THE TIMES OF ISRAEL

Questioning the Halachot of Social Distancing

Etan Golubtchik

October 22, 2020

Covid-19, which has infected and killed hundreds of thousands worldwide is not a hoax. It is a horrible disease that has had a particularly devastating effect on the Jewish community, leading to many untimely losses. There is little debate that it would violate numerous Biblical commandments to knowingly and directly infect someone who is vulnerable to the effects of this disease. However, the halachic directives become less straightforward when the transmission is not done intentionally or directly, and becomes even more complicated when these directives themselves put other people's lives at risk as well. The purpose of this article is to explore the scientific background and halachic principles involved in social distancing and government lockdowns as measures to mitigate potential deaths from Covid-19. [1]

The discussions regarding our responsibilities during this pandemic have largely revolved around the topic of *safek pikuach nefesh* and its applicability to the current scenario. We must also consider how strongly this concept should outweigh many of the positive commandments that have been minimized as a result, including: *hachnasat kallah, bikur cholim, chinuch, mipnei seivah takum, kibud av va'em, hachnasat orchim, levayat ha'met, nichum aveilim, iyun tefilah* and so many others.

On the individual level, it is questionable if the concept of *safek pikuach nefesh* can be applied at all, due to the way Covid-19 is spread. If not applicable on an individual level, communal action becomes much harder to justify, especially in the face of precedence and mitigating factors. Overall, the relevance of s*afek pikuach nefesh* to the prescription of social distancing is questionable at best, and therefore it should not necessarily be used as a *halachic* mandate which forces the public to sacrifice the performance of other *mitzvot*, and even their own well-being.

Social Distancing as an Individual Responsibility

The parameters of *pikuach nefesh* are summarized by Maimonides in the laws of Shabbat:

One must not put off the desecration of the Sabbath in treating a serious patient, as it is written: "If a man obeys them he shall live by them" (Leviticus 18:5), but he must not die by them. From this you may infer that the laws of the Torah are not meant to wreak vengeance upon the world, but to bestow on it mercy, kindliness, and peace. (Mishne Torah, Shabbat 2:3)

According to Maimonides, based on the words of the Torah in Vayikra, and clarified by the Talmud,[2] the preservation of one's life takes priority over the fulfillment of certain commandments. This is because we are specifically commanded to live by the performance of *mitzvot*, not perish by them. As such, when it comes to the observance of *shabbat*, or even fasting on *Yom Kippur*, *halacha* explicitly prioritizes the preservation of life. The Talmud and Maimonides both go further and clarify that this prioritization applies not only when we know when we are saving a life, but even if there is an uncertainty as to whether we are saving a life.

The extent of the uncertainty that would allow us to disobey biblical commandments though has been highly debated over the centuries by our rabbinic leaders.[3] The Noda BeYehuda for example, famously limited the allowance for *pikuach nefesh* to instances when there is a sick person in front of us who needs help immediately, but not necessarily to broader death prevention matters.[4] The Chazon Ish, alternatively limited the application in cases where we do not know if and how our activities in the present will actually save lives in the future.[5] In contrast, modern leaders of Israeli halacha such as Rav Yitzhak Herzog (based on Maimonides) and Rav Shaul Yisraeli expanded the allowance of s*afek pikuach nefesh* to include even potential life-saving situations that may arrive further in the future. Both of these commentators expressed concern as to the breadth of this application, with Rav Yisraeli concluding that even if there is a one in one thousand chance of saving a life in the future, once may desecrate the Shabbat accordingly. [6] This threshold of one in one thousand was earlier set by Rabbi Akiva Eger, and seems to be the generally accepted threshold for deciding what would be allowed.[7]

The prescription of social distancing to minimize mortality during Covid-19 pandemic was based on models predicting the practice would limit the spread of the disease, and henceforth reduce mortality. One of the many reasons that SEIR epidemiology models have failed to accurately predict the spread of Covid-19 is the fact that this disease does not spread uniformly.[8] The reproductive factor used as the basis for SEIR models, sometimes referred to as R-naught, represents the average amount of people a single person will infect. While this number is virtually impossible to measure, we know quite well at this point, that some 'superspreaders' infect many, while others infect few if any. A recent paper from Hong Kong, which has been confirmed by other studies, found that 69% of Covid-19 carriers never infect a single additional person, while only 19% account for 80% of all dispersion.[9] This inherent heterogeneity led to a very different spread of the novel coronavirus than that which was expected by the models, and also may lead to very different *halachic* implications concerning *safek pikuach nefesh*.

When dealing with individual responsibility, statistically speaking, any single healthy person who is unaware that they have Covid-19, and does not come into direct contact with someone who is highly vulnerable, has only a 31% chance of passing it on to even another non-vulnerable person. This secondary person then may have a 31% chance of passing it on to someone else, who may be in the vulnerable age bracket above 70 years old. According to the most recent estimates by the CDC, this highly vulnerable age bracket has a best estimated survival rate of 94.5%.[10] As most individuals would only ever be contagious for approximately 5 days of their entire life, the likelihood of our target individual passing on the virus on any random day would be quite low. As the WHO currently estimates approximately 10% of the world population has even had the virus to date, a 10% likelihood of any individual carrying the disease would be a very conservative estimate for the purpose of this calculation. .[11] This leads to a calculated probability of any single symptomatic person causing a death of a vulnerable person due to the Coronavirus at roughly .05%, or one in two thousand at the high end.[12] If the individual is asymptomatic or pre-symptomatic, this number decreases to below one in twenty thousand.[13] Other studies have calculated even lower probabilities.[14]

The above analysis is an oversimplified calculation of the statistics, which could swing in each direction if, for example, the individual happened to be a superspreader, or if the vulnerable recipients already carried the disease from another source. Nonetheless, the question to be considered regarding personal responsibility is: what are the chances that any one asymptomatic, untested individual will cause a death? That chance is quite low, well below the threshold

generally considered for s*afek pikuach nefesh* of one in one thousand. Therefore, one would be hard pressed to apply the laws of s*afek pikuach nefesh* to *halachicly* limit an individual's *mitzvot* observance or even their personal activities during these times.

