

# PSYCHOLOGICAL IMMUNIZATION AGAINST ANTI-VACCINATION: SUPPORTING THE PARENTS

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Human behavior regarding vaccination, specifically, the behavior of parents, is pivotal for successful immunization of the whole population(s), and we are currently witnessing how our herd lost its immunity. In some parts of the world, the decision on childhood vaccination is one of the most important concerns a parent encounters. Unlike a few decades ago, parents today are "socially forced" to have an opinion and to make the decision about this immensely important health-related issue. At the same time, parents are not forced to make an informed decision, nor are they protected from intensive and explicit societal influences of both normative-medical and lay-experience form. Vaccine concern is not a contemporary phenomenon; however, due to the more than a few reasons, there is a threat of vaccine hesitancy epidemic. Focal points of this symposium are parents and vaccine hesitancy, which will be discussed starting from reference points of psychology, sociology, epidemiology and global health system. We are going to address the public policies regarding vaccine-related behavior, how is hesitancy conveyed via cognitive and social mechanisms, what ideology is behind it, are parents susceptible to cognitive biases in health-related reasoning, how the vaccine market works, and finally, how can we approach to a concerned parents and their questions regarding vaccines. We will describe and understand parental decision making about childhood vaccination in order to contribute to psychological immunization against the anti-vaccination.

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## EPIDEMIOLOGY AND THE TRUST IN THE BENEFIT OF VACCINATION

**Predrag Kon**

Gradski zavod za javno zdravlje

The epidemic of measles cannot be stopped without the immunization against the MMR of over 95% of children eligible for vaccination. Therefore, it can be estimated that the epidemic will continue and should reach its peak in March. Without any intervention in the field of public health but due to the change in the seasons, the intensity of the morbillivirus activity will reduce and the epidemic will slow down in April, even more so in May. The virus activity may be interrupted over the summer, but it is more likely that it will be maintained at low intensity throughout the year, and it is possible that it will continue into the next year. The vaccination of over 95% of eligible children there would be no

conditions for the outbreak of the epidemic to continue. Accurate information is of great importance for public health and prognoses are always made on the basis of this available information. Short-term forecasts are very often precise and long-term ones can be of less precision, due to changed circumstances or subsequently available data. Each form of data tracking used for public health has a specially developed monitoring and reporting system as well as specific indicators being monitored for years. The emergence of "know-it-all" stances, backed up with no data and no analysis, who "knowingly" talk about immunization, contributes to the general distrust both in vaccines and in Serbian epidemiology. Epidemiology as a science and epidemiologists, in addition to their core activity - the fight for public health, are here to answer questions about immunization and its mechanisms. The presentation will provide expert answers on the most common parental concerns about immunization.

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## VACCINES – MARKET, TRENDS AND PARTNERSHIPS

**Dragoslav Popovic**

International Health Consultant

The history of the vaccine market may be short but it has prolonged effects on the productivity, collective efforts for global benefits, and implications for public health. Until the '90s, only 5 traditional vaccines were widely used and were not considered to be commercially attractive investments, as pharmaceutical companies considered vaccines a commodity with high risks, so research on new vaccines was limited and underfunded. More than two thirds, especially the poorer part, of the global population were deprived of access to vaccines. Back then the “commercial” industry was based exclusively in industrialized countries with State-owned enterprises covering the needs of national markets – such as in SFRY, Cuba or USSR – with none or very limited capacity for exports. Things changed when the GAVI Alliance was established, which focused on providing long-term funding for vaccines worldwide. The global vaccine market between 2000 and 2014 expanded from USD 6 billion to USD 33 billion. Still, the vaccine market size is a small fraction of the global pharmaceuticals market and it is dependent on the sales in rich countries. Today, the global production of vaccines is on a steep rise, enabling the international community to deliver doses to an unprecedented number of children globally. Technology transfer and the globalized market led to the disappearance of national manufacturers – currently, in Europe, there is no country with a state-owned, national vaccine manufacturer. Vaccine research expanded with new funding, transparent information sharing and collaboration between scientists worldwide. The global community recognized the momentum and declared the "Decade of Vaccine 2010-2020" as a period in which previous efforts in prevention of diseases need to be "cemented"

and expanded to new levels. Many scientists see vaccines as the backbone of a "new paradigm in medicine", with vaccine quality and safety reaching its highest level in history. It takes around 24 months to produce one bulk of vaccines with 70% of that time spent on quality control. Each bulk undergoes over 110 tests on average before putting in vials for distribution, with a zero tolerance for failures. As Serbia is a part of the global platform of events in public health, its population shares vaccination benefits with the global community. We haven't seen cases of Diphtheria or Polio for decades, but ongoing Measles outbreak is a stark reminder that more needs to be done.

