

COVID-19 VACCINATION POLICY AND HUMAN RIGHTS: A BEHAVIORAL APPROACH

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Abstract. *In this paper, the authors explore the implications of different models of vaccination policy (mandatory or voluntary) on human rights from the perspective of behavioral science. For this purpose, the authors first seek to determine the optimal framework for vaccination policy, starting from different forms of paternalistic interventions: 1) anti-paternalistic policies, 2) nudge policies, 3) coercive paternalism, and 4) behavioral regulation of externalities. Giving prevalence to the policy of libertarian paternalism (the nudge policy), the authors underpin their hypothesis with numerous studies on the importance of behavioral insights in the context of the COVID-19 pandemic and vaccination policy. Then, the implications of mandatory vaccination on human rights are explored and the conditions required for implementing the compulsory vaccination policy are determined. In conclusion, the authors correlate the established optimal behavioral framework with the requirements for mandatory vaccination, and present arguments in favor of provisional mandatory vaccination which does not violate the freedom of individuals but contains an element of obligation.*

Key words: *vaccination policy, COVID-19, human rights, behavioral measures*

1. INTRODUCTION

The pandemic of the infectious disease **COVID-19**¹ caused by the **SARS-CoV-2**² virus has “shaken” the foundations of our usual way of life and led to the so-called “new normal”.³ It was reflected in the reduction of social and physical contacts, a change in the standard way of organizing work and education (switching to online work and schooling from home), mental health impairment, endangerment of material existence, etc. (Cleveland Clinic,

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¹ COVID-19 is the abbreviation for the 2019 Coronavirus disease.

² SARS-CoV-2 stands for Severe acute respiratory syndrome-Coronavirus 2.

³ It is a term used to denote the new social order created as a result of the pandemic.

2020).⁴ However, the “new normal” did not strike all parts of the world and all strata of the world's population equally (e.g., the homeless, members of minority communities, and the poor residents of some African countries such as Nigeria, where the “hunger virus” reigned even before the Coronavirus emergency). The data from the outset of the COVID-19 pandemic (World Economic Forum, 2020)⁵ indicated that the Coronavirus could “push” half a billion people into poverty; the residents of East Asian and Pacific countries, South Asia, Latin America, and African countries were the most vulnerable. Thus, at the beginning of the pandemic, the situation seemed hopeless only in more developed (wealthier) parts of the world (e.g., Europe and North America), where the pandemic generated huge fear and anxiety. Over time, people got mentally accustomed to the newly created situation, which was partly remedied by the invention of vaccines. However, the advent of vaccines was accompanied by new dilemmas, social divisions and conflicts. One research showed that the emergence of vaccines had a significant impact on increasing fear and economic anxiety, which were measured by Google search trends regarding different topics, such as recession and stock market crash, survivalism, and conspiracy theory (Awijen, Ben Zaided, Nguyen, 2020). The major point of contention between experts and citizens was vaccine safety. Contradictory information was spread over the Internet, especially on social networks, creating huge animosity among citizens who were for or against vaccination; it generated a division into vaxxers and anti-vaxxers. Concurrently, the media reported on well-packaged conspiracy theories alleging that the COVID-19 pandemic was “a hoax”, that the virus was “invented in a laboratory”, that the vaccine was not actually needed, etc.⁶

In the atmosphere of divided opinions, the presence of conspiracy theories and a strong emotional charge, the space for rational decision-making was suddenly narrowed. The automatic, fast and intuitive System 1 of our cognitive apparatus prevailed over the slow, rational and deliberative System 2 (Kaneman, 2015). However, a vaccination policy should certainly have been conceived and implemented with the aim of mass immunization of the population. Judging by the percentage of vaccinated population, some countries succeeded (e.g., Portugal or Cuba), and some did not (e.g., Serbia or Croatia). All the mentioned countries implemented a universal vaccination policy (vaccines were available to everyone). According to recent data (Our World in Data, 2021),⁷ Portugal and Cuba recorded 95% of fully vaccinated people,⁸ while Serbia recorded 49% and Croatia 57%.⁹ The absolute numbers are even more convincing: Cuba 10.68 million vaccinated (population: 11.3 million),¹⁰ Portugal 9.74 million vaccinated (population: 10.1 million), Serbia 3.35 million vaccinated (population: 6.9 million) and Croatia 2.32 million vaccinated (population: about 3.9 million). It is interesting to look at the ratio of administered “booster” doses in the mentioned countries, measured according to the initial protocol of doses per 100 inhabitants: Cuba 66:282 (total: 348), Portugal 66:175 (total: 241), Serbia 28:97 (total: 124) and Croatia