Social Distancing as a Communal Responsibility

The questions of *pikuach nefesh* in the majority of *halachic* literature revolve around personal obligation rather than group action. However, in the modern state of Israel, *poskim* such as Rav Shlomo Zalman Auerbach and Rav Shlomo Goren expanded the allowances for violating a biblical commandment in order to save lives to groups of Israeli professionals including policemen, soldiers, intelligence officers and doctors. To these *poskim*, even long term planning and public policy are essential responsibilities for government leaders and professionals and are considered to be within the threshold of realistically saving lives in the future, They therefore expand the allowance well beyond the one in one thousand threshold outlined by Rav Yisraeli when planning for public policy of the Jewish state.[15] Can these allowances for *pikuach nefesh* for a collective group of people serve as the basis for halachic enforcement of social distancing policies during the current pandemic?

When it comes to the current rules of social distancing, including maintaining 6 feet of separation between people, avoiding touching even after washing hands, contact tracing, limiting social gatherings, school closures, quarantining people who have merely been exposed to a carrier of the virus, or quarantining any asymptomatic virus carriers in general, we must first ascertain if these policies actually result in saving lives. This question was not first considered in 2020, but has been debated and analyzed numerous times over the past century. While randomized control studies would be nearly impossible to implement to test this hypothesis, a review of all available data from previous epidemics found minimal to no reductions in mortality when comparing areas that implemented social distancing measures to those who did not. The results of these studies were best summarized in papers by the US Center for Disease Control and the World Health Organization in which they found that, at most, social distancing measures may delay deaths, but they do not lead to lower total mortality from a respiratory viral disease.[16] (It should be noted here that these were empirical studies based on observed results, which are distinctly separate from SEIR models which replicate reality, but are not validated by real life data[17]) As a result of these studies, these governmental organizations published guidelines recommending against many of these practices being implemented, especially for any extended length of time, with the onset of a viral respiratory pandemic.[18]

Assuming these studies and recommendations created prior to 2019 were correct, even Rav Auerbach's and Rav Goren's allowances may not be applicable during the current Covid-19 pandemic. Minimizing the performance of *mitzvot* in order to adhere to the social distancing guidelines would then be a misapplication of the allowances granted by the application of *safek pikuach nefesh*.

Due to the novelty of the Covid-19 virus, and the related fear it induced in the public, many experts nonetheless felt it was recommended that we implement social distancing policies to attempt to save lives during this pandemic. Without any evidence-based scientific studies previously demonstrating that these social distancing measures reduced mortality in the past though, we are currently conducting an incredibly expensive global experiment to test if these measures would in fact reduce mortality with this novel virus.[19] The results of this experiment may inform us on how to apply *safek pikuach nefesh* in these situations in the future.

Social Experimentation

When evaluating a *safek*, or any scientific uncertainty, experiments are often used to help provide direction or resolution. In evaluating the application of s*afek pikuach nefesh* to current social distancing measures, the world essentially just conducted a very expensive global experiment to help determine if communal actions like social distancing measures can effectively and reliably reduce mortality due to Covid-19 or other respiratory viruses.

No experiment can truly be considered valid without having a control group against which measurements can be compared, thereby validating the results of the activity in question. It is for this reason, if no other, that we should be thankful to countries like Sweden, Japan and Belarus and US states like South Dakota, Nebraska and Georgia which continue to provide a baseline control group against which to compare results. As the experiment is not being done in a controlled environment, it is always hard to truly isolate which factors contributed to the experiment's outcomes and which did not. When examining outcomes though, one must be sure to include as many data points as possible, rather than anecdotally choosing selected data points to deceptively prove a position.[20]

When looking at the data set as a whole, the empirical evidence fails to demonstrate any clear evidence that social distancing policies did indeed reduce fatalities per capita from Covid-19 in the long run, or even in the short run. In fact, study after study continues to find that, after accounting for demographics, no evidence can be found in the data that social distancing measures correlate with mortality at all.[21] One study published in the Lancet definitively observed: "Rapid border closures, full lockdowns, and wide-spread testing were not associated with COVID-19 mortality per million people." This is not to say that social distancing does not slow the spread from Covid-19, only that there is little if any evidence to support that this slowdown leads to lives being saved. Accordingly, many countries and doctors worldwide have stated they will not implement any new lockdown measures, even in the face of a new wave, and the World Health Organization has walked back their recommendation that these measures be implemented.[22]

Alternative Hypotheses

Why government imposed social distancing measures do not lead to lower death rates is a matter that is up for significant debate, though several hypotheses can be posited here. First and foremost, social distancing measures were originally designed and prescribed to slow down the spread of the disease in order to reduce the load on hospitals, but not to reduce overall mortality from the disease.[27] In the overwhelming majority of the world, outside of the New York City region and perhaps Northern Italy, no hospital systems were ever significantly above treatment capacity, regardless of whether or not the local region implemented lockdown measures.[28] While social distancing may delay deaths, it is unclear why it would be assumed that overall mortality would be reduced. Unfortunately, a portion of the population will always be vulnerable to certain diseases, and while our hospital systems and medical providers can be heroic, there is no evidence they can prevent death due to viruses to those who are most vulnerable.

(Some have recently repurposed the concept of social distancing to delaying the spread of the disease until a vaccine is available. Unfortunately, there is significant uncertainty as to when and

whether a rushed first generation vaccine would safely and significantly save lives either, especially among the elderly.[29])

Secondly, while SEIR models have famously simplified how viruses spread, and therefore assume mortality can be mitigated, it is not clear that the base assumptions we have about limiting viral spread, and consequently mortality, are correct.[30] For example, we assume that after transmission, viruses replicate in the body until they are defeated by the immune system or show symptoms within a six day period. Numerous examples of the disease popping up inside of strict lockdown countries like New Zealand seem to negate this understanding, as does a case of Argentinian sailors who began experiencing symptoms after 35 days at sea.[31] SEIR models also generally assume that there is a consistent relationship between an increase in infections or cases and an increase in fatalities, though there appears to be little correlation at all even within countries or states over time.[32] An argument has been made by Sunetra Gupta of Oxford that increased human contact and the spread of many viruses actually increases the ability of the human immune system, and in effect reduces mortality, achieving the opposite result of the intended effect of social distancing.[33] In short, we assume that a virus acts according to a consistent set of rules, and social distancing would interfere with those rules to curb the spread and reduce mortality. We have seen evidence that our understanding of the rules is incorrect though, and we probably do not yet know what the correct rules may be or how to mitigate them.