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## VACCINES – MARKET, TRENDS AND PARTNERSHIPS

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In three independent studies, we investigated the spread, causes and change of support for mandatory childhood vaccination (MCV) and potential resistance to it in Serbia. In the first study, on a representative sample of 1019 adult citizens (51.5% women), 11% claimed they would not vaccinate their child. There were no gender differences, but higher education was associated with higher support for vaccination, as was being a parent of a minor. In the second study, on a student sample (N=216) we found higher support was weakly associated with more knowledge and higher endorsement of conspiracy mentality.

Research on attitudes towards mandatory childhood vaccination (AMCV) usually targets so-called "anti-vaxers" or "vaccine-hesitant" parents, investigating their motives for rejecting/questioning MCV and stability of this decision. In the third study, we targeted psychology students who strongly supported MCV (N=104) and investigated whether their attitudes can be changed and whether the quality of anti-vaccination arguments determines the change. Arguments were represented to the participants in the article form which was directed against MCV. One text was based on low-quality arguments - LQA (e.g. lay source, biased sample), and the other was based on high-quality arguments – HQA (e.g. expert source, representative sample). The average initial positive attitude of all respondents decreased significantly after reading the articles. Registered sensitivity to manipulation was different between two groups. High-quality

arguments substantially decreased support to MCV but also did the low-quality arguments, albeit with smaller effect. These findings go to show that even strong support for MCV can be relatively easily eroded with even low-quality evidence.

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## HOW LACK OF TRUST IN EPISTEMIC AUTHORITIES, FACTUAL KNOWLEDGE, AND MISINFORMATION LEAD TO VACCINE HESITANCY

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There is a scientific consensus that vaccines are an efficient and safe way to protect the public from vaccine-preventable diseases. So-called "deficit model" posits that public opinion differs from scientific consensus because of the lack of scientific knowledge; thus, if people were sufficiently informed, they would come to accept the consensus (Sturgis, & Allum, 2004). Evidence, however, suggests that knowledge can be unrelated, and in some cases, negatively related to pro-vaccine attitudes (Kahan, 2010). In our research, neither on student samples nor on the representative sample of parents, vaccine-related knowledge was not a predictor of vaccination intentions. In addition, subjective knowledge and objective knowledge were not related either: people tended to grossly overestimate their actual knowledge, and this subjective assessment was also not a predictor of vaccination intentions. What we found to be significant predictors of vaccine-hesitancy, are (a) beliefs in myths and conspiracies related to vaccine efficacy and safety, and (b) lack of trust in epistemic authorities (health officials, scientific experts and especially official media). This presents a challenge for tailoring vaccine-related public communications: if knowledge is not a protective factor for vaccination, should we invest in educating the public; which information should be provided and in which form; how to de-bunk vaccine-related myths without sensitizing the majority to anti-vaccine contents. In addition, once the trust in epistemic authorities is impaired, it is very hard to rebuild it. We will discuss the strategies to overcome these challenges.

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## NEOLIBERAL PARADIGM AND ANTI-VACCINATION MOVEMENT

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Neoliberal ideologies, understood as dominant ideologies in current historic period, support two frames of individual choice - a view of economic systems and

governmentalities as rooted in entrepreneurial values such as competitiveness, self-interest, and decentralization, and second, a standpoint that individuals should feel obligated to actively manage the self, work hard, behave morally, and avoid calculable risk through informed decision making. This presentation relies on a concept brought up by Jennifer Reich in *Gender & Society*, where she describes vaccine-refusing mothers (in the USA) as displaying “neoliberal mothering”.

What seems to be widespread among women is an ideology of intensive mothering that advises mothers to expend a tremendous amount of time, energy and money in raising their children. Although there is evidence that this ideology has permeated all socioeconomic levels, this experience of motherhood is marked most intensely by those in the middle and upper class who have the material and cultural resources to invest most heavily in their children's development, and are most fearful of their children's downward mobility. These mothers assert their individual choice to manage their children independently of the influence of medical institutions and government, and for them, good parenting rests on the ability to intervene between children and external institutions. Three factors contributed to the mother's decisions to refuse vaccination. The first one deals with their perception of vaccine risk and necessity, the second one point to their intensive mothering practices – particularly feeding, nutrition and natural living as superior means of health promotion, and the third one refers to risk control through management of social exposure. For Reich, these mothers' narratives illustrate how they embrace neoliberal mothering, with goals of individual optimization and consumption and draw on privilege and access to resources to exercise choice.

Having in mind different social contexts (different legal frameworks concerning vaccination and different healthcare systems, just to begin with), these findings would not be completely relevant for Serbian case, but they can probably give us glimpse of what ideological frameworks we might expect within our sample, since we already have some data that show similar findings concerning socioeconomic backgrounds of the vaccine-refusing parents here and in the USA.