⁴ Cleveland Clinic (2020); <https://health.clevelandclinic.org/heres-how-the-coronavirus-pandemic-has-changed-our-lives/>

⁵ World Economic Forum (2020). There's nothing new about the 'new normal'. Here's why (5.6.2020); <https://www.weforum.org/agenda/2020/06/theres-nothing-new-about-this-new-normal-heres-why/>

⁶ For more details on conspiracy theories, see: Imhoff, Lamberty, 2020.

⁷ See: Our World in Data (2021): Coronavirus (COVID-19) Vaccinations; <https://ourworldindata.org/covid-vaccinations>, accessed: 17 August 2022.

⁸ For Portugal, the data was updated on July 22, 2022, and for Cuba on 23 July 2022.

⁹ For Serbia, the data was updated on 23 June 2022, and for Croatia on 23 July 2022.

¹⁰ The data on the number of inhabitants was downloaded from: Worldometer (2022): World Population, <https://www.worldometers.info/world-population/>

15:105 (total: 119).¹¹ When looking at the number of deaths, the data are as follows: Portugal records **24,754** deaths (on 16 August 2022), with the number doubling in the last **563** days (more precisely, compared to 12,179 deaths as of on 30 January 2021); Serbia **16,481** (on 16 August 2022), with the number doubling in the last **320** days (compared to 8,234 deaths on 30 September 2021); Croatia **16,520** total deaths (on 16 August 2022), with the number doubling in the last **381** days (compared to 8,259 deaths on 31 July 2021); Cuba **8,529** deaths (on 16 August 2022), with the number doubling in the last **363** days (compared to 4,240 deaths on 18 August 2021). We can also compare these countries with the general trend at the world level, which is **478** days for which the number of deaths has doubled.¹² Therefore, Portugal is 85 days *above*, while Serbia is 158 days, Croatia 97 days and Cuba 115 days *below* the number of days at the world level.¹³

These data direct research attention to countries with a lower percentage of vaccinated people when compared to the world average (**67%** of vaccinated population) or the European average (**69%** of vaccinated population).¹⁴ By the nature of things, the emphasis is placed on the unvaccinated people, i.e., on the reasons why they did not get vaccinated and especially why they hesitated to get vaccinated. In addition, a very important question in the context of vaccination is: ***What do people value more: freedom of choice or health protection?*** A reasonable assumption is that if people give more weight to health protection, then they are more likely to get vaccinated, regardless of the vaccination model (voluntary or mandatory). But, if people value freedom of choice more, then the probability of getting vaccinated decreases; in such a case, their decision will largely depend on the vaccination model and the way it is implemented. The COVID-19 pandemic has shown that a large number of people prefer *non-intrusive measures* in the vaccination process. Experience has also shown that the choice of health protection measures is a disputable issue which has been the subject matter of clashing opinions of experts and citizens alike. In this context, the central question that we seek to examine in this paper is the highlighted dichotomy between the freedom of choice or health protection, in order to formulate certain conclusions and offer recommendations to vaccination policymakers. We present different levels of state (paternalistic) interventions and discuss their implications for human rights. In the context of vaccination, it particularly refers to the right to freely choose a vaccine and get vaccinated or not.

2. THE OPTIMAL BEHAVIOURAL FRAMEWORK OF VACCINATION POLICY

Pandemics are strong negative externalities, and their internalization (reduction or minimization) requires some form of state (paternalistic) intervention.¹⁵ Even if we reach a consensus about this general principle, the question arises as to which type of state intervention is the optimal solution. In other words, what is the optimal vaccination policy?

¹¹ The data for Croatia is from 9 January 2022, for Serbia from 23 June 2022, for Portugal from 22 July 2022, and for Cuba from 23 July 2022.

¹² It is interesting that China, a country with about 1.7 billion inhabitants, records 5,226 deaths (on 16 August 2022), with the number doubling in the last 904 days.

¹³ At the European level, the number of deaths has doubled in 495 days. It may be interesting to look at the data at the level of lower middle income countries (444 days), upper middle income countries (480 days), and high income countries (529 days).

