p>
3	<p>Vaccination recommendations during the COVID pandemic period19. Various SARS-CoV-2 Vaccination Recommendations and Guidelines for Children, Adolescents, Adults and Frequently Asked Questions</p>	<p>https://www.moh.gov.gr/articles/health/dieythynsh-dhmosias-ygieinhs/emboliasmoi/systaseis-emboliasmoy-kata-thn-periodo-ths-pandhmias-covid19</p>

MASS MEDIA - NATIONAL (GREECE)

	Title / Summary	Reference/Link
1	<p>The paediatrician Dr. Spyros Mazanis talks to TLife about the two fairy tales of "Volios Vaccine" and "The party of Mrs. Iosis in order to explain in a "magical" way to the little friends the importance of vaccination and everything about Covid 19.</p>	<p>https://www.facebook.com/sporadesTV/posts/1727719814236289</p>
2	<p>PRESS RELEASE Subject: European Vaccination Week. 23 - 29 April 2018 »</p>	<p>https://eody.gov.gr/wp-content/uploads/2019/07/deltio-typoy-1.pdf</p>
3	<p>Measles vaccination campaign to protect 45 million children in Africa and Asia</p>	<p>https://www.newsbeast.gr/health/arthro/5980354/ekstratia-emvoliasmoy-kata-tis-ilaras-gia-tin-prostasia-45-ekat-paidion-se-afriki-kai-asia</p>

INFORMATION ABOUT ROMANIA OR IN ROMANIAN

Thematic Area 1 - Policies, Strategies and legislation related to vaccination and immunization programmes

PEER REVIEWED ARTICLES - NATIONAL (Romania)

	Title/Summary	Reference/Link
1	<p>Measles Epidemics in Romania: Lessons for Public Health and Future Policy. The article examines the factors that contributed to the negative results of measles prevention and control in Romania, such as: difficulties in delivering vaccines, public opinion on immunization and even the absence of a legislative framework on vaccination.</p> <p>The lessons learned from the measles epidemics in Romania can provide guidance in shaping future strategies not only for the Romanian authorities, but also for other countries that are caused by this disease.</p>	<p><i>Dascalu, Stefan (2019)</i></p> <p>https://www.frontiersin.org/articles/10.3389/fpubh.2019.00098/full</p>
2	<p>Vaccination strategy against COVID-19 in Romania (2020). This is a brochure with 285 pages, elaborated by the Ministry of Health, which establishes the vision, principles and mode of action for the administration in Romania of the vaccines authorized by the European Medicines Agency. Through this</p>	<p>https://vaccinare-covid.gov.ro/wp-content/uploads/2020/12/Strategia-vaccinare-02-12-2020-CL-FINAL-cu-</p>

	<p>strategy, Romania aims to ensure access to vaccination against COVID 19 in terms of safety, efficacy and fairness to prevent SARS COV 2 infection and limit the COVID-19 pandemic across the country.</p> <p>The vaccination strategy against COVID 19 in Romania considers the following key elements: the organization of vaccination against COVID 19 in Romania, the communication strategy, the legal framework, the stages of vaccination against COVID 19 in Romania, the monitoring of vaccine coverage, safety and efficacy.</p>	<p>COVID-19-tabel-2_CUPRINS-UPDATE-1.pdf</p>
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GREY LITERATURE - NATIONAL (ROMANIA)

	Title/Summary	Reference/Link
1	<p>Prospects for the implementation of the vaccine against COVID-19 in Romania: challenges and potential solutions. The article highlights some of the challenges facing Romania and proposes a series of solutions to overcome them. To this end, it discusses issues such as vaccine storage and distribution infrastructure, the act of immunization itself and the acceptance of vaccination by the population.</p>	<p><i>Ștefan Dascălău, Oana Geambas, Ovidiu Covaciue, Răzvan Mircea Chereches, Gabriel Diaconug, Gindrovel Gheorghe Dumitrah, Valeriu Gheorghiițăi, Emilian Damian Popovici (2020)</i></p> <p>https://vaccinare-covid.gov.ro/wp-content/uploads/2021/01/Perspectivale_i_mplementarii_vaccinului_impotriva_COVID_19_in_Romania_provocari_si_potentiale_solutii-2020-12-09-09-13.pdf</p>
2	<p>Preliminary analysis of the effectiveness of vaccination against COVID-19 in Romania (February - May 2021). The conclusion of the study is that full-scale vaccination reduces the risk of death from COVID-19 disease by 14 times, reduces the risk of hospitalization and hospitalization in ATI by 12 times, and reduces the risk of SARS-CoV-2 infection by 10 times.</p>	<p>https://vaccinare-covid.gov.ro/wp-content/uploads/2021/08/Analiza_prelimnara_vaccinare.pdf</p>

MASS MEDIA - NATIONAL (ROMANIA)

	Title/Summary	Reference/Link
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1	<p>Official site of the National Center for Disease Surveillance and Control (CNSCBT). The platform includes up-to-date information on infection with the new Coronavirus (SARS-CoV-2): Legislation and case law, Information for the population, Information for healthcare professionals, Methodologies, communiqués and analyzes on the daily updated status of COVID-19 and reports on vaccination against COVID-19.</p>	<p>https://www.cnscbt.ro/index.php</p>
2	<p>Medical communication guides. The documents provides the most important information and guidelines on SARS CoV2 vaccines and vaccinations.</p> <ul style="list-style-type: none"> • Vaccination against COVID-19 in children aged 5 to 11 years. Answers to frequently asked questions. • Information leaflet for people vaccinated against COVID19 • The most important information about the vaccination campaign against COVID-19 (Stage II) • Important information about vaccination against COVID-19 • Diseases preventable by vaccination • COVID-19 Vaccination Booklet. General aspects. • How to do what matters in times of stress: illustrated guide (WHO) • RNA-Messenger vaccines 	<p>https://vaccinare-covid.gov.ro/ghiduri-de-comunicare-medicala/</p>

Thematic Area 2 - Information on vaccine and vaccination

PEER REVIEWED ARTICLES - NATIONAL (ROMANIA)

	Title/Summary	Reference/Link
1	<p>Study on the perception and the parental approach regarding community pneumonia in preschool children in Romania. The study is aimed to assess parents 'knowledge of respiratory infections and pneumonia in children, in conjunction with the vaccination history of the respondents' children or their diet. Pneumococcal vaccination, introduced in Romania in 2017, is expected to change the frequency and severity of childhood pneumonia in children, which could also change the perception of parents of</p>	<p><i>Dr. Guta Alexandra, Conf. Dr. Craiu Mihai (2018)</i></p> <p>https://view.publitas.com/amph/rjp_2018_2_ro_art-02/page/1</p>

	<p>children immunized against pneumococcus regarding self-medication and the desire to administer antibiotics to children.</p> <p>It is necessary to develop a patient-physician communication strategy that includes Social media.</p>	
2	<p>Answers to Frequently Asked Questions About Covid Vaccines 19</p> <p>What you need to know about COVID-19 vaccines used in children between the ages of 5 and 11. The brochure provides answers to the most frequently asked questions about vaccines against Covid 19, with references to credible sources and information published by European and Romanian authorities.</p>	<p><i>Dr. Plesca Doina Anca ,</i> <i>Dr.DRĂGĂNESCU, Anca (2022).</i> https://vaccinare-covid.gov.ro/wp-content/uploads/2022/01/Intrebari-frecvente-vaccinare-copii-dcc.pdf</p>
GREY LITERATURE - NATIONAL (ROMANIA)		
	Title/Summary	Reference/Link
1	<p>COVID-19 vaccination in Romania. Questions and answers for doctors. Useful information. Opinions of the specialized commissions (2021). This is a 38-page booklet that provides useful information for healthcare professionals on COVID-19 vaccines, COVID-19 vaccination, in general, and in patients with allergies, malignancies, hematological, endocrinological, cardiovascular, immunosuppressive or immunomodulatory therapies. The paper was prepared by the Ministry of Health, which asked the specialized commissions within the ministry for their views on specific chronic pathologies and their interaction or specific therapy with the vaccination process. The paper is structured with questions and answers regarding the effectiveness of vaccines and addresses the questions of medical staff and patients.</p>	<p>http://www.ms.ro/wp-content/uploads/2021/01/Brosura-medici-vaccinarea-covid-MS-1.pdf</p>
2	<p>Information leaflet for people vaccinated with COVID-19 vaccines (2021). The document prepared by the Ministry of Health, the National Medicines Agency, presents the basic information about the authorized COVID-19 vaccines regarding the dose, indications for age groups, warnings and precautions, contraindications for each of the COVID-19 vaccines, allergic reactions.</p>	<p>https://vaccinare-covid.gov.ro/wp-content/uploads/2021/03/Brosura-informativa-pentru-persoanele-vaccinate-30.03.2021.pdf</p>
3	<p>Vaccines authorized in Romania. Basic information about authorized vaccines in Romania Comirnaty - Pfizer, Moderna, Vaxzevria - AstraZeneca, Janssen - Johnson & Johnson and about undesirable post-vaccine side effects.</p>	<p>https://vaccinare-covid.gov.ro/vaccinuri-autorizate/</p>

