# Vaccination as a Matter of Security and Security Management in European Union

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#### Abstract:

**Purpose:** Due to pandemic Covid-19, health security has grown into a key sectoral security area, and the virus, itself, the threat it carries and the fight against it have been securitized. One of the threads that is securitized is the issue of Sars-CoV-2 vaccination. The research aims to present securitization process on that field using the case of institutions of European Union. **Design/Methodology/Approach:** The authors analyzes the documents issued or signed by the Health Security Committee and the statements of its representatives regarding the vaccination process, its importance and method of carrying out in terms of the relationship between this issue and ensuring security.

Findings: Vaccination against covid-19 is presented as a "security issue" and thus securitized. However, the process has several dimensions, the ways in which it is carried out and the goals that EU decision-makers want to achieve with it. The multi-level narrative and the ubiquitous language of threats make the administration of the dose of the vaccine much more important than just protecting one's own health, for which you can / should change the law, rules of the game and even influence the freedom of economic activity.

**Practical implications:** Making an issue a security issue through the process of effective securitization brings with it a social consent to special (extraordinary) actions by political decision-makers, which may have an impact on the functioning of societies, including the observance of their rights. Therefore, it is important to recognize such processes and prevent possible abuse of securitization processes.

*Originality/Value:* This is a complete research for the securitization process of the Sars-CoV-2 vaccination issue.

Keywords: Pandemic, security, security management, safety, vaccination, European Union.

JEL codes: H56, H84, I11, I12.

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#### 1. Introduction

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Vaccination against Sars-CoV-2 became the # 1 global issue in the fourth quarter of 2020, when BioNTech-Pfizer and Moderna were the first to submit their products for approval in global, united and local markets. Achieving "herd immunity" became a key challenge facing the international community in 2021. Soon, in the public discourse, there was a conviction that achieving this goal should be reached regardless of any costs, not just financial ones. Health security became for a while more important than military one.

Health security as a concept was first described by the United Nations in 1994 (UNDP Human Development Report, 1994) Since then, the term has been used to describe health problems that have a significant impact on human security (Scharoun *et al.*, 2002; Aldis, 2008; Chiu *et al.*, 2009). The term is usually used to describe situations where the health risks faced by an individual are strong enough to have an impact on the security of others and result in cross-border effects. The most frequently identified threats include: (1) new, hardly-known diseases with pandemic potential; (2) already known and future communicable diseases; (3) deliberate use of chemical and biological materials to destroy human health or life; (4) violence, conflict and humanitarian crises; (5) environ- mental change and natural disasters; (6) accidents involving chemicals and radioactive threats; (7) food insecurity, poverty (Chiu *et al.*, 2009).

The thematic areas of health security usually include: (1) protection against threats; (2) responding to new global circumstances and the resulting challenges; (3) involving new actors in preventing and combating health threats, including the military; (4) linking health issues to foreign policy and international relations. (Aldis, 2008) Each of them offers a considerable potential for securitization.

Pandemics, infectious diseases and bioterrorism are indisputably recognized as a direct threat to national and global security worldwide (Chan *et al.*, 2008; Chehabeddine and Tvaronavičienė, 2020). In the 1990s, the awareness of the threat of infectious disease outbreaks and their potential impact on the health of citizens, as well as the economic and political stability of countries encouraged Western governments to develop responses to such threats, perceiving them in terms of national security (Davies, 2008) rather than in medical terms, which were known earlier. As a result, "health-related challenges now constitute a part of national security strategies, regularly appear on the agendas of meetings of leading economic powers, they affect bilateral and regional political relations between developed and developing countries and influence UN reform strategies.

In spite of the fact that health has long been a concern of foreign policy, such importance is historically unprecedented" (Fidler and Drager, 2006). The past pandemics, including SARS, especially in the Asian countries, which were affected the most, were only a herald of the issues that the world had to face in the first quarter

of 2020 – already at that point, the issue of the virus was reported in terms of battles and wars.

Presenting the need for mass vaccination against infectious diseases as a security issue is nothing new and has not arisen until the covid-19 pandemic. Epidemics were recognized as a threat to global security several decades ago, and in the 21st century their importance only grew. Epidemic-prone infectious disease threats are regarded as have the potential to endanger lives and disrupt economies, travel, trade, and the food supply. Outbreaks do not respect national boundaries and can spread rapidly jeopardizing the health, security, and prosperity of every country (USAID, 2021).