¹⁴ At the level of European Union countries, the average is **75%**. The data was downloaded from: <https://ourworldindata.org/covid-vaccinations>, accessed on 17 August 2022.

¹⁵ For more on this issue, see: Nikolić, Mojašević, 2016: 164.

In order to answer this question, we need to look at the policy options that the state has at its disposal. Here, they are presented according to the intensity of intervention impact, from the least to the most obtrusive.

The first option available to the state is the **anti-paternalist policy**. This policy guarantees people full freedom of choice; it strives to *maximize freedom*, rather than wealth, because it starts from the fact that preferences are a subjective category; thus, one cannot speak of “objectively good preferences” (Mitchell, 2004: 19–20). In the context of vaccination, this means that people have a guaranteed right to freely choose a vaccine and get vaccinated, while the state’s interference in that choice can only be reduced to:

1. education about the importance of vaccination,
2. simplifying the process of making decisions about vaccination, or
3. encouraging citizens attentiveness when choosing vaccines (Mitchell, 2017:697–698).

It is obvious that this policy involves a passive role of the state when it comes to the ultimate *goal* (making a decision to get vaccinated), but the state has an active role when it comes to the *means* (instruments) for making such a decision. This policy entails interference in the decision-making process but not in the outcome (freedom of choice).

The second option is **the nudge policy**. This level of state intervention refers to directing or nudging people in a certain pre-defined direction (Thaler, Sunstein, 2008). In the context of vaccination, concerning the need to protect public health, the state has a legitimate right to intervene in a private sphere and urge people to get vaccinated, while leaving them sufficient leeway to give up (change their minds) or not to choose the pre-defined preferred option. It is important to emphasize that this policy does not oblige people to get vaccinated but only encourages them to make a certain decision that they would otherwise make if there were no *cognitive biases* in their reasoning and decision-making.¹⁶ In other words, it is assumed that a person devoid of cognitive errors in thinking and decision-making would make exactly such a decision: to get vaccinated! Relying on that assumption, it is legitimate for the state to help people in their endeavour to get vaccinated, but it is done by using more “compelling” instruments than those applied in the anti-paternalistic policies. For example, to nudge people, the state can use the following behavioral instruments:

1. default rules,
2. social norms,
3. salience,
4. commitments,
5. and many others (Institute for Government, UK, 2010: 18).

The third option at the disposal of the state is **regulation**. This level of state intervention can be classified into two categories: **coercive paternalism** and **behavioral regulation of externalities**. They are two classic paternalistic interventions: the former is applied to *internalities* (such as smoking)¹⁷ and the latter is applied to *externalities* (such as gambling). These policies involve some form of coercion, such as banning smoking indoors or rules limiting the maximum amount of money in gambling (in England, up to two pounds) that fixed-odds betting terminals (roulette machines) can accept (Gambling Commission, 2019).¹⁸

¹⁶ For more, see: Zamir, Teichman, 2008: 19–138.

¹⁷ *Internalities* are external effects arising from activities that cause harm or benefit exclusively to the individual who undertakes or performs those activities. Conversely, *externalities* harm or benefit others. It should be noted that some activities have both internal and external character. Thus, it is necessary to observe internalities and externalities as a *continuum*; depending on which effects prevail, we can talk about one or the other.

¹⁸ See: Gambling Commission (2019): Regulator warns gambling industry not to circumvent FOBT stake cut.

Considering that all three policies (two regulatory policies and the nudge policy) are based on *behavioral insights*, they are also called ***behavioral public policies***.¹⁹ Table 1 provides a summary of the basic elements of all mentioned policies and differences between them.

Table 1 (Anti)paternalistic Public Policies – Delimitation

Type of policies	Freedom or regulation	Internalities or externalities	Behavioral insights
Antipaternalism	freedom	internalities	no
Nudge policy	freedom	internalities	yes
Coercive paternalism	regulation	internalities	yes
Behavioral regulation of externalities	regulation	externalities	yes

Source: Oliver, 2017 (table created by authors)