MASS MEDIA - NATIONAL (ROMANIA)		
	Title/ Summary	Reference/Link
1	Up-to-date data on Covid 19 and vaccination in Romania. Platform containing up-to-date data from official sources and information provided by the Romanian Government on the evolution of COVID-19 cases and the vaccination program in Romania. The platform is made pro-bono by the Code for Romania Association in partnership with the Romanian Government through the Romanian Digitization Authority and supports the Romanian public and media by making the data accessible by putting it in an easy-to-use graphic form.	https://datelazi.ro/
2	The official website of the National Agency for Medicines and Medical Devices of Romania. The platform contains information about COVID-19 vaccination, COVID-19 drugs, information and COVID-19 Clinical trials.	https://www.anm.ro/
3	Covid Official News Platform 19. It contains information from reliable sources that can help the Romanian population to be vigilant in the way it accesses, assimilates and distributes the bursts of news presented in the media: Latest official information, Frequent questions, Decisions and legislation, Video recordings, Sanitary conduct	https://stirioficiala.ro/informatii
Thematic Area 3 - Behaviour and attitudes towards vaccination		
PEER REVIEWED ARTICLES - NATIONAL (ROMANIA)		
	Title/Summary	Reference/Link

1	<p>Qualitative Assessment of Vaccine Hesitancy in Romania. The article starts with the fact that the health system is facing an increase in the number of cases of hesitation to vaccinate, ban or even refusal of vaccination, despite the availability of effective vaccines and vaccination services. Thus, the WHO called the phenomenon of hesitation to vaccinate (VH). To combat this phenomenon, we must understand the causes of this hesitation.</p> <p>To identify the causes, the authors used a hesitant vaccination scale (HSV) and conducted an observational study on 452 individuals.</p> <p>Conclusions: One-third of the investigated population had expressed VH, and a further one-third of these had refused a vaccine for their child. Chicken Pox, Measles, Mumps, Rubella (MMR), and HPV vaccines generated the most hesitation. Negative information from the media was the most frequently evoked reason for VH.</p>	<p><i>Miko David , Costache Carmen, Colosi Horațiu Alexandru, Neculicioiu Vlad, Colosi Ioana Alina (2019)</i></p> <p>https://www.mdpi.com/1648-9144/55/6/282/htm</p>
2	<p>Romanian Medical Students' Attitude towards and Perceived Knowledge on COVID-19 Vaccination. This study aimed to assess the attitude of healthcare students at the Carol Davila University of Medicine and Pharmacy in Bucharest towards the EU-approved COVID-19 vaccines, their knowledge of vaccine development, their perception on vaccine efficacy and safety, and the main reasons that stand behind vaccine hesitancy. Healthcare students, proving to have an overall positive attitude towards vaccination, can become a crucial resource in spreading essential, scientifically sound information to the general public. The toll of COVID-19 has weighed down and will continue to do so heavily on the healthcare system as long as the vaccination rate in the general population remains low. Enthusiastic and dynamic students, acting as volunteers, can increase public trust in medical professionals, the healthcare system, and authorities, thus diminishing vaccine hesitancy. In order to achieve this, they can use innovative and creative communication through user-friendly social media campaigns, reaching above and beyond the youth sector. Their willingness and solidarity can be used to promote non-conventional vaccination campaigns such as marathons and drive-through points open to the general population, which would be a substantial contribution to reaching the target level of herd immunity.</p>	<p><i>Balan Ana , Bejan Ioana, Bonciu Simona, Eni Cristina Elena, Ruta Simona (2021)</i></p> <p>https://doi.org/10.3390/vaccines9080854</p>
GREY LITERATURE NATIONAL (ROMANIA)		
Title/Summary		Reference/Link

1	<p>Report on the State of Vaccine Confidence in the EU and the UK and Factsheets by country (2020).The State of Vaccine Confidence in the EU in 2020 report reveals that countries can undergo significant changes in vaccine confidence in short periods of time, highlighting the importance of continuous monitoring of vaccine confidence to allow rapid responses to address waning confidence and mitigate damaging effects on vaccination uptake. Vaccine confidence is particularly important in the context of the COVID-19 pandemic. Although perceptions towards a novel COVID-19 vaccine are not explored, this study highlights countries and socio-economic groups with relatively low confidence in vaccines that may require targeted attention to confidence building. The page on the European Commission site that present overall confidence in vaccination in the EU+UK is high in 2020, both among the public and healthcare professionals.</p>	<p>https://ec.europa.eu/health/document/download/33ad08ec-1f2c-46e8-be37-fc4c523447ab_en?filename=2020_confidence_rep_en.pdf</p> <p>https://ec.europa.eu/health/vaccination/state-vaccine-confidence_en</p>
2	<p>Influenza and influenza vaccination in Romania. Specific challenges and recommendations for improving influenza vaccination coverage. The study examines a number of European practices related to the vaccine procurement model, concluding that in order to achieve better vaccine coverage in Romania, it is necessary to consider a number of adjustments to the current procurement model for influenza vaccine and network expansion. distribution of vaccines.</p>	<p>https://www.proimunizare.ro/wp-content/uploads/2019/09/Withe-Paper_Gripa_compressed.pdf</p>
MASS MEDIA NATIONAL (ROMANIA)		
Title / Summary		Reference/Link
1	<p>The most common myths about COVID-19 vaccines. The article presents a series of myths confronted with verified and true information that helps the population to be more informed.</p>	<p>https://www.unicef.org/romania/ro/pove%C8%99ti/cele-mai-frecvente-mituri-referitoare-la-vaccinurile-%C3%AEmpotriva-covid-19</p>
2	<p>Video animations about Vaccines - myths of the anti-vaccine movement and why some might believe them.</p>	<p>https://www.youtube.com/watch?v=keBZd-rAtjA</p> <p>https://www.youtube.com/watch?v=hSeK0zHyWVQ</p>

		https://www.youtube.com/watch?v=XSZaOOJFYg8
Thematic Area 4 - Interventions to promote vaccination and tackling of vaccine hesitancy		
PEER REVIEWED ARTICLES NATIONAL (ROMANIA)		
	Title/Summary	Reference/Link
1	Vaccination against COVID-19 in Romania (2021). The document presents basic information about: the principles of the vaccination strategy, the stages of vaccination in Romania by population groups, pharmacovigilance, how a vaccine works, types of vaccine, the stages of developing a vaccine as well as a small vaccination dictionary.	<i>National Coordinating Committee for activities on vaccination against Covid 19 in Romania</i> https://vaccinare-covid.gov.ro/wp-content/uploads/2021/01/Brosura_vaccinare.pdf
2	Hesitation on COVID-19 vaccination - a challenge for the family doctor's practice. The article brings to the fore the hesitation before vaccination of a significant segment of the population in the current pandemic context. The hesitation to vaccinate was defined as "the phenomenon of delayed acceptance or refusal of vaccines, despite their availability. "The family doctor has an important mission to propose and promote vaccination in general, and vaccination against COVID-19 in particular, but the counseling process is time and resource consuming.	<i>Popescu Dana Stefana, Deleanu Anca, Dumitra Gindrovel (2021)</i> https://www.medichub.ro/reviste-de-specialitate/medic-ro/ezitarea-la-vaccinarea-covid-19-o-provocare-pentru-practica-medicului-de-familie-id-4969-cmsid-51
GREY LITERATURE NATIONAL (ROMANIA)		
	Title/Summary	Reference/Link

