EXECUTIVE SUMMARY

This paper examines different concepts and models of public health. It was drafted before the coronavirus SARS-CoV-2 became a worldwide threat, however, it’s very relevant to a new epidemic threat like Covid-19, which is not well understood, does not have proven treatments, and cannot be avoided by a vaccine or other simple prevention measures. To see this relevance, and although the paper already discussed quarantines, mentions of the current crisis have been added as well as a short section on quarantines and social distancing.

There are many different concepts of public health, ranging from protection against epidemics of contagious diseases up to social justice. Based on different methodologies and different theories of the social world, the various meanings of public health lead to very different prescriptions for government intervention and public policy.

In the public-good model, public health corresponds to some common good that every individual deems to be in his own interest. This model focuses on protection against contagious diseases. In the government health care model, public health is viewed as health care in general, which must be financed if not supplied by the government. In the total government care model, health becomes an all-encompassing concept, and the health-care role of government becomes a role of total care.
The opposite model of public health—voluntary cooperation—focuses on individual and economic freedom to produce public health. It is very different from the two previous models, and can be seen as either an alternative or a complement to the public-goods model. As a means of limiting coercion, this model is preferable. Even if the public-good components of public health can be subsidized if necessary, the focus of the model remains voluntary cooperation. Coercion reaches its limits at some point. The goal of the voluntary cooperation model can be conceived as the minimization of coercion in society. The ideal to keep in mind is that individuals should be equally allowed to take care of their own interests and health according to their own preferences.

The policy implications are numerous. Their common denominator is that government interventions should be based on individual preferences and individual consent, not on what a coercive elite—like the current public health movement—believes everybody else should think and want. These broad orientations of public health policies should be as follows:

**Orientation 1:** Focus on public health as a public good in the economic sense, not as something that a portion of society can coercively impose on others.

**Orientation 2:** When government intervention is necessary, favor non-coercive measures as opposed to injunctions and bans.

**Orientation 3:** Distinguish between problems of poverty and issues of individual choice.

**Orientation 4:** Treat children as children and adults as adults.

**Orientation 5:** More generally, favor voluntary cooperation whenever possible.
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Abstract

This paper examines different concepts and models of public health. In the public-good model, public health corresponds to some common good that every individual deems to be in his own interest. This model focuses on protection against contagious diseases. In the government health care model, public health is viewed as health care in general, which must be financed if not supplied by the government. In the total government care model, health becomes an all-encompassing concept, and the health care role of government becomes a role of total care. Both models suffer from a number of problems, which are explored. The voluntary cooperation model of public health focuses on individual and economic freedom to produce public health. It is very different from the two previous models, and can be seen as either an alternative or a complement to the public-goods model.
“We have reached a point where we need to make a choice of what kind of model of global public health we want to promote.” Ilona Kickbusch

Introduction

This working paper was drafted before the coronavirus SARS-CoV-2 became a worldwide threat, and was finished only two weeks after Dr. Li Wenliang revealed that strange new pneumonia cases had appeared in Wuhan. It is yet unknown when the pandemic will slow down. The pandemic will certainly cause major economic damage by its direct health effects and by the indirect consequences of the public policies implemented to fight it. The $2-trillion increase in the annual federal deficit is only one indicator of these consequences.

This paper is not meant to discuss the current pandemic but to present a general discussion of public health. It is, however, very relevant to a new epidemic threat like Covid-19, which is not well understood, does not have proven treatments, and cannot be avoided by a vaccine or other simple prevention measures. To see this relevance, and although the paper already discusses quarantines, mentions of the current crisis have been added as well as a short section on quarantines and social distancing.

There are many different concepts of public health, ranging from protection against epidemics of contagious diseases up to social justice; such concepts are the focus of this paper. Based on different methodologies and different theories of the social world, the various meanings of public health lead to very different prescriptions for government intervention and public policy. This paper addresses a double question: What are the main concepts and models of public health? And to which extent do public health considerations require government intervention?

“In many respects,” says a major textbook of public health, “it is more reasonable to view

public health as a movement than as a profession.”\textsuperscript{3} Although a movement is based as much on ideology as on rational inquiry, understanding it still requires the analysis of its ideological beliefs (especially in the current emergency, where the movement and its experts are granted enhanced influence on public policy). Moreover, the foundations of public health have changed through history, especially in modern history, which provides another reason to consider the different models of public health.

This paper addresses four models of public health. Part 1 considers the concept of public health as an instance of what economists call a \textit{public good}. It examines the nature of public goods and applies it to different means of protection against epidemics, including immunization. It can be argued that this economic approach corresponds historically to the “old public health,”\textsuperscript{4} as opposed to today’s “new public health,” although the historical progression has not been linear.

Part 2 explores public health as \textit{government medical care}. Public health as a public good can easily drift to this newer concept, as “public” can be taken to mean “governmental” and “health” to mean “medical care.” This part of the paper inquires about how public health came to be understood as government medical care in different ways and at different moments of history, and suggests some dangers of this evolution.

In the term “public health,” “health” can have many meanings. Depending on how expandable the term is, government health care can become \textit{total government care}. Of course, “total” cannot be taken literally, although it will be seen that it represents an ideal for many contemporary public health theorists. This drift of public health is a phenomenon that has developed since the 20\textsuperscript{th} century. Part 3 examines how a new definition of health and the evolution of the relations between citizens and the state led to public health being conceived as total government care up to and including social justice.

Part 4 explores the feasibility of the opposite model of public health: \textit{voluntary cooperation}. Can vaccination decisions or measures to control an epidemic be left to the domain

of private choices? This part of the paper will also examine the limits of coercion.

The conclusion suggests some broad policy orientations. Any rational public policy must deal with the questions raised by the different models of public health reviewed below. By sketching an economic approach that is too often missing in discussions of public health, the paper hopes to contribute to a better understanding of the issues involved and, hopefully, to better public policy.

To emphasize the expansive concept of “public health,” the expression is sometimes put in quotation marks—like in the present sentence; alternatively, the expression “new public health” will be used. That the label means many different things should always be kept in mind. Indeed, it is the topic of this paper.

1 Public Health as Public Good(s)

Public health or its components can be considered what economists call “public goods,” sometimes also called “collective goods.” In this perspective, public health is concerned with the prevention and control of medical events that are in everybody’s interest to prevent or control but in nobody’s private capacity to do so himself. Prevention and control of epidemics of contagious diseases is an obvious case. Note that the economic concept of public good is different from what philosophers consider as “the public good,” which is some virtuous ideal over and above the preferences and choices of individuals. The economic concept of a public good is more concrete and more grounded in all individuals’ preferences.

1.1 What Are Public Goods?

Technically, public goods are defined as goods (or services⁵) that have two properties: non-rivalry and non-excludability. Non-rivalry means that their consumption by one person does not remove anything from the consumption possibilities of other persons. Non-excludability means that it is difficult—that is, very costly—to exclude anybody intent on taking advantage of

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⁵ The economic concept of goods (say, an accounting software) incorporates services (the preparation of your income tax return by H&R Block, or dry-cleaning services, for example).
these consumption possibilities without contributing his share of the cost. One standard example is national defense: the fact that your neighbor benefits from it does not reduce your own benefits (it is a non-rival good), and it is impossible to exclude you from benefiting once it has been financed by your neighbors. Contrary to the case of a private good, which is produced for, and only for, paying customers, everybody will be tempted to free ride on a public good. Therefore, no private producer will offer the public good in “optimal” quantity. A best, it will be undersupplied; at worst, it will not be produced at all.

Notably, the production of a public good may require private goods as inputs. For example, the production of national defense requires tanks, which are made of steel, which is a private good. The steel I consume can’t be consumed by others, and those who want some have to pay to get it.

Many economic theorists have seen the public good (or category of goods) of security (national defense, police protection, courts, and prisons) as the main, if not only, justification for the state. Prevention of a large asteroid collision with earth would fall in the same category of pure public goods. Very interestingly, a pandemic caused by an unknown pathogen is similar to such an asteroid. Most other economists have extended the list: flood-control dams or levees provide examples, as did lighthouses before the invention of remote-control mechanisms and GPSs. Note that the prevention of a public “bad,” that is, something that imposes unwanted costs on everybody, is a public good.

Mainstream economic theory argues that only a government can supply a public good in optimal quantity by forcing, in their own interests, all beneficiaries to contribute by way of taxes. The government can produce a public good itself. Alternatively, it may be more efficient for

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7 The quotation marks around “optimal” are meant to remind the reader that, even with neat mathematical or geometrical models, determining the optimal quantity is difficult if not impossible in practice.


government to produce it indirectly through subsidies because of better incentives in private activities.

