2024

Policy Framework

A new Approach to Addressing Undervaccination in Europe

European Society of Medicine

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Introduction

The European Society of Medicine is launching this policy framework to address a growing threat to public health in Europe. In the face of a persistent public health challenge, Europe confronts a critical juncture in its vaccination strategy. Despite the availability of effective vaccines, undervaccination remains a pressing issue, with significant implications for community health and safety.

Recent data indicate a troubling decline in the public's confidence in vaccines. Between 2018 and 2020, there was a notable increase in positive perceptions towards vaccines, particularly the seasonal influenza vaccine. Regrettably, many of these gains have since diminished, with attitudes towards the importance, safety, and effectiveness of vaccines declining between 2020 and 2022 across the EU[1]. This trend is alarming, as it suggests a growing 'vaccine confidence gap,' especially among younger demographics aged 18-34, who are becoming increasingly skeptical of vaccines.

Most initiatives to increase vaccination rates focus on accessability, but fail to address the public's lack of confidence in vaccines. We call for collaboration between governments, healthcare providers, patient advocacy groups, and the private sector to change this. Together, we can develop and implement policies that reflect the collective wisdom and expertise of the European medical community.

Key Points

- In several European countries, fewer than 40% of people agree that "vaccines are important, safe, effective, and compatible with your beliefs." In multiple places this has already lead to vaccination levels below the threshold for herd immunity.
- Healthcare providers play a central role in advocating for vaccination. The use of communication toolkits can help them to effectively communicate with vaccine skeptics.
- Mandatory vaccination for school enrollment have proven to be an effective strategy to increase vaccination rates.
- Europe must unite in its efforts to address undervaccination. The stakes are high, and the time to act is now.

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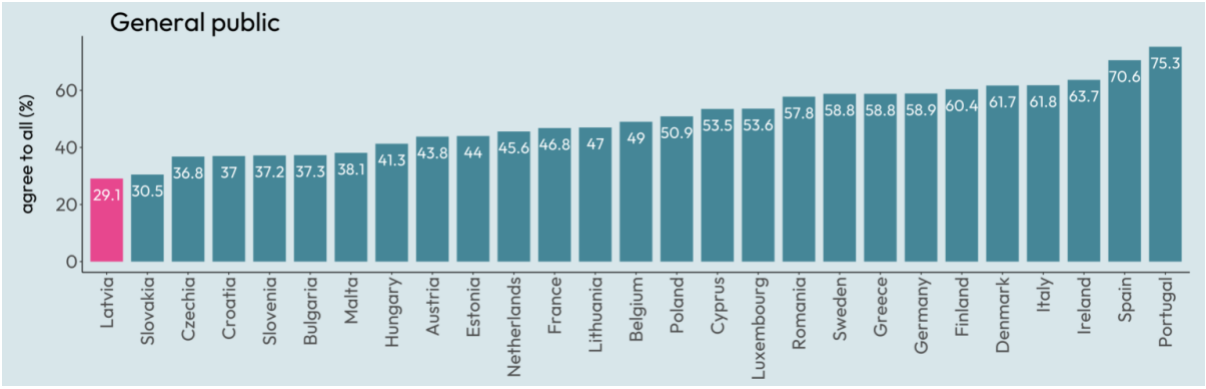
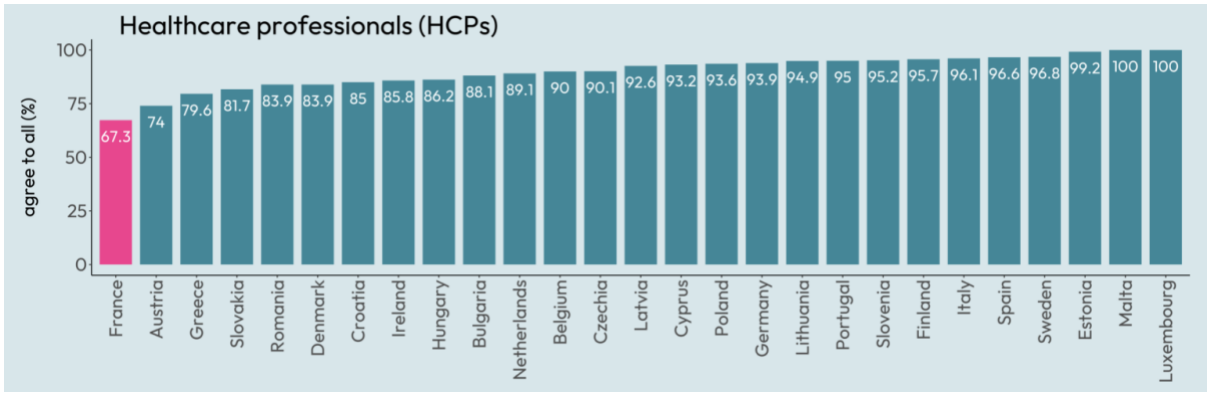
Vaccine Hesitancy in Europe