1	<p>Covid Vaccination Community Communication Guide 19. The guide contains tips to facilitate dialogue between medical staff or other knowledgeable community leaders and vaccination recipients about COVID-19 vaccines. It is based on scientific data and verified information that can be passed on to vaccine recipients (according to the national vaccination strategy), so that they can receive answers to their questions about COVID-19 vaccines. make an informed vaccination decision, cooperate in the various stages of vaccination (for the first and second dose of vaccine or follow-up after vaccination) and become ambassadors of vaccination. This guide provides advice for interaction in urban, rural and online communities, questions to ask and appropriate answers about COVID-19 vaccines.</p>	<p><i>Dumitra, Gindrovel; Fărcășanu, Dana; Motea, Oana; Mustață, Mirela ; Truică, Camelia; Zaharia, Raluca (2021) .</i></p> <p>https://www.unicef.org/romania/media/5971/file/Ghid_Comunicare_Vaccinare_August_2021.pdf</p>
2	<p>Let's talk about vaccination protection. A practical guide for healthcare providers. This is a practical communication guide on vaccinating children for everyday practice, developed by the European Center for Disease Prevention and Control (ECDC). Guide provides health care providers involved in vaccination services¹ with practical advice and evidence-based recommendations reviewed by specialists for ways to increase vaccination in children. The guide is structured from the perspective of the opinions, knowledge and observations of parents, social marketing specialists, health promotion specialists and experts in medical and public health services.</p>	<p>https://www.cnscbt.ro/index.php/ghiduri-si-protocoale/ghiduri/184-ghid-de-comunicare-pentru-cresterea-acceptarii-programelor-de-vaccinare-la-copii/file</p>
3	<p>Disinformation scheme. Studies conducted in various countries have indicated that a number of beliefs in theories COVID-19 misinformation or conspiracy are associated with the reduced intent of vaccination. These theories are facilitated by a number of people's fears and prolife rates where there is distrust in the authorities, in the health system or in the opinion of experts. The document presents the steps to be taken in dismantling a misinformation.</p>	<p>https://www.unicef.org/romania/media/5921/file/Combaterea%20dezinformarii_mobilizatori.pdf</p>
4	<p>13 false statements identified in a press article. The author chose a text published on the luj.ro website in which he identified no less than 13 false or misleading statements, such as: verification of vaccines sent to Romania, quantities received. The information in the article was either incomplete and with the clear intention of misinformation, or false. The author dismantled all 13 false statements with solid, scientific arguments and links to information links and SITES.</p>	<p>https://observatoruldesanatate.ro/pastila-de-informare/13-afirmatii-false-articol-presa/</p>

MASS MEDIA NATIONAL (ROMANIA)		
	Title / Summary	Reference/Link
1	What to do? It is a platform that helps the population to better understand the rules to be followed during the COVID-19 pandemic. A simple and practical guide based on possible scenarios that the population can go through which includes: Questions about vaccination, Traveling safely, Vaccination schedule, Transmission and symptoms, How do we protect ourselves ?, What steps should you take to protect yourself, What measures you have to take it to protect others, How to clean and disinfect, How to create an action plan in your home, 15 recommendations on responsible social behavior in preventing the spread of coronavirus, Adaptation and resistance, Advice for parents, Help for children in managing emergencies, Common reactions for children and adolescents, For those who have just come out of quarantine, Reducing stigma, For those who offers help, Frequently Asked Questions - COVID-19.	https://cetrebuiasafac.ro/
2	Daily update on the record of people vaccinated against COVID-19	https://vaccinare-covid.gov.ro/doza-de-claritate/

INFORMATION ABOUT SPAIN OR IN SPANISH		
Thematic Area 1 -Policies, Strategies and legislation related to vaccination and immunization programs		
PEER-REVIEWED ARTICLES NATIONAL (SPAIN)		
	Title/Summary	Reference/link
1	Human resource management and vaccination strategies in primary care in Europe during COVID-19 pandemic. This article describes the management of human resource and the vaccination strategies in primary care in twelve European countries in relation to the COVID-19 pandemic. All the countries	Ares-Blanco, S., Astier-Peña, MP, Gómez-Bravo, R., Fernández-García, M., Bueno-Ortiz, J. (2021). Human resource management and

	<p>have found solutions to increase their workforce in primary care. Other healthcare professionals were incorporated to support family doctors assuming their tasks, under their supervision and coordination. The European Commission had a crucial role in the production, purchase and distribution of the vaccines. The engagement of primary care in the vaccination campaign has had an unequal participation in the different countries, although the greatest burden has been managed from the government's public health departments.</p>	<p>vaccination strategies in primary care in Europe during COVID-19 pandemic. <i>Atención Primaria</i> 53(10), 1021-32.</p> <p>https://www.sciencedirect.com/science/article/pii/S0212656721001669</p>
2	<p>Cognitive, ethical, social and political aspects in risk assessment: regarding vaccines against SARS-CoV-2. Risk is a concept that is usually evaluated by scientists and public health experts by comparing probabilities. However, this ethical utilitarian perspective, which considers that the best decision is the one that has less probability of harm than of benefit, does not consider normative aspects based on other ethical perspectives. Interpreting the origin of public controversies arising from people's reactions to the small risks of attenuated SARS-CoV-2 vaccines and evaluating the responses of public institutions requires an understanding of both the cognitive aspects that introduce systematic biases in the assessment of probabilities and the sociological, ethical, and political framework that contextualizes risk management in modern societies.</p>	<p>NovoaJurado, AJ, Abellán, JM (2022). Cognitive, ethical, social and political aspects in risk assessment: regarding vaccines against SARS-CoV-2. <i>Gaceta Sanitaria</i> 36(1), 53-56.</p> <p>https://www.sciencedirect.com/science/article/pii/S0213911121001357</p>
3	<p>Immunisation schedule of the Pediatric Spanish Association: 2022 recommendations. After reviewing the best available scientific information, CAV-AEP publishes their new recommendations to protect pregnant women, children and adolescents living in Spain through vaccination. The same recommendations as the previous year regarding hexavalent vaccines, pneumococcal conjugate vaccine of 13 serotypes, booster with tetanus, diphtheria, pertussis and inactivated poliomyelitis (Tdpa-IPV) at 6 years and with tetanus, diphtheria and pertussis (Tdpa) at 12–14 years and pregnant women from week 27 (from week 20 if there is a high risk of preterm delivery). Also with rotavirus, tetraantigenic meningococcal B (2 + 1), meningococcal quadrivalent (MenACWY), MMR, varicella and human papillomavirus (HPV) vaccines, for both genders. As novelties this year the CAV-AEP recommends: Influenza vaccination from 6 to 59 months of age whenever feasible and does not harm the vaccination program aimed at people at higher risk. According to official national recommendations, the CAV-AEP recommends the systematic use of COVID mRNA vaccines since 5 years old.</p>	<p>ÁlvarezGarcía, FJ, Cilleruelo Ortega, MJ, ÁlvarezAldeán, J., et al. (2022). Immunisation schedule of the Pediatric Spanish Association: 2022 recommendations. <i>Anales de Pediatría</i> 96(1), 59e1-59e10.</p> <p>https://www.sciencedirect.com/science/article/pii/S1695403321003829</p>
4	<p>The vaccine against COVID-19 and institutional trust. Major public and private laboratories have entered into a race to find an effective COVID-19 vaccine. When that vaccine arrives, the governments will have to implement vaccination programs to achieve the necessary immunization levels to prevent the disease transmission. In this context, the ethical dilemma of compulsory vaccination vs. voluntary vaccination will be raised. Underlying this dilemma, lies the problem of the ethical models on which</p>	<p>Gonzalez-Melado, F.J., Di Prieto, M.L. (2021). The vaccine against COVID-19 and institutional trust. <i>Enfermedades Infecciosas y Microbiología Clínica</i> 39(10), 510-515.</p>

	the political decisions of governments in matters of health are based. The article proposes and argues the need to base health policy decisions on an ethical «first person» model, based on responsibility, which allows us to move from a normative ethic to an ethic of responsible behavior. This change in the ethical model, together with certain proposals for political action, will help us to restore institutional trust so that the necessary levels of collective immunity against COVID-19 can be achieved through the voluntary vaccination of the citizens.	https://www.sciencedirect.com/science/article/pii/S0213005X20302664
GREY LITERATURE NATIONAL (SPAIN)		
	Title/Summary	Reference/link
1	COVID-19 Vaccination Strategy in Spain. Government of Spain. Official information on vaccination against the new coronavirus.	https://www.vacunacovid.gob.es/
2	Vaccination policies in Spain. Working Group 2017. Medicine Sciences and Health Products Foundation. Fundamed, with the aim of promoting the analysis of the most relevant health issues, is in charge of fostering dialogue and debate meetings among a group of experts from different fields, to carry out a multidisciplinary approach, in what has been called the Working Group. The development of working groups within Fundamed is one of the objectives of its latest Strategic Plan. This working group has been an initiative of Fundamed and GSK. Vaccination strategies and the necessary challenges in this sector have been the subject dealt within the report that is presented.	https://www.fundacionfundamed.org/I_Foro_Analisis_Policas_Salud_Publica.aspx
3	Legal aspects of vaccines. Online Vaccine Manual of the Spanish Association of Pediatrics. Vaccine Advisory Committee. The phenomenon of vaccination presents, along with the purely medical and scientific aspects, other issues that are of the utmost interest, such as the consideration of vaccines as one of the most effective instruments of public health policies, as well as the permanent controversy on the risks of vaccination and the voluntary or compulsory nature of vaccines.	https://vacunasaep.org/printpdf/documentos/manual/cap-45
4	Vaccine against COVID-19: imperative administration vs convincing information. This article highlights the importance of vaccination and addresses the legal framework for compulsory vaccination. Vaccines are a central component of public health programs around the world. Together with the treatment of drinking water and the widespread and rational use of antibiotics, they are the health intervention that has prevented the most illness and deaths.	Martinez Suarez, V. (2020). Vaccine against COVID-19: imperative administration vs convincing information. <i>Pediatría Integral</i> 24(8), 431-434.