A public good can also be viewed as something that transmits positive externalities to all individuals in a group. An externality is a benefit (positive externality) or a cost (negative externality) that bypasses markets and for which a price cannot be charged. Although externalities and public goods are often viewed as distinct concepts, their partial overlap has been noticed in the economic literature—from identifying “public good externalities” as a category of externalities, to arguing that, between the two concepts, “there are no purely formal differences.” There is a difference, though. A public good exists when its production for the benefit of paying customers automatically generates positive externalities for all, including the free-riders who do not pay. Public goods are unanimously liked, and this unanimity condition distinguishes public goods from mere positive externalities and makes the former more difficult to find than the latter.

Externalities and public goods are generally considered “market failures,” that is, phenomena that prevent markets from providing consumers with what they want and are willing to pay for. Mainstream economic theory argues that market failures justify government intervention, which must then intervene in markets to guarantee the satisfaction of individual preferences. In the case of a public good, this implies forcing free riders to contribute to its production in their own interest.

1.2 Protection Against Epidemics and the History of a Drift

Protection against epidemics of contagious diseases can be thought of as a public good. More precisely, this protection is a public service, which is provided by the production of many public goods and services such as quarantines, water works and sewer, and vaccines. Once an

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13 When a public good is not perfectly non-rival and non-excludable, or when it is only a public good for a part of society, it not a pure public good. It then becomes more akin to a simple externality. The public goods that, in the model examined here, define the old concept of public health are taken to be pure public goods, at least in an ex ante sense: everybody presumably wants to be protected against an epidemic if it happens.
epidemic has started, the public good consists of controlling it with measures to treat infected individuals and perhaps isolate them (with *cordon sanitaire*\(^\text{14}\) for example) so that they don’t infect others and don’t spread the epidemic. Moreover, sanitation measures can prevent epidemics by combatting conditions favorable to the spread of the responsible microbiological agents. Sanitation includes the provision of clean water through aqueducts and removal of human waste through sewer systems. Such measures can be considered a public good in the sense that everybody in a society presumably wants them.

Modeling public health as the production of public goods is rare among public health experts. In fact, they often, if not generally, ignore economics. The public good aspect of public health is not discussed in Bernard Turnock’s popular textbook of public health.\(^\text{15}\) In the index of their extensive textbook of public health law, Lawrence O. Gostin and Lindsay Wiley have no entry for “public good,” although they often refer to undefined concepts such as “public interest” or, sometimes, “common good.”\(^\text{16}\) Sociologist Jacob Heller’s book *The Vaccine Narrative* contains the expression “public good” twice, only to refer to a vague moral concept of the good of the public.\(^\text{17}\) Between economists on the one hand, and other experts including public health experts on the other hand, we observe a deep rift that has consequences for moral and political values. Such values are of course outside of economics, but economic analysis is often useful to clarify their role in public policy proposals.

Perhaps progress has been made. For example, philosopher Mark Navin tries to think of the herd immunity provided by vaccination as a public good.\(^\text{18}\) Externalities have recently found their way into public health analysis, but they are usually given such wide extension that they can justify nearly any public health intervention. The concept of public good is more restrictive and more useful.

\(^\text{14}\) *A cordon sanitaire* is “[a] guarded line preventing anyone from leaving an area infected by a disease and thus spreading it,” as defined by Lexico, [https://www.lexico.com/definition/cordon_sanitaire](https://www.lexico.com/definition/cordon_sanitaire).

\(^\text{15}\) Turnock, *Public Health*. This is also true for the 6\(^\text{th}\) edition with the same title (Jones and Barnett Learning, 2016).

\(^\text{16}\) Gostin, Lawrence O., and Wiley, Lindsay F., *Public Health Law: Power, Duty, Restraint*, 3\(^\text{rd}\) Edition (University of California Press). When they do mention public goods in what appears to be the economic sense (p. 443), they suggest that everything that some majority considers a public good justifies coercing the minority—which ignores the unanimity condition.

\(^\text{17}\) Heller, Jacob, *The Vaccine Narrative* (Nashville TN: Vanderbilt University Press, 2008), 24 and 95.

\(^\text{18}\) Navin, Mark, *Values and Vaccine Refusal: Hard Questions in Ethics, Epistemology, and Health Care* (Routledge, 2016), 7, 140-142.
Public health activities were, for a long time, mainly related to the control and prevention of epidemics of contagious diseases, even if the nature of contagion was not understood until the late 19th century. From high antiquity, it was intuited that uncleanness played a role in diseases and epidemics. The authorities of the richest urban societies of the time found ways to supply clean water and dispose of human wastes. In his monumental history of public health, George Rosen notes that, “as builders of sewerage systems and baths, and as providers of water supplies and other health facilities, [the Romans] set the world a great example and left their mark in history.” The Roman aqueducts brought clean water to fountains, public baths, and, with special permission, to a few privileged private houses. The sewer system helped dispose of human waste, which transmits many contagious diseases when it contaminates drinkable water. With some caveats discussed in Part 4, these sanitation works can be considered public goods in that they contributed to the production of protection against contagious diseases.

Personal hygiene and sanitation declined after the fall of the Roman Empire and into the Middle Ages (500-1500 AD), partly due to the neglect of sanitation works and partly because “health problems were for the most part considered and dealt with in magical and religious terms.” Epidemics occurred regularly, including leprosy and the Great Plague of the 14th century. Quarantines, cordon sanitaires, and other forms of isolation of the sick were primary means of fighting epidemics.

Early modern times (roughly the 16th and 17th centuries) inherited a poor state of health affairs, due partly to ignorance of the disease contagion mechanism, and partly to poverty. A 1682 report from Pisa conveys the picture:

None of the houses has a privy with its own underground cesspit but they shit between the houses where there are gaps between the walls ... and there are hundreds of turds to be removed which, as well as stinking horribly, present an extremely disgusting sight to those who pass by in the street.

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20 Shaw, *Tracking Contagions, from Cholera to Ebola and Beyond*, 57: “For pathogens, excreta is a perfect vehicle for spreading from one person to another.”
21 Rosen, *A History of Public Health*, 19. This is not saying that the fall of Rome was an unmitigated evil. According to Walter Scheidel, it generated a political anarchy that ultimately led to the Enlightenment, the Industrial Revolution, and the “great escape” from poverty; see his *Escape from Rome: The Failure of Empire and the Road to Prosperity* (Princeton University Press, 2019).
At the same time, the idea of government intervention in public health was advancing along with a new theoretical foundation—that a healthy population was a resource for the state both as taxable material and as human conscripts for war. This evolution was consistent with mercantilism, which claimed that exports were to be pursued because they enriched the state. The *raison d’État* called for increasing national power. In England, active government intervention in health care and even a national health service were proposed during the second part of the 17th century, but without a follow-up.

In America, the main concern was the protection of the healthy from the contagious:

> *The colonies followed the European practice of attempting to control the introduction of contagious disease by quarantining ships or traffic from places of infection. In 1665 both Boston and New York quarantined ships from London to prevent the introduction of the plague. ... But once infection was introduced then isolation of the infected had to be imposed, restricting the sick to their homes, impressing nurses to look after them and placing guards on the door to prevent contact with the outside. In 1717 Boston established a pest house on Spectacle Island to which infected cases would be removed.*

Quarantines and even quarantines at home are not new.

During the epidemics of yellow fever in the 1790s, “most believed that it was caused by miasmas and citizens and officials were driven to enormous efforts to eliminate all causes of miasmas.” The theory of miasmas, which was only definitively abandoned at the end of the 19th century, claimed that “communicable diseases arose from effluvia produced by decaying organic matter.” This error was related to the idea of spontaneous generation, according to which microorganisms would be generated from dirtiness. The contagion theory, on the contrary, argued that “specific contagia are the sole causes of infections and epidemic diseases.” Mary Lindeman explains the difference between the miasma theory and the theory of contagion that replaced it with the advance of medical science:

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Roughly speaking, contagion means that diseases are passed from person to person, either directly or through water, air, or inanimate objects, while miasma suggests that some condition of the atmosphere bears the principal responsibility.\(^{30}\)

Until the rise of microbiology and immunology from the late 19\(^{th}\) century on, most public health activities were successful only by fluke or thanks to crude empiricism. Quarantine and isolation of contagious individuals were efficient because they were based on the correct intuition of contagion from person to person. Sanitation through clean water and the removal of human waste was successful not because uncleanness generated dangerous miasmas, but because infectious micro-agents could pass from human waste into the water supply.