Thirdly, we continue to make a strong set of assumptions that social distancing measures can actually limit the spread of a virus to begin with, even if that spread does not lead to death. This assumption is also highly specious. While people can possibly disengage from each other for a short period of time, need for distribution of food, clothing, medicines and generally just a functional society as a whole cannot truly social distance in a way that reduces viral transmission. By avoiding small businesses or groceries for a while, we have merely shifted the delivery of goods from in person ourselves to delivery by an intermediary. Amazon, UPS and Doordash drivers are still delivering packages that have gone through the supply chain. It is possible that we have merely introduced a middleman into the transmission network but not actually reduced viral transmission at all through lockdown measures. Meanwhile, at least two thirds of Covid-19 transmissions happen within the home, unmitigated and possibly intensified by lockdowns.[34] A recent report by the CDC also notes that the virus has been documented to remain airborne indoors for a sustained period, which would also would negate many of the social distancing practices that have been implemented.[35]

Respiratory viruses do not only spread through airborne aerosols. SARS Cov1 was documented to spread heavily through fecal matter on surfaces, which in our age of constant cellphone usage even in the restroom, has possibly played a role in the spread of Covid-19.[36] Food distribution may also play a role, as the virus has been found to remain active on cold storage fish for at least 8 days.[37] The infamous superspreader occurrences that have been blamed for the rapid spread of the virus have not been linked to a specific attendee, but rather to the event itself. If no specific attendee is associated with multiple superspreader events in differing locations, it would imply that a surface or food item at this event played a role in the spread of the disease. While we assume that social distancing does reduce our airborne exposure to the virus, that may only reduce the spread of the virus in one small manner relative to other manners of viral spread. Without being able to disengage from the world completely, and with multiple modes of transmission, it is unlikely that many of our social distancing policies play a part in reducing the spread of the disease.

All of these hypotheses may explain how or why social distancing measures are not strongly correlated with reducing the spread of the virus, but we still simply do not know, and there seems to be limited data to provide us clear answers. There is also no good way to measure if we have reduced the spread, as all of our testing case counts are riddled with sampling bias and uncertainty.[38] Even seven months into this pandemic, we simply do not know how fast or how widely this disease has spread and when.[39]

Finally, even if social distancing does in fact reduce the spread of the disease, it seems that this reduction of spread has a negligible effect on the total number of deaths incurred by Covid-19. Innate immunology due to previous exposure to other Coronaviruses, for example, seems to have a much larger effect on covid-19 fatality rates than any social distancing measures.[40] China, Japan and Taiwan all have had minimal social distancing measures in place since April, and have experienced no significant increase in Covid mortality despite documented spread of the disease.[41] Seasonality also seems to have a strong influence on where and how the disease spreads, with Northern US states and Northern European countries all seeing similar disease wave timelines regardless of government policies. Meanwhile, southern US states, and Middle Eastern countries for example all saw similar timelines to each other, which were distinctly separate from the northern European timelines.[42] Seasonality in respiratory viruses was documented in the work of John Edgar Hope-Simpson who observed this phenomenon in flu viruses in his 1981 paper.[43] Hope Simpson concludes that "none of these seasonal characteristics can be explained by the current concept of influenza epidemiology", which is used as the basis for modern SEIR models. Forty years later, SEIR models have still failed to integrate the empirically documented seasonal trends of respiratory diseases.

When is a Safek no longer a Safek?

None of these hypotheses completely negate the effects of social distancing, rather they demonstrate that such measures only play a small part in a bigger picture, much of which we do not yet understand.

Moreover, it is not clear if government imposed social distancing measures reduce mortality at all, and if they do, if this is simply a matter of delaying deaths while the ultimate total will remain the same. From a scientific perspective using the empirical evidence available to us, the hypothesis that social distancing reduces mortality should be considered invalidated. Medically, the US Food and Drug Administration would likely never approve a medication for public use with such poor data support. Accordingly, more and more medical and science professionals around the globe have been speaking up about the failure of currently implemented social distancing practice to effectively reduce mortality.[44] From a halachic perspective, should this treatment method therefore be considered a s*afek pikuach nefesh* implementation that allows us to violate biblical commandments?

The answer to this question is far from straightforward. The data is often noisy and never fully clear when aggregating from worldwide sources with different standards and resources. It is almost impossible to isolate variables outside of laboratory settings, and often within them as well. There is also no shortage of smart, capable and accomplished doctors and epidemiologists who believe that this practice should be effective, even if the data has not validated it. At this point though, it is at best a *safek* if social distancing actually saves lives.

Maimonides, in his discussion on when we may violate the laws of fasting on Yom Kippur, creates a test as to how we should resolve a *safek* concerning *pikuach nefesh*:

[If] some physicians say he needs to and others say he does not need to, we go according to the majority or [according to] the more expert ones. (Mishne Torah, Shevitat Asor 2:8)

For Maimonides, in the case of *safek* we must search out doctors who have expertise in their field, and look for either the topmost expert or the majority opinion on how to rule. An extensive argument takes place in later commentators on which of these two issues takes primacy, expertise or majority. Concerning who should be considered an expert nowadays, much ink has been spilt on this debate, and one has to wonder at what point a declared expert on either side must be expected to provide data or experimental results to prove their position, rather than simply providing their opinion or intuition. Maimonides, in his medical writings and his Guide to the Perplexed, expects doctors to prove their treatments as experimentally successful in order to be respected as accomplished medical providers rather than witch doctors.[45] From a scientific or medical perspective, it should be expected that an expert should be able to predict with some statistical certainty the outcomes of their recommendations, and it is questionable how many experts on either side have been able to do this with regards to the effects of social distancing measures on the spread of this disease.