		https://www.pediatriaintegral.es/wp-content/uploads/2021/01/Pedatria-Integral-XXIV-8_WEB.pdf#page=5
MASS MEDIA NATIONAL (SPAIN)		
	Title/Summary	Reference/link
1	Ministry of Health: Agreement that takes note of the emergency declaration for contracting the service for the reception, storage, conditioning and distribution of the 2,280,000 doses of vaccine against COVID-19 from the pharmaceutical company Novavax, for a maximum amount of 50,000 euros, VAT exempt.	https://www.lamoncloa.gob.es/consejodemnistros/referencias/Paginas/2022/refc20220315.aspx
2	Health creates a vaccination record which all health workers will have access to. Vaccination information system in Spain. A tool that aims to set up a national integrated model that will allow health professionals in our country to access the vaccination history of any patient, regardless of where they live and where they have been inoculated.	https://www.redaccionmedica.com/seccion/s/sanidad-hoy/sanidad-crea-un-registro-de-vacunas-al-que-accederan-todos-los-sanitarios-9005
3	Public Health recommends vaccinating high-risk children first. The latest official document recognizes that the group of 5 to 11 years is the one with the highest incidence now due to the infection of adults. Almost all cases are mild and half are asymptomatic, but inoculation can reduce virus transmission by 16%.	https://www.heraldo.es/noticias/aragon/2021/12/10/vacunacion-infantil-covid-vacunas-salud-publica-recomendaciones-primero-ninos-de-alto-riesgo-1539530.html
4	The elderly of the residences and their caregivers will be the first to be vaccinated. Immunization will be done in three stages. The first will start in January, for 2.5 million people, and the last in June.	https://www.elcorreo.com/sociedad/salud/pl-an-vacunacion-claves-como-acceder-vacuna-covid-espana-20201124112508-nt.html?ref=https%3A%2F%2Fwww.google.com%2F
5	NGOs demand that vulnerable populations have guaranteed access to Covid-19 vaccines in Spain. Among the different groups likely to be excluded in practice from vaccination campaigns, according to the signatory organizations, are the elderly legally regrouped by relatives residing in Spain, immigrants in an irregular administrative situation who, in many cases, and mostly women, take care of the elderly, or the homeless. In this sense, the organizations demand the urgent adoption of the bill -announced by the Government- to ensure universal access to the National Health System. A key instrument, they say, to guarantee the right to health of these people, including the right to access the vaccine against COVID-19.	https://www.es.amnesty.org/en-que-estamos/noticias/noticia/articulo/organizaciones-de-la-sociedad-civil-reclaman-que-las-poblaciones-vulnerables-tengan-garantizado-su-acceso-a-las-vacunas-de-la-covid-19-en-espana/

6	It would be legal to impose compulsory vaccination in Spain. According to the AEP Vaccine Advisory Committee, there are some exceptional situations in which forced vaccination could be imposed. Vaccination in Spain is voluntary, since our legal system does not explicitly incorporate the duty of vaccination. However, the Vaccine Advisory Committee (CAV) of the Spanish Association of Pediatrics (AEP) indicates that there are some exceptional situations in which the public authorities could impose forced vaccination.	https://gacetamedica.com/politica/serie-legal-imponer-la-vacunacion-obligatoria-en-espana/
7	The WHO endorses the good work of Spain in the containment of measles and rubella. Spain has nothing to worry about. But you should not let your guard down. That is the main conclusion of the latest report made public by the World Health Organization (WHO) in relation to the incidence of the measles and rubella virus in our country after the alarm triggered by the dramatic increase in cases in Europe. We should remember that so far this year all the records of the last decade have been broken, since 41,000 cases of measles have been diagnosed in adults and children in 53 countries in the European region. A much higher figure than the data collected in 2017, the year in which 23,927 cases were registered.	https://as.com/deporteyvida/2018/08/23/portada/1535008665_257344.html
8	Spain will keep a record of those who reject the coronavirus vaccine. People in Spain who refuse to be vaccinated against the coronavirus will be included in a new registry that will be shared with other nations in the European Union.	https://cnnespanol.cnn.com/2020/12/29/espana-llevara-un-registro-de-los-que-rechacen-la-vacuna-contra-el-coronavirus/
9	Health recommends the rotavirus vaccine in clinically stable premature babies. The Ministry of Health has recommended that premature babies born between 25-27 and 32 weeks of gestation be vaccinated against rotavirus, as long as they are clinically stable and there is no risk of contraindication. This follows from the 'Vaccination Program and Registry Report' published by the department currently directed by María Luisa Carcedo, and in which it is established that this vaccine must be supplied after six weeks of life.	https://www.infosalus.com/asistencia/noticia-sanidad-recomienda-vacuna-contra-rotavirus-bebes-prematuros-clinicamente-estables-20191126181308.html
Thematic Area 2 -Information on vaccine and vaccination		
PEER-REVIEWED ARTICLES NATIONAL (SPAIN)		
	Title/Summary	Reference/link

1	<p>SARS-CoV-2 and myths about vaccination. This article defines vaccination hesitancy as the hesitation or refusal to be vaccinated, despite its availability. Vaccination hesitancy has been considered by the World Health Organization (WHO) as one of the 10 main threats to global health. In addition, this study details the results of various investigations on the acceptance of vaccines.</p>	<p>Travezaño-Cabrera, A., Cabrera-Lliuyac, N., Travezaño Cabrera, J. (2021). SARS-CoV-2 and the myths about vaccination. <i>Enfermería Clínica</i> 31(3), 199-200. https://www.sciencedirect.com/science/article/pii/S1130862121000565?via%3Dihub</p>
2	<p>Effectiveness of BNT162b2 vaccine to prevent COVID-19 in healthcare personnel. The objective of this study was to assess the effectiveness of the vaccine against SARS-CoV-2 (BNT162b2) in healthcare personnel of a health department. Test-negative casecontrol study. Healthcare personnel with suspected COVID-19 and healthcare personnel close contacts of COVID-19 cases were included between January 27th and June 6 th, 2021. They were PCR tested for SARS-CoV-2; those with positive PCR were considered cases and those with negative PCR were considered controls. The adjusted vaccine effectiveness (aVE) to prevent COVID-19 cases and their 95% confidence interval (95%CI) were calculated using the formula $VE = (1 - odds\ ratio) \times 100$. 624 healthcare personnel were included, of which 43 (6.9%) were considered cases and 581 (93.8%) controls. The aVE of the complete regimen was 96.3% (95%CI: 82.59 9.2). The aVE of the incomplete pattern was 68.0% (95%CI: 30.085.4). The administration of the complete pattern of BNT162b2 vaccine against SARS-CoV-2 is effective for the prevention of cases of COVID-19 in healthcare personnel.</p>	<p>Chico-Sánchez, P., Gras-Valentí, P., Algado-Sellés, N., Merino-Lucas, E., Rodríguez-Díaz, JC, Ronda-Pérez, E., Sánchez-Payá, J., COVID Group -19 of Preventive Medicine. (2021). Effectiveness of the BNT162b2 vaccine to prevent COVID-19 in health personnel. <i>Gaceta Sanitaria</i>, In press. https://www.sciencedirect.com/science/article/pii/S0213911121003174</p>
3	<p>SEPAR Recommendations for COVID-19 Vaccination in Patients With Respiratory Diseases.The Spanish Society of Pneumology and Thoracic Surgery (SEPAR) has elaborated this document of recommendations for COVID-19 vaccination in patients with respiratory diseases aimed to help healthcare personnel make decisions about how to act in case of COVID-19 vaccination in these patients.The recommendations have been developed by a group of experts in this field after reviewing the materials published up to March 7, 2021, the information provided by different scientific societies, drug agencies and the strategies of the governmental bodies up to this date.We can conclude that COVID-19 vaccines are not only safe and effective, but also prior in vulnerable patients with chronic respiratory diseases. In addition, an active involvement of healthcare professionals, who manage these diseases, in the vaccination strategy is the key to achieve good adherence and high vaccination coverage.</p>	<p>Villar-Álvarez, F., Martínez-García, MA, Jiménez, D., et al. (2021). SEPAR Recommendations for COVID-19 Vaccination in Patients With Respiratory Diseases. <i>Open Respiratory Archives</i> 3(2), 100097. https://www.sciencedirect.com/science/article/pii/S2659663621000163</p>
4	<p>Infectious Disease Prevention Group. Update on vaccines, 2020. Vaccine development is one of the fastest growing sectors in medicine now and in the future, as we are living with the emergency health care for the SARS-CoV-2 coronavirus. The semFYCPAPPS program biannually publishes the</p>	<p>Schwarz Chavarri, G., Sánchez Hernández, C., Moreno Millán, N., et al. (3030). <i>Infectious Disease Prevention Group. Update on</i></p>

