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Cover Story

Pandemic Prevention Strategies

(You Gotta) Fight for Your Right (to Party!)?

COVID-19 'Immunity Passports' through ethical lens

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The possibility of introducing the so-called COVID-19 'immunity passports' has been widely discussed in the recent months. It is, however, undermined by the lack of consensus on countless fundamental issues, such as immunity, effectiveness of antibody testing or the balance between individual liberties and public health safety. An ethics expert questions the legitimacy of such an approach in the current circumstances.

Key Points

- The COVID-19 pandemic has a much greater impact than past epidemics, especially because there is still no consensus on its characteristics and the relevant public health measures.
- Despite the widening availability of antibody tests and their increasing sensitivity and specificity, they do not equal an 'immunity certificate.' The balance of benefit and damage is yet to be achieved.
- It is not unlikely that the immunity passport concept implies false incentives, such as unfounded overconfidence or deliberate abuse of the system.
- An insurance for immunity and infectiousness is not possible today and is also a fundamentally problematic concept in the context of medical statements.
- As a result, there is no consensus on whether immunity passports are legitimate. Regardless, they must not lead to discrimination or stigmatisation, convincing arguments for the introduction are hard to find.

"That hypocrite smokes two packs a day."
Beastie Boys

Freedom Through Immunity?

SARS-CoV-2 is special, not only for medical but also for sociological reasons. In a recent tweet Dr Nahid Bhadelia, MD nailed it for me: "This isn't the common cold. And it isn't Ebola. It's harder to tackle COVID-19 because it's in the between space. Society doesn't know how to handle the risk that does nothing to some & takes everything from others. It's testing our individual focused post-modern culture." Of course, SARS-CoV-2 is part of basic biology, but humanity seems to be more fundamentally overburdened by dealing with the pandemic than with pandemic crises of past ages.

This is not least due to the fact that, despite the well-known family of coronaviruses, immunity, infectivity, disease and, ultimately, vaccination cannot be clarified in the shortest possible time to such an extent that clear, hardly controversial measures on the political level can be derived from them and convincingly represented. On the contrary, SARS-CoV-2 appears to be a moving target. Our learning curve is rising impressively in the sphere of science as well as in the sphere of clinical care and everyday handling. However, the continuing dynamics of findings, decisions and measures,

and adjustments of those are overstretching the people in the states characterised by individualistic hedonism to an extent that should not be underestimated. Even if the states are dealing with the pandemic with varying degrees of success, there is still no consensus on what exactly makes the pandemic control successful. Is it low death rates, low infection rates, low growth rates, progress in the development of a vaccine, successful education of the population, good commitment of the population in the implementation of the appropriate measures, support for the economy and its effects, or something else?

There is a clear tension between the concept of freedom that is an essential task of the state to preserve in peace, and the security of citizens in public healthcare. Security and freedom are currently in a special debate, if freedom could to some extent be linked to personal immunity. The question of how, and if, the so-called 'immunity passports' could be a legal, legitimate and effective measure in the interests of public health and fight against SARS-CoV-2 and COVID-19. Above all, the ethical dimension of this question is of such complexity that the German Ethics Council has initially requested more time from the Federal Government before it can comment on the ethical issues of an immunity passport (for examples of the debates in Germany see Ulrich 2020. With the 'Corona-Warn-App' launched on 7 July 2020, this topic has once again moved into the public focus, e.g. Heinemann and Heckmann 2020; Persad and Emanuel 2020; WHO 2020).

Descriptive and Normative Challenges*

A whole range of different SARS-CoV-2 antibody tests are now available (Kontou et al. 2020; U.S. Food and Drug Administration 2020; Kohmer et al. 2020), which not only provide increasingly reliable results in terms of accuracy (sensitivity) and statement quality (specificity) but can also be performed in highly automated systems. With regard to the tested individual, however, even with specificities of 99.8%, which some antibody tests now provide, the question of positive predictive value arises. Do they not also measure coronavirus antibodies other than those of SARS-CoV-2 and are the results really reliable? This question is, of course, relevant for the tested individual. Nevertheless, a *carte blanche* in the sense of an 'immunity certificate,' which must be evaluated ethically and critically anyway, cannot be given with a simple antibody test. This cannot be the goal, and for a good reason.