The current landscape of vaccine hesitancy in Europe is characterized by significant disparities in public attitudes towards vaccination. During a recent study[2], European residents were asked if they agree that "vaccines are important, safe, effective, and compatible with your beliefs." In nations like Portugal and Spain, the majority of the population acknowledges the importance and safety of vaccines, with over 70% of respondents expressing agreement. This positive perception is indicative of a successful public health infrastructure that has fostered trust and acceptance of vaccines.

Conversely, in countries such as Latvia and Slovakia, the situation is markedly different. Here, only 29% and 31% of respondents, respectively, share the same confidence in vaccines. These figures not only reflect a substantial vaccine confidence gap but also highlight the challenge faced by public health officials in these regions. The low levels of agreement suggest a deep-rooted skepticism and a potential disconnect between public health messaging and community beliefs.



Percentage of respondents agreeing that vaccines are important, safe, effective, and compatible with their beliefs.



Source: The 2022 European Union State of Vaccine Confidence in the EU report

The variation in vaccine acceptance across Europe can be attributed to several factors. Misinformation and the spread of unfounded fears about vaccine safety have played a significant role in shaping public opinion. Additionally, cultural and historical influences may contribute to the differing levels of trust in medical interventions.

The consequences of such hesitancy are far-reaching. Lower vaccination rates can lead to the resurgence of preventable diseases, putting unvaccinated individuals and the broader

community at risk. Moreover, the strain on healthcare systems can be substantial, as outbreaks of diseases like measles, which had previously been controlled or eliminated, become a reality once again.

The demographic distribution of vaccine hesitancy also presents a concern. Younger populations, in particular, have shown increasing levels of skepticism towards vaccination[3]. This trend poses a significant threat to the long-term success of vaccination programs and the achievement of herd immunity.

In summary, vaccine hesitancy in Europe is a complex issue with varying degrees of intensity across different countries. The current state of affairs reveals a continent divided, with some nations achieving high levels of vaccine confidence while others struggle to overcome deep-seated hesitancy. Understanding these disparities is crucial for any future efforts to address the challenges posed by undervaccination.

Current State of Vaccination in Europe

Vaccination has been a cornerstone of public health in Europe, significantly reducing the incidence of infectious diseases and associated mortality. Despite the success of vaccination programs, Europe faces challenges in achieving uniform coverage across all countries and for all vaccine-preventable diseases.

Annually, vaccine-preventable diseases account for a considerable number of illnesses and deaths in Europe. For instance, measles, a highly contagious disease preventable by vaccination, saw over 75,000 cases reported in Europe in 2018, with 72 deaths attributed to the outbreak. This should come as no surprise, considering that several countries in Europe such as France, Italy, Romania, and Ukraine have measles vaccination rates below the threshold required to achieve herd immunity. Pertussis, another vaccine-preventable disease, has also seen a resurgence, with several thousand cases reported annually across the continent.

The routine immunization schedule in Europe typically includes vaccines against diphtheria, tetanus, pertussis (whooping cough), Haemophilus influenzae type b (Hib), polio, measles, mumps, rubella, hepatitis B, and varicella (chickenpox)[4]. Vaccinations begin in infancy, with the first doses often administered at 2 months of age, followed by additional doses and boosters throughout childhood and adolescence. Adult vaccination schedules generally include periodic boosters for tetanus and diphtheria, as well as vaccines for influenza, pneumococcal disease, and human papillomavirus (HPV) for specific age groups or risk categories.