	<p>recommendations of the group and, in this edition, special emphasis is placed on the common vaccination proposed by the Ministry of Health, where, at last, it no longer discriminates between paediatrics and adults, and proposes a calendar throughout life. The main novelties in the field of vaccinology today are focused on the consolidation of the nonavalent vaccine against the human papilloma virus and in the change of the dose of monovalent meningitis vaccine C for the tetravalent one, ACWY, at age 12. The pandemic we are experiencing has led to the postponement of most preventive activities. On the return to «normality», the vaccination calendar must be examined, and completed if necessary.</p>	<p>vaccines, 2020 Atención Primaria, 52, Supplement 2, 70-92. https://www.sciencedirect.com/science/article/pii/S021265672030278X</p>
5	<p>False beliefs about vaccines. Vaccines are an essential tool for the prevention of infectious diseases. However, false ideas and rumours with no scientific foundation about their possible negative effects may dissuade people from being vaccinated, with the consequent risks for the health of the population. The objective of this article is to evaluate the origin and the arguments of some of the most frequent mistaken ideas and rumours about the possible adverse effects of vaccines. Some clearly established adverse effects are presented, as well as false beliefs about various vaccines and potential harm to health. Vaccines, like any drug, can cause adverse effects, but the possible adverse effects of vaccination programs are clearly lower than their individual (vaccinated) and collective benefits (those vaccinated and those who cannot be vaccinated for medical reasons). The possible adverse effects attributable to vaccines should be detected by powerful and well-structured pharmacovigilance systems.</p>	<p>Domínguez, A., Astray J., Castilla, J., Godoy, P., Tuells, J., Barrabeig. (2019). False beliefs about vaccines. Primary Care 51(1), 40-46. https://www.sciencedirect.com/science/article/pii/S0212656718302750</p>
6	<p>Meningococcal disease and vaccines: still many questions and some answers. Invasive meningococcal disease (IMD) is a serious, life-threatening disease that can generate social alarm. For this reason, it is important that control activities, and especially vaccination policies, are shared and supported by the population, professionals and health authorities. In the last 20 years, several vaccines with different effectiveness against one or several of the meningococcus serogroups have been marketed, but none of them cover the full spectrum of the disease. The Interterritorial Council of the National Health System has introduced some of these vaccines in the official vaccination calendar, and others have been reserved for high-risk situations. These decisions have been established based on the study of the epidemiological situation in Spain, the scientific evidence on the demonstrated efficacy and foreseeable impact of each vaccine. This article analyzes the epidemiological situation of IMD and reviews the available vaccines and vaccination policies in our country.</p>	<p>Godoy, P., Castilla, J., Astray, J., Tuells, J., Barrareig, I., Domínguez, A. (2020). Meningococcal disease and vaccines: still many questions and some answers. Gaceta Sanitaria 34(1), 1-3. https://www.sciencedirect.com/science/article/pii/S0213911119302274</p>

GREY LITERATURE NATIONAL (SPAIN)		
	Title/Summary	Reference/link
1	Spanish Agency for Medicines and Health Products. Latest information from the Spanish Agency for Medicines and Health Products about COVID-19.	https://www.aemps.gob.es/la-aemps/ultima-informacion-de-la-aemps-acerca-del-covid%e2%80%91119/vacunas-contra-la-covid%e2%80%91119/
2	Spanish Association of Vaccinology. Updated information on vaccines in Spain.	https://www.vacunas.org/
3	The Daily Consultation: resolving uncertainty. Publication in FMC - Formación Médica Continuada en Atención Primaria, to respond to queries about vaccination.	https://www.sciencedirect.com/science/article/abs/pii/S1134207221001456
4	Anti-vaccine movements: a call to action. Editorial (in Vacunas) on the anti-vaccine movement and proposals for action to counteract the effects of these movements, and achieve a greater impact of vaccination programs in our country.	https://cpncampus.com/biblioteca/files/original/2c36d62c4c4d179c65d90487dd66b3b0.pdf
5	Let's talk about vaccines. Editorial published in Formación Activa en Pediatría de Atención Primaria on the importance of vaccines.	https://fapap.es/files/639-1565-RUTA/01_Hablemos_vacunas.pdf
6	To vaccinate or not to vaccinate? That is the question. Publication in Encuentros en la Biología by Professor Juan Carlos Codina Escobar, from the University of Málaga, on the significance of vaccination as an important tool in the fight against infectious diseases.	http://www.encuentros.uma.es/assets/journals/13/174singles/174.7_vacunar.pdf
7	Is childhood vaccination important? Benefits and consequences. Final Degree Project of the School of Nursing and Physiotherapy of the Pontifical University of Comillas, on the importance of childhood vaccination.	https://repositorio.comillas.edu/xmlui/bitstream/handle/11531/66352/PFG001393.pdf?sequence=1&isAllowed=y
1	Them 4 peer Vaccination of health professionals as a preventive measure against biological risk and disinformation. To define the immune status of the health workers of the Hospital de Poniente and monitoring the effectiveness of vaccines administered by the Prevention Service on non-immunized health personnel. Methodology: A descriptive study evaluating by serology the immunity against measles, rubella, mumps, varicella and hepatitis B prior to and after the administration of vaccines to health personnel (n = 923). Results: A high percentage of the health worker population with	Tejada-Pérez, JJ, Vázquez-Vicente, JJ, Martín-Martín, FG, Herrera-Burgos, MR, Molina-Díaz, JJ, Lucerna-Méndez, MA (2020). Vaccination of health professionals as a preventive measure against biological risk and

	<p>protective antibodies against the microorganisms in the study was observed, either due to a correct vaccination schedule in childhood or due to subsequent vaccination by the Prevention Service (high rate of seroconversion). The study re-emphasizes the importance of vaccination as a preventive measure against the diseases analysed, justifying the need to launch information campaigns to strengthen their use.</p>	<p>disinformation. Revista Española de Comunicación en Salud. 11(1), 44-52.</p> <p>https://e-revistas.uc3m.es/index.php/RECS/article/view/5083</p>
<p>MASS MEDIA NATIONAL (SPAIN)</p>		
	<p>Title/Summary</p>	<p>Reference/link</p>
1	<p>Vaccination calendar of Spain. The single vaccination calendar entered into force on January 1, 2019 throughout the Spanish territory. In total, the unified vaccine schedule for all of Spain includes the prevention of 14 infectious diseases (poliomyelitis, diphtheria, tetanus, whooping cough, Haemophilus influenzae b disease, measles, rubella, mumps, hepatitis B, meningococcal C disease, chicken pox, human papilloma, pneumococcal disease and influenza).</p>	<p>https://www.elperiodico.com/es/sanidad/20181119/calendario-vacunas-espana-7155646</p>
2	<p>Castilla y León announces that the Bexsero vaccine will be included in its official calendar. The Ministry of Health of the Government of the Canary Islands had decided to include Bexsero in its official calendar, becoming the first autonomous community to announce that it will finance the vaccine against meningitis B, foreseeably before summer, but Castilla y León will be ahead of the Canary Islands, since The Director General of Public Health has announced that this vaccine will be included in the community calendar starting in March.</p>	<p>https://www.bebesymas.com/salud-infantil/castilla-leon-anuncia-que-tambien-incluire-vacuna-bexsero-su-calendario-oficial</p>
3	<p>The human papillomavirus vaccine... is also for children. Experts believe it is convenient to extend the coverage of this vaccine to 12-year-old girls with two doses. The Vaccine Advisory Committee (CAV) of the Spanish Association of Pediatrics (AEP) has published on its website the update on vaccination recommendations for children and adolescents residing in Spain. To prepare this document, which includes both the systematic vaccines of the official Spanish calendars and the unfunded immunizations, the latest scientific evidence has been reviewed and analyzed. The main messages lie in the recommendation of the human papillomavirus vaccine for men and in the request for inclusion in the schedule of the meningococcal B vaccine.</p>	<p>https://www.consalud.es/pacientes/terapias/la-vacuna-del-papiloma-humano-tambien-es-para-los-ninos_45940_102.html</p>
4	<p>Questions about vaccines? These are the accounts you should follow and the hoaxes you should avoid. To avoid false or decontextualized information, it is vital to get information from reliable sources, especially if it is about matters related to health.</p>	<p>https://www.elconfidencial.com/tecnologia/ciencia/2019-09-02/informacion-reliable-vaccination-twitter_2205211/</p>