The 18\(^{th}\) and 19\(^{th}\) centuries marked the continuous advance of public health activities of epidemic prevention and control, consistent with the public-good interpretation. These two centuries witnessed the Enlightenment and the Industrial Revolution, two momentous events in the history of mankind. The French Revolution of 1789, emblematic of much political thought on the Continent, affirmed both individual rights against the state and social rights to security from the state, a contradiction that was to have major consequences and remains with us today.\(^{31}\) Roy Porter noted that “the Enlightenment no more resolved its medical than its cultural, social and political paradoxes.”\(^{32}\)

On the one hand, the state advanced. Many public (that is, government) hospitals were created in Europe besides those operated by charities. Many city governments appointed municipal physicians to help the poor, including in the U.S. for a while.\(^{33}\) In countries where local resistance was not too strong, central health administrations were created. In the second part of the 18\(^{th}\) century, German writers started referring to public health administration as the “medical police,”\(^{34}\) meaning that the state must implement public health policies with an administrative machine capable of enforcing them. In 1840, a British government committee mentioned “the property which the country has in [the workers’] useful labours”\(^{35}\) as a reason for

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\(^{33}\) Brock, “North America, a Western Outpost of European Medicine,” 205.


the government to be concerned with the health of the poor. In 19th century Germany, the “public health” movement progressed rapidly: with the creation of the Second Reich after the Franco-Prussian war, a central Reich Health Office was established.\[^{36}\]

On the other hand, there was indeed resistance. The case of France is interesting in this respect. Resistance to centralization and the idea of “the sanctity of property”\[^{37}\] slowed down the advance of public health outside its (implicit) public-good conception. The courts interpreted an 1850 law on housing standards such that landlords could not be forced to make improvements to rented dwellings. The law had been strengthened by the end of the century, but the landlord whose property was condemned for public-health reasons had to be fully compensated. The law also provided that doors and windows created for public-health reasons would not be subject to the aperture tax, which was designed as a wealth tax since tax inspectors could not inspect houses other than by looking at them from the street.\[^{38}\]

The miasma theory of epidemics suggested that insalubrious housing would, by itself, promote epidemics. This belief is not true, except insofar as clean water and waste treatment prevent contagion, rats or other animals can carry pathogens, and overpopulated housing can fuel the spread of contagious diseases. It is probably true that a poor family is better off in an insalubrious house than without any dwelling, which is what more expensive housing would often mean. There is always a danger of hurting people by wanting their good despite what they themselves want or despite what economics teaches about the consequences of coercive compassion. You don’t help somebody by removing one option from their choice set.

Until the last decades of the 19th century, hygiénistes—as public health experts were called in France—were often classical liberals in the sense of economist Jean-Baptiste Say, a follower of Adam Smith.\[^{39}\] François-René Villermé, probably the best-known 19th century hygiéniste, observed that the poor were more subject to disease and epidemics—a temporary problem of poverty, he believed, that would be solved by economic growth. History proved him


\[^{38}\] Ramsey, Public Health in France,” 69 and 83.

largely right as higher incomes brought better nutrition, better sanitation, and soon more and better vaccines. Villermé agreed to limitations of work hours for young children, but did not think that the work choices of adults should be regulated. He wrote that “affluence or wealth—that is to say, the conditions of existence that such means provide those who enjoy them—is here in truth the most important of all hygienic factors, namely that which best assures the very preservation of life.”

In the U.S., by the 18th century, the health of the colonists was good for that era, but more because of growing prosperity than often ineffective health measures:

By the eighteenth century colonial health had improved, but not through any attempt at improvement beyond laws introduced, in towns like Boston and New York, to control miasmas and bad smells. Improved general health resulted mainly from better housing and an improved and more varied diet which increasingly contained vegetables and fruit and the availability of beer or cider as a drink instead of polluted water.

Until the late 19th century, it is fair to say that the public-good conception of public health was dominant in the U.S., perhaps even more so than in France. Public health was largely a local matter or, at most, a state-level matter, organized around quarantines and ex post control of epidemics such as isolation of the infected.

Public and private provision of medical care for the poor existed in the U.S. as elsewhere, but that is a different reality than public health as a public good. A hospital bed is a private good that can only be occupied by one person and for which he—or his family or a charitable third-party—can be charged a price.

Large and fast-growing cities with overpopulated housing were a fertile ground for epidemics, especially when aqueduct and sewer systems were unsatisfactory. Whether journalist

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40 Quoted in Coleman, William, Death is a Social Disease (University of Wisconsin Press, 1982), 304. In this sense Villermé believed that disease and early death were a social disease: general wealth would reduce diseases.
Sonia Shaw exaggerates or not, the point she makes is worth noting: “By the nineteenth century, the European descendants of the ancient Romans who came to populate the city of New York … each likely ingested two teaspoons of fecal matter every day with their food and drink.” Many epidemics occurred in the U.S. during that century, including diphtheria, typhoid, yellow fever, and polio. New York City’s sewer system was eventually created and expanded to virtually the whole city between the middle and the end of the century. The microbiological revolution and increasing wealth would soon improve the situation dramatically.

The Civil War itself, when 360,000 Union soldiers (not counting Confederate ones) were killed by infectious diseases, “enforced a national conscientiousness of epidemic disease” and, in its aftermath, “most states created boards of health.” In 1879, Congress created a National Board of Health.

It was mainly in the 20th century that public health expanded its scope much further than an identifiable public-good concept. Government propaganda and new coercive powers brought by the two world wars favored public health campaigns. During World War I, U.S. public health officials portrayed vaccine refusal as unpatriotic sabotage. Rosen writes that “emphasis on scientific nutrition was pushed in the name of patriotism.” Regarding World War II, Elizabeth Fee noted that “public health was now declared a national priority for the armed forces and the civilian population engaged in military production.” More generally, observed historian Michael Willrich, “epidemic disease, like war, is the health of the state.”

### 1.3 Immunization as a Public Good

Besides sanitation and ex post control of infectious persons, vaccination can be viewed as a public good as it provides the public service of herd immunity to disease. The vaccination of a certain number of persons against a given disease reduces everyone’s probability of contracting

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44 Shaw, Sonia, *Pandemic: Tracking Contagions, from Cholera to Ebola and Beyond* (Farrar, Straus and Giroux, 2016), 58.
46 Navin, *[Values and Vaccine Refusal]*, 8.
it; at the limit, if everybody else is vaccinated, one’s probability of being infected is zero, whether he himself chooses to be vaccinated or not. Everybody prefers other individuals with whom he may be in contact to be immunized. So it is not surprising that immunization is widely considered an important component of public health as a public good. (As we shall see, this may not be as obvious as it looks, but it is a good starting point.)

The first vaccine, against smallpox, was invented at the end of the 18th century. It was an improvement over the practice of “variolation” which, in that century, had been used in the West after being imported from the East. Variolation consisted of inserting, in a small skin puncture, real smallpox scabs or fluid from pustules. The risk of developing the real disease instead of being immunized was relatively high.  

In the late 19th century, vaccination mandates started being imposed on American public schools. After 1784, the German government imposed vaccination mandates at the national level. The French government resisted until 1887. “For partisans of public health,” Porter argues, “France lagged a generation behind several other Western European countries, particularly Britain and Germany.”

By all evidence, the impact of vaccines has been extraordinary. Between the decade of the 1860s and around 1930, the number of smallpox deaths among one-year-old to five-year-old children in England and Wales decreased by 99.5%, from 474 per million to 0.51. Anti-vaccination campaigners argued that this was due to the progress of sanitation (not to mention better nutrition and the disappearance of overpopulated slums in rich country), but the smallpox vaccine certainly had a major impact. By 1979, the disease had been eradicated in the world. The case of more recent vaccines bolsters the argument. Polio vaccines have brought the number of cases of the disease from 400,000 per year worldwide in the late 1980s to 3,500 in 2001 and

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52 Porter, “Public Health in France,” 85.
only 22 in 2017.\textsuperscript{54} This disease has been eradicated from the United States since 1979 and remains endemic only in three poor countries.\textsuperscript{55} According to one estimate, vaccines have prevented “over 100 million cases of previously routine childhood diseases, such as polio and measles.”\textsuperscript{56}

The story of the Hib vaccine is also telling. Hib is a sort of influenza infection that, before 1985, was one of the main causes of meningitis in the United States and led to some 1,000 deaths per year. Hib hit toddlers and infants, and often resulted in devastating neurological deficits and other health problems. Vaccination became available in 1985 and was improved over the next few years. Figure 1 shows the dramatic reduction in incidence up to the point where, today, there are only 40 cases a year.\textsuperscript{57}

It is known that vaccines do carry some risk, even mortal ones in very rare cases, but the probability of serious effects is very small:

\begin{quote}
For example, less than one child out of 1,000,000 will develop long-term seizures or brain damage after receiving the DTaP vaccine (Centers for Disease Control and Prevention 2007). Children face a similar low risk of becoming deaf after the MMR vaccine (Centers for Disease Control and Prevention 2012a).\textsuperscript{58}
\end{quote}

This risk is 1/40\textsuperscript{th} of the probability of dying in an accident at home.\textsuperscript{59}

Vaccination seems to be a public good because it diminishes the chances of one getting infected to the extent that others have been vaccinated. If others pay the price of the public good—in terms of the cost of the vaccine, the inconvenience or discomfort, and the risk—one doesn’t have to pay it oneself and he gets a free ride. But how is it a public good for the vaccinated, who don’t need the public good at all?