Emerging infections have challenged national capacities to achieve and maintain global security. Immunization plays a critical role in preventing and mitigating infectious disease outbreaks, protecting the persons receiving the vaccination and, by interrupting the transmission of disease, the entire population (Dobrowolski, 2021). In today's interconnected world, where infectious diseases rarely stay contained within national borders, realizing global health security requires global immunization efforts to prevent infectious disease throughout the world (Ghedamu and Meier, 2019). This resulted in the development of international institutions and agreements in the field of global health policy (including vaccination policy) on the model of, for example, the proliferation of weapons of mass destruction (Andrus *et al.*, 2009; 2010).

Vaccinations have been recognized as such an important element of collective security assurance that it is recommended to carry them out even in areas of armed conflicts, in compliance with procedures prepared by UN agencies (Nnadi *et al.*, 2019). The limitations in access to vaccines, especially disclosed in the case of Covid-19, have brought into circulation such terms as vaccine diplomacy or vaccine apartheid and led to situations such as attempts to theft of vaccine production technology (Reuters, 2021). All indicated aspects, combined with the public discourse on vaccines, their availability, the vaccination process and obtaining herd immunity contribute to this issue from the perspective of the securitization process.

### 2. Securitization as a Process of Constructing Categories of Security

The theory of securitization developed by the Copenhagen School is based on three key elements – existential threat, extraordinary measures needed to combat threat and the acceptance of the "public" (usually tantamount to society or part thereof). In order for threats to be considered security issues, they must meet a certain set of criteria "which distinguish them from the normal course of purely political issues" (Hough, 2014). The process of creating a security threat takes place through "acts of speech" which highlight the danger associated with the issue, raise its political profile and justify the need for exceptional measures (Vogler, 2013). In the first phase (identification), the issue is identified as a threat, in the next phase (mobilization) a request for emergency action is made (Roe, 2008).

This act involves two key players, the elite, who handle the securitization and who are responsible for presenting the issue at hand through the lens of securitized conditions, and the general public, which justifies securitization of the threat and the need for exceptional measures (Oels, 2012)

"Identifying an issue as a security issue makes it such," Ole Waever claimed (2004). Interestingly enough, he simultaneously believed that securitization is a failure – it means that the problem could not be solved by means of standard policies and it required an intersubjective construct of an existential threat, requiring emergency measures, threatening the annihilation of the state or society, as well as its sovereignty and identity. In other words, it requires transferring the phenomenon or issue from the area of ordinary politics to the area of the most pressing existential threats (Buzan and Waever, 2003). Waever believed that it was only the de-securitization occurring when the extraordinary measures cease to apply and the return of the securitized issue to the field of normal policy, which can be perceived as a positive phenomenon.

#### 3. Materials and Methods

The first stage of the research identified areas where the discussion about vaccination against covid-19 and possible forms of its securitization is underway. The discourse included such aspects, as: (1) security of vaccine supplies, (2) vaccine as a safe product, (3) "herd immunity" as a global security ssue, (4) vaccination as caring for the safety of others (responsibility) and (5) vaccination as a personal security passport.

In the second stage of research authors analyze documents issued or signed by the institutions of European Union (Commission, Parliament and Health Security Committee), the statements of its representatives regarding the vaccination process, its importance and method of carrying out in terms of the relationship between this issue and ensuring security. The author provides a qualitative content analysis using the ATLAS TI program. The following documents were analyzed:

- [1]. EC Questions and answers: Conditional Marketing Authorisation of Covid-19 Vaccines in the EU (issued 11.12.2020).
- [2]. EC Questions and answers on vaccine negotiations (issued 8.01.2021).
- [3]. EC Factsheet: Covid-19 vaccines: Making sure they are safe (12.2020).
- [4]. EC Factsheet: Covid-19 vaccines: How are they developed, authorised and put on the market? (12.2020).
- [5]. EC Factsheet: Securing future Covid -19 vaccines for Europeans (01.2021).
- [6]. EC Press release: Commission proposes to purchase up to 300 million additional doses of BioNTech-Pfizer vaccine (issued 08.01.2021).
- [7]. EC Press release: Coronavirus: Commission concludes exploratory talks with Valneva to secure a new potential vaccine (issued 12.01.2021).
- [8]. EC Press release: European Commission authorises third safe and effective vaccine against Covid -19 (issued 29.01.2021).