Upon consistent consideration of the elements of the aforementioned policies, and taking into account the nature of the pandemic as a strong negative externality, the principle recommendation of economic theory in case of pandemics (including COVID-19) would be to apply **the behavioral regulation of externalities**, which comes down to **mandatory vaccination**. In other words, people should be forced to get vaccinated! Although consistent and based on logical premises, this recommendation is difficult to implement in practice. Why? First, the question arises whether the *offer* of intervention is in compliance with the *demand* for intervention, i.e. whether the citizens' preferences are in line with such a choice of policy. The latest in a series of pandemics (COVID-19 pandemic) supports the claim that a significant number of people (depending on the country)²⁰ did not want to get vaccinated or were hesitant; thus, they were highly unlikely to support mandatory vaccination. We may wonder why support for compulsory vaccination should be sought at all. In our opinion, implementing a vaccination policy forcefully, without a prior consensus of citizens and the medical profession, would have only aggravated the already tense and heated atmosphere during the COVID-19 pandemic. Certainly, the question is how to ensure that consensus. We think that the national parliament (e.g. the National Assembly of the Republic of Serbia) is the best forum for eventually reaching such a consensus, based on the previously articulated proposal of medical and other experts. This is supported by the fact that even a tiny hint or suggestion about introducing mandatory vaccination during the COVID-19 pandemic created great people's resistance, regardless of the provided justification. Taking into account such preferences, the choice of the optimal policy would come down to either an anti-paternalistic policy or a nudge policy, or a combination thereof. The essence is not to encroach on the autonomy and free choice of individuals but to direct their decisions towards accepting the vaccine as the best possible available means in the fight against the COVID-19 pandemic. Thus, our thesis is that the optimal vaccination policy is the one that is predominantly conceived in the behavioral framework of libertarian paternalism, i.e., the nudge policy. This thesis was confirmed in our survey on attitudes about vaccination conducted on a student population sample (Mojašević, Stefanović, 2022). Numerous other studies support the thesis that the behavioral policy framework is appropriate in the context of vaccination. Due to their importance in terms of vaccination policy, these behavioural insights are reviewed in the next part of the paper.

¹⁹ For more, see: Mojašević, 2021: 75–134.

²⁰ In the introductory part, we presented the percentages for certain countries.

3. RESEARCH REVIEW ON THE SIGNIFICANCE OF BEHAVIORAL INSIGHTS IN VACCINATION POLICY

Research on the importance of behavioral insights in raising awareness about vaccination was conducted even before the COVID-19 pandemic. One such study (Betsch, Böhm, Chapman, 2015) identified several factors of reluctance to get vaccinated: 1) complacency; 2) inconvenience; 3) lack of confidence in the vaccine; and 4) rational calculation of pros and cons to getting vaccinated. To tackle vaccine hesitancy, the authors formulated specific behavioral measures: enhancing motivation (to target factor 1), removing impediments (to target factor 2), and providing economic incentives (to target factor 4). They emphasized that these measures cannot be equally effective in case of those people who express a lack of confidence in the vaccine (factor 3).

As a follow-up of the meeting held in October 2020, the World Health Organization (WHO) published the report *Behavioral Considerations for Acceptance and Uptake of COVID-19 Vaccines* (WHO, 2021), which identified the shortcomings of the current vaccination promotion policy and indicated the necessity of applying behavioral measures in order to popularize the vaccine against the Coronavirus. The WHO report recommended the following strategies (WHO, 2021: 9):

1. creating a favorable environment for vaccination: facilitating the vaccination process and making the vaccine publicly available to everyone, without excessive administrative burden;
2. encouraging social influence: promoting vaccination to the general public by well-known people, as an example of good practice;
3. increasing citizens' motivation for vaccination: ensuring open and transparent dialogue and communication about the risks that the vaccine carries.

Another important research (Reñosa, Landicho, Wachinger, DalGLISH, Bärnighausen, McMahon, 2021) highlighted the significance of nudging citizens toward vaccination in the fight against the COVID-19 pandemic. Incentives aimed at changing citizens' attitudes about vaccination and sending messages (directly generated from central databases or delivered by credible health authorities via text messages, emails or personalized letters) to raise citizens' awareness about the importance of vaccination proved to be effective measures in some settings. A recent meta-research (Mertens, Herberz, Hahnel, Brosch, 2022) on the effectiveness of behavioral interventions confirms a statistically significant relationship between these interventions, especially default rules, and changing people's conduct in different social contexts.