5	The AEV is distinguished by the Government of Spain for providing truthful information and training with quality criteria, as well as for guiding with its recommendations in decision-making in the campaign of f against COVID-19.	cutt.ly/oDF03pc
6	Pediatricians ask the flu vaccine to be on the children's schedule. The Spanish Society of Pediatrics points out that children usually spread the virus to adults.	https://www.elperiodico.com/es/sanidad/20190129/los-pediatras-piden-que-la-vacuna-de-la-gripe-este-en-el- calendario-infantil-7274285
7	Why is it important for those born after 1970 to review the measles vaccine? Around 7.2 million people were born in Spain between 1970 and 1980 and constitute the group to which the Ministry of Health recommends vaccination against measles if they have not been previously vaccinated or have not passed the disease, due to the rebound of the virus worldwide. Due to the confusion generated, Health sources have reiterated to Efe that the epidemiological situation of measles in our country has not changed, maintaining the state of elimination since 2016, and they recall that the recommendations are those that are included in the common vaccination calendar throughout life.	https://www.rtve.es/noticias/20190907/importante-para-nacidos-partir-1970-revisar-vacuna-del-sarampion/1978713.shtml
8	The risk is not vaccinating your child. Immunization is also an act of solidarity towards the thousands of patients in Spain who cannot do so: transplanted, immunosuppressed or oncological children.	https://elpais.com/elpais/2018/09/13/mamas-papas/1536823584_036878.html

Thematic Area 3 -Behavior and attitudes towards vaccination

PEER-REVIEWED ARTICLES NATIONAL (SPAIN)

	Title/Summary	Reference/link
1	Vaccine hesitancy: discourse analysis of parents who have not fully or partially vaccinated their children. To analyse and understand vaccination hesitancy discourses, particularly those of people who have decided not to vaccinate their sons and daughters. Qualitative study of five individual interviews and two focus groups with people who chose not to vaccinate their children in the province of Granada (Spain). Mothers and fathers manifest a system of health beliefs different to the biomedical paradigm. From an ethical point of view, they justify their position based on the right to autonomy and responsibility for their decisions. Alleged specific reasons: they doubt administration of several vaccines simultaneously at an early age in a systematic way and without individualising each case; they fear adverse effects and do not understand the variations of the vaccination schedule. These vaccination hesitancy discourses respond to the individual vs collective conflict; parents defend their right to bring	Cruz Piqueras, M.; Rodríguez García de Cortazar, A., Hortal Carmona, J., Padilla Bernáldez, J. (2019). Vaccination reluctance: discourse analysis of mothers and fathers with total or partial rejection of vaccines. Gaceta Sanitaria 33(1), 53-59. https://www.sciencedirect.com/science/article/pii/S0213911117301838

	<p>up their children without any interference from the state and focus their responsibility on the individual welfare of their sons and daughters, regardless of the consequences that their actions might have on the collective. In their management of risks, they consider those derived from vaccination more relevant than the individual or collective consequences of not doing so. The vaccines generating most doubts are the more controversial ones within the scientific world. Transparency in communication of adverse effects; authorities respect for other health/disease concepts; banishment of the term “anti-vaccines” from the media and scientific vocabulary, and developing spaces for dialogue are bridges to be built.</p>	
2	<p>Vaccination and factors that influence the attitude of health professionals towards the antinfluenza vaccination. Flu represents an important problem for public health. The objective of the study is to establish the vaccination cover and the motivating factors of health professionals from the hospitals and primary healthcare in Navarra. Multi health centre analytical study by means of a questionnaire using 3 sources. Kraut, CIBERESP and a qualitative study in universities. The questionnaire with the reasons for vaccinations is made up of 29 items, sent by email with professional data of the healthcare workers, vaccination history information, current situation and future intentions. A study of the Chi square, odd ratio (OR), logistical regression, non parameter tests (Kruskall-Wallis and U of Mann-Whitney). 1,178 questionnaires are obtained with a 27% and a 24.7% completion rate in primary healthcare and hospitals respectively. Global vaccination rate of 31.8%. The predicting indicating factors for vaccinations are: history of previous vaccination (ORa: 190.99), be a doctor (ORa: 2.28) and workers in pediatric services (ORa: 3.47). From the those vaccinated the item with the highest average (4,3) is that “the vaccination is efficient for the prevention of flu and the resulting complications” and from those not vaccinated(3,3) is “I’ve decided that I’m not interested” on the Likert scale. Healthcare workers are of the opinion that their fellow professionals and health care colleagues vaccinate in numbers that would be the average on the scale with significant differences between those vaccinated and those not (P < .001). Improve information on the personal, family and professional benefits of vaccination and inform that the social cost (effect) of the vaccination can increase the rates of vaccination.</p>	<p>Pérez-Ciordia, I., Guillén-Grima, F., AguinagaOntoso, I., GarcíaGarcía, P., EzenarroMuruamendiaraz, A., AguinagaOntoso, E., BrugosLarumbe, A. (2017). Vaccination and factors that influence the attitude of health professionals towards the antinfluenza vaccination. <i>Vacunas</i> 18(1), 3-10.</p> <p>https://www.sciencedirect.com/science/article/pii/S157698871730002X</p>
3	<p>Vaccination confidence against influenza in Spain: reasons of hesitancy discourses and attitudes in general population and healthcare workers. Influenza is a huge public health problem and vaccination is the best prevention tool. Vaccination coverage of target population is still far from the established objectives. The aim was to delve into the most important factors and actors influencing behaviors of influenza vaccine hesitancy in Spain from a qualitative perspective. Qualitative research through one discussion group, three experiential groups and thirteen in-depth interviews was conducted with health</p>	<p>OlmedoLucerón, C., Limia Sánchez, A., Santamarina, C. Influenza Working Group. (2021). Vaccination confidence against influenza in Spain: reasons of hesitancy discourses and attitudes in general</p>

	professionals and general population in Madrid and Valencia in 2019. Influenza is considered a common, low-danger disease. Confusion due to misinformation and lack of knowledge and a high fear of vaccine adverse effects has been identified. The different conviction with which professionals recommend the vaccine has emerged, and the low awareness of the transmitting role of the disease was found in general population and professionals. The findings of this study suggest the importance and urgency of developing well-structured and coordinated communication strategies, with common key messages and channels adapted to different populations from the deficiencies and needs identified. Strategic work with healthcare professionals is an essential factor in the final decision to get vaccinated against influenza.	population and healthcare workers. Revista Española de Salud Pública 95(1):e1-e13. https://www.sanidad.gob.es/biblioPublic/publicaciones/recursos_propios/resp/revista_cdrom/VOL95/C_ESPECIALES/RS95C_202103058.pdf
4	Knowledge and attitudes towards human papillomavirus in a population of Spanish university students. Human Papillomavirus is related to various types of cancer such as cervical cancer, oropharyngeal, penis and anus. More than 4.000 women died per year because of cervical cancer in EEUU and over 2.000 in Spain despite vaccination and although these cancers are preventable through prevention and early detection. Therefore, knowledge and understanding of HPV are vital for its prevention and its normalization. This work evaluates young people's knowledge about HPV, their attitude toward reviews, or discusses HPV. A transversal descriptive design was carried out with university students. Young people showed low knowledge about HPV, its transmission, detection and preventive steps. Many do not know its affection to men or their relationship with cervical cancer. Young people do not think the check-ups are important and they feel embarrassed about talking about HPV or if others know they are affected by it. Data shows the need to complement vaccination campaigns with informative and sexual communication interventions among young people and parents, and the need of campaigns for the awareness of the check-ups and the understanding of the disease to help to its normalization.	Martinez-Martinez, L., Cuesta Cambra, U. (2018). Knowledge and attitudes towards human papillomavirus in a population of Spanish university students. Revista Española de Comunicación en Salud. 9(1), 14-21. https://revistas.uc3m.es/index.php/RECS/article/view/4248
GREY LITERATURE NATIONAL (SPAIN)		
	Title/Summary	Reference/link
1	Knowledge and attitudes towards vaccination by chronic patients in the Principality of Asturias. Vaccination is one of the public health strategies that has saved the most lives. For years, health authorities and scientific societies have recommended that chronically ill patients be vaccinated against certain vaccine-preventable diseases, since their illness could have greater complications in this	https://digibuo.uniovi.es/dspace/bitstream/handle/10651/54969/TFM_PatriciaMartinezLindo.pdf?sequence=6&isAllowed=y