- [9]. EC Press release: New EU programme to support readiness for vaccination efforts in Eastern Partnership countries with WHO (issued 11.02.2021).
- [10]. EC Press release: Coronavirus: Commission approves second contract with Moderna to ensure up to additional 300 million doses (issued 17.02.2021).
- [11]. EC Press release: EU doubles contribution to COVAX to €1 billion to ensure safe and effective vaccines for low and middle-income countries (issued 19.02.2021).
- [12]. EC Press release: Commission extends transparency and authorisation mechanism for exports of Covid -19 vaccines (issued 11.03.2021).
- [13]. EC Press release: Coronavirus: a common path to Europe's safe re-opening (17.03.21).
- [14]. EC Press release: Coronavirus: Commission proposes EU Strategy for the development and availability of therapeutics (6.05.2021).
- [15]. Press statement by Commissioner Kyriakides on vaccine deliveries and on the vaccine export transparency scheme (25.01.2021).
- [16]. EC Speech: Remarks by Commissioner Stella Kyriakides in the Plenary of the European Parliament on the EU Vaccine Strategy (10.02.2021).
- [17]. EC Communication from the Commission to the European Parliament, the EC, the Council and the European Investment Bank. EU strategies for COVID-19 vaccines. (17.06.2020).
- [18]. EC Decision of 18.6.2020 approving the agreement with Member States on procuring Covid-19 vaccines on behalf of the Member States and related procedures.
- [19]. Annex to the Commission Decision of 18.6.2020 on approving the agreement with Member States on procuring Covid-19 vaccines on behalf of the Member States and related procedures (18.06.2020).
- [20]. EC Communication from the Commission to the European Parliament and the Council. Preparedness for Covid-19 vaccination strategies and vaccine deployment (15.10.2020).
- [21]. EC Communication from the Commission to the European Parliament, the European Council, the Council. A united front to beat Covid -19 (19.01.2021).
- [22]. EC Decision of 15.12.2020 on implementing Advance Purchase Agreements on Covid -19 vaccines.
- [23]. EC Statement: Statement following the European Medicines Agency review of the Covid 19 vaccine AstraZeneca (18.03.2021).
- [24]. Advance Purchase Agreement for the development, production, advance purchase and supply of a Covid-19 vaccine for EU Member States (SANTE/2020/C3/049).
- [25]. EC: O&A on Covid -19 vaccination in the EU.
- [26]. European Medicines Agency: Covid -19 vaccine safety update, (28.01.2021).
- [27]. Statement by President von der Leyen at the joint press conference with President Michel, following the videoconference of the members of the EC (25.02.2021).

- [28]. EC: Statement by President von der Leyen at the Read-out of the College meeting/Press conference on the Commission's response to Covid-19 (issued 17.03.2021).
- [29]. WHO Europe Leaflet: EU-WHO action to support deployment of Covid-19 vaccines and vaccination in Eastern Partnership countries, 2021-23 (issued 03.2021).

## 4. Results and Findings

In the period from autumn 2020 to spring 2021, the institutions of the EU issued a number of documents and statements regarding vaccination against COVID-19. They form a coherent narrative in which the vaccine itself, as a medical product, as well as the process of obtaining and distributing it, as well as its availability to citizens in the shortest possible time, were considered crucial tools to ensure a safe return to the prepandemic situation. The analyzed materials directly speak of vaccination as the key to health safety of Europeans. In order to ensure health safety and return to normalcy, EU institutions point to the need to apply extraordinary measures, such as co-financing of vaccine research, their joint purchase and joint distributions.

In the discussed material, the narrative of EU institutions focuses on two aspects: actions to ensure that the vaccine - as a medical product - is safe and effective (in that order) and to ensure its availability for the EU and the rest of the world, including in particular neighboring, associated countries, important from the point of view of EU member states (e.g. due to economic relations). *Vaccination, once a safe and efficient vaccine is available*, will play a central role in saving lives, containing the pandemic, protecting health care systems, and helping restore our economy. [20]