The goal is to obtain a good epidemiological assessment for political decisions, and for this purpose, the data are certainly precise enough. With the rates of infection increasing, the positive predictive value for the individual will also increase and thus in the end even enable a reliable statement. To achieve this, however, a lot of testing is required. And so, what Weinstein and colleagues recently formulated in connection with waiting for safety of SARS-CoV-2 antibody tests applies: "There is no such thing as a 100% safe bet. Let's not permit an unattainable ideal to be the enemy of a very good option that we currently have" (Weinstein et al. 2020, p. 3). Already in April WHO summarised: "At this point in the pandemic, there is not enough evidence about the effectiveness of antibody-mediated immunity to guarantee the accuracy of an 'immunity passport' or 'risk-free certificate.' People who assume that they are immune to a second infection because they have received a positive test result may ignore public health advice. The use of such certificates may therefore increase the risks of continued transmission" (WHO 2020). Initiatives in research and public health are increasingly available to address this challenge.

The idea of safety, as Weinstein et al. (2020) further explain, is a category that can only be used to a limited extent for the tradition, topicality and future of evidence in medicine in general, at least if it is meant to be 100% accurate. No diagnosis, no therapy has an accuracy of 100%, and according to the core principle of medical ethics, to avoid harm, one always chooses the option that has a more likely benefit and generates the least possible harm. It is much more reasonable to conduct an explicit inventory of benefit and harm, whereby four independent pieces of information must be weighed against each other when evaluating serological tests as a basis for the reintegration of persons into the labour market or special protection policies for vulnerable target groups.

A *carte blanche* in the sense of an 'immunity certificate' cannot be given with a simple antibody test

The prevalence of SARS-CoV-2 antibodies in the population has to be better understood and the performance of serological tests in terms of their sensitivity and specificity has to be significantly improved. Another question is how exactly SARS-CoV-2 antibodies confer immunity and, in particular, the relationship between the SARS-CoV-2 antibody level and the resulting accuracy and persistence of the present immunity.

Let us not forget the question of what it means if a PCR test is positive. The so called Ct value measures the

multiplication of the virus genome and at a high value the COVID-19 test is positive, but the patient is probably no longer highly infectious. This value is always measured, so far a limit of 30 is discussed as Ct value. However, it is clear how important the details of the tests are; precision is not always an advantage, it depends, as with any information, on what is actually measured with what objective. A shorter quarantine would be conceivable on the basis of such considerations, for example, and would probably be much easier to communicate to the public.

The question raised by Weinstein et al., i.e. the offsetting of damage and benefit in this almost utilitarian form, will not be resolved ethically and practically. It is correct, however, to point out that it is necessary to take a well-balanced risk when weighing up benefit and damage, and to be prepared in principle to allow for as little error as possible in exchange for the even more serious error of not testing at all or not testing enough for SARS-CoV-2 antibodies.

When one thinks back to the first HIV antibody tests, it is basically the same as it is today with SARS-CoV-2 antibody tests, whereby today's HIV antibody tests come close to the desired 99%+ specificity. It is not unlikely that SARS-CoV-2 antibody tests, provided that the testing is sufficiently broad, can also achieve this leap in quality and in a much shorter time. Andersson et al. (2020) come to the following conclusion after critical evaluation, with reference to the situation in England: "Monitoring the COVID-19 epidemic is important. The only current justification for large-scale SARS-CoV-2 IgG antibody testing is for research purposes, including public health surveillance to inform epidemiology. This should be done through carefully designed studies with clear objectives, sampling frames, inclusion criteria, and consent procedures. Without this framework, it will be difficult to interpret the results of *ad hoc* patient testing, and their applicability will be uncertain" (pp. 1-2).

An immunity passport is most likely associated with false incentives. On the one hand, it is an incentive not to continue to protect oneself sufficiently, and thus to take an infection risk for oneself and others in the unlikely event of a false negative test result. For the false positive case, quarantine is still the least dramatic and, eventually, unnecessary measure, but it becomes more critical if incorrect treatments are used. In addition, there could be an incentive to deliberately infect oneself (especially if there is a justified or unfounded suspicion that one does not have to expect a serious course of the disease) in order to be able to claim possible perks of an immunity passport, either professionally or privately.