	population group in addition to destabilizing the underlying disease. Despite this, vaccination coverage does not reach the desired objectives. Knowing the attitudes and knowledge of this group of the population is important to develop and implement Health Education strategies following the model of health beliefs. Rejection or hesitation about vaccination should be handled from an ethical-legal perspective.	
2	Causality of non-vaccination against influenza in the elderly. Integrative review. Final degree project on the causes and risks of non vaccination against influenza in the elderly population.	http://repositori.uji.es/xmlui/handle/10234/182908
3	Reasons why some parents decide not to vaccinate their children. End-of-degree project that aims to delve into the reasons of parents for not vaccinating their children from 0 to 12 months.	http://repositori.umanresa.cat/bitstream/handle/1/442/2019-5-17_GINAGERSCHCOVSKYRODRIGUEZ.pdf?sequence=1&isAllowed=y
4	The social factor of health management: Attitudes towards vaccination and compliance with Anti-COVID-19 measures. Spanish Foundation for Science and Technology. The Spanish Foundation for Science and Technology (FECYT) makes a unique database available to researchers to understand how technoscience has been perceived in times of pandemic, through the Survey on Social Perception of Science and Technology carried out during in 2020. But, in addition, it offers a specific database based on the Survey on scientific aspects of COVID19, which complements the previous one in the study of central aspects for the management of the pandemic, such as attitudes towards vaccination against COVID-19 and monitoring of contagion prevention measures.	https://www.fecyt.es/es/publicacion/el-factor-social-de-la-gestion-sanitaria-actitudes-hacia-la-vacunacion-y-cumplimiento-de

MASS MEDIA NATIONAL (SPAIN)

	Title/Summary	Reference/link
1	Childhood vaccination rates in Spain exceed 95% in most cases. Unlike what happens in other countries of the European Union, where the anti-vaccine movement has alarmingly increased the incidence of certain viruses, control in Spain is greater.	https://www.consalud.es/pacientes/las-tasas-vacunacion-infantil-espana-superan-mayoria-casos-el-95_51075_102.html
2	Spain exceeds 9 million people with the complete vaccination schedule. The data, updated as of May 31, from the COVID-19 vaccination report, published by the Ministry of Health and the Government of Spain, show that the country has exceeded 9 million people with the complete vaccination schedule; specifically, they are 9,221,285, 19.4% of the population. On the other hand, the figures indicate that the 18 million people with at least one dose have also been exceeded, reaching 18,032,417 people, 38%.	https://www.enfermeria21.com/diario-dicen/espana-supera-los-9-millones-de-personas-con-la-pauta-de-vacunacion-completa/

3	3% of children in Spain are not vaccinated by decision of their parents. Still 3% are still not vaccinated, or what is the same, from 80,000 to 150,000 minors are not vaccinated in our country by decision of their parents. These figures have been revealed during the presentation of the Immuniza project, promoted by MSD and which consists of holding five workshops in five geographical locations attended by 75 experts in immunology and which aims to improve the communication skills of health professionals around vaccines, so that through empathy with the patient, sensitivity and active listening, vaccination rates can be increased even more.	https://elpais.com/elpais/2018/10/15/mamas_papas/1539613305_573642.html
4	Vaccination rates in Spain are excellent: this is how vaccination coverage is distributed by Autonomous Communities. According to data from the AEP Vaccine Advisory Committee, our country has excellent vaccination coverage, with the primary vaccination rate (vaccines received by the baby in its first year of life) above 97 percent. However, this coverage varies if we look at the booster vaccination (vaccines administered at 2 years, 4-6 years and 12-14 years), and also depending on the autonomous community. We analyze the statistical data published by the Ministry of Health.	https://www.bebesymas.com/salud-infantil/tasas-vacunacion-espana-excelentes-asi-se-distribuyen-coberturas-vacunales-cc-aa
5	50% of Spaniards believe that vaccines can cause serious side effects. According to a recent barometer prepared by the European Commission, Spaniards are more aware than Europeans of the efficacy of vaccines for the prevention of infectious diseases.	https://www.consalud.es/pacientes/50-de-espanoles-cree-vacunas-pueden-provocar-efectos-secundarios-graves_63417_102.html
6	The rejection of the Covid-19 vaccine, something anecdotal in Spain: it does not exceed 1%. The Ministry of Health details that from February 1st to September 1st, 2021, 327.129 vaccinations have been rejected. Meanwhile, in this period more than 64.7 million doses have been administered.	https://www.consalud.es/pacientes/especial-coronavirus/rechazo-vacunas-covid-19-espana-anecdótico-no-supera-1_102463_102.html
7	83% of the Spanish population trusts vaccination against covid, 25 points more than in January. In July 2020, only a third of the population (32%) expressed with complete certainty their intention to be vaccinated as soon as the health authorities offered them a vaccine.	https://www.fecyt.es/es/noticia/un-83-de-la-poblacion-espanola-confia-en-la-vacunacion-contra-la-covid-25-puntos-mas-que-en

Thematic Area 4 -Interventions to promote vaccination and tackling of vaccine hesitancy

PEER-REVIEWED ARTICLES NATIONAL (SPAIN)

	Title/Summary	Reference/link
1	Vaccination of health professionals as a preventive measure against biological risk and disinformation. To define the immune status of the health workers of the Hospital de Poniente and monitoring the effectiveness of vaccines administered by the Prevention Service on non-immunized health personnel. Methodology: A descriptive study evaluating by serology the immunity against	Tejada-Pérez, JJ, Vázquez-Vicente, JJ, Martín-Martín, FG, Herrera-Burgos, MR, Molina-Díaz, JJ, Lucerna-Méndez, MA (2020). Vaccination of health professionals as a preventive

	<p>measles, rubella, mumps, varicella and hepatitis B prior to and after the administration of vaccines to health personnel (n = 923). Results: A high percentage of the health worker population with protective antibodies against the microorganisms in the study was observed, either due to a correct vaccination schedule in childhood or due to subsequent vaccination by the Prevention Service (high rate of seroconversion). The study re-emphasizes the importance of vaccination as a preventive measure against the diseases analysed, justifying the need to launch information campaigns to strengthen their use.</p>	<p>measure against biological risk and disinformation. Revista Española de Comunicación en Salud. 11(1), 44-52.</p> <p>https://e-revistas.uc3m.es/index.php/RECS/article/view/5083</p>
2	<p>Vaccination counselling: The meeting point is possible. There are recommendations for decision-making as regards parents who do not vaccinate their children, but there are few publications analysing this problem. In November 2014, a pioneer medical clinic opened in Spain, for counselling on immunisation practices. The aim of this study is to determine the success of the recommendations of the American and Spanish Paediatrics Associations according to the number of parents who finally accept vaccination. A descriptive, cross-sectional, prospective and single-centre study was conducted from November 2014 to March 2016. Children under the age of 16 not properly vaccinated, according to the immunisation schedule of the region where the study was conducted, were included after signing informed consent. A total of 20 families were counselled. The median age of the children was 2 years, and 80% of them received no vaccine. Absolute non-acceptance of vaccination was practiced by 45% of parents. The main reasons for not vaccinating were: 100% thimerosal-containing, 90% risk of autism, 85% aluminium-containing, 70% presence of other stabilisers and preservatives, and 65% risk of anaphylaxis. The immunisation advice was said to be helpful by 90% of parents. Vaccination was accepted by 90% of parents (45% completely). Anti-vaccination ideologies are strong and hard to change. Paediatricians not denying medical care to parents who endanger the lives of their own children are also hard to find. The meeting point is possible, and society needs it. Active listening, empathy, and good quality information were the keys to our results.</p>	<p>Piñeiro Pérez, R., Hernández Marín, D., Carro Rodríguez, MA, De la Parte Cancho, M., Casado Verrier, E., Galán Arévalo, S., Carabaño Aguado, I. (2017). Vaccination counselling: The meeting point is possible. Anales de Pediatría 86(6), 314-320.</p> <p>https://www.sciencedirect.com/science/article/pii/S1695403316302089</p>
3	<p>Analysis of the best strategies to promote flu vaccination coverage among healthcare professionals. The flu represents a major public health issue. The flu vaccination rate among healthcare professionals has traditionally been lower than recommended by national health authorities, and there is also regional heterogeneity. The objective of the Gripetool project was to identify the most effective initiatives to promote influenza vaccination in Spain among healthcare workers. Information was obtained through an online survey conducted among members of the Spanish Society of Primary Care Physicians (SEMERGEN) between July and November 2020, which had been previously validated by a committee of experts. A multiple linear regression analysis was performed to analyse the possible relationship between the vaccination coverage of health professionals and the different promotion measures reported in the survey.</p>	<p>Redondo, E., Zozaya, N., Martín, V., et al. (2022). Analysis of the best strategies to promote flu vaccination coverage among healthcare professionals. Vacunas, In press.</p> <p>https://www.sciencedirect.com/science/article/pii/S1576988722000012</p>