Vaccination is a strange public good for which there is a private good (individual

\textsuperscript{56} Navin, \textit{Values and Vaccine Refusal}, 6, and the citations therein.
\textsuperscript{57} Hotez, Peter J., \textit{Vaccines Did Not Cause Rachel’s Autism: My Journey as a Vaccine Scientist, Pediatrician, and Autism Dad} (John Hopkins University Press, 2018), 21-25.
\textsuperscript{58} Navin, \textit{Values and Vaccine Refusal}, 6.
\textsuperscript{59} Spier, “Perception of Risk of Vaccine Adverse Events,” S79.
vaccination) that is easily substitutable. It is as if, for any individual in the valley, a flood-control
dam—an example of a pure public good—had a substitute consisting in one building his own
very small and inexpensive dam with a couple of sandbags. It is true, however, that some
individuals may be too young or too old, or have a too-compromised immune system, to be
vaccinated, so that only the immunity of others can protect them.

The public good, then, may be more “herd immunity,” the situation where a minimum of
vaccinated individuals effectively eradicates a disease in a given society. Herd immunity is the
threshold vaccination coverage required to protect the non-vaccinated. If this threshold
proportion is vaccinated, the others can count on herd immunity for their own protection. The
herd immunity threshold varies with specific diseases and depends on factors like how many
persons a contagious individual has contact with. The threshold is typically around 75%-80%
(80% for Hepatitis A,⁶⁰ for example) but reaches 90%-95% for measles.⁶¹ If too many
individuals in the population choose not to be vaccinated, the public good of herd immunity is
not produced. It is a public good if we assume that each individual wants a zero probability of
being infected in the future, even if he becomes too old or his immune system becomes
compromised. If some individuals are willing to take their chances, the public good looks more
like positive externalities for a part of society.

It is on that basis (which Gostin and Wiley take to be “the common good”) that
compulsory vaccination can be rationally argued for. A famous court case of 1900, State v. Hay,
ruled that compulsory vaccination was lawful:

\[
\text{It is common sense that if a people can draft or conscript its citizens to defend its borders from invasion, it can protect itself from the deadly pestilence that}
\]

walketh by noonday, by such measures as medical science has found most efficacious for that purpose.\textsuperscript{62}

U.S. courts generally sided with public authorities on compulsory vaccination. Limits were recognized, such as serious medical contraindications, the requirement of “present danger,” and the prohibition on targeting people on the basis of race. Moreover, forced vaccination—by restraining somebody to forcibly vaccinate him—was declared unlawful.\textsuperscript{63} Despite the general “police power” recognized to state governments in matter of public health, a Rhode Island public health officer could still lament in 1913 that the United States was the “least vaccinated of any civilized country.”\textsuperscript{64}

To persuade oneself that the principle of compulsory vaccination recognized by U.S. courts in the early 20\textsuperscript{th} century granted a lot of power to government, one only needs to read Justice Oliver Wendell Holmes’ 1927 justification for the forced sterilization of a “feeble-minded woman” named Carrie Buck: “The principle that sustains compulsory vaccination,” he wrote in the court’s near majority decision, “is broad enough to cover cutting the Fallopian tubes.”\textsuperscript{65}

Law professor Richard Epstein does argue that the power to compel quarantine or vaccination is part of public health conceived as public good—what he calls the “old public health”—as opposed to the even more dangerous powers of the “new public health,” which has a much wider scope.\textsuperscript{66} But note that if some individuals in society do believe, rightly or wrongly, that vaccination is ineffective or even dangerous, it is not, by definition, a public good for them. It is not clear that they should be coerced into being vaccinated. Thus, it is not as obvious as it appears at first sight that vaccination is a \textit{pure} public good. Vaccination of others may transmit positive externalities to many members of society, but this is not, strictly speaking, a sufficient condition for a public good.

Note that Epstein’s public good argument is more clearly valid to justify quarantine


\textsuperscript{64} Willrich, “The Least Vaccinated of Any Civilized Country,” 81.

\textsuperscript{65} A famous statement, quoted in Willrich, “The Least Vaccinated of Any Civilized Country,” 90.

\textsuperscript{66} Epstein, “Let the Shoemaker Stick to His Last.”
during an epidemic like Covid-19, which may hit anybody like an asteroid. At any rate, it is in terms of public good that issues of public health should be discussed in order to focus on the theoretical or ideal of unanimity.

Mark Navin defends the opinion that “we have a duty of fairness to contribute towards valuable public goods, such as herd immunity, when we are able to do so at a reasonable cost to ourselves.” But we must ask again, what about those who don’t consider vaccination as a good (something that brings utility) for themselves? It is not an easy question.

1.4 Coercion or Subsidization?

A general tax seems to coerce taxpayers, but it can be argued that those who get a net benefit from the use of the tax, through the provision of a public good for example, are not really coerced. One way to coerce parents into having their children vaccinated is to otherwise deny them some other government benefits to which they would normally be entitled, which is equivalent to imposing on them a special tax. In a similar way, U.S. states have long required vaccination as a condition for admission in school, but it is notable that exemptions were easily available for religious or conscientious reasons. A number of state governments have recently removed all but medical exceptions, including California, Mississippi, and West Virginia. Negating school access amounts to a specific tax on those from whom the government wants a behavioral change. Such a tax is discriminatory and appears clearly coercive.

Besides direct coercion and taxes, there is another way to go. Subsidizing parents—bribing them to have their children vaccinated—is easier to justify from a moral (distributive) viewpoint: let the general taxpayers who want immunity through the vaccination of others pay for it. This would seem to minimize coercion and resistance. Apparently, the Australian government once did that. Subsidization allows the targeted individual to refuse to participate if the reward is not worth his evaluation of the cost, while others are free to take the bait. As economist Charles Phelps notes, the argument for subsidies as opposed to taxes parallels the

67 Navin, Values and Vaccine Refusal, 140.
argument in favor of a voluntary army paid by general taxes as opposed to conscription.  

More generally, to the extent that vaccination is a public good, the government is justified to subsidize vaccines or the health providers who deliver them. This approach also justifies the current practice, in most countries, of offering recommended vaccines at low cost if not free of charge.

1.5 Microbial Resistance

The mounting problem of drug resistance suggests that public health is a public good in another way, more obviously valid than the simple herd immunity argument presented above. The use, overuse, and misuse of antibiotics, both by humans (30% of prescriptions are thought to be unnecessary, and the prescription course is often not completed) and for animal growth, have led to the development of many drug-resistant bacteria such as C. Difficile. A similar phenomenon has appeared with anti-fungal and anti-viral drugs, so the general problem is one of antimicrobial resistance. As the Economist noted, drug-resistance is “one of the clearest examples of evolution in action.” Drug-resistant infections kill 700,000 persons a year in the world, a death toll forecasted to rise to 10 million in 2050. In the United States, the number of deaths from antimicrobial resistance reach more than 35,000 persons every year. Combating antimicrobial resistance is more clearly a public good than vaccination is: everybody presumably wants it and, if offered, it benefits everybody subject to infection, that is, all individuals. In practice, controlling drug resistance may require policies such as a tighter control of prescriptions, restriction on the use of antibiotics for animals, and perhaps subsidies to pharmaceutical companies for the development of new drugs against the resistant microbes.

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Interestingly, herd immunity appears to be a solution to drug resistance: the fewer a given disease’s microbes are, the lower the probability they will have to be fought with drugs and that resistant strains will develop. In other words, the presence of drug-resistant microbes makes vaccination more of a public good. Vaccination is a substitute for the other measures to control drug resistance.

In conclusion, the concept of public goods helps to define a distinct field of public health and, at the same time, to limit its domain. Public health can be meaningfully and usefully analyzed in terms of public goods. It is fair to say that, before the late 19th century or early 20th century, such was, in general, the implicit conception of public health, with some exceptions to be reviewed in Part 2.

2 Public Health as Government Medical Care

The idea that public health was once viewed in the way most of today’s economists analyze public goods requires some qualifications. First, the term “public health” dates back only to the 17th century; the field started resembling a “fully articulated program” only in the late 18th century, and the term became current only in the 19th century. Assigning the “public good” label to activities of political rulers throughout the ages also looks anachronistic. Second, public health has seldom, if ever, been restricted to pure public goods. There has always been some mix of, and confusion between, public health and private health, that is, between public health and the health of the public. Even when it was closest to the concept of public good, the old public health included some governmental provision for the ordinary medical care of poor people. When we identify a model of public health as government medical care, it is a model that, as time passed, has tended to displace public health as a public good.

