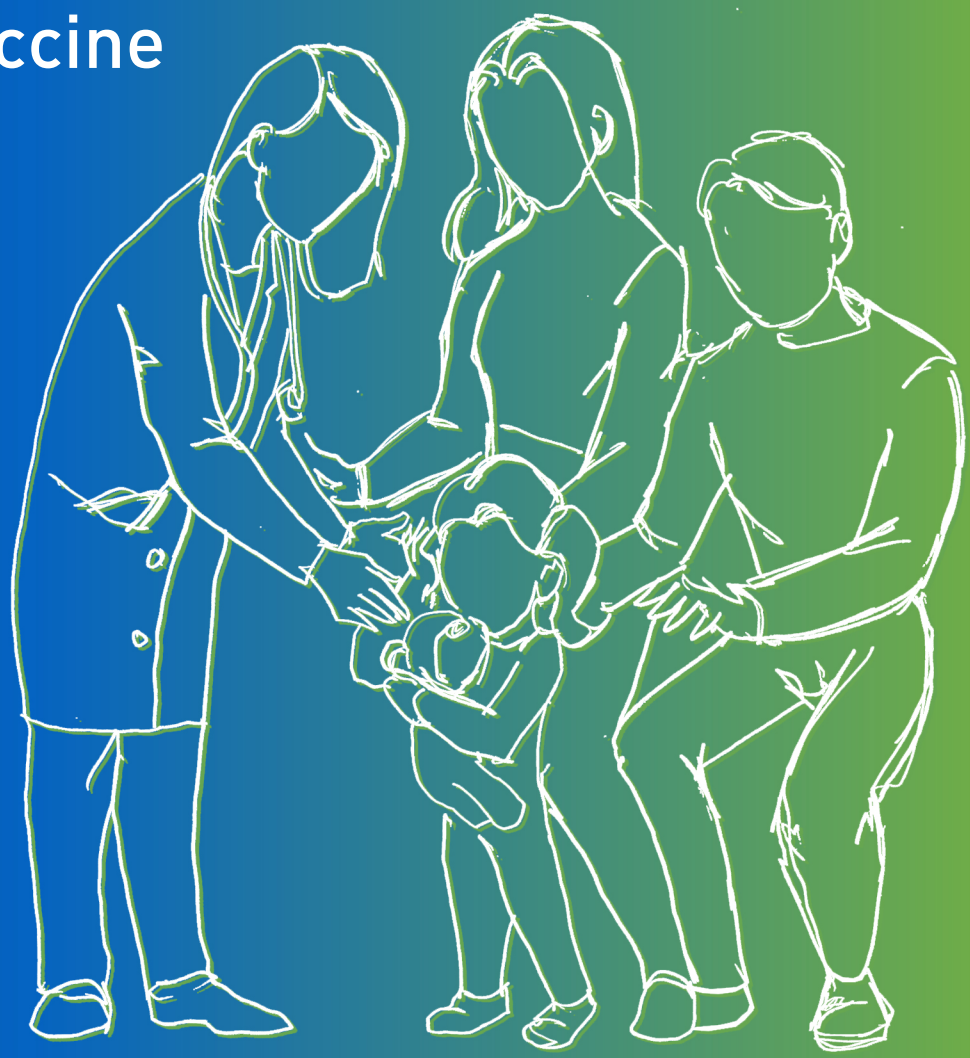
VAX-TRUST
ADDRESSING VACCINE HESITANCY IN EUROPE

Policy Brief

Recommendations for healthcare professionals, healthcare organisations and healthcare authorities to address vaccine hesitancy in Europe.



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VAX-TRUST PROJECT

Vaccine hesitancy is a growing worldwide phenomenon representing one of the biggest threats to global health. The VAX-TRUST project aims to gain a deeper understanding about vaccine hesitancy by acknowledging the complexity of this phenomenon and the influence of multiple factors. VAX-TRUST intends to offer an overview of vaccine hesitancy at seven European countries - Finland, Belgium, Poland, Czech Republic, Italy, Portugal and the UK. The findings of the VAX-TRUST project, gave us important insights into the interaction between healthcare professionals and vaccine hesitant parents, contributing to a more comprehensive understanding of vaccination practices. This knowledge is crucial to inform recommendations to address vaccine hesitancy targeting healthcare professionals, healthcare organisations and healthcare authorities. The present policy brief summarises recommendations to address vaccine hesitancy at the European level.