A behavioral study conducted in Japan (Khan, Watanapongwanich, Kadoya, 2021), including people of different ages, examined the causes of negative attitudes towards vaccination resulting in refusal to receive the vaccine. The research results showed that young people are more vaccine-hesitant than older people, whereby young women demonstrated a higher hesitancy rate than young men. The root of the repulsive attitude of young people towards the vaccine lies in health concerns, i.e. uncertainty regarding the adverse effects of the vaccine. The researchers concluded that there is a need to avoid applying a single strategy to all age groups (the *one-size-fits-all approach*) and to adapt the communication strategy to different age categories.

Another behavioral study (Bavel, *et. al.*, 2020) provided a critical review of previous research on topics relevant to pandemics, such as: risk management, social and cultural influence on behavior, communication science, moral decision-making, leadership, and

stress management. As a result, the authors recommended (to vaccination policymakers and the general public) a number of behavioral measures that may be suitable in the context of the COVID-19 pandemic (Bavel, *et al.*, 2020: 462):

1. playing on the card of “common identity” and acting for the common good;
2. identifying credible authorities in the community to share public health messages;
3. promoting cooperative behavior by emphasizing that cooperation is the morally right thing to do and that others are already cooperating;
4. combining the norms of pro-social behavior with the expectation of social approval from the authority;
5. emphasizing “bipartisan” support for measures against COVID-19 to reduce polarization and biased reasoning;
6. targeting information on public health towards marginalized communities;
7. sending messages that: (i) emphasize benefits to the recipient; (ii) focus on protecting others; (iii) align with the recipient's moral values; (iv) appeal to social consensus or scientific norms; and/or (v) emphasize the possibility of group approval;
8. developing people's awareness that they benefit from access to other preventive measures;
9. preparing people for disinformation and providing accurate information and counterarguments against false information before they encounter conspiracy theories, fake news or other forms of disinformation;
10. using the term “physical distancing” rather than “social distancing” because social connection is possible even when people are physically separated.

Some authors (Williams, Drury, Michie, Stokoe, 2021) point to the lessons we have learned or should learn during the COVID-19 pandemic: 1) **trust in the state (government)** is one of the strongest predictors of adherence to the prescribed measures and vaccination; 2) adherence to measures is not only a consequence of human motivations but also of **opportunities and abilities**, which particularly relates to socially and economically vulnerable groups, such as ethnic minorities; 3) **clarity and consistency of the vaccination policy and messages** are very important because people have to understand the rules of conduct, which means that the policy should be clearly formulated and communicated; 4) **preparedness for a pandemic should focus on protection, not on restrictions**, which particularly refers to financial and other support measures for working from home.

We may also single out the special book edition “*COVID-19 and Behavioral Science*” (Jackson, Steed, Pedruzzi, Beyene, Hai Yan Chan, 2022) which contains 34 articles on the use of behavioral insights in health care during the COVID-19 pandemic, divided into six thematic units: 1) Risk communication and public health messaging; 2) Public education and health literacy; 3) Community engagement; 4) Psychological impact of COVID-19; 5) Coping strategies and the COVID-19 pandemic; and 6) Adherence to public health preventive recommendations.

In addition to scientific and professional articles on this matter, there are numerous government and private agencies all around the world which were fully engaged during the COVID-19 pandemic. The most prominent Behavioural Insights Team (abbr. BIT) or the Nudge Unit published numerous reports, blogs, and podcasts on the COVID-19 issue.²¹ It is also worth mentioning some private non-profit organizations, such as Ideas42, with significant publication practice on this matter during the COVID-19 pandemic.²²

²¹ See: BIT webpage (2022), <https://www.bi.team/search/COVID>, accessed on 30 July 2022.

²² See: Ideas42 webpage (2022), <https://www.ideas42.org/covid19/>, accessed on 30 July 2022.

Finally, a review of the Serbian Citation Index (abbr. SCI)²³ indicates a prolific scientific publication on COVID-19 issues, mainly from the perspective of medical science, economics and other social sciences but there is a notable lack of behavioral studies on this matter. The first empirical research conducted in Serbia on the behavioural approach to the COVID-19 vaccination policy (Mojašević, Vučetić, Vučković, Stefanović, 2022) seeks to fill in this gap and popularize behavioral science in the field of health care during the COVID-19 pandemic.