With all of that said, once a majority of experts or a topmost expert provides a definitive opinion, the matter does not leave the realm of *safek* to become a certain form of *pikuach nefesh*. A later majority vote after more doctors familiarize themselves with the data, or the entry of another more expert doctor can reverse the previous consensus and change what would be allowed in the case of *pikuach nefesh*. For example, Rabbi Akiva Eiger is widely quoted as a source for many of our current social distancing rulings due to his implementation of them during the cholera outbreak in the early 19th century.[46] It must be assumed that had he known the scientific evidence that later showed cholera to actually be spread by water tainted with human fecal matter, he would have voided all of his social distancing edicts and instead instructed his congregants in proper bathroom hygiene and to boil all water before drinking.

As more data becomes available, doctors, experts and rabbinic leadership must always be prepared to reassess if the treatment method that had previously been considered a *safek* for which Biblical commandments should be set aside, should still be considered a *safek*. In the case of social distancing measures as prescribed to reduce mortality for Covid-19, we should reconsider the applicability of *safek pikuach nefesh* and its resulting lessening of the performance of other *mizvot*, considering all new data that has been aggregated.

Who is Wise?

When discussing *safek pikuach nefesh* and how it applies to the recommendations of social distancing, it cannot be discussed outside of the context of the unintended consequences of this treatment method. In the Talmud, it states that one is considered wise if he foresees the consequences of his actions.[47] According to the Yerushalmi, this does not refer to the immediate effects of one's actions which even a simpleton can predict, but rather what will happen at the end, after all of the secondary and tertiary effects come into play.[48] With regards to authority-mandated social distancing measures, one must consider not only the assumed reduction in Covid-19 deaths, but also any increased morbidity due to the long-term effects of such policies.

While approximately 200,000 people in the US have died in association with Covid-19,[49] excess mortality is up by a significantly higher number. Excess mortality is defined as the amount deaths exceeding the amount of deaths typically expected during a given time period based on historical trends. In this case, that number already exceeds 300,000 in the US just through the first 38 weeks of 2020.[50] While driving accident deaths appear to be down, deaths due to drug overdoses, suicides, accelerated dementia, and untreated or undiagnosed alternative diseases have collectively led to over 100,000 additional deaths so far in 2020, in respect to the number of anticipated deaths from these causes.[51] These excess deaths are likely due to the indirect effects of the lockdown. As a matter of perspective, this is roughly double how many Americans perished in the Vietnam War, over its full ten year period of American involvement.[52]

Similar counts of excess mortality can be seen in numerous countries across the world, leading to a much higher number of deaths in 2020 than simply tallying those deaths that associated with the disease itself.[53] This increase in excess mortality above COVID-19 mortality appears to correlate with the length and stringency of lockdown measures with longer and stricter lockdowns leading to higher excess death counts above Covid-19 deaths. This country by country method of calculation though tends to ignore some of the longer and broader effects on global mortality, in which lockdowns in some countries lead to increased mortality in other, poorer countries. The imposed lockdowns have undercut world economies and global supply chains including those for food and medical supplies, disproportionately affecting poorer nations and possibly setting them back a decade of growth, according to the International Monetary Fund.[54] The extent of these long term effects will remain to be seen years into the future.

Global hunger crises appear to be increasing well above pandemic levels, with some estimates assuming death rates reaching above 10,000/day due to malnutrition.[55] Medical and vaccine production supply chain adjustments may lead to a 1.4 million person increase in tuberculosis deaths alone, with other diseases like polio and the measles making a comeback among unvaccinated children.[56] Globally, worst case estimates exceed 1 million children dying due to lack of access to basic medical care in third world countries this year.[57] Within the US and the UK, Alzheimer's and dementia patients who were forced to go months without stimulation from family members saw a large increase in mortality, all while we were simultaneously praying for G-d in *selichot* not to leave us in our own old age as our faculties dwindle.[58] Deaths due to despair in the US, including drugs and suicides are already up by more than 50% due to the lockdowns alone, with this trend expected to continue for a while.[59] During the expected surge time for COVID-19, hospitals and other medical services were made unavailable, with tens of thousands dying in the US and UK alone due to undiagnosed or untreated heart attacks, strokes and cancer.[60]

Many have expressed concern not just about the mortality associated with COVID-19, but the long-term health effects it may have on the vulnerable population as well. This also must be weighed in context against the long-term harm of lockdowns. Cases of domestic abuse have skyrocketed, with families locked in together in a high-stress environment over a long period of time, as have divorces in the US.[61] Drug and alcohol dependence and addiction has also increased dramatically, even for those who have not overdosed.[62] There have been documented changes in brain anatomy in young adults due to extended periods of negative emotions, with as many as one in four now considering suicide.[63] Long term school closures and a lack of social interaction by children will lead to schoolchildren falling behind and losing

years of educational and basic social developmental progress.[64] It is well documented that lost education time leads to lower life expectancy, reducing lifespans by an average of decade if a child is not able to complete high school.[65]

Economically, the cost for some subsets of the population will be far greater than others. While many in the Modern Orthodox community have expressed the desire for everyone to sacrifice 'together', and that only 'we' can stop the virus from spreading, the truth is that the bulk of the sacrifice was and will be made by the poorer among us. While many of the well-off experienced minor discomfort, the lower class has lost wealth and income at a rate unseen since the Great Depression, especially as compared to their wealthier counterparts.[66] This asymmetric sharing of the burden by the lower class will likely undermine many social justice or social equality initiatives of recent decades, with children of those impoverished likely to suffer most of all.[67] This lost year of income and wealth creation for many will also likely undermine our educational and non-profit institutions when they are most needed to serve our community. Generally, poverty also strongly correlates with lower life expectancy, with lifespan reductions of 10 to 15 years for the lowest income levels as compared to those with higher incomes.[68] While social distancing policies may briefly delay mortality for some due to COVID-19, it simultaneously causes a significant decrease in life expectancy for others.