The ASTARE model: recommendations to address vaccine hesitancy in Europe

Based on the knowledge gathered in the VAX-TRUST project, a list of recommendations to address vaccine hesitancy at the European level was proposed. These recommendations were elaborated at three different levels, targeting healthcare professionals, healthcare organisations and healthcare authorities. The relevance of these recommendations was assessed through the application of a Delphi survey to a group of experts/stakeholders in the field of vaccination across Europe. The Delphi survey was applied in two rounds over four weeks, in which experts (112 in the first round and 41 in the second round) were asked to rate their level of agreement regarding each recommendation. Sixteen recommendations were consensually considered highly relevant to address vaccine hesitancy in Europe. These recommendations were aggregated into six dimensions originating the ASTARE model: (a) Awareness, (b) Support, (c) Training, (d) Agency, (e) Recognition, and (f) Engagement.

Summary description of the final recommendations to address vaccine hesitancy at the European level – ASTARE model	
Dimensions	**Recommendations**
Awareness	**Informing parents and healthcare professionals about immunisation by providing clear, accurate, and evidence-based information.** **R1** | Healthcare organisations should target parents by providing evidence-based information on vaccination and vaccine-preventable diseases, and using clear and accessible language. **R2** | Healthcare authorities should take action to raise awareness of the importance of vaccination for diseases that are currently under control. **R3** | Healthcare authorities should create channels that may help healthcare professionals to clarify doubts regarding the potential side effects of vaccination.
Support	**Provide organisational/institutional mechanisms to facilitate the communication between healthcare professionals and the migrant populations.** **R4** | Healthcare authorities should make vaccines-related information accessible to migrant families by, for instance, translating the vaccination schedule to different languages. **R5** | Healthcare organisations should try to reduce linguistic barriers between healthcare professionals and migrant parents, for instance, by providing translation services.
Training	**Promote the scientific and technical preparation of healthcare professionals to communicate effectively with vaccine-hesitant parents.** **R6** | Healthcare organisations should provide training to healthcare professionals about how to effectively communicate with vaccine hesitant parents. **R7** | Healthcare authorities should reinforce the social scientific knowledge about vaccination into healthcare professionals' curriculum plan. **R8** | Healthcare authorities should develop guidelines and examples of effective evidence-based communication practices (e.g. based on the motivational interviewing approach) between healthcare professionals and vaccine-hesitant parents.
Agency	**Recognise children's needs and characteristics and adapt the strategies used in the vaccination process accordingly.** **R9** | Healthcare professionals should be equipped with tools to acknowledge children's agency and, wherever possible, address them directly and recognise their feelings.
Recognition	**Showing recognition for parents' views on how to manage their children's health (e.g. extended breastfeeding, vegetarian or macrobiotic diet).** **R10** | Healthcare professionals should recognize the existence of different lifestyles.
Engagement	**Fostering a collaborative partnership by integrating the specific physical and emotional needs of children and parents into clinical decisions.** **R11** | Healthcare professionals should be equipped with time and resources to keep up to date with scientific knowledge to discuss vaccination with parents. **R12** | Healthcare professionals should be more empathic to the needs of each child and family and strive to build a strong relationship of trust. **R13** | Healthcare professionals should be equipped with tools to recognise the singularity of each child and family and acknowledge their specific socio-cultural context. **R14** | Healthcare professionals should be equipped with strategies to minimize children's pain and/or discomfort during vaccination. **R15** | Healthcare authorities should provide training to healthcare professionals on strategies to deal with children with special needs (e.g., cognitive, or physical disabilities) at the time of vaccination. **R16** | Healthcare professionals should be given the possibility to dedicate more time and resources to provide balanced information to parents on the benefits and potential side effects of vaccination.

Source: Delphi Survey – 1st and 2nd Rounds (VAX-TRUST)

Awareness

Stresses the relevance of informing on childhood immunisation by provinding clear, accurate and evidence-based information.

Dimensions	Recommendations
Awareness	**Informing parents and healthcare professionals about immunisation by providing clear, accurate, and evidence-based information.** **R1** | Healthcare organisations should target parents by providing evidence-based information on vaccination and vaccine-preventable diseases, and using clear and accessible language. **R2** | Healthcare authorities should take action to raise awareness of the importance of vaccination for diseases that are currently under control. **R3** | Healthcare authorities should create channels that may help healthcare professionals to clarify doubts regarding the potential side effects of vaccination.

Healthcare authorities should take action to raise public awareness of the importance of vaccination, namely for diseases that are currently under control (e.g. polio), by emphasising the impact of individual choices in public health. These messages should be disseminated through a clear and plain language. Healthcare authorities are responsible for the regulation and supervision of healthcare, playing a central role in supporting healthcare professionals in the vaccination process. Therefore, healthcare authorities should deploy channels that may help healthcare professionals clarify eventual doubts regarding vaccines, namely its components and potential side effects. These aspects are often pointed out by vaccine hesitant parents as a source of concern, implying they would benefit from a clear and evidence-based clarification by healthcare professionals. These actions are intended to empower parents to take informed decisions on their children's immunization.