4. IMPLICATIONS OF MANDATORY VACCINATION ON HUMAN RIGHTS

As a rule, the introduction of mandatory vaccination raises the question of the implications of such a vaccination regime on human rights, primarily the right to life, the right to respect for private life, the freedom of religion, and other rights (ECHR, 1950).²⁴ In this regard, on 17 June 2020, the European Commission (EC) adopted and published a special *EU Strategy for COVID-19 vaccines* (hereinafter: the EU Vaccines Strategy) for the purpose of vaccine development, production and application (EC, 2020a).²⁵ Based on the EU Vaccines Strategy, on 15 October 2020, the European Commission published a document called *Communication on preparedness for COVID-19 strategies and vaccine deployment* (hereinafter: the EC Communication) (EC, 2020b).²⁶ According to these documents, considering the country-specific demographics and epidemiological situations in different EU Members States, the EU cannot impose mandatory vaccination on its member states because the formulation of a national vaccination policy is the responsibility of each member states. The EU can only help them in their efforts to suppress the COVID-19 pandemic by proposing actions and setting the key elements for designing the vaccination policy, such as:²⁷

1. ensuring sufficient resources for the operation of vaccination services;
2. making the vaccines and vaccine services easily accessible, both in terms of affordability (free of charge) and physical proximity;
3. ensuring clear and timely access to information through relevant media;
4. observing the different characteristics of vaccines, specific storage and transport requirements;
5. labeling and packaging of multi-dose COVID-19 vaccines to facilitate production, distribution and deployment;
6. monitoring the performance of vaccination strategies by keeping relevant registries;
7. establishing an effective recall system for multi-dose vaccines;
8. promoting and creating public confidence in the vaccine by clearly communicating risks and benefits via relevant media and popular communication channels;

²³ See: Serbian Citation Index (SCI), accessed on 30 July 2022. <https://scindeks.ceon.rs/SearchResults.aspx?query=ARTAK%26and%26Covid%2b19&page=0&sort=1&stype=0>

²⁴ See: Articles 2, 8 and 9 of the European Convention on Human Rights (ECHR, 1950); https://www.echr.coe.int/documents/convention_eng.pdf

²⁵ European Commission/EC (2020a): EU Vaccines Strategy, Communication from the Commission to the European Parliament, the European Council, the Council and the European Investment Bank, Brussels, 17.6.2020; <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1597339415327&uri=CELEX:52020DC0245>; https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/public-health/eu-vaccines-strategy_en;

²⁶ European Commission/EC (2020b): Communication from the Commission to the European Parliament and the Council: Preparedness for COVID-19 vaccination strategies and vaccine deployment, Brussels, 15.10.2020; https://ec.europa.eu/health/system/files/2020-10/2020_strategies_deployment_en_0.pdf, accessed 30 June 2022.

²⁷ See: EC Communication (2020b: 6–11): Part 3. Elements for Effective COVID-19 Vaccination Strategies.

9. suppressing disinformation and misinformation on the vaccines through proactive approach, collaboration with EU and global actors (WTO), and providing clear, objective, accurate and timely information on the importance of COVID-19 vaccines, their safety and effectiveness in fighting the pandemic;²⁸
10. encouraging cooperation and collaboration of member states through discussions, exchange of information and sharing experiences in order to ensure the coordination of national responses to the pandemic (EC, 2020b: 6–9).

In this document, special attention was paid to priority groups,²⁹ such as: health workers, people over the age of sixty, patients suffering from chronic diseases, employees outside the health sector (educators, policemen, etc.), community members who cannot keep physical distance (factory workers, refugees, prisoners, and others), members of vulnerable socio-economic groups and other socially-deprived communities at higher risk (EC, 2020b:12).

From the human rights perspective, the introduction of compulsory vaccination³⁰ may be justified only if there is a legitimate aim. In case of a pandemic, the legitimate aim is the protection of public health by ensuring the development of collective immunity. At this point, it is important to make a subtle distinction. Namely, the state is obliged to protect the health of its population from indirect consequences of the pandemic (illness, death) but it has no right to protect people from their own “bad” choices that may affect their health. Practically speaking, the state cannot force those who do not want to get vaccinated to do so but, under specific circumstances, it can introduce compulsory vaccination if the functioning of the health system as a whole has been threatened. This brings us to the issue of *appropriate measures* to achieve the given goal: an **efficient** and **safe** vaccination. Vaccination is *efficient* if it prevents the disease, or at least its more serious progressive course, and its fatal consequences; it is *safe* if the expected benefit of vaccination is significantly greater than the associated risks. In addition, the introduction of a mandatory vaccination regime is based on two other conditions: **necessity** and **proportionality**. Mandatory vaccination is *necessary* if other less intrusive or non-intrusive measures, such as information campaigns, have not achieved the desired goal. It satisfies *the principle of proportionality*³¹ if there is a balance between the importance of the legitimate aim (health protection by creating collective immunity) and the intensity of the threat to human rights, which means that the life or health of the majority of people must be threatened to legitimately justify the introduction of this measure. Table 2 provides an overview of legal requirements for introducing mandatory vaccination.