Despite the established vaccination schedules, many individuals in Europe lack basic vaccinations. The WHO European Region reports that while some countries achieve high coverage rates, others fall short of the target. For example, DTP3 (a combinatin vaccine for diphtheria, tetanus, and pertussis) coverage—an indicator of basic vaccination coverage—varies significantly, with multiple countries reporting rates below 90%, which is below the threshold required to maintain herd immunity.

Countries with the highest vaccination rates, such as the Netherlands, Portugal, and Spain, contrast with those with lower rates, like Ukraine and Romania. The disparities in vaccination coverage can lead to pockets of susceptibility to outbreaks, particularly in under-vaccinated communities.

The current state of vaccination in Europe is a patchwork of successes and challenges. While many countries have high vaccination rates and have made significant progress in controlling vaccine-preventable diseases, others struggle with lower coverage and the resurgence of diseases once thought to be under control. The ongoing efforts to maintain and improve vaccination coverage are crucial to protect public health and prevent the re-emergence of these diseases across the continent.

Public Perception and Misinformation

Misinformation regarding vaccines is a multifaceted issue that has significantly influenced public perception and contributed to vaccine hesitancy in Europe. This phenomenon is characterized by the spread of false or misleading information about vaccines, which often leads to unwarranted fears and doubts about their safety, efficacy, and necessity.

One prevalent example of misinformation is the claim that the Measles, Mumps, and Rubella (MMR) vaccine causes autism. This assertion originated from a now-discredited study published in 1998[5], which has been retracted due to serious procedural errors, undisclosed financial conflicts of interest, and ethical violations. Despite the overwhelming scientific evidence refuting this claim, the misconception persists, fueling anxiety and resistance towards the MMR vaccine and other immunizations.

Another common piece of misinformation is the belief that natural immunity, acquired by contracting a disease, is superior to vaccine-induced immunity. This notion disregards the risks associated with natural infection, including severe health complications and potential mortality. Vaccines, on the other hand, are designed to provide immunity without exposing individuals to the disease itself, thereby preventing these risks.

The spread of misinformation has been exacerbated by social media platforms, where unverified claims can go viral and reach a wide audience rapidly. For instance, the spread of false information about the COVID-19 vaccines being used as a means for government surveillance has led to increased skepticism and refusal to vaccinate.

Shot of Truth: Top 3 Vaccine Myths Debunked

1. **Myth**: Vaccines can cause the disease they're meant to prevent. **Truth**: Vaccines contain inactive or weakened forms of viruses or bacteria and cannot cause the disease. They are designed to train the immune system to recognize and fight off the actual pathogens.

2. **Myth**: Vaccines cause autism. **Truth**: There is no scientific evidence to support the claim that vaccines cause autism. This myth has been thoroughly debunked by numerous studies.

3. **Myth**: Vaccines aren't necessary because disease rates are already low. **Truth**: Vaccine-preventable diseases have low rates precisely because of the success of vaccines. If vaccination rates drop, these diseases could rapidly become common again.

Furthermore, the circulation of conspiracy theories suggesting that vaccines are a part of a larger agenda for population control has undermined trust in public health initiatives and authorities. These theories lack any credible evidence and are often rooted in a mistrust of governmental and pharmaceutical institutions.

The impact of such misinformation is not limited to individual health choices but extends to public health at large. The decline in vaccination rates due to misinformation can lead to the resurgence of previously controlled diseases, as seen with the recent measles outbreaks in various European countries.

Addressing the challenge of misinformation requires a concerted effort to improve scientific literacy, promote critical thinking, and enhance the transparency of information dissemination. Healthcare professionals play a crucial role in this endeavor by engaging with patients, debunking myths, and providing evidence-based information about vaccines. It is imperative that accurate, accessible, and timely information about the benefits and safety of vaccines is communicated to the public to counteract the detrimental effects of misinformation and improve vaccine uptake.

Impact of Undervaccination on Public Health

In the year 2024, the landscape of public health continues to be significantly influenced by the phenomenon of undervaccination. The repercussions of inadequate immunization coverage are evidenced by the resurgence of vaccine-preventable diseases, which have become a prominent contributor to morbidity and mortality in Europe.