2.1 Private Health and Public Health

From about the sixth century BC, Greek cities started hiring a town physician. The municipal doctor could accept fees, but his salary allowed him to treat the poor for free. From

75 Lindemann, Medicine and Society in Early Modern Europe, 193.
the second century AD, the Roman Empire also had public physicians who cared for poor citizens.\textsuperscript{77} Public infirmaries cared for slaves or even for citizens.\textsuperscript{78} In the Middle Ages, the poor could receive medical care from physicians hired by the Church and hospitals belonging to the Church or financed by rich philanthropists. Toward the end of the late Middle Ages, municipal doctors reappeared for a time, and many hospitals came under the jurisdiction of municipal authorities.\textsuperscript{79} The early modern period (16\textsuperscript{th} and 17\textsuperscript{th} century) continued on the same path, with municipal governments and developing national states taking more responsibility for the medical care of the poor.\textsuperscript{80} This movement accelerated in the 18\textsuperscript{th} and 19\textsuperscript{th} centuries, although there was still much philanthropy in the 18\textsuperscript{th} century.\textsuperscript{81} As time progressed, public health was more and more understood as public health care and not only for the poor.

The concepts of public good and private good must be distinguished carefully. It is one thing for public authorities to offer medical care (and other services) to counter epidemics, an activity that participates in the nature of public goods; it is another thing for them to offer medical care in the form of private goods (drugs) or private services (hospital stays and doctors’ services) as a matter of course. Offering these private goods and services to help the poor or, as mentioned in Part 1, to strengthen the warring state, is a different activity that cannot be easily justified by arguing that there is no way they can be produced efficiently in response to demands expressed on the market. For the clarity of the analysis, the two sorts of public health activities should have different names.

How could that confusion between the two sorts of health intervention arise? One historical reason may have to do with medical ignorance about contagion and epidemics, which lasted until late in the 19\textsuperscript{th} century. Epidemics of contagious diseases could not be clearly distinguished from other diseases, therefore it made some sense to put all health problems in the same bag and lay it down at the door of public authorities. The confusion between the public good of public health and the private goods of other medical services of diagnosis and treatment was encouraged by the dire poverty of those at the bottom of the social scale. This concern is

\textsuperscript{77} Rosen, \textit{A History of Public Health}, 15.
\textsuperscript{78} Rosen, \textit{A History of Public Health}, 16.
\textsuperscript{79} Rosen, \textit{A History of Public Health}, 34.
\textsuperscript{80} Rosen, \textit{A History of Public Health}, 36.
\textsuperscript{81} Lindemann, \textit{Medicine and Society in Early Modern Europe}, 208.
easier to understand if we assume that the physicians of the time were really helping. Moreover, to speak of another science, it was not until the 20th century that economics established a clear distinction between public goods and private goods.\textsuperscript{82} One result of this confusion and of other factors is that today’s governments in advanced societies assume about half of health expenditures, most of it going to the subsidization or takeover of private expenditures as opposed to public goods.

### 2.2 Government Health Expenditures

As can be seen in Figure 2, the proportion of health expenditures from public sources (general government revenues and compulsory social contributions such as Medicare in the United States) averages 71% of total health expenditures in OECD countries\textsuperscript{83} and is about 50% in the United States.\textsuperscript{84} Public (government) expenditures on health are not only more important than private health expenditures in nearly all countries, and as important as in the United States, but they mostly finance the production of private health services, not of public health in the sense of public goods (old public health).

Although there are no authoritative data on government expenditures on old public health, one indication of its importance or lack thereof can found in the fact that, in the average OECD country, only 3.2% (3.4% in the United States) of health expenditures financed by government or compulsory schemes go to the “preventive care” function.\textsuperscript{85} The preventive care function, as defined by the OECD, includes many health activities related to old public health such as immunization programs and epidemiological surveillance, but it also includes many expenditures on private goods in “information, education, and counselling programmes,” detection of non-communicable diseases, or “healthy condition monitoring.”\textsuperscript{86} On the other hand,


\textsuperscript{83} Excluded from the (unweighted) OECD average are the countries represented on the chart that are not OECD members: Brazil, China, Columbia, Costa Rica, India, Indonesia, Russia, South Africa, and Columbia (the latter has since become a member).


there are presumably public goods included in other categories—in diagnosis and possible hospital treatment of epidemic-infected individuals, for example. But nothing proves that these more than make up for the non-public-good content of the preventive care function. Epidemics are rare and generally mild in advanced economies, notwithstanding the current one, for which governments were notably ill-prepared.

Another indication of the dominance of private goods and services as opposed to public goods in government health expenditures can be obtained from the U.S. Bureau of Economic Analysis’ Health Care Satellite Account. Only 4.5% of all government health expenditures in the U.S. is devoted to the category “infectious and parasitic diseases.” Turnock complains that “less than 5% of all health expenditures [support] core public health functions and essential services and only about 1% [support] population-based prevention.” This would suggest that at least 95% of all governmental health expenditures have nothing to do with communicable diseases. Yet, it can be argued that sanitation expenditures by local governments (water supply and sewage services) as provided by the BEA should be added to the category of infectious and parasitic diseases. We then get an estimate of 7.8% for the proportion of government health expenditures going to the old public health function.

2.3 Why the Drift?

Why would the state be interested in providing medical care to “its” people over and above the scope of the old public health? The answer is not immediately obvious. Why shouldn’t governments offer nutrition care or shelter care or, for that matter, sex care? Despite being necessary if not indispensable to human welfare, all these goods are private goods, not public goods, and history as well as theory show that governments cannot be as efficient as markets in financing and supplying private goods. It is true that governments supply education services up to a certain level, but it can be argued that a minimally educated population is a public good, at least in a democratic society. Some sophisticated arguments may suggest that markets for private health insurance show market failure, but these arguments must be made, and they don’t

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88 Data are from the 2016 BEA’s Health Care Satellite Accounts database at [https://www.bea.gov/media/6611](https://www.bea.gov/media/6611).
90 BEA, *National Income and Product Accounts*, online database, Table 2.5.5, line 25, for 2016.
necessarily conclude that government should be responsible for all medical care.

If one ignores the tools of economic analysis, it’s tempting to conceive of the “public” in “public health” not as a set of individuals but as a mythical “community as a whole.”91 In this perspective, flesh and blood individuals can be legitimately coerced by the majority to serve the “community as a whole.” “The push to limit public health’s scope,” argue Gostin and Lindsay, “is deeply counter-majoritarian and undemocratic, threatening to disable communities from undertaking measures to improve their own well-being.”92 In practice, “public” means “governmental.” Economics always brings us back to the individual. It may be possible to justify coercive public health measures like Epstein argues, but these must be justified by the welfare of all individuals. Part 3 will look further at this idea of society or the community “as a whole.”

Another factor that contributed to the drift from public-health care to public health care was the difficult conditions of industrial workers during the 19th century Industrial Revolution.93 Many social reformers agitated for government interventions in health care after observing these conditions, which were created by the general poverty that was precisely to be eliminated by the Industrial Age. Note also that the health impacts of exposure to certain industrial processes were unknown until research and investigations revealed them.

Still another problem of government health care is that it can easily drift to an even more encompassing concept of public health. In many ways, this has already happened, as will be shown in Part 3.

### 3 Public Health as Total Government Care

The new public health, argues Richard Epstein, “simply invokes the idea of the common good (or the public interest) to allow state regulation on any matter of business or social life that

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91 For example: “Tobacco control, alcohol moderation, healthy eating, and physical activity interventions are intended to benefit the community as a whole” (Gostin and Wiley, *Public Health Law*, 444); “The public health approach is scientific, emphasizes prevention, focuses on the community as a whole.” (David Hemingway, *Private Guns and Public Health* (University of Michigan Press, 2004), 224.
affects a substantial fraction of the community.” This is not surprising: because the “common good” or the “public interest” are much vaguer notions than the economic concept of public good, they can easily extend the scope of public health much further than government’s medical care proper. Although this may seem an exaggeration at first, the current view of the new public health is, at least ideally, not far from total government care. Hence the third model of public health.

3.1 The Rationale and the History of a Drift (Continued)

Consider the following argument. Health depends on multiple conditions in life, from income to the way one spends it and to one’s general satisfaction and happiness. In fact, health depends on all circumstances of health. It cannot be improved without improving these circumstances. For example, low income affects health care, food, housing, and mental health. Moreover, low income is due to social conditions that can be traced to a lack of social justice, which is related to what every other individual does or does not do or should not do. Therefore, public health interventions must encompass the whole life of individuals. This argument may appear rational, but it is not, except perhaps if one assumes that the normative goal is state power.