²⁸ On 10 June 2020, the European Commission adopted a special document for this purpose. See: EC (2020c): Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee, and the Committee of the Regions: Tackling COVID-19 disinformation—Getting the facts right, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0008>

²⁹ EC Communication (2020b:11–13): Part 4. Possible priority groups for the initial phases of vaccine deployment.

³⁰ The following analysis of the aims and means of vaccination is based on: Reich, 2021, <https://www.liberties.eu/en/stories/mandatory-covid-vaccines-human-rights/43918>, accessed 5 August 2022.

³¹ For more details on the principle of proportionality in the legal field, and especially administrative law, see: (Lončar, Vučetić, 2013: 1617–1642).

Table 2 Legal requirements for introducing mandatory vaccination

	Legitimate aim	Condition I	Condition II	Condition III
Mandatory vaccination	protection of public health	appropriate means	necessity	proportionality
Description	collective immunity	effective and safe vaccine	other measures did not yield results	the proportion of the aim and the threat to human rights

Source: Reich, 2021 (table created by authors)

Given that the introduction of mandatory vaccination was the responsibility of each EU member state, there were only a few countries that introduced mandatory vaccination, but in different formats. At the outset of the COVID-19 pandemic in Europe, Austria was the first country that passed a law on mandatory vaccination for everyone over the age of 18 (in February 2020), but soon abandoned its implementation (in March 2020) (BBC, 2020).³² Some countries (France, Greece, Hungary, Italy, Latvia, and Poland) introduced mandatory vaccination for certain groups, such as healthcare workers or workers in long-term care facilities. Hungary introduced compulsory vaccination for the police, the army, the civil services, and the tax inspectorate, and employees in the public education sector; moreover, employers had the right to require workers to get vaccinated. In Latvia, vaccination was mandatory for employees and officials of state and local government institutions, educational staff, medical staff, security and rescue staff, prison staff and those working in specific private care institutions (ECDPR, 2022: 17).³³ Serbia, as a candidate country for EU membership, was not obliged to abide by the guidelines stipulated in the aforementioned EU documents. However, the presented requirements for introducing mandatory vaccination may be useful for further consideration of the Serbian policymakers in the process of devising a vaccination policy in case of future pandemics.

4. DISCUSSION AND CONCLUSION

This paper presents a summary of research that confirms the importance of behavioral insights in the design and implementation of vaccination policy during pandemics, including COVID-19. In addition, various paternalistic interventions are explained, according to their intensity, from anti-paternalism to behavioral regulation of externalities. The authors have supported libertarian paternalism, i.e., the nudge policy. It seems to be not only a compromise between the “extremes” (complete freedom and complete coercion) but also a policy that gains credibility through its effectiveness. However, the nudge policy is not monolithic and uniform, and it is certainly not a “panacea”. This policy includes various behavioral measures that vaccination policymakers can apply. As previously noted (Mertens, *et al.*, 2022), different levels of effectiveness of behavioral measures should be taken into account.

In that regard, considering the effectiveness of behavioral measures as well as the implications of mandatory vaccination on human rights, we recommend a *provisional*

³² BBC (2020): Covid: Austria suspends compulsory vaccination mandate; <https://www.bbc.com/news/world-europe-60681288>, accessed on 15 August 2022.

³³ See: European Centre for Disease Prevention and Control (2022). https://www.ecdc.europa.eu/sites/default/files/documents/Overview-of-COVID-19-vaccination-strategies-deployment-plans-in-the-EU-EEA-Jan-2022_1.pdf