Many of these long-term effects could and should have been considered in advance, but at this point the data unmistakably indicates that lockdowns are causing significant amounts of death and long-term harm that rivals the damage caused directly by the virus itself. At this point, and for the foreseeable future, we remain in a period of uncertainty as to whether the virus itself or the lockdown will be more harmful to society as a whole. From a utilitarian perspective, upon which many public health policies have been built, politicians and technocrats may take the approach of trying to weigh which of these two evils would be most palatable in the interest of public good. Issues to consider would include not only the amount of deaths, but also the remaining lifespan associated with each death or even the value contributed by different members of society that would be affected.[69] Indeed, the British National Institute of Health has a formula which helps it decide how much each life is worth and how to decide on the expenditure of public funds for personal health.[70]

He who saves one life…

From the Jewish philosophical perspective though, there is little halachic literature advocating for a utilitarian approach to deciding how to weigh lives.[71] For Jews, every life is valuable, and there are a number of Biblical commandments that do not allow a Jew to stand by when another may be in mortal danger. If one knows how to swim, for example, he is obligated to jump in to the water to save another who is drowning. It is nowadays also generally considered to be a mitzvah to donate a kidney to someone in need, if that does not put you in significant danger. [72]

Where things get more complicated in Jewish philosophy is when one of two individuals, or subsets of people, will perish no matter what decision is made.[73] The question of what religious requirement there is upon the individual in this scenario seems highly relevant to the present quandary we are facing. If asked to kill another directly or risk being killed, one Jews is not permitted to kill the other, as the Talmud asks rhetorically: who is he to decide who should live and who should die?[74] Alternatively, a case is outlined where two people are walking in a desert and only one has a canteen with enough water to survive the hike. Ben Petura argues that

there is a requirement to share the water even if it means both will die. Rabbi Akiva however rules that the owner of the canteen is not obligated to share his water, as preserving his own life takes precedence over the saving of another.[75] The Talmud seems to accept this approach and expand it to matters of public policy, ruling that an entire city may choose not to share its water with another city who needs it, as the city's inhabitants' lives should take precedence as well.[76]

To explain Rabbi Akiva's approach, Rashi and Maimonides both assume that when presented with tough catch-22 choices like these, certain Biblical commandments are no longer applicable.[77] According to Rashi, when two lives are at stake in different ways, the halachic imperative to save a life disappears, as the entitlement of both individuals to life cancels out the obligation to save only one of them.[78] When in the desert with insufficient water so that at least one person will die, one is therefore allowed, if not encouraged, to act in their own self-interest as their life takes precedence. Extended to the laws of *pikuach nefesh*, if faced with the multiple options that put different populations at risk, like we seem to have with COVID-19, there would be no halachic imperative to act one way or another. Individuals are allowed, if not encouraged, to act in the way they view is correct, even if it is also self-serving.

Maimonides also seems to come to a similar conclusion but from a different perspective. When faced with a catch-22 situation, even if one Jew actively kills another, he is not considered guilty of murder. Rather, he is considered coerced (anoos) to make a terrible decision. The crime he would be considered guilty of is failing to sanctify G-d's name rather than murder.[79] When applied to the desert situation as well, we are no longer dealing with murder or even *pikuach nefesh*. Our obligation at these problematic times is to sanctify G-d's name when possible, but otherwise to act as we see fit, even if it serves our own interests over another.

In the situation when it is unclear which subgroup would benefit more from one's decision, Rav Menashe Klein argues vehemently that each person must choose based on what they see fit, acting to save the one you see most probable to benefit from your decision.[80] Similarly, in the situation where it is uncertain if one group may perish as a result of your actions, but a certainty that the other would, the Beit Yosef argues that the laws of saving require you to save those who are certain to be saved first.[81] If indeed it is only questionable that social distancing decreases mortality, but a clear certainty that lockdowns increase mortality, the Beit Yosef's recommendation may be clearest of all that we should prioritize what we know to be a certainty that will save lives.

It's Complicated

Tough complicated situations like COVID-19 actually take us beyond the realm of clear-cut *halachot* like *safek pikuach nefesh* or murder. These decisions are not necessarily ones that require the input and rulings of rabbinic figures, or even necessarily the professional dictates of subject matter experts.[82] Albert Einstein once said: "We should be on our guard not to overestimate science and scientific methods when it is a question of human problems, and we should not assume that experts are the only ones who have the right to express themselves on questions affecting the organization of society." The decisions made in these situations are matters of public policy and governance and must weigh costs and benefits across all members of society. Every single person's opinion should be considered equally valid, and individuals may even be allowed to make independent decisions from those of communal leaders.[83]

In the Talmud, the Rabbis clarify for us that we are G-d's servants, and not the servants of servants.[84] During these times, many have dealt with inner turmoil on how to balance their Biblically mandated requirements to care for and support family members or business owners who are struggling during these times with instructions from community leaders that they refrain from doing so due to *safek pikuach nefesh*. Yet no matter what decisions we make on a daily basis, there are some who may suffer either due to a slightly increased chance of catching a deadly disease, or others due to a slightly increased chance of descending into poverty or mental unhealth. It is not clear that the laws of *safek pikuach nefesh* are relevant in this situation at all, let alone that a single approach can be forcibly imposed upon an entire community by community leaders or experts. Extending Rabbi Akiva's logic, one could suggest that Individuals in these tough situations are allowed and expected to make the decisions that they believe are a correct balance for themselves in observing G-d's commandments and their own responsibilities, including their responsibility to feed and care for themselves and their own families.[85]

Conclusion

The COVID-19 pandemic is undoubtedly an awful disease that has presented the Jewish nation and the world with seemingly awful choices. Many rabbinic and Jewish communal leaders have taken the approach of mandating strict rules upon entire populations in order to potentially minimize deaths and harm caused by this awful disease to those who would be vulnerable to it. This is largely based on the *halachic* theory that all things should be set aside for the purpose of *safek pikuach nefesh*. Throughout this discussion, we have demonstrated that this basic assumption is not necessarily accurate. In applying it, however, we have inflicted death and harm on entirely different subset of the population. Things that must be reconsidered in light of this development include:

1. On an individual level, the likelihood of causing a death is at the very low end of statistical probability. Would any *halachic* imperatives limiting activities due *safek pikuach nefesh* even apply to the individual in this scenario?
2. As more and more data becomes available and it becomes less and less clear that the implementation of social distancing has saved any lives, does the law of *safek pikuach nefesh* even apply to communal action either?
3. If the law of *safek pikuach nefesh* does still apply, as there are still numerous experts who claim that it does, does the *safek* that social distancing may reduce COVID-19 deaths override the concern of certain *pikuach nefesh* due to lockdown deaths?
4. When faced with a catch-22 situation, in which people would die no matter what decision is made, is there any *halachic* or religious requirement to follow an expert's or leader's recommendation? Should individuals be restricted from making the decision that they deem most appropriate considering all of the information that is available to them at the time?