Among the milestones in the drift of public health toward the idea of total government care, a legal principle going back to the 19th century in America (some European influence is likely) claims that, in some matters (which have expanded with time), government is to the citizens or subjects what parents are to their children. The legal doctrine has a Latin name, parens patriae, which means “parent of the country” or, more exactly, “parent of the fatherland.” The theory is explained in the textbook of public health law authored by law professors Lawrence O. Gostin and Lindsay F. Wiley:96

From a constitutional perspective, there exist historic wellsprings of state authority to protect the common good: the police power to protect the public’s health, safety, and morals, and the parens patriae power to defend the interests of persons unable to secure their own interests. ...
In the United States, the parens patriae function belongs primarily to state and local governments. It is traditionally invoked in two contexts: to protect individuals who are unable to protect themselves because they are incapacitated, and to assert the state’s general interest and standing in communal health, comfort, and welfare, safeguarding collective interests that no individual, acting alone, has the capacity to vindicate. ...

The Supreme Court has recognized the states’ broader parens patriae capacity in the context of quarantine, sanitation, protecting the water supply, and preventing air and water pollution. In recent years, many state and city governments have acted in their parens patriae capacity in litigation against industries that produce and distribute harmful products.

Parens patriae can serve to justify, and has historically justified, some public-good public health functions of the state, such as isolation of infectious persons and quarantine of potentially infected ones; but it can also justify much more. Under the public-goods approach, citizens are considered adults, each of whom being capable of determining what is good for himself; under the parens patria approach, the state can overrule individual preferences. The federal government has arguably occupied more and more of the parens patriae function.

Gostin and Wiley hail the 1905 Supreme Court ruling in Jacobson v. Massachusetts as the “paradigm of judicial restraint in deference to the police power” and “the most important judicial decision in public health.”97 The Reverend Henning Jacobson was a Cambridge (Massachusetts) pastor who refused to be vaccinated after the Board of Health imposed the compulsory smallpox vaccination of all inhabitants of the city. Jacobson was prosecuted, found guilty, and condemned to pay a fine of five dollars (which would be equivalent to about $120 today, assuming an annual rate of inflation of 1.5%). The case went up to the Supreme Court, which ruled against Jacobson with a 7-2 majority. The Court’s opinion by Justice John Marshall Harlan quoted a 1904 decision by the New York Court of Appeals:

The legislature has the right to pass laws which, according to the common belief of the people, are adapted to prevent the spread of contagious diseases. In a free country, where the government is by the people, through their chosen representatives, practical legislation admits of no other standard of action; for what the people believe is for the common welfare must be accepted as tending to promote the common welfare, whether it does in fact or not. Any other basis would conflict with the spirit of the Constitution, and would sanction measures opposed to a Republican form of government.98

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97 Gostin and Wiley (2016), 121.
This remarkable statement characterizes a free country as a representative democracy where anything people believe to further the common welfare through representatives elected by a majority is deemed to be for the “common welfare.” Within the limits of certain tests that the court developed, the decision of this majority must not be interfered with. Jacobson seems to have recognized the principle that public health, however defined, could be imposed by government, and to have given carte blanche to the substitution of collective choices for individual choices.

It is not surprising that an expansion of the scope of public health should have followed and that a completely new definition of public health would emerge. In 1920, a famous public health expert and founder of the Yale University Department of Public Health, C.E.A. Winslow, defined public health as including,

...the organization of medical and nursing services for the early diagnosis and preventive treatment of diseases, and for the development of the social machinery to insure everyone a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birthright of health and longevity.  

Less than three decades later, the 1946 constitution of the World Health Organization (WHO) defined health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”

“Public Health,” wrote Harry Rosen, “must care for society as a whole by considering the general and physical conditions that may adversely affect health, such as soil, industry, food, and housing.” According to the Institute of Medicine’s 1988 characterization, the mission of public health consists in “fulfilling society’s interest in assuring conditions in which people can be healthy.”

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100 Constitution of the World Health Organization, https://www.who.int/governance/eb/who_constitution_en.pdf. See also WHO, Dr. Brock Chisholm, Director-General, https://www.who.int/dg/chisholm/chisholm/en/. Dr. Chisholm, a psychiatrist, was one of the founders and the first Director-General of the WHO. Friedrich Hayek, a Nobel economics prizewinner, wrote (alas without a citation): “Chisholm advocated no less than ‘the eradication of the concept of right and wrong’ and maintained that it was the task of the psychiatrist to free the human race from ‘the crippling burden of good and evil’—advice which at the time received praise from high American legal authority.” See F.A. Hayek, *The Fatal Conceit*, 58.
Considering that being healthy includes “social well-being,” a mission to guarantee the conditions of health, which is what the new public health is about, targets most of any individual’s life. In other words, if health includes everything and government must guarantee the conditions of health for everybody, it can claim a right to control everything. No wonder that Turnock sees as a unique feature of public health “its broad and increasing scope.” We will observe many instances of this continuing process whereby public health has tended toward the ideal of total government care.

Public health theorists adopted a new concept of epidemics to fit their broad definition of health and applied it to non-communicable diseases and even to risky lifestyles. An epidemic has become simply “a disease or condition with rapid spread, growth, or development that simultaneously affects many individuals in a community or a population.” We now hear about the “alcohol epidemic,” the “tobacco epidemic,” the “vaping epidemic,” the “obesity epidemic” or “fat epidemic,” among others. Any discomfort or disease is undesirable for the individual who suffers it, but it might be the consequence of a preceding adult trade-off between probabilistic costs and benefits to the individual himself; perhaps it is simply the consequence of living or growing old. One cannot live without taking some risks. It sometimes seems that everything that the new public health establishment considers the consequence of some activity it does not like or of some individual decision it does not approve is labeled an epidemic.

During the 20th century, some harder versions of the total government care model developed. Eugenics was one of them. Governments claimed the right to preserve the nation’s genetic “stock” through the forcible sterilization of individuals deemed physically or mentally defective or “socially inadequate.” Political journalist Herbert Croly, co-founder of the New

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Republic, believed that the state had a responsibility to “interfere on behalf of the really fittest” and improve human nature by improving “the methods whereby men and women are bred.” In the name of eugenics, compulsory sterilization was practiced in about 30 states, starting with Indiana in 1907. The practice was approved by the Supreme Court in 1927, claimed about 65,000 victims, half of them before 1940.

In a recent article, Paul Lombardo, a professor in the College of Law of Georgia State University, reviews the connections between the eugenics and the public health movements. The “eugenic marriage laws,” which restricted marriage with individuals deemed unhealthy or morally defective, as well as interracial marriages, were widely supported in the public health community. Eugenicists used public health rationales. Dr. Rupert Blue, the surgeon general from 1912 to 1920, was a eugenicist who supported compulsory sterilization. FDA founder Harvey Wiley was also a eugenicist. Many officials of the American Public Health Association were.

According to Elizabeth Fee, “most public health workers” saw their concerns as inconsistent with eugenics, although she admits an interface between the two movements. Speaking about a committee of notables that was campaigning for federal regulation of public health, she observes:

> Its president, Irving Fisher, a Yale economist and a prime mover in the American Eugenics Society, argued that public health was good science and good economics, and would help conserve “national vitality”. The push for public health on a national level was thus tacitly allied to concerns about the deterioration of the national “stock” and the idea that biologically inferior immigrants were responsible for the growing statistics of disease, alcoholism, mental illness, urban violence and criminality.