Support

Comprises recommendations to ensure that immunization-related information is accessible to migrant parents, who are not proficient in the official language of the host country.

Dimensions	Recommendations
Support	**Provide organisational/institutional mechanisms to facilitate the communication between healthcare professionals and the migrant populations.** **R4** | Healthcare authorities should make vaccines-related information accessible to migrant families by, for instance, translating the vaccination schedule to different languages. **R5** | Healthcare organisations should try to reduce linguistic barriers between healthcare professionals and migrant parents, for instance, by providing translation services.

Parents should have access to up-to date information on childhood vaccination, and this communication should be clear and accessible to everyone, including migrant families. Two possible strategies integrate this dimension, advocating the translation of the vaccination schedule to different languages as well as the use of translation services to reduce the linguistic barriers between healthcare professionals and migrant parents in clinical encounters.

Training

Aims to improve healthcare professionals' knowledge and skills to effectively communicate with vaccine hesitant parents.

Dimensions	Recommendations
Training	**Promote the scientific and technical preparation of healthcare professionals to communicate effectively with vaccine hesitant parents.** **R6** | Healthcare organisations should provide training to healthcare professionals about how to effectively communicate with vaccine hesitant parents. **R7** | Healthcare authorities should reinforce the social scientific knowledge about vaccination into healthcare professionals' curriculum plan. **R8** | Healthcare authorities should develop guidelines and examples of effective evidence-based communication practices (e.g. based on the motivational interviewing approach) between healthcare professionals and vaccine-hesitant parents.

Healthcare authorities should promote healthcare professionals' expertise by reinforcing the social scientific knowledge about vaccination in healthcare professionals' curriculum plan, as well as guidelines about how to implement a patient-centred communication approach to address vaccine hesitancy. More specifically, healthcare professionals should be aware about vaccine hesitant parents' arguments undermining their attitudes, namely by reflecting on possible situations of vaccine hesitancy and training their approach in these contexts. This could be implemented through actual training activities provided by healthcare organisations and tailored to contextual factors.

Guidelines for developing effective interventions target at healthcare professionals

The work conducted in VAX-TRUST allowed us to identify key guidelines for developing effective interventions to train healthcare professionals to address vaccine hesitancy.

Recommendations	Contextualization
Diagnosis Study	
• The content of the training should be tailored to the target group(s) identified.	A diagnosis study may allow a deeper understanding on the needs of target groups, involving healthcare professionals on the set of training priorities. The identification of the target group at an early stage is key, as it will inform the methodological aspects of the training such as group size, materials and activities to be carried out.
• The establishment of institutional partnerships can be very useful to develop training in settings within which healthcare professionals operate.	This can give credibility to the training and mobilize resources that accelerate its implementation. In addition, these partnerships support a diagnosis assessment of the real needs of healthcare professionals when interacting with vaccine hesitant parents.

Recommendations	Contextualization
Planning & Design	
• Development of a logic model.	A logic model is crucial as it allows an overview of key aspects of the intervention such as: the context (diagnosis data), inputs (e.g. human resources and materials), activities, expected outputs and short and medium term goals.
• Stakeholders must be involved throughout training design and implementation stages.	The involvement of stakeholders throughout the training planning and implementation stages ease an efficient management of financial, social and material resources. In addition, stakeholders may play the role of ambassadors for this training, disseminating its results widely.
• The training should include a risk mitigation plan.	It is important to include risk mitigation strategies by anticipating the impact of possible external events.
• During the planning phase of the training, it is important to include contextual data.	In the context of childhood vaccination, it is important to include both epidemiological and social data on vaccine hesitancy.
• Short interventions could be more favourable than more extensive ones.	A short intervention can be easier to implement and be more time and cost effective. It also can lead to greater adherence to training by healthcare professionals.
• The training should be flexible and extended in time.	A training extended in time promote healthcare professionals' reflection on the knowledge and skills acquired.
• The choice between online versus in-person training should take into account the training goals and context.	Exclusively online or exclusively in-person training have both advantages and disadvantages. Implementers should be aware of this and choose the best option according to the goals and context of the training. The use of in-person sessions with RLOs is an example of an integration of both methodological approaches.
• Planning the communication and dissemination of the intervention.	The use of plain language is crucial to explain participants the expected outcomes of the training and the methodology to be used. This will enable the recruitment of participants at a larger extent.
• An evaluation plan should be clearly defined at this early stage.	Including an evaluation plan in the planning phase allows monitoring of training throughout its stages, enabling possible adjustments.
• Both the training implementation and evaluation teams should be trained prior to the implementation.	The training of both teams is crucial to prepare the implementation by deepening implementers and evaluators' knowledge on the training.