mandatory vaccination (abbr. PMV). This implies that, in future pandemics, vaccination would generally be the default option³⁴ but people would be able to opt out; it means that citizens would be obliged to get vaccinated but they would also have the option (freedom) to abstain from vaccination. In order to preclude fast and easy decisions on abandoning vaccination, the state has to set some administrative “hurdles”, such as the duty to file a report justifying the reasons for the decision, which may be time-consuming and may entail some administrative costs. In this regime, people are free to choose but they have to “pay” a certain price for that freedom in the form of transaction costs (administrative hurdles and wasted time). In proposing this type of vaccination policy, we certainly acknowledge the fact that a pandemic is a strong externality which needs to be “regulated” in some way. However, the COVID-19 experience has revealed a significant resistance of people to vaccination, which can be partly attributed to their decision-making in conditions of fear, anxiety, uncertainty and “novelty” of the entire experience. For this reason, we abandon the behavioral regulation of externalities (which is the basis of compulsory vaccination). It seems to be most effective to regulate this matter in advance, before the onset of the next pandemic, so that people are not taken by surprise and the novelty of provisions. That is why we plead for *ex-ante* regulation in the form of prescribing mandatory vaccination but within the nudge policy framework, which protects the freedom of individuals.

Does this mean that the state should abandon anti-paternalistic policy as a non-intrusive policy model? The answer to this question is simple: anti-paternalism can be successfully combined with nudge policy. We do not consider that these two policies are in such a conflict as presented in some theoretical debates (Mitchell, 2004); in fact, we see compatibility and complementarity between the measures advocated in these policies. For example, the measures commonly used in the anti-paternalistic policy, such as educational campaigns and incentives including the reduction of information costs, are not inconsistent with the provisional mandatory vaccination policy. In any case, the stipulated legal requirements for introducing mandatory vaccination must be met, particularly the one regarding the vaccine safety and efficiency. If that requirement could not have been ensured (for whatever reason) during the COVID-19 pandemic, there should be no justification for not satisfying this requirement in future pandemics. In particular, it should be noted that communication with citizens is of key importance in ensuring the success, safety and effectiveness of vaccination. In this sense, expert opinions should be void of dissonant tones and experts should avoid sending contradictory messages to the public. However, it should be also borne in mind that even fully synchronized messages are most unlikely to have a positive effect on the proponents of conspiracy theories. From the behavioural science perspective, it is due to the receptivity of the fast and easy System 1 to conspiracy theories, i.e. the non-receptivity to scientifically based information (Salali, Uysal, 2020: 2). Only people who hesitate or have doubts about the vaccine may be influenced to change their stance towards vaccination.

Finally, it seems that the introduction of mandatory vaccination as the default option satisfies the principle of proportionality, in terms of the ratio between the legitimate aim and a risk of endangering human rights. It is legitimate to undermine human rights if the majority of the population is faced with a significant threat to public health. Yet, this conception has been a huge stumbling block for people and experts during the COVID-19

³⁴ It would exclude some vulnerable population categories, such as children, pregnant women, patients with chronic diseases, etc.

pandemic. For this reason, instead of fully compulsory vaccination, we propose provisional mandatory vaccination as the default option which includes the freedom to opt out. Such a provision may counterbalance the major argument that citizens are “forced” to act against their will, which would be unsustainable in terms of provisional mandatory vaccination.

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POLITIKA VAKCINACIJE PROTIV KOVIDA 19 I LJUDSKA PRAVA: BIHEVIORISTIČKI PRISTUP

U ovom radu autori ispituju implikacije različitih modela vakcinacije (obavezne ili dobrovoljne) na ljudska prava iz ugla biheviorističke nauke. U tom cilju, oni prvo nastoje da utvrde optimalan okvir politike vakcinacije polazeći od različitih oblika paternalističkih intervencija: 1) antipaternalističke politike, 2) politike usmeravanja, 3) prinudnog paternalizma i 4) biheviorističke regulacije eksternalija. Opredeljujući se za politiku libertarijanskog paternalizma (politiku usmeravanja), autori svoju tezu potkrepljuju brojnim istraživanjima o značaju biheviorističkih nalaza u kontekstu COVID-19 pandemije i vakcinacije. Potom se istražuju implikacije obavezne vakcinacije na ljudska prava i utvrđuju uslovi koji su potrebni za primenu modela obavezne vakcinacije. U zaključku autori povezuju ustanovljeni optimalan bihevioristički okvir sa uslovima za obaveznu vakcinaciju, iznoseći argumente u prilog uslovnoj obaveznoj vakcinaciji – onoj koja ne narušava slobodu izbora pojedinaca, ali sadrži elemenat obaveznosti.

Ključne reči: *politika vakcinacije, kovid 19, ljudska prava, biheviorističke mere.*