The incidence of vaccine-preventable diseases such as measles, diphtheria, and pertussis has escalated in recent years, a trend directly attributable to suboptimal vaccination rates. For example, the World Health Organization reported a marked increase in measles cases across Europe, with over 100,000 cases recorded in 2019 alone[6], resulting in numerous fatalities and severe health complications. This resurgence signifies a reversal of the progress made in disease elimination and underscores the critical role of vaccination in disease control.

Undervaccination also poses a substantial economic burden. The cost of managing outbreaks, hospitalizations, and long-term sequelae of vaccine-preventable diseases places a significant strain on healthcare systems. An outbreak of measles in a European country can incur costs upwards of several million euros, considering direct medical costs and indirect costs such as loss of productivity and societal impact.

The decline in herd immunity due to undervaccination has grave implications for vulnerable populations, including infants, the elderly, and immunocompromised individuals. These groups are at a heightened risk of contracting and suffering from complications of vaccine-preventable diseases, as they rely on the immunity of the community to protect them from exposure to pathogens.

In summary, undervaccination has emerged as a significant public health concern that necessitates immediate attention. The resurgence of vaccine-preventable diseases, economic repercussions, compromised protection of vulnerable populations, and erosion of public trust in health interventions are among the many consequences of undervaccination. Addressing this issue is imperative to safeguard the health of the European population and to ensure the continued efficacy of vaccination programs. The commitment to improving vaccination coverage is not only a scientific and medical priority but also an ethical obligation to future generations.

Strategies for Improving Vaccine Uptake

In addressing the challenge of undervaccination in Europe, it is imperative to implement multifaceted strategies that target the root causes of vaccine hesitancy and misinformation. This section delineates a series of strategic interventions designed to bolster vaccine uptake across diverse populations.

Enhancing Public Education and Awareness: A cornerstone strategy is the augmentation of public education initiatives. By disseminating accurate, science-based information about the safety and efficacy of vaccines, misconceptions can be corrected, and public understanding can be improved. Tailored communication campaigns that address specific concerns and cultural contexts are essential. These campaigns should leverage various media platforms and involve collaboration with community leaders to extend their reach and impact.

Strengthening Healthcare Provider Engagement: Healthcare providers are pivotal in the vaccination decision-making process. Training programs that equip providers with the skills to effectively communicate the benefits of vaccination and address patient concerns are crucial. Providers should be supported with up-to-date information and resources to counteract prevalent myths and misinformation. Additionally, incentivizing healthcare providers to prioritize discussions about vaccination during patient interactions can further enhance vaccine uptake.

Implementing Policy-Level Interventions: Policy interventions can play a significant role in improving vaccine coverage. This includes the introduction of mandatory vaccination policies for entry into educational institutions, which has been shown to increase vaccination rates. Moreover, policies that facilitate easier access to vaccines, such as extended clinic hours and mobile vaccination units, can remove barriers to immunization, especially in underserved areas.

Leveraging Digital Tools to Combat Misinformation: The digital landscape is rife with misinformation that can fuel vaccine hesitancy. Developing and promoting digital tools, such as fact-checking websites and applications that provide reliable vaccine information, can help counteract false narratives. Collaborating with social media platforms to flag and remove inaccurate content related to vaccines can also mitigate the spread of misinformation.

A framework for Action

The pressing issue of undervaccination demands immediate and collaborative action. This policy framework outlines a strategic plan that underscores the critical role of healthcare professionals and policy-level interventions in driving vaccination efforts forward. It presents a series of policy recommendations that are essential for fostering an environment that supports vaccine uptake. This comprehensive approach is not only a response to the immediate challenges posed by undervaccination but also a proactive measure to ensure long-term health resilience in Europe.

1. Role of Healthcare Professionals in Vaccination

Healthcare professionals occupy a central role in the vaccination ecosystem. Their influence extends beyond the administration of vaccines, encompassing patient education, advocacy, and the dispelling of misinformation. The engagement of healthcare providers is thus a critical component in the vaccination decision-making process. This section elaborates on the multifaceted strategies to strengthen healthcare provider engagement in vaccination efforts.