If the answer to any of these questions is 'no', than as a community we must reconsider the approach we have taken to this point.

When *blessing B'nai Yisrael,* Balaam declares that there is no augury or divining among its inhabitants. Rather, the people of Israel declare: "Look what G-d hath wrought".[86] Balaam was pointing out that, as opposed to the pagan nations living nearby who assumed they could foresee

or control natural forces, the Children of Israel understood that there are some phenomena that are controlled only by G-d, and are beyond man's ability to foresee or control. These nearby pagan nations were known to practice rituals like passing their children through fire, likely assuring their deaths, all to appease their pagan gods and assure some certainty or favorability with regards to natural occurrences like annual rainfall. The Jewish approach has never been to sacrifice our children or any person's well- being in these uncertain situations, but rather to turn ourselves to G-d. As Isaiah himself states, G-d does not want our sacrifices, but rather that we demonstrate a commitment to fairness and care for those in need of help.[87]

Maimonides echoes this notion when he says that if we cannot observe a part of nature which is beyond our reach, it is madness and hubris to pretend we have wisdom that is only known by G-d himself.[88] There seems to be an inherent need for people to "do something" in order to feel in control of an uncertain situation like the COVID-19 pandemic. It could be argued that the responsibility of Jewish leaders at these times is to realize that control is sometimes not possible.[89] Those leaders should instead encourage prayer and *mitzvot* with a focus on helping those in need in order to reverse the horrible *gezeirah*, rather than endorse practices that scientifically have not been proven, and may result in sacrificing the well-being of others.[90]

The COVID-19 pandemic has done terrible harm to the world, and to the Jewish people specifically. Nevertheless, we must be careful not to assume that we have the ability to control natural disasters, especially if it comes at the expense of other members of our community or at the expense of our relationships to other members of *Klal Yisrael*. We should all be *zocheh* to a *refuah sheleimah bimheyra biyamenu.*

This article was originally presented as part of a three part series to analyze the applicability of halachic concepts like *safek pikuach nefesh* to the current social distancing mandates during the Covid-19 Pandemic. This follows a previous article on the Jewish approach to using unreliable forecast models to make halachic or public policy decisions entitled "Tamim Tihiyeh, Forecast Models and the Coronavirus", which can be found here: https://blogs.timesofisrael.com/tamim-tehiyeh-forecast-models-and-the-coronavirus/
Many people much wiser than myself contributed to this article, though have asked for anonymity for reasons which are unfortunately all too obvious. One of the many sad developments of our current situation is the fear that even many respected members of our community have of providing alternative opinions or perspectives, even if well sourced and reasoned.
I am not a rabbi, doctor or epidemiologist, and never claim to be one. I have degrees in engineering and business, and worked as a strategic planner at a Fortune 500 company where I built and audited hundreds of forecast models. One of my responsibilities was the implementation of Decision & Risk Analysis programs which helped the company make multi-billion dollar investment decisions while incorporating real time data, forecast models, decisions trees and historical analogs, among other tools. If a reader believes that credentials are required in order to read, analyze and present scientific data and religious arguments, they should likely not read further. I personally will not respond to any ad hominem responses, but will gladly engage with any critique that specifically addresses logical fallacies or notices if I misrepresented or misunderstood source material.

Lastly, this article is specifically a discussion of what role community and rabbinic authority, specifically through the *halachot* of s*afek pikuach nefesh*, should have in the discussion of

Covid-19. This is not a discussion of what the American or Israeli government should do from a policy perspective, nor whether people should disregard the laws of Dinah Demalchutah Dinah.

[2] Yomah 84b

[3] See this excellent article by Rav Chaim Navon outlining the applicability of Uncertainty in Pikuach Nefesh to Public Policy Decisions: https://www.etzion.org.il/en/uncertain-pikuach-nefesh-and-public-policy

[4] *Responsa Noda Biyehuda Tinyana*, *Yore De'a*, no. 210

[5] *Chazon Ish*, *Ohalot* 22:32

[6] R. Y. Herzog, *Be-Tzomet ha-Torah ve-ha-Medina*, III, pp. 13-14, Rav S. Yisraeli, *Amud ha-Yemini*, p. 212

[7] Rabbi Akiva Eger, 141:Teshuva 60

[8] These models are horrible representations of reality that continue to fail at predicting anything about this disease with any reliability. Other key assumptions they got wrong include:

The Infection Fatality Rate: https://www.cambridge.org/core/services/aop-cambridge-core/content/view/7ACD87D8FD2237285EB667BB28DCC6E9/S1935789320002980a.pdf/public_health_lessons_learned_from_biases_in_coronavirus_mortality_overestimation.pdf

The start of the spread in the US: https://www.wsj.com/graphics/when-did-covid-hit-earliest-death/

Duration of infectiousness: https://www.hiqa.ie/sites/default/files/2020-09/Evidence-summary-for-duration-of-infectiousness-of-SARS-CoV-2.pdf

& many more items, overall leading them to misrepresent the uncertainty inherent in their models: https://www.biznews.com/thought-leaders/2020/08/27/science-lockdown

[9] https://www.nature.com/articles/s41591-020-1092-0 These findings have been confirmed by multiple studies including: https://arxiv.org/pdf/2005.13689.pdf, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185944/, https://wellcomeopenresearch.org/articles/5-67/v3, https://www.nature.com/articles/s41591-020-1092-0, https://www.medrxiv.org/content/medrxiv/early/2020/07/24/2020.06.28.20142133.full.pdf, & https://www.pnas.org/content/117/36/22430 among others.