How could public health experts be eugenicists? The obvious reason is that eugenics was meant to prevent problems of physical and mental diseases in future generations, and thus contributed to “public health.” Preventing the birth of the feebleminded and defectives was also

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110 Ibid.
less cruel than natural selection, which otherwise killed the misfits through diseases and poverty. Moreover, as historian Martin Pernick notes, both movements shared the faith in science, which turned out to be largely fake science.\textsuperscript{111} He also wrote:

\textit{Eugenics was not an isolated movement whose significance is confined to the histories of generics and pseudo science. It is an important and cautionary part of past public health and of general medical history as well.}\textsuperscript{112}

It is also sobering to learn that sterilizations continued to be performed until 1980\textsuperscript{113} and that the last repeal of a sterilization statute occurred as late as 2008 in Mississippi.\textsuperscript{114}

One systemic effect of government coercion is that one form of coercion often leads to another. We mentioned the Supreme Court decision of 1927 that lifted any doubt on the legality of sterilization laws by allowing the procedure to be carried out on Carrie Buck, a young woman deemed to be “feeble minded” and “socially inadequate.”\textsuperscript{115} A longer quotation from the decision is enlightening:

\textit{We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the State for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes.}\textsuperscript{116}

If vaccination is a public good, its coercive imposition may or may not be legitimate, but the point here is that if it had been justified not by majoritarian legitimacy, nor by \textit{parens}

\begin{itemize}
\item \textsuperscript{112} Pernick, “Public Health Then and Now,” 1770.
\item \textsuperscript{113} Lombardo, \textit{Three Generations, No Imbeciles}, 249, 263. “Governor Jim Hodges of South Carolina offered an apology for the 1935 eugenics law of his state. Hodges noted that some 250 operations occurred in that state between 1935 and 1985.”
\item \textsuperscript{114} Lombardo, \textit{Three Generations, No Imbeciles}, 270, 294.
\item \textsuperscript{115} The two terms figure in the decision.
\item \textsuperscript{116} Buck v. Bell, 274 U.S. 200 (1927), \url{https://www.loc.gov/item/usrep274200/}. Quoted in “The Supreme Court and the Sterilization of Carrie Buck,” Facing History, \url{https://www.facinghistory.org/resource-library/supreme-court-and-sterilization-carrie-buck}. Miss Buck was sterilized in October 1927. Her sister was sterilized without her knowledge the year after. The page just linked to contain a very moving story about the case of the two sisters. Carrie died in 1983, which reminds us that this is quite recent history. On Carry Buck and the whole sterilization movement, see Paul A. Lombardo, \textit{Three Generations, No Imbecile}. 
\end{itemize}
_patriae_, nor by the police power of the state, nor by the “interests of society” or “public welfare,” but instead by a public-good argument, it would have been much more difficult—and arguably impossible—to extend the argument to forcible sterilization. There is no coherent argument whereby the Carrie Bucks of America could have been deemed in agreement with being sterilized.

The case of Germany is also interesting. By the end of the 19th century, Germany was widely admired as the country where public health was most advanced (and which generally had the most advanced civilization). “Public hygiene” had become “social hygiene” and then “racial hygiene,” which claimed to “consider the health, not only of individuals, but of the race as a whole.” Paul Weindling describes the German public health zeitgeist of the last part of the 19th century and early 20th century, and its ties with eugenics:

_Eugenics and population policy became integral aspects of social medicine. These theories can also be seen in terms of extending the powers and boosting the status of public health officials. The medicalized totalitarianism of the eugenic theorist, Wilhelm Schallmayer, that all doctors be state officials and all citizens carry a health passport requiring annual medical examinations moved a stage nearer realization. Socialists like Karl Kautskty also supported demands for the socialization of the medical profession._

### 3.2 Welfare and the Public Interest

Public health as total government care is “totalitarian” in the root sense of the term: it claims that government should, at least ultimately or ideally, care for the totality of the life of all individuals. But how to do this? One way is to forget about individuals and imagine that the patient to be treated is “society as a whole”—an idea that, as we have seen, often pops up in public health thinking. Turnock explains that “public health is properly a public matter” and its results “reflect the decisions and actions that a society makes.” But this raises another related problem: how can society make decisions and act? If we are not in the presence of a pure (not very scientific) metaphor, the underlying theory must be that society is not a collection of

117 “It became a commonplace to speak—to quote a widely read political essay of recent date—of `Germany where all the social and political forces of modern civilization have reached their most advanced form.’” (F.A. Hayek, _The Road to Serfdom_ (University of Chicago Press, 2 007 [1944], 93), quoting Reinhold Niebuhr, _Moral Man and Immoral Society: A Study in Ethics and Politics_ (New York: Charles Scribner’s Sons, 1932, 182.).)
118 Porter, _Health, Civilization, and the State_, 192.
120 Turnock, _Public Health_, 19.
individuals or the results of their actions and interactions, but some sort of independent reality. What sort of independent reality is society in public health theory?

One possibility is to conceive of society as a biological organism, a sort of super-individual. “Neighborhoods are more than places,” writes a report from the Temple University Center for Public Health Law Research. “They are social organisms.” One eugenic argument in the early 20th century was that, for the good of the social organism, the defectives should not be preventing from dying: a eugenist wrote that “[d]eath is the normal process of elimination in the social organism … in prolonging the lives of defectives we are tampering with the function of the social kidneys.” As Lombardo puts it, “[t]he goal of public health and eugenics was population health, or the common good rather than the welfare of any individual.”

In reality, society is not a biological organism. Nobel economist Friedrich Hayek emphasized this important point and called “scientism” the attempts to conceive of society as a biological organism. Society does not think or act except metaphorically, but the metaphor is dangerous for it easily leads to analytical errors. The state—the apparatus of government—can perhaps be viewed as an organization that “thinks” and acts, but it is important to distinguish this organization, which is part of society, from society itself. Saying that public health is what the state decides and does has different implications than saying confusedly that it is what “society” decides and does.

A related confusion is the assumption that there is a scientific meaning to “the welfare of the country as a whole” or of “society as a whole” or of the “community as a whole.” The problem, analyzed by a couple of generations of economists in the field of “welfare economics,” is the following. Because society is not an independent organism and because preferences and values vary among individuals, any public policy aimed at “society as a whole” is going, in reality, to benefit some individuals and harm other individuals. The only clear exception is the production of public goods, which, by definition, benefit everybody. With regard to other public goods and services, the decision of what to produce and how to produce it is not what society as a whole decides and does, but what the state decides and does.

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121 Burris et al., *A Vision of Health Equity in Housing*, 9.
policies—those that benefit some and harm others—cost-benefit analysis tries to net the costs and benefits in order to identify policies that have net benefits. But there is still the problem of what justifies imposing costs on some individuals in order to benefit other individuals. This is a difficult question, which the public health literature typically ignores, as well as the analytical tools necessary to try and answer such questions.  

The public interest is obviously ascertainable when it is a common interest, that is, when it is an interest that all individuals in society would view as their own interests. A public good represents such a common interest. Outside of public goods, the “public interest” is difficult to ascertain because the interests of some members of society are negated. Public health’s mere assumption that such a thing as the “public interest” exists and is objective and unambiguously ascertainable provides a powerful justification for an expansive concept of public health, but it has no scientific basis.

The public interest or social welfare cannot be a mere addition of private interests (plusses on one side, minuses on the other), for the state still has to choose to harm some for the benefit of others. There is no scientific, non-arbitrary criterion for making this choice, and public health becomes a way for the groups dominating the state to grab benefits from others or to impose their lifestyle preferences. This is not saying that no public policy is scientifically justifiable, but that only those representing a common interest are clearly so, and that a redistributive and discriminatory judgment must otherwise be acknowledged. Without the analytical apparatus developed by economists for analyzing public policy, public health experts and activists typically resort to arbitrary criteria or to their own personal preferences.

A somewhat equivalent way to see this lies in a point made by Richard Epstein: if

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anything “affected by the public interest”—as the jurisprudence between the late 19th century and 1930 has come to say—is subject to government regulation, then everything is. The reason is that you will always find somebody whose interest would be favorably affected by a given public policy and who will call it “the public interest.” The only escape, again, is to view the public interest as a common interest, as a public good is.

In his textbook’s glossary, Turnock defines public health as

> activities that society undertakes to ensure the conditions in which people can be healthy. These include organized community efforts to prevent, identify, and counter threats to the health of the public.\(^{128}\)

This definition is quite typical but not very useful. As the argument presented above suggests, “society” does not undertake activities, except in a very metaphorical sense. “Organized community efforts” must mean either government activities or the activities of voluntary organizations, and it would be useful to distinguish the two. Finally, defining “public health” in terms of “the health of the public” is not a very useful definition.

### 3.3 Public Health as Social Justice

If government is to use coercion against individuals, some philosophical justifications ultimately need to be found. The typical justification used by theorists of the new public health and the movement’s activists lies in the idea of “social justice.” “Social justice is the foundation of public health,” Turnock writes.\(^{129}\) In the same vein, Gostin and Wiley write:

> The idea of social justice is a core value of public health and is foundational of public health law. We define social justice as a communitarian approach to ensuring the essential conditions for human well-being, including redistribution of social and economic goods ... Like public health practice, social justice is, by its nature, politically charged.\(^{130}\)

This opinion, widely shared by theorists, experts, and practitioners of public health, brings their field or political movement in sharp focus. Any government intervention that does not deal in public goods must choose which citizens to discriminate against. The ones who are on

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127 Epstein, “Let the Shoemaker Stick to His Last, S142.
128 Turnock, Public Health, 6th Edition, 430. Turnock’s popular textbook is very interesting. It is mentioned often because it is representative of mainstream public health, which is related to the total government care model.
the receiving side of the redistribution (of money or other favors) tend to call it “social justice”; the ones who are on the coerced side typically experience it as unjust—and try to get equal by grabbing some compensating benefits from the others or from third parties. Politicization and discontent increase. It is true that we can try to give a philosophical definition of social justice: philosophers have been at it for at least two and a half millennia (about justice and then social justice) and still disagree. No surprise that social justice is political: it represents a political claim on the resources or lifestyles of other people.  