In order to efficiently implement the set tasks, the EC has prepared a special document: EU strategies for COVID-19 vaccines [17], which contains the main assumptions of actions in this area. It speaks of An urgent need for action and key objectives: (1) Ensuring the quality, safety and efficacy of vaccines; (2) Securing timely access to vaccines for Member States and their population while leading the global solidarity effort; (3) Ensuring equitable access for all in the EU to an affordable vaccine as early as possible. As a way to achieve these goals, strategy indicates two actions to take: (1) Securing sufficient production of vaccines in the EU and thereby sufficient supplies for its Member States; (2) Adapting the EU's regulatory framework to the current urgency and making use of existing regulatory flexibility to accelerate the development, authorisation and availability of vaccines while maintaining the standards for vaccine quality, safety and efficacy. [17] As Stella Kyriakides assures: vaccinations are a common path to Europe's safe re-opening (...) tool for our goal of re-opening the EU in a safe, sustainable and predictable way (...)return safely to full free movement in the EU.[13] The vaccines against the pandemic are the key to unlock the door out of this crisis [16], common path to a gradual, safe and lasting reopening. [28] Vaccinations save lives [14].

The extraordinary nature of actions to ensure the safety of Europeans is a key point in the narrative. One can indicate among them:

- Research funding and support for the rest of the world: Team Europe has mobilised €853 million in support of COVAX, the global initiative to ensure equitable and fair access to safe and effective vaccines [21].
- Joint actions of member states (solidarity instead of selfishness): the Council of Ministers for Health agreed on the need for joint action to support the development and deployment of a safe and effective vaccine against COVID-19 by securing rapid, sufficient and equitable supplies for Member States [18].
- Securing access to vaccines: The European Commission is building one of the broadest portfolios of different vaccines that are safe, effective and affordable (...) not only for Europeans [5].

The documents devote a lot of space to the safety of the vaccine itself. Factsheet Making sure they are safe [3] highlights, that The safety and effectiveness of authorised COVID-19 vaccines will be rigorously monitored, as for all medicines (...) Europe already has a robust system to ensure long-term vaccine safety, and the European Medicines Agency has a solid track record in keeping Europe safe. Constant large-scale monitoring, maximum transparency and additional regular updates summarizing safety reports are mentioned as standards for the implementation and use of the vaccine. Documents say that vaccines against Covid-19 will meet the same high standards as all other vaccines. (...) The safety and effectiveness of vaccines which have received conditional marketing authorisations are rigorously monitored, as for all medicines, through the EU's established medicines monitoring system. [4] Similar terms in the context of the vaccine are presented in other analyzed documents: Independent scientific safety, efficacy and quality assessment (authorisation for the vaccine), assesses the safety, efficacy and quality of the vaccine, specifically designed to enable marketing authorisations as quickly as possible, post-authorisation safety and safeguards and controls, will help characterize the safety and efficacy of the vaccine along its life cycle, monitoring all reported suspected adverse reactions. [1] Benefits of vaccination are greater than any risks from the vaccine - points out by the EC in a widely distributed document Ouestions and answers: Conditional Marketing Authorisation of COVID-19 Vaccines in the EU (...) **The monitoring of the safety and effectiveness** of vaccines after authorisation is a requirement under EU law [1] The intention of the Commission is to ensure that the population in the EU will be able to access a vaccine in sufficient quantities and at a fair price, but also in safe conditions. The vaccine should only be available to the population once its safety and efficacy will have been cleared by the competent regulatory bodies. [24] When EC announced, that has authorised third safe and effective vaccine, The President of the EC, Ursula von der Leyen, said: Securing safe vaccines for Europeans is our utmost priority. [8] Security and trust in vaccines is key for vaccinations. The priority of the Commission has always been the safety and the efficacy of any COVID-19 vaccine authorised for use in the EU. [23]

A list of key words/ phrases constructing the discourse in the field of vaccination was also created. It included: to secure (noun), secure (adj.), safe (adj.), public security, threat, crisis, global problem, pandemic, special, urgent, emergent, monitor, control.

#### 5. Discussion

The analysis of selected documents shows that the European Union has one coherent narrative about vaccines, and safety is one of the key words here. Vaccines must be safe and effective and secured for all who wants to get them, not only Europeans. Immunization is a key step to re-opening of Europe, so its significance for the future of the states of the community goes beyond health security. The pandemic is an extraordinary threat that has changed the functioning of the entire world, including the EU.

Overcoming this threat is a key task for the Union and the Member States and it should be pursued by all possible means, including non-standard ones (eg financing research conducted by private companies). It is also required to make (public) citizens accept the chosen strategy of fighting the pandemic, so they will want to get vaccinated on a large scale, which will result in the production of immunity herds. For this to happen, everything must be done to convince them that the vaccine is not only effective, but above all safe. Thus, the EU institutes used the securitization process to stop a pandemic with mass preventive vaccinations. The applied securitization process -including vaccination in the sphere of security in order to authorize the use of extraordinary measures to combat an extraordinary threat - is presented in Figure 1.