[10] https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html

[11] https://www.irishtimes.com/news/ireland/irish-news/covid-19-world-in-for-a-hell-of-a-ride-in-coming-months-dr-mike-ryan-says-1.4370626

[12] 10% likelihood of disease (ever) * 31% contagious * 31% secondary contagious * 5.5% mortality rate

[13] Asymptomatic cases had only a 0.3% secondary attack rate compared to 3.3% to 6.2% for Symptomatic cases: https://www.acpjournals.org/doi/10.7326/M20-2671 Also: https://wwwnc.cdc.gov/eid/article/26/8/20-

1274_article, https://link.springer.com/article/10.1007/s11427-020-1661-4, https://uk.reuters.com/article/uk-health-coronavirus-china-wuhan/no-new-covid-sufferers-300-asymptomatic-after-wuhan-wide-tests-idUKKBN23915T, https://pubmed.ncbi.nlm.nih.gov/32513410/, https://www.medrxiv.org/content/10.1101/2020.06.02.20120014v1, https://www.sciencedirect.com/science/article/pii/S0895398810600086?via%3Dihub & https://www.cnbc.com/2020/06/08/asymptomatic-coronavirus-patients-arent-spreading-new-infections-who-says.html

[14] https://www.medrxiv.org/content/10.1101/2020.06.06.20124446v2.full.pdf

[15] R. M.M. Farbstein, *Assia* LIII-LIV, 1994, p. 100 (For Rav S. Z. Auerbach) & Rav S. Goren, *Torat ha-Refu'a*, p. 80

[16] A report written in 2006 spearheaded by noted epidemiologist D.A. Henderson was created specifically to counter the newly devised strategy by computer modelers of implementing social distancing measures to reduce the spread of a respiratory virus. This report noted that there are no historical observations of these activities reducing mortality by the spread of influenza, and that the negative consequences would be substantial. This included a 1918 study that found school closures actually increased the spread of the Spanish flu. (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.552.1109&rep=rep1&type=pdf) This report also echoed the findings of a WHO writing group that quarantining and border closures were both ineffective and impractical. (quoted in the CDC study). A 2009 guide to public health measures in Europe also concluded that there are no historical observations or scientific studies that support these measures. (https://www.ecdc.europa.eu/en/publications-data/guide-public-health-measures-reduce-impact-influenza-pandemics-europe-ecdc-menu) A separate 2011 paper by the University of Oxford's Center for Evidence Based Medicine also found that there is insufficient evidence to support border screening and social distancing to reduce the spread of a pandemic, especially after more than 1% of a population is infected.

[17] SEIR models, such as those published by the IHME and Imperial College, have repeatedly failed to predict the spread or mortality from Covid-19, and therefore should not be considered reliable or relevant from a scientific or halachic standpoint. For a more detailed discussion, see my earlier article referenced in note 1, and for a detailed explanation of why overly simplistic SEIR models often fail, see John Ioannidis's article here: https://forecasters.org/blog/2020/06/14/forecasting-for-covid-19-has-failed/ see or this paper by Denis Rancourt: http://ocla.ca/wp-content/uploads/2014/01/OCLA-Report-2020-1-Criticism-of-Government-Response-to-COVID19.pdf. For a fascinating narrative on how modelled data and frameworks have slowly been replacing actual empirical data and observations, see this speech by Michael Crichton in 2003: https://www.heartland.org/_template-assets/documents/publications/16253.pdf

[18] WHO published guidelines in 2019 included contact tracing and quarantining of exposed individuals as something that should not be implemented under any circumstances, while school and work closures and internal travel restrictions should only be implemented in high or extraordinary severity pandemics, which Covid-19 does not qualify under per WHO definitions. (https://apps.who.int/iris/bitstream/handle/10665/329438/9789241516839-eng.pdf?ua=1).

The US CDC 2007 guidelines would have considered Covid-19 a category 2 epidemic, and recommended voluntary social distancing measures only and a maximum of a 4 week school closure. (https://www.cdc.gov/flu/pandemic-resources/pdf/community_mitigation-sm.pdf)

2017 CDC guidelines did make adjustments to their recommendations based on studies of the 2009 H1N1 flu epidemic, but even in a high severity pandemic (which Covid-19 may have been categorized as under the new guidelines), social distancing measures, even for symptomatic ill people would have been recommended as voluntary and school closures would have been limited. (https://www.cdc.gov/mmwr/volumes/66/rr/pdfs/rr6601.pdf)

[19] For a thorough summary on the evolution of how this 2005 era unproven hypothesis became recommended practice, see: http://somatosphere.net/2020/go-suppress-yourself.html//

[20] This method is commonly used when trying to mislead with statistics and graphs. A prime example of this would be the widespread graphic that compared Spanish flu deaths in St. Louis and Philadelphia in 1918 and the supposed related social distancing measures that were implemented. This graph specifically left out all other US cities, their mortality rates and social distancing implementations, in which the full data set fails to show any strong correlation at all between social distancing implementation and lower mortality.

[21] April 15th – https://thecritic.co.uk/does-peak-infection-sync-with-lockdown-enforcement/

April 21st – https://arxiv.org/abs/2004.10324

April 21st – https://www.thepublicdiscourse.com/2020/04/62572/

April 24th – https://www.medrxiv.org/content/10.1101/2020.04.24.20078717v1

April 26th – https://www.wsj.com/articles/do-lockdowns-save-many-lives-is-most-places-the-data-say-no-11587930911

May 1st – http://bristol.ac.uk/maths/news/2020/peak-lockdown.html

May 16th – https://threadreaderapp.com/thread/1261705308302270466.html

May 20th – https://www.bloomberg.com/graphics/2020-opinion-coronavirus-europe-lockdown-excess-deaths-recession/

June 16th – https://advance.sagepub.com/articles/Comment_on_Flaxman_et_al_2020_The_illusory_effects_of_non-pharmaceutical_interventions_on_COVID-19_in_Europe/12479987/1

July 2nd – https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30208-X/fulltext

July 20th – https://www.heritage.org/public-health/report/comparative-analysis-policy-approaches-covid-19-around-the-world

July 31st – https://www.aier.org/article/the-virus-doesnt-care-about-your-policies/

August – https://www.nber.org/papers/w27719.pdf

September 1 – https://www.wsj.com/articles/the-failed-experiment-of-covid-lockdowns-11599000890

October 4th – https://www.nationalreview.com/2020/10/stats-hold-a-surprise-lockdowns-may-have-had-little-effect-on-covid-19-spread/

October 6th – https://www.telegraph.co.uk/news/2020/10/06/scotland-isnt-faring-much-better-england-despite-nicola-sturgeons/

Of these, I consider the Lancet and NBER studies to be the most robust. Numerous other studies exist, and any person should feel free to peruse websites like ouworldindata.org or the CDC website to run their own analyses. I personal have run multiple regression models and has found no correlation at all between school closures, work closures or any other lockdown stringency with Covid mortality.