Of course, parties, understood here as a catchword for the characterisation of certainly initially justified claims to an individual lifestyle within the framework of the legally permissible and certainly also part of a specific form of essential urban culture of experience, are not *per se* an irrelevant part of life (not to speak of the live-communication and entertainment industry, which faces major challenges that are ruinous and can also mean the loss of personal economic existence for many employees). And yet, celebrating is not a human right. The protests against the corona rules in Germany show that a right to party – understood here, of course, as a metaphor for the desire for 'normality' in lifestyle – could indeed be a sufficiently strong incentive to interpret an immunity passport in a direction that is no longer appropriate for the holder with positive results. For people currently going, again and again, to partly uncontrolled demonstrations against the 'corona fraud,' a basic inclination to consciously accept an infection is to be assumed, since serious consequences are not believed in anyway and low-threshold measures, such as the wearing of mouth-nose protection masks, are already evaluated as an inadmissible interference with the liberty rights.

There is an exhausting tension between the concept of freedom and the security of citizens in public healthcare

The abuse in handling immunity passports might be very high. Only in the event that the pandemic would have succumbed to a vaccination campaign would discrimination be less likely, since personal immunity could be achieved without negligently taking a risk for oneself and others. In this case, an immunity passport would be identical to vaccination cards already widely used today (also for entry, for example) and would be less interesting as a tool for problem-solving in the event of a pandemic.

The exciting potential of immunity passports is certainly the idea of being able to use immune persons in a (also and especially medical) profession without risk. The broadly existing desire to overcome not only the professional but also the private restrictions and to go back to aerosol-driven, superspreader-endangered places like bars, parties, shows, churches (not to speak of risk-free schools or universities) or whatever else corresponds to one's lifestyle without risk of infection seems to be very seductive. This could lead to a run for antibody testing, which on the one hand would have to be financed (which under certain circumstances could also be done privately), and on the other hand put a heavy strain on

the testing capacities of the laboratories. Valid antibody tests with high specificity and sensitivity even at low prevalence are conceivable, but we are not there yet. This would require much more widespread testing. Especially since it can be asked whether the same purpose could not be achieved with other, ethically less controversial means, namely an at least gradual improvement of the low-risk application possibilities for at least some occupational groups. Only mass testing, while maintaining the selected test system, can provide data on the prevalence measured with that system. In addition, only mass testing can provide any results at all due to the currently very low prevalence (in Germany); at a prevalence of less than 1%, small test collectives are pointless (Zeiler and Heinemann 2020). Even with 2%, two out of three immunity passports would be incorrect and thus endanger people. Private antibody tests, whose results would neither be data protected nor statistically evaluable (since only the private testers would see the data, comparable to a rapid pregnancy test), would not be an advantage for a pandemic control strategy and are therefore rather critical.

Current developments of the antibody point-of-care rapid test are shortly before market launch. Even without an immunity passport, anyone can already buy a more or less good antibody test privately – even online – and realise their possible right to knowledge in this way (Vakharia 2020). At least to a certain extent, because too little is known about reinfection.

But even without an immunity passport, which would have to be issued by the authorities to prevent abuse through private, non-transparent and misleading offers, the education of the population would be essential, because education about what a certain immune status now means or not in terms of personal protection is essential. Unfortunately, the argument that a great deal can be achieved together in terms of mutual protection through masks, distance and hygiene seems to presuppose too much solidarity, so that individual solutions may be preferred. And this certainly includes individual, inexpensive and readily available tests, but these must also be objectively convincing and classified in a way that guides the actions of the individual person. It is still far too uncertain to talk about personal immunity (and infectiousness), let alone how effective it is and for how long it lasts. Immunity passports, which would probably be digital if they were actually introduced, are also being discussed to revive travel. So many advantages could as a result also drive another server form of fraud, identity theft.

A further, secondary, conceivable problem with immunity passports is also on the allocation level, the question of allocation criteria to avoid privileges is here as well. The test capacities for antibody tests are considerable, but never so large that all residents could be tested at once. The question therefore arises as to who may and who may not enjoy the privileges potentially associated with a test first. Regulations analogous to those that are important for the distribution of the vaccine should be discussed here. Ultimately, the ethical problem is similar for antibodies and the actual disease test. The question always arises as to who may or even has to deduce what consequences from the result for what legitimate reason.