Figure 1. Immunization as a matter of security – process of securitization.

EXISTENTIAL \*pandemic coronavirus and its mortality



Source: Own study.

The securitisation of the pandemic by the institutions of the European Union was a deliberate procedure aimed at giving these institutions and – indirectly – the Member States the possibility of extraordinary actions, including bypassing procedures (e.g. direct financing of the activities of pharmaceutical companies) and limiting civil

liberties (privileges for vaccinated EU citizens). This situation, like the pandemic that led to it, was extraordinary and unprecedented in the history of not only Europe but also the world. Once again – as Waever argued – calling something a security issue makes it part of the issue and allows it to operate outside the rules of normal policies.

## 6. Summary and Concluding Comments

Securitization is a process aimed at raising the rank of a problem in the public awareness by presenting it as an existential threat to the safety of the "public" (societies, social groups, collectives). It is applied to aspects that, in the opinion of the securitization entity, do not receive sufficient attention, be it societies or policy makers. It is therefore a way of putting pressure on them to bring about specific results. Most often it is precisely the application of exceptional measures to solve the problem faster than in the case of the "normal path". When this occurs, it is natural to desecuritize and return the matter to the category of "normal politics" or possibly "riskification" (Corry, 2012).

Critics of the Securitization Theory point out that such an approach leads to abuse and devaluation of security. One of them, Rita Floyd (2010; 2015; 2019), suggests Just Securitisation Theory (JST), in which she points out that the existential threat may not be tantamount to every single issue brought up by the securitising entity, and that only objective threats can be considered existential (based on the studies of the sincerity of potential aggressors) (Floyd, 2015). Here, Floyd refers to the conclusion of another critic of Buzan and his colleagues, Thierry Balzacq (2011), who noted that while it is difficult to identify objective threats to security, objective existential threats can be listed rather easily and successfully.

Secondly, according to Floyd (2015), it does not matter whether the recipients of the act of speech (the securitisation movement) accept it or not (which was crucial for the Copenhagen School) because in this case, action is the key – in other words, the security practice and the implementation of specific policies, rather than accepting their descriptions (Floyd, 2010).

In the light of this theory, is securitization of the pandemic problem through mass vaccination "just"? There is no doubt that a pandemic can be regarded as an objective existential threat, judging by the effects it has experienced. You can also indicate the elements of "security practices", and thus the actions taken to contain the threat. Thus, the securitization process carried out by the EU institutions fits both classic and new models of its implementation.

#### **References:**

Anand, S. 2002. The concern for equity in health. Journal of Epidemiology and Community