The impact of healthcare provider recommendations on vaccine uptake is well-documented. A study published in the journal 'Vaccine' highlighted that healthcare provider recommendation was the strongest predictor of vaccination, with patients nearly five times more likely to be vaccinated when their provider recommended it. This underscores the importance of ensuring that providers are actively engaged in vaccination discussions.

Training programs are fundamental in equipping healthcare providers with the necessary skills to effectively communicate the benefits of vaccination. Such programs should be comprehensive, addressing common concerns and questions about vaccines. They should also provide strategies for engaging with patients who may be hesitant or have been influenced by misinformation. Access to current research, data on vaccine efficacy and safety, and materials that can be shared with patients, such as infographics and brochures, are invaluable. The European Centre for Disease Prevention and Control (ECDC) offers a wealth of resources that can be utilized by healthcare professionals to stay informed and to educate their patients.

To facilitate this, The European Society of Medicne plans develop standardized communication toolkits, which include up-to-date scientific data, FAQs, and myth-busting facts. These toolkits will be available in multiple languages to cater to the diverse population in Europe. An example of this toolkit is presented on the next page.

Vaccination Conversation: A Toolkit for Healthcare Providers

This toolkit is designed to equip healthcare providers in Europe with the necessary resources to effectively communicate the importance of vaccination. It includes scientific data, frequently asked questions, and myth-busting facts to empower providers in their discussions with patients.

Scientific Data

- Vaccines are rigorously tested for safety and efficacy before approval. The European Medicines Agency (EMA) follows strict protocols to ensure any vaccine distributed meets high standards.
- Vaccination has led to a dramatic decline in the incidence of diseases like polio, measles, and diphtheria. For instance, the introduction of the measles vaccine has prevented an estimated 21 million deaths worldwide between 2000 and 2017.
- Herd immunity requires a significant portion of the population to be vaccinated to protect those who cannot be vaccinated due to medical reasons. This threshold varies by disease but typically ranges from 70% to 95%.

FAQs

Are vaccines safe?
Yes, vaccines are one of the safest medical products available. They undergo extensive testing in clinical trials and continuous monitoring for adverse effects.

Do vaccines cause autism?
No, there is no scientific evidence linking vaccines to autism. This myth originated from a discredited study and has been debunked by numerous large-scale studies.

Can vaccines overload my child's immune system?
No, children are exposed to more antigens from a common cold than they are from vaccines. The immune system can handle many simultaneous responses.

Why vaccinate against diseases that are no longer common?
Diseases that are rare in Europe may still be common in other parts of the world. Travel and migration can lead to outbreaks if herd immunity is not maintained.

Are natural infections better than vaccines?
Natural infections can cause serious complications and be fatal. Vaccines provide immunity without the risk of the disease's potential consequences.

Myth-Busting Facts

- **Myth**: Vaccines can alter your DNA.
- **Fact**: Vaccines do not interact with or alter your DNA in any way. mRNA vaccines, for example, never enter the cell nucleus where DNA is located; they simply instruct cells to produce a protein that triggers an immune response.
- **Myth**: The side effects of vaccines are worse than the disease itself.
- **Fact**: The side effects of vaccines are generally mild and temporary, such as a sore arm or low-grade fever. The diseases that vaccines prevent can have severe and long-lasting effects, far outweighing the risks of side effects from vaccines.
- **Myth**: Vaccines aren't necessary because infection rates are low.
- **Fact**: Low infection rates are a result of successful vaccination programs. Reducing vaccination rates can lead to a resurgence of diseases.

Communication Strategies

Empathy and Listening: Begin conversations by acknowledging patient concerns and providing a safe space for discussion.

Clear Messaging: Use simple language and avoid medical jargon. Explain the benefits and risks of vaccines in a balanced manner.

Visual Aids: Utilize charts and infographics to illustrate how vaccines work and the impact of vaccination on disease rates.

Storytelling: Share success stories of vaccination and the real-world impact on individuals and communities.

Correcting Misinformation: Address specific myths the patient may believe and provide factual information to counter these beliefs.