All in all, an immunity passport would be more likely to lead to unsolidary behaviour. Moreover, the measures, which are already difficult to mediate, would be even more difficult to enforce, since two classes of persons would be confronted with the measures, the immune and the non-immune ones. The individual risk of committing to wearing a mask, keeping distance and maintaining hygiene, even if all these measures were ultimately useless, should be significantly lower than the humanitarian and social risk of the pandemic – if it makes sense to protect oneself and others in a low-threshold manner. Many people are closed to this simple risk logic, and an immunity passport should not support the risk logic. A SARS-CoV-2 infection, like other diseases or precursors to diseases, must not lead to discrimination, not even stigmatisation. “Stigma as well as other harms could potentially negatively impact a person’s employability, promotability, insurance rates, access to housing, etc. These ethical concerns heighten the need for policy advisors to reflect beyond the science when they consider enacting antibody passports” (Bramstedt 2020, p. 3).

In the case of immunity passports, would wages rise for employees who can show a positive passport? From a market perspective, perhaps, but from the perspective of cognitivist ethics, this case should be avoided. The universalisability of ethical values is also valid in the pandemic. A so to speak immunological distortion of the social contract would only be legitimisable if higher goods were preserved in the sense of a material hierarchy of values through immunity passports. This requirement arises from the ethical demand for solidarity and dignity, also and especially in liberal societies. The simultaneous demand for security does not, firstly, descriptively exclude this because, as seen, there are many difficult incentive traps (not to mention legal challenges). Moreover, it is difficult to justify in normative terms why natural or even artificial immunity should in any way create special rights (e.g. to party). Rather, acceptable advantages are conceivable with a priority consideration of special occupational groups with high risk as in medical care, which is an analogous allocation challenge with a possible vaccination. Immunity passports have the potential to do more harm than good (also see Zeiler and Heinemann 2020). A lack of immunity is not a disability and so the inequality may be fostered, may be illegal (as in the U.S. Americans with Disabilities Act), but must be criticised as unethical with good reasons.

Discussion Perspectives and Solution Corridors

There is no consensus on the question of the legitimacy of the immunity passports in Germany or, as far as can be seen, elsewhere in the world. In a recent paper, Greely (2020)

comes to a summary worthy of agreement:

"Potential strategies to implement immunity passport policies require a comprehensive assessment of benefits and harms, and what would least restrict individual liberties without significantly heightening the threat of COVID-19. Current scientific uncertainty on the extent and duration of antibody-mediated immunity to SARS-CoV-2 makes this challenging. Some countries are likely to push ahead with an immunity passport program to accelerate economic recovery. However, ill-conceived policies have the potential to cause severe unintended harms that could result in greater inequity, the stigmatization of certain sectors of society, and heightened risks and unequal treatment of individuals due to erroneous test results. The risk of such harms could be reduced through a centralized policy with clear guidelines on which sectors of society to prioritize for testing and rigorous mechanisms to validate test results and identify cases of reinfection. Sector-based policies that prioritize access to testing based on societal need are likely to be fairer and logistically more feasible, while minimizing stigma and reducing incentives for fraud."

Immunity passports are already not a wise measure in pandemic management from an ethical but also a pragmatic point of view. Under the aspects mentioned above, rapid tests for SARS-CoV-2 antibodies, more COVID-19 tests and broad antibody tests, for example, in the context of blood donation, are more sensible. 'Golden passports,' no (Bramstedt 2020). However, the Wild West of antibody testing also needs to be ended by clear regulation based on anti-discrimination, antibias and valid data for public health. The individual benefit will always be the decisive argument, unfortunately not always the ethical insight. It is therefore important to keep this benefit in mind when regulating. This is only possible through considerable efforts in education. Otherwise, the potential benefits of immunity data via antibody testing would most likely be quickly squandered by the social and medical costs of a test strategy that creates false incentives.

Conflict of Interest

The author states that no conflict of interest exists. For this article the author has not used any studies on humans or animals. ■

* The first half of this passage is taken from the German original of Zeiler and Heinemann (2020), translated by S. Heinemann with some changes.

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