- Health, 56, 485-487.
- Andrus, J.K. 2013. Advocating for equity through immunization. In: Berman S., Palfrey J.S., Bhutta Z., Grange A.O. (Eds.). Global child health advocacy. Washington DC: American Academy of Pediatrics, 73-82.
- Andrus, J.K. 2020. Immunization, surveillance, and the global health security agenda: historical perspectives and implications for national immunization programs. Cad. Saúde Pública, 36 supl. 2.
- Andrus, J.K., Aguilera, X., Oliva, O., Aldighieri, S. 2010. Global health security and the international health regulations. BMC Public Health; 10 Suppl: 1 S2.
- Andrus, J.K., de Quadros, C., Matus, C.R., Luciani, S., Hotez, P. 2009. New vaccines for developing countries: will it be feast or famine? American Journal of Law & Medicine, 35, 311-322.
- Aldis, W. 1991. Health security as a public health concept: a critical analysis. Health Policy Planning, 23, 369-375.
- Balzacq, T. (ed.). 2011. Securitization theory. How security problems emerge and dissolve. London and New York: Routledge.
- Barr, H., Macfarlane, J., Macgregor, O. 2008. Ethical planning for an influenza pandemic. Clin Med, 8(1), 49-52.
- Bennett, B., Carney, T. 2010. Law, ethics and pandemic preparedness: the importance of cross-jurisdictional and cross-cultural perspectives. Australian and New Zealand Journal of Public Health, 34(2), 106-112.
- Buzan, B., Weaver, O. 2003. Regions and Powers: The Structure of International Security. Cambridge, Cambridge University Press.
- Chan, M., Støre, J.G., Kouchner, B. 2008. Foreign policy and global public health: Working together towards common goals. Bulletin of the World Health Organization, 86(7).
- Chehabeddine, M., Tvaronavičienė, M. 2020. Securing regional development. Insights into Regional Development, 2(1), 430-442. http://doi.org/10.9770/IRD.2020.2.1(3).
- Chiu, Y.W., Weng, Y.H., Su, Y.Y., Huang, Ch.Y., Chang, Y.Ch., Kuo, K.N. 2009. The nature of international health security. Asia Pacific Jour of Clinical Nutrition, 18(4), 679-683.
- Corry, O. 2012. Securitisation and 'Riskification': Second-order Security and the Politics of Climate Change. Millennium: Journal of International Studies, 40(2), 235-258.
- Davies, S. 2008. Securitizing infectious disease. International Affairs, 84, 295-313.
- Dobrowolski, Z. 2021. The Strategy of Vaccination and Global Pandemic: How Framing May Thrive on Strategy During and After Cov-19. Europea Rese Stud Jour, 24(1), 532-541.
- Fidler, D.P., Draeger, N. 2006. Health and foreign policy. Bulletin of the WHO 84.
- Floyd, R. 2010. Security and the environment: securitization theory and US environmental security policy. Cambridge: Cambridge University Press.
- Floyd, R. 2015. Extraoridinary or oridinary emergency measures: what and who defines the "success of securitization? Cambridge Review of International Affairs, 29(2), 677-694.
- Floyd, R. 2019. The Morality of Security. Cambridge: University Press.
- Ghedamu, T.B., Meier, B.M. 2019. Assessing National Public Health Law to Prevent Infectious Disease Outbreaks: Immunization Law as a Basis for Global Health Security. The Journal of Law, Medicine & Ethics, 47(3), 412-426.
- Giles-Vernick, T., Craddock, S. (Eds.). 2010. Influenza and public health: learning from past pandemics. London, Earthscan.

- Global Health Security Agenda: GHSA Immunization Action Package. 2014. https://www.cdc.gov/globalhealth/security/actionpackages/immunizationap.htm.
- Henderson, D.A. 1998. Eradication: lessons from the past. Bulletin of the World Health Organization, 76 Suppl 2, 17-21.
- Hough, P. 2014. Environmental Security: An Introduction. London, Routledge.
- Hussain, S.F., Boyle, P., Patel, P., Sullivan, R. 2016. Eradicating polio in Pakistan: an analysis of the challenges and solutions to this security and health issue. Global Health, 12.
- Kotalik, J. 2005. Preparing for an influenza pandemic: ethical issues. Bioethics, 19(4), 422-431
- Nnadi, C., Etsano, A., Uba, B., Ohuabunwo, C., Melton, M., Wa Nganda, G., Esapa, L., Bolu, O., Mahoney, F., Vertefeuille, J., Wiesen, E., Durry, E. 2017. Approaches to Vaccination Among Populations in Areas of Conflict. Jou Infe Dise., 216(1), 368-372.
- North Korean hackers tried to steal Pfizer vaccine know-how, lawmaker says. Reuters. Healthcare & Pharmaceuticals, February 16, 2021.
- Oels, A. 2012. From 'Securitization' of Climate Change to 'Climatization' of the Security Field: Comparing Three Theoretical Perspectives. In: J. Scheffran, M. Brzoska, H.G. Brauch, P.M. Link, J. Schilling (Eds.), Climate Change, Human Security and Violent Conflict. Springer, 185-205.
- Sander, B., Bauch, C.T., Fisman, D. 2010. Is a mass immunization program for pandemic (H1N1) 2009 good value for money? Evidence from the Canadian experience. Vaccine, 28(38), 6210-6220.
- Scharoun, K., van Caulil, K., Liberman, A. 2002. Bioterrorism vs. health security crafting a plan of preparedness. Health Care Management, 21, 74-92.
- Torrie, C., Yanicki, S., Sedgwick M., Howard, L. 2021. Social Justice in Pandemic Immunization Policy: We're all in this together. Nursing Ethics. February.
- United Nations. 1994. United Nation Development Programme (UNDP).
- United States Aid (USAID). 2021. Global health security.
- Waever, O. 2004. Aberystwyth, Paris, Copenhagen. New Schools in Security Theory and their Origins between Core and Periphery. www.polsci.ku.dk/people/faculty/~Waever\_Ole.htm.