	<p>According to respondents (n = 385), the publication of vaccination recommendations (18.6%), the use of media and social networks (14.4%) and the active recruitment through email/letters (10.6%) are the most effective measures to increase vaccination rates. According to the statistical analysis there are ten measures that have a positive impact on the vaccination rate, the most relevant include the distribution of posters in health centres (17 percentage points increase, pp), the publication of vaccination recommendations (14pp) and the development of protocols and guidelines (13pp). The most effective strategies to increase influenza vaccination comprehend actions at macro, meso and micro levels to promote vaccination and communicate its benefits, exploiting the potential of new technologies.</p>	
4	<p>Effectiveness of a brief intervention for influenza vaccine. Pilot study in primary health care. The objective of this study was to determine the effectiveness of the brief intervention for influenza vaccination (VAG) to increase coverage in risk groups. Pilot, quasi-experimental study. The study population was the users assigned and cared for during 2016 by the EAP, and included in the risk groups for the VAG. The intervention group, with prior informed consent, consisted of 157 users with indication of VAG attended by their reference team during the vaccination campaign, and who had initially refused to be vaccinated. As a control group, 3338 users were selected with indication of unvaccinated VAG in the previous three years. Intervention Short advice (CB) standardised and adapted to the reasons expressed by the patient to refuse vaccination. Reasons for VAG rejection and flu vaccination coverage were studied in the control and intervention groups, according to age and risk groups. The analysis was performed using the Chi-squared test for independent samples. The most frequent reasons for not being vaccinated were «never ill» (44.16%) and «the vaccine has side effects» (24.68%). The intervention was effective (OR: 2.1 [1.35-3.29]; p=.002). The brief advice for flu vaccination coverage proved to be an effective method to increase vaccination, and easily applicable in primary care.</p>	<p>Muñoz-Miralles, R., BonbehíNadeu, S., SantMasoliver, C., Martín Gallego, A., LLamazares, Robles, MO, Mendioroz Peña, J. (2019). Efectiveness of a brief intervention for influenza vaccine. Pilot study in primary health care. <i>Vacunas</i>, 20(1), 18-24.</p> <p>https://www.sciencedirect.com/science/article/pii/S1576988718300116</p>
5	<p>The role of nursing personnel in the promotion and implementation of vaccinations. Health includes the need to expand the vision beyond the individual subject to society. Prevention is paramount and must be based on comprehensive care at the individual and collective level, in the paradigm for the so-called Community nurse. Preventing disease is linked to the promotion of health, based on the dissemination of community strategies to achieve the state of physical, mental and social well-being of the individual or group. The vaccination strategy will be one of the main strategies for this purpose, and the role of the nurse as a health agent is and will be decisive now and in the future.</p>	<p>BernárdezCarracedo, S. (2018). The role of nursing personnel in the promotion and implementation of vaccinations. <i>Vacunas</i> 19(1), 31-36.</p> <p>https://www.sciencedirect.com/science/article/pii/S1576988718300062</p>
6	<p>New tools to improve flu vaccination coverage in patients with risk factors. Influenza vaccination is one of the main interventions to prevent the flu. This study evaluates the impact of automated letter as a method of capturing patients at risk in influenza vaccination campaigns between 2013–2017. This is a descriptive observational study in Sector I Zaragoza. Data analysis with SPSS and Excel. We studied</p>	<p>López Campos, M., ReinaoCegoñino, H., LorenteRiverola, J., et al. (2022). New tools to improve flu vaccination coverage in patients with risk factors. <i>Vacunas</i>, In press.</p>

<p>173,935 patients (> 65 years old or with a risk factor) between 2011 and 2017, comparing the type of catchment used for vaccination. Center 1 uses postal mail compared to Center 2 that uses regular information channels. Significant differences were observed, with an increase in vaccination in center 1 compared to center 2 (center 1: 29.59%; center 2: 19.76%, $p < 0.001$). Significant differences are found when comparing the vaccination rates in center 1 pre-post intervention ($p < 0.001$). These differences are also significant when analyzing the risk groups: > 65 years, asthmatics, patients with COPD, diabetics and patients with coronary heart disease. 78.3% of the center 1's surveys considerate quite the patient catchment via postal mail. Sending a letter to those patients at risk of severe complications from influenza is an effective measure to increase influenza vaccination in the primary care setting.</p>	<p>https://www.sciencedirect.com/science/article/pii/S1576988721000790</p>
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GREY LITERATURE NATIONAL (SPAIN)	
Title/Summary	reference/link
<p>1 Evaluation of influenza vaccination coverage achieved after the implementation of different vaccination strategies and its relationship with health spending for acute respiratory processes. This doctoral thesis proposes an economic, feasible, effective and efficient strategy that can be implemented in all Primary Care consultations and could achieve higher vaccination coverage than those recommended by the World Health Organization.</p>	<p>BortLlorca, L. (2020). Evaluation of influenza vaccination coverage achieved after the implementation of different vaccination strategies and its relationship with health spending for acute respiratory processes. Doctoral Thesis. University of Valencia.</p> <p>https://roderic.uv.es/bitstream/handle/10550/75893/Tesis%20Laia%20Bort.pdf?sequence=1&isAllowed=y</p>
<p>2 Community interventions to promote population vaccination. Vaccine reluctance continues to exist due to different determinants that influence decision-making. Therefore, it is necessary to know the susceptible population and the barriers they present to carry out the corresponding community interventions headed by nurses. The main objective of this final degree project was to find out what kind of community interventions can help increase adherence to vaccines. A search of scientific articles was carried out in databases (Pubmed, Scielo, Cochane), search engines (Google academic), free search between 2015-2021, being articles in Spanish and English. Of a total of 236 articles, 39 were finally selected. Community interventions, highlighting those focused on education for vaccination promotion, must be carried out knowing the population they are directed to and identifying the barriers that</p>	<p>Perales Martínez, Antonio. (2021). Community interventions to promote population vaccination. End of Degree Project. University of Alicante.</p> <p>http://rua.ua.es/dspace/handle/10045/115499</p>

	originate the reasons for rejection. To do so, nurses have to develop well-structured strategies with community participation as the main axis.	
3	Nursing approach to vaccine hesitancy or refusal within child population. Final Degree Project of the Faculty of Medicine of the Autonomous University of Madrid, on the nursing approach to improve the vaccination rate in the child population.	https://repositorio.uam.es/bitstream/handle/10486/687839/ciudad_sanchez_isabeltfg.pdf?sequence=1

MASS MEDIA NATIONAL (SPAIN)		
	Title / Summary	reference/link
1	Vaccines are already a requirement in nurseries despite not being mandatory. The schools of the Xunta do not request the vaccination certificate from the parents, but there are schools and private centers that do so.	https://www.lavozdeg Galicia.es/noticia/sociedad/2019/01/13/vacunas-requisito-guarderias-pese-obligatorias/0003_201901G13P2992.html
2	Professionals should guide towards reliable and scientific content on vaccines on the Internet. The epidemiological situation of invasive meningococcal disease and the experience of paediatricians in the management of this pathology are the focus of the training session for VAC Talk professionals in Bilbao.	https://www.consalud.es/pacientes/los-profesionales-deben-orientar-hacia-contenidos-fiables-y-cientificos-sobre-vacunas-en-internet_64149_102.html
3	Pharmacists promote a new meningitis prevention campaign. Pharmacists promote a new meningitis prevention campaign. The General Council of the Official College of Pharmacists (CGCOF) has launched a new prevention campaign, in collaboration with the pharmaceutical company GSK, to promote knowledge about meningitis. The initiative, within the '#FarmaciayVacunas' Programme, started in 2017 to promote the continuous training of pharmacists in the field of vaccination, includes a pharmaceutical action guide, a technical report and an infographic aimed at pharmacists.	https://www.infosalus.com/farmacia/noticia-farmaceuticos-impulsan-nueva-campana-prevencion-meningitis-20190705142546.html
4	Health launches a campaign to make the population aware of the benefits of vaccination throughout life. The Ministry of Health, Consumption and Social Welfare has launched the campaign 'V' for vaccine, 'V' for life. Vaccines save lives', to make society aware of the benefits that vaccination provides throughout life. Thus, and through a video, which the department headed by María Luisa Carcedo has distributed on its website and on social networks, it is recalled that vaccines help prevent, control and combat diseases and that they even prevent 1,000 deaths in Spain.	https://www.infosalus.com/actualidad/noticia-sanidad-lanza-campana-concienciar-poblacion-beneficios-vacunacion-largo-vida-20190422174409.html

5	They launch the Vaccine Channel Program to help pharmacists. It is a new training program based on interactive content designed to update and expand the knowledge of pharmacists in vaccines.	https://as.com/deporteyvida/2018/04/06/portada/1523033911_211487.html
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