Recommendations	Contextualization
Implementation	
• At the beginning of the training, participants should be provided with specific and measurable objectives.	Specific and measurable objectives should guide the design, implementation and evaluation of the training.
• In the case of in-person educational sessions, it is best to divide the participants into small groups (8 to 12 participants) to foster their active participation.	A small number of participants may promote their active participation on the discussion and joint reflection on the topics addressed. This discussion should be carefully moderated to avoid conflicts derived from power imbalances.
Methods	
• The use of participatory and creative methods has been proven to promote the involvement and reflexivity of participants.	Participatory and creative methods such as role play, graphic medicine, videos, podcasts and focus-group promote participants' engagement and reflexivity and should be used accordingly to the training goals and timeline.
• The use of practical examples can foster participants' understanding on the topics addressed.	The use of real-life dialogues between a healthcare professional and vaccine hesitant parents.
• The use of digital educational methodologies and reusable learning objects (RLOs) has been proven useful.	They are particularly appropriate for reaching larger populations and involve reduced maintenance costs (See example).
Materials	
• Participants should be provided with materials on the topic of vaccine hesitancy.	Didatic materials such as leaflets, booklet role-playing and scientific articles should be provided to participants in printed and/or electronic format. These materials will enable participants to gain a deeper understanding on the topics addressed during the training, recall key information and apply the acquired skills.
• Participants should be provided with communication tools, which could be used in future encounters with vaccine hesitant parents.	The motivational interviewing is an evidence-based approach to address vaccine hesitancy.

Recommendations	Contextualization
Evaluation	
• Internal evaluation	It is crucial to set clear and objective indicators (i.e. clearly measurable), which should be aligned with the objectives of the training. A pre and post evaluation design is key to assess the impact of the training.
• External evaluation	External evaluation allows an overseen on training's assessment criteria: effectiveness, usefulness and sustainability.

These guidelines are generally applicable (e.g., having a rigorous evaluation process) and others are specific to vaccine hesitancy (e.g., provide healthcare professionals with effective communication tools). Regarding the latter, interventions on vaccine hesitancy must act on two levels: i) raise healthcare professionals' awareness on parents' arguments underpinning their decision to delay or reject their children's immunization; and ii) equip healthcare professionals with knowledge and communication skills to effectively communicate with vaccine hesitant parents in clinical encounters.

Agency

Outlines the relevance of recognizing children's singularity and autonomy in clinical encounters in order to promote a more personalized care.

Dimensions	Recommendations
Agency	**Recognise children's needs and characteristics and adapt the strategies used in the vaccination process accordingly.** **R9** | Healthcare professionals should be equipped with tools to acknowledge children's agency and, wherever possible, address them directly and recognise their feelings.

This recommendation is targeted to healthcare professionals who are directly called to encourage children's involvement by influencing and deciding on clinical procedures.

Recognition

Advocates that healthcare professionals should recognise the diversity of lifestyles.

Dimensions	Recommendations
Recognition	**Showing recognition for parent's views on how to manage their children's health (e.g. extended breastfeeding, vegetarian or macrobiotic diet).** **R10** | Healthcare professionals should recognize the existence of different lifestyles.

Healthcare professionals should be sensitive to the characteristics of each family and recognise the diversity of lifestyles. Each family has their own values and practices such as the adoption of a specific diet or preference for natural medicine, which may impact on their views on vaccination. Healthcare professionals should acknowledge the various lifestyle practices, without expressing negative judgments.

Engagement

Focuses on the development of a collaborative partnership between healthcare professionals and vaccine hesitant parents.

Dimensions	Recommendations
Engagement	**Fostering a collaborative partnership by integrating the specific physical and emotional needs of children and parents into clinical decisions.** **R11** | Healthcare professionals should be equipped with time and resources to keep up to date with scientific knowledge to discuss vaccination with parents. **R12** | Healthcare professionals should be more empathic to the needs of each child and family and strive to build a strong relationship of trust. **R13** | Healthcare professionals should be equipped with tools to recognise the singularity of each child and family and acknowledge their specific socio-cultural context. **R14** | Healthcare professionals should be equipped with strategies to minimize children's pain and/or discomfort during vaccination. **R15** | Healthcare authorities should provide training to healthcare professionals on strategies to deal with children with special needs (e.g., cognitive, or physical disabilities) at the time of vaccination. **R16** | Healthcare professionals should be given the possibility to dedicate more time and resources to provide balanced information to parents on the benefits and potential side effects of vaccination.