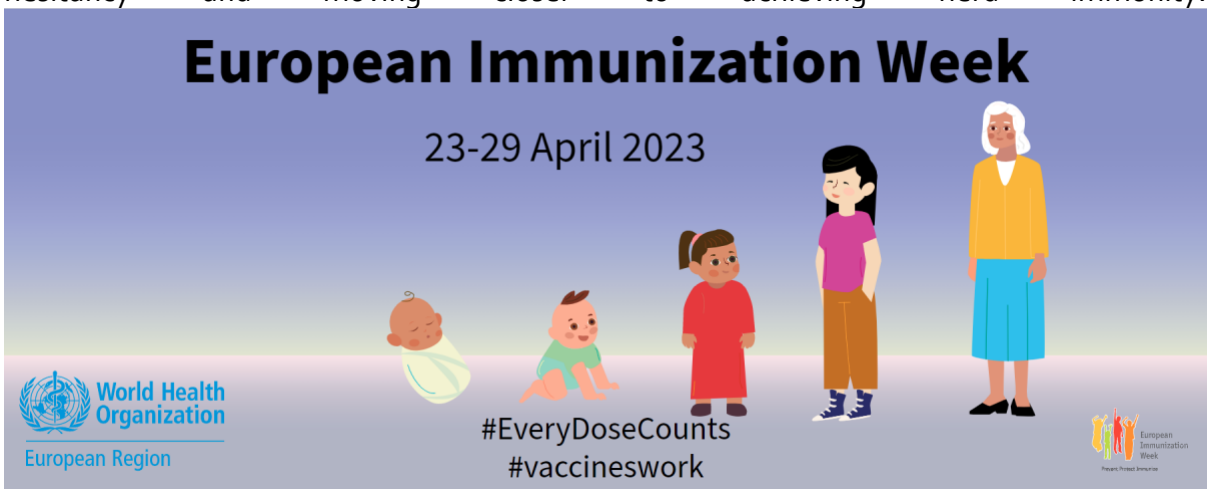
2. Policy Recommendations

In addressing the challenge of undervaccination in Europe, a nuanced approach is required—one that not only improves access to vaccines but also directly confronts vaccine hesitancy and misinformation. The following policy recommendations are designed to be comprehensive and multifaceted, targeting the root causes of vaccine hesitancy and ensuring that vaccination policies are robust and far-reaching.

National Vaccination Information Campaigns

National Vaccination Information Campaigns are pivotal in the fight against vaccine hesitancy, which is often exacerbated by the spread of misinformation. To effectively counter this, it is essential for governments to allocate substantial resources towards the development and implementation of large-scale public education campaigns. These campaigns should be meticulously designed to resonate with the diverse concerns and cultural nuances of various demographic groups. By leveraging an array of communication channels, including both traditional media outlets and modern social media platforms, these campaigns can achieve extensive reach and impact.

The success of such campaigns is contingent upon their ability to convey scientific facts and the transparency of vaccine data in an accessible and comprehensible manner. Tailoring messages to reflect the values and beliefs of targeted communities can significantly enhance the campaigns' effectiveness. In Germany, for example, a concerted effort to involve local religious leaders in vaccine advocacy led to a remarkable 20% increase in vaccination rates within communities that had previously exhibited high levels of skepticism. This underscores the importance of community-specific strategies and the engagement of trusted figures in promoting vaccine acceptance. By continuing to support and expand upon these tailored information campaigns, governments can make substantial strides in overcoming vaccine hesitancy and moving closer to achieving herd immunity.



Alternative Delivery Methods

Innovative vaccine delivery methods, such as nasal sprays and microneedle patches, offer promising avenues to increase vaccination rates by addressing common barriers associated with traditional injections. Nasal sprays, for instance, have been utilized in influenza vaccination campaigns, providing a non-invasive alternative that can be self-administered, thereby reducing the burden on healthcare systems. Microneedle patches, which deliver vaccines through a skin patch dotted with tiny, painless needles, have shown a significant increase in vaccine uptake due to their convenience and ease of use. A study demonstrated that microneedle patch vaccination resulted in a 20% higher vaccination rate compared to conventional methods.