Other studies do exist that challenge this conclusion. Those that I have read are often dependent on modeled data as a control rather than empirical data, or tend to focus on potential responses to an implemented measure within one region without any baseline or control group, all while ignoring conflicting results in the total dataset that is available. At minimum, the matter is unprovable in either direction, though it is my opinion that the available dataset demonstrates that the hypothesis to be demonstrably false, and that we can conclude that there is zero evidence that social distancing saves lives.

[22] https://www.news.com.au/world/coronavirus/global/coronavirus-who-backflips-on-virus-stance-by-condemning-lockdowns/news-story/f2188f2aebff1b7b291b297731c3da74#.7daqw

[23] Results from studies on the effect of schools in viral transmission around the world almost uniformly show the exact same result, that schools do not spread the virus or increase mortality: China: https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(20)30105-X/fulltext

Korea: https://adc.bmj.com/content/archdischild/early/2020/08/06/archdischild-2020-319910.full.pdf

Finland: https://www.folkhalsomyndigheten.se/contentassets/c1b78bffbfde4a7899eb0d8ffdb57b09/covid-19-school-aged-children.pdf

UK: https://www.bmj.com/content/371/bmj.m3588

Denmark: https://www.reuters.com/article/us-health-coronavirus-denmark-reopening/reopening-schools-in-denmark-did-not-worsen-outbreak-data-shows-idUSKBN2341N7

The Netherlands: https://www.rivm.nl/en/news/initial-results-on-how-covid-19-spreads-within-dutch-families

Iceland: https://www.sciencemuseumgroup.org.uk/blog/hunting-down-covid-19/

Greece: https://onlinelibrary.wiley.com/doi/full/10.1002/jmv.26394

Ireland: https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.21.2000903#html_fulltext

Germany: https://www.theguardian.com/world/2020/jul/13/german-study-covid-19-infection-rate-schools-saxony

A summary of Europe & Asia by the Washington Post: https://www.washingtonpost.com/world/europe/schools-reopening-coronavirus/2020/07/10/865fb3e6-c122-11ea-8908-68a2b9eae9e0_story.html

A summary of the US by the Atlantic: https://www.theatlantic.com/ideas/archive/2020/10/schools-arent-superspreaders/616669/

Childcare providers in the US: https://pediatrics.aappublications.org/content/pediatrics/early/2020/10/12/peds.2020-031971.full.pdf

Even Disneyworld: https://www.nytimes.com/2020/10/09/business/disney-world-coronavirus.html

And an interesting study showing how child exposure reduces severity and mortality in adults: https://www.medrxiv.org/content/10.1101/2020.07.20.20157149v1

And here is a dashboard screenshot showing no variance in teacher covid cases either between zoom-schoolers and physical-schoolers: https://twitter.com/boriquagato/status/1313113007342452738/photo/1
The fact that Israel seems to have experienced a wave after reopening schools should therefore be considered the exception, and likely not causative at all.

[24] See notes on seasonality below. Also, explore Ourworldindata data on Turkey, Lebanon, Greece, the PA and even some former Yugoslovian countries.

[25] Peru: https://www.telegraph.co.uk/travel/destinations/south-america/peru/articles/peru-strict-lockdown-excess-deaths/

Argentina: https://jordanschachtel.substack.com/p/200-days-the-worlds-longest-lockdown

[26] Another unfortunate side effect of this pandemic is the completely disregard for the scientific method outlined by greats such as Francis Bacon, Isaac Newton and Karl Popper. This framework requires a scientist to test a hypothesis by making a prediction of the result of an experiment. If observed empirical results differ from the prediction, the hypothesis is considered invalid. The fact that SEIR models are still used to make public policy decisions nowadays despite their inability to make a single accurate prediction to date speaks to the poor understanding some of our experts and leaders seem to have of what was once considered the basis of scientific progress. No person can legitimately proclaim they “believe in science” while simultaneously ignoring the framework and lessons of the scientific method. Somehow the IHME still seems to be making failed predictions of future Covid mortality in the US demonstrating that it has learned nothing from its failed predictions.
See: https://www.afr.com/world/north-america/ihme-revises-lower-again-its-us-death-projection-20201006-p562b6 or this screenshot of their August forecast vs. reality: https://twitter.com/youyanggu/status/1305937874194440192/photo/1

[27] See original Imperial College Paper advocating for lockdowns stating: “The more successful a strategy is at temporary suppression, the larger the later epidemic is predicted to be in the absence of vaccination, due to lesser build-up of herd immunity.”
(https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-

College-COVID19-NPI-modelling-16-03-2020.pdf) Confirmation analysis here: https://www.afr.com/policy/health-and-education/lockdowns-beyond-two-months-do-more-harm-than-good-20200909-p55ty9 .

Additionally here is an analysis showing how the CDC mixed outputs from two different models to imply that lockdowns would save 2 million lives: https://www.cato.org/blog/did-mitigation-save-two-million-lives – in private industry, this would be considered fraud.

[28] https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00980,

Also, it is not rare for some local hospital systems to be slightly overwhelmed during a flu season: https://threadreaderapp.com/thread/1281080665685934081.html,

and many have significant flexibility: https://justthenews.com/politics-policy/coronavirus/texas-government-counting-every-covid-positive-hospital-case