There is evidence showing that the interaction between healthcare professionals and parents is key to influence parental decisions regarding their children's immunization [1]. Based on this assumption, healthcare professionals must strive to build a trusting relationship with both parents and children, having empathy as its cornerstone. In clinical encounters, healthcare professionals should acknowledge children's agency by calling them by their name and using personalized strategies to minimize children's pain or discomfort during vaccination (according to children's interests such as painting or cartoons). Special attention should be given to cases of children with cognitive or physical disabilities, as these strategies should be adapted accordingly. Beyond children, parents also should be involved in the vaccination process by clarifying their doubts and be empowered to self-manage vaccines' potential side effects. This requires healthcare professionals to be up to date with scientific knowledge to provide balanced information on vaccination, including its benefits and potential side effects. This can be time-consuming. Therefore, healthcare organizations can possibly relieve healthcare professionals of this pressure through a greater flexibility of time slots for each consultation and allowing healthcare professionals to dedicate more time interacting with parents when confronted with cases of vaccine hesitancy.

[1] Chung, Y., Schamel, J., Fisher, A., & Frew, P. M. (2017). Influences on immunization decision-making among US parents of young children. *Maternal and child health journal, 21*(12), 2178-2187.

SUMMARY

The present policy brief proposes a framework intended to inform and support future policies aiming to address vaccine hesitancy at the European level. The work developed through VAX-TRUST laid the ground to the design of evidence-based recommendations to address vaccine hesitancy targeted to healthcare professionals, healthcare organisations and healthcare authorities. The sixteen recommendations set were aggregated into six dimensions, originating the ASTARE model: 1. Awareness; 2. Support; 3. Training; 4. Agency; 5. Recognition; and 6. Engagement. Overall, the ASTARE model intends to constitute a framework which can inform future policies aiming to address vaccine hesitancy at the European level.

ASTARE model

The ASTARE Model was elaborated by Ana Patrícia Hilário, Joana Mendonça, Luís Gouveia, Fábio Rafael Augusto. Please cite as: Hilário, A.P. Mendonça, J. Gouveia, L. Augusto, F.R. (2024) | The ASTARE Model. Instituto de Ciências Sociais, Universidade de Lisboa.

GLOSSARY

Alternative practices and lifestyles – In the vaccination context, individuals characterized by adopting alternative practices and lifestyles tend to make certain decisions considered less conventional (e.g., home birth, extended breastfeeding, vegetarian/macrobiotic diet, alternative education models, and natural medicine) [2].

Motivational interviewing – It is a patient-centered communication technique designed to help change behaviours. It is based on a directive counseling style [3].

Trust – Understood as confidence, usually directed: i) to the effectiveness and safety of vaccines; ii) to the system that delivers them, including the reliability and competence of health services and professionals; and iii) the motivations of policymakers who decide on the necessary vaccines [4].

Vaccine hesitancy – "Vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place, and vaccines. It is influenced by factors such as complacency, convenience and confidence"[5]. This definition is sensitive to the broad spectrum of positions that individuals may have and which range from 'total refusal' to 'full acceptance' of vaccines [6].

Vaccine hesitant parents – Individuals who "may refuse some vaccines, but agree to others; delay vaccines or accept vaccines but are unsure in doing so"[7].

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Website: https://vax-trust.eu/

[2] Joana Mendonça e Ana Patrícia Hilário, «Healthism Vis-à-Vis Vaccine Hesitancy: Insights from Parents Who Either Delay or Refuse Children's Vaccination in Portugal», *Sozeties*, 13.8 (2023), 1–15.

[3] Gagneur and others, 'Development of Motivational Interviewing Skills in Immunization (MISI): A Questionnaire to Assess MI Learning, Knowledge and Skills for Vaccination Promotion', *Human Vaccines and Immunotherapeutics*, 15.10 (2019), 2446–52.

[4] WHO, *Report of the SAGE Working Group on Vaccine Hesitancy* (Geneva, 2014), p. 11.

[5] WHO, *Report of the SAGE Working Group on Vaccine Hesitancy* (Geneva, 2014), p. 7.

[6] WHO, *Report of the SAGE Working Group on Vaccine Hesitancy* (Geneva, 2014), p. 9.

[7] WHO, *Report of the SAGE Working Group on Vaccine Hesitancy* (Geneva, 2014), p. 8.

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