These less invasive techniques not only improve patient compliance but also facilitate mass immunization efforts, especially in settings where medical resources are limited or needle disposal poses challenges. By investing in these innovative methods into vaccination policies, Europe can make substantial progress in mitigating the impact of undervaccination.

Mandatory Vaccination Policies

The introduction of mandatory vaccination policies for entry into educational institutions has been a contentious yet impactful measure. Countries like France and Italy have implemented such policies, resulting in a marked increase in vaccination rates among school-aged children. For instance, Italy witnessed a significant rise in measles vaccine coverage from 85% to 95% following the enforcement of mandatory vaccination laws[7]. These policies should be designed with careful consideration of ethical implications, ensuring that exemptions are allowed for medical contraindications while maintaining robust vaccination coverage.

There is potential to expand these policies to other areas. For example, mandatory vaccinations could be considered for healthcare workers, to protect both patients and staff from preventable diseases. Additionally, implementing vaccination requirements for certain public services or travel can further incentivize immunization. Such policies have been successful in parts of the United States, where certain vaccinations are required for individuals applying for permanent residency[8].

Social Media Monitoring and Response Teams

In the digital age, social media platforms have become a primary source of information for many individuals. However, these platforms are also rife with misinformation, particularly concerning public health issues such as vaccination. To mitigate the spread of false information and its detrimental impact on public health, the establishment of Social Media Monitoring and Response Teams (SMMRTs) is recommended. These teams would be composed of experts in public health, communication, and digital media analytics. Their primary role would be to continuously scan social media channels for misleading content related to vaccines, employing advanced data analytics to identify and prioritize the most pervasive or potentially harmful misinformation.

Once identified, the SMMRTs would engage in real-time, deploying accurate information and counter-narratives through the same channels. This proactive approach ensures that corrective content is visible in the spaces where misinformation was encountered, thereby increasing the likelihood of reaching the affected audience. The teams would work in collaboration with social media platforms to enhance the visibility of factual information, and when possible to remove misinformation. Furthermore, they would provide resources and references to reputable health organizations, enabling users to verify the information independently. The effectiveness of these interventions would be regularly assessed through metrics such as the reach of corrective messages and changes in public perception, allowing for continuous refinement of strategies to combat misinformation on social media platforms.

Long-Term Strategies for Vaccine Confidence

Building long-term confidence in vaccines requires a sustained commitment to education, transparency, and engagement. This includes ongoing support for vaccine research and continuous monitoring of public attitudes towards vaccination. It also involves creating an environment where questioning and open dialogue about vaccines are encouraged and addressed respectfully and informatively.

Conclusion and Call for Action

The European Society of Medicine is making it a priority to implement a new approach to undervaccination. Vaccine hesitancy and misinformation are complex issues which require novel strategies. The path forward must be paved with decisive action and unwavering commitment to public health. It is incumbent upon policymakers, healthcare providers, and community leaders to implement the recommendations provided herein. Moreover, it is essential to recognize the importance of research and innovation in developing new vaccine technologies and delivery methods.

The call to action is clear: Europe must unite in its efforts to address undervaccination. Governments should allocate the necessary resources to support vaccination campaigns, equip healthcare providers with the right tools, and enforce mandatory vaccination in schools. Furthermore, it is crucial to engage in ongoing dialogue with the public, building an environment of transparency and trust. Misinformation must be countered with factual, science-based evidence, and vaccine literacy should be promoted at every level of society. This includes integrating vaccine education into school curricula, developing targeted communication strategies for diverse communities, and leveraging digital platforms to disseminate accurate information.

Research institutions and the private sector must collaborate to advance vaccine science, exploring novel approaches to vaccine development and delivery. This collaboration should extend beyond borders, fostering international partnerships that can accelerate progress and facilitate the sharing of best practices.

In conclusion, the stakes are high, and the time to act is now. The policies and actions recommended in this framework are not merely suggestions; they are imperatives for safeguarding public health. As we look to the future, let us be guided by the lessons of the past, the evidence of the present, and the promise of innovation. Let us commit to a future where vaccine-preventable diseases are a memory, and health security is a reality for all citizens. This is our collective responsibility, and it is within our grasp if we act together with courage, determination, and foresight.

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