This paper does not argue that politics has no role at all, that public assistance to the poor is indefensible, or that a democratic state is not useful. But it does emphasize that public health defends a very peculiar political and moral philosophy.

This can be illustrated by further examples of what some other well-known and not atypical public health theorists think. Professor Gerard Hastings of University of Stirling writes that “lethal though tobacco is, the harm done to public health by our economic system is far greater.” Marketing, he claims, “undermines our mental as well as our physical well-being” and, when done by multinationals, presents “a major threat to public health.”

Describing the possible synergies between the “anticorporate movement,” and the public health movement, Professor William H. Wiist of Oregon State University argues for “[focusing] on the corporation as a societal structural factor in disease,” and, referring to Ilona Kickbusch, on “radical models and strategies that prevent health from being subjected to the market.” “The field of public health,” he writes, “needs to address the corporate entity as a distal, structural societal factor that causes disease and injury.” Of concern to public health are “inequities in

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health, income inequality, economic growth and instability, social relationships, the built
environment, and trade regulations,” as well as “race/ethnicity, gender, age, socioeconomic
status, and disability that are often manifest in a corporate setting.” He mentions “public
goods,” citing Kickbusch, but neither one defines what the term means (and both clearly
ignore the economic usage).

Dr. Kickbusch herself, a former professor and now international public-health consultant,
proposes “a global Bismarkian type of health insurance.” She seems to conceive “social public
goods” as what she thinks everybody should want, in lieu of the economic definition where
public goods are defined by what individuals actually choose.

In her book The New Public Health, Australian academic Fran Baum defines one of the
“critical perspectives” that she uses:

One such perspective on health that has been particularly influential is that
which maintains that health is defined in such a way by dominant forces in a
capitalist society that it becomes a defining and controlling mechanism.
Writers adopting this perspective use a Marxist analytical framework ...
Central to this view is the idea that capitalist societies are structured in such a
way that they produce illness.

These examples do not represent the opinion of all public health experts, although they
seem not too far from the mainstream. Peter Jacobson of the University of Michigan School of
Public Health observes that “most public health law/policy scholars would identify as being on
the political left.” Elizabeth Fee writes of the famous George Rosen, with whom she was
broadly in agreement, that “[a]t different times in his life, Rosen might have characterized
himself as a democratic socialist or a left liberal.

Given its wide definition and scope, it is not surprising that public health has become as
much as, or more of, a political movement than a field of scientific inquiry. Elizabeth Fee agrees

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Epidemiological Community Health 58 (2004), 630-631.
140 Jacobson, Peter D., “Changing the Culture of Health: One Public Health Misstep at a Time,” Social Science and
Modern Society 51:3 (May/June 2014), 224 (221-228).
141 Fee, Elizabeth, “Public Health, Past and Present: A Shared Social Vision,” introduction to George Rosen, A
History of Public Health, lx.
with “the idea that public health is not just a set of disciplines, information, and techniques but is, above all, a shared social vision.” This shared social vision is not founded on the respect of the preferences of all individuals and an attempt to find social institutions that can best reconcile them, as is the economic approach of public health as a public good. On the contrary, the public health shared social vision rests on the idea that some experts, or perhaps a democratic majority that agrees with them, should impose their values and trade-offs to other individuals in society.

An epidemic such as the current one, where no vaccine or easy (that is, not costly) protection measures exist, raises the toughest problems, but also the largest risk of dangerous collective/political decisions. Again, the social problem is to reconcile different individual preferences and values in a peaceful and efficient way. Some individuals want to minimize the interference by the state in their traditional liberties and, say, continue to work or offer their goods and services to consumers; other individuals want to prevent everybody from doing anything that could spread the contagion. Both groups, to the extent that they prevail, can be said to transmit externalities on individuals of the other. Economists say that externalities are symmetrical. The theoretical solution preferred by the economic approach is to find some common interests—the public good approach—not to assume that restricting individual liberty and economic freedom is the obvious way to go. This is especially true if one of the two groups is advised by public health experts whose ideology is to extend the reach and power of government. Only the first approach is consistent with each individual’s consent.

Part 2 explained how medical ignorance about the transmission of diseases before the 20th century contributed to blurring the distinction between ordinary diseases and epidemics proper, between private health and public health. Another factor that explains the evolution of public health lies in the collectivist ideologies that developed in the 19th century and proposed a vision of society that influenced the Progressive Era. At the beginning of the 20th century, medical educator Harvey Jordan of the University of Virginia argued that, eugenics and “the general change from individualism to collectivism” would merge all medicine into public health, and that physicians would upgrade from “doctors of private diseases” to “guardian of the public

142 Fee, “Public Health, Past and Present,” xxxiii.
Public health appears to be a branch of a more general ideology claiming that private choices should be replaced by public choices whenever possible, with the area of the possible being continuously expanded. Understanding the public health movement outside this ideological connection is difficult.

Richard Epstein asks an important question, which the public health movement, with its egalitarian conception of social justice, seldom asks: Is it better to have equality of poverty or inequality of wealth? In Yorkshire (England) in 1901, Epstein reports, the infant mortality rate ranged from 94 per 1,000 for the rich to 247 per 1,000 for the poorest workers. In 2000, the range of infant mortality between the rich and the poor varied from 1.3 to 8 per 1,000. Note that the ratio remained the same: in both 1901 and 2000, poor infants die 2.6 times more than rich infants. By this measure, then, inequality hasn’t changed. But, asks Epstein, would you prefer a uniform rate of 94 (as for the rich in 1901) or an unequal rate ranging from 1.3 to 8 (as in 2000)? He persuasively argues:

*To concentrate on income inequalities is to overlook the most mind-blowing feature of the exercise, which is the overall decline in infant mortality for all groups, by close to 97 percent! If income inequality has produced these overall savings, then relative deprivation becomes a cause for celebration rather than dismay.*

Consider a case closer to us: Venezuela during the past two decades. Elected president in 1998, Hugo Chávez started an experiment that many identified with democratic socialism. The Venezuelan state endeavored to replace the market by rights to redistribution, and private choices by public choices. In a *Lancet* article, Kathleen R. Page (a John Hopkins University professor) and colleagues recently observed:

*Venezuela was one of the most prosperous countries in South America in the late 20th century; however, the ongoing economic crisis has reversed these gains and threatens the nation’s health and stability. After his election in 1998, Hugo Chávez enacted constitutional reforms that guaranteed free health care for all citizens and dramatically scaled up social programmes.*

What followed illustrates that it does not suffice to declare rights. The article’s abstract

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144 Quoted in Paul Lombardo, “Eugenics and Public Health.”
succinctly summarizes the latest health results from the Venezuelan experience:

> Over the past decade, public health measures in Venezuela have substantially declined. From 2012 to 2016, infant deaths increased by 63% and maternal mortality more than doubled. Since 2016, outbreaks of the vaccine-preventable diseases measles and diphtheria have spread throughout the region. From 2016 to 2017, Venezuela had the largest rate of increase of malaria in the world, and in 2015, tuberculosis rates were the highest in the country in 40 years. Between 2017 and 2018, most patients who were infected with HIV interrupted therapy because of a lack of medications. The Venezuelan economic crisis has shattered the health-care system and resulted in rising morbidity and mortality.\(^\text{147}\)

Figure 3, borrowed from this article, illustrates the point.\(^\text{148}\) In different ways, Epstein and Page et al. bring to light the importance of a prosperous economy, conditions that are difficult to imagine under the ideological preferences associated with current public health thinking.

In general, the higher the income per capita, the better is the state of public health in both the sense of a public good and in the sense of the health of the public. Figure 4 illustrates this fact with the incidence of tuberculosis per 100,000 population per year according to average income in the world. Despite more uncertainty in the estimates available in low-income and lower-middle-income countries, it is quite clear that the incidence of tuberculosis diminishes with the level of income, from 11 per 100,000 in high-income countries to more than 200 in low-income ones. It must be remembered that tuberculosis was, for a long time, one of the major contagious diseases and causes of death in Europe. It appears that poverty is the worst enemy of health. Economic growth solves many issues of public health and should be a major concern for a well-intentioned public health movement.

Interestingly, George Rosen showed some understanding of the crucial importance of economic growth. He wrote:

> There is a direct correlation between living conditions, health status, and industrialization. Economic growth tends to reduce death rates and to improve the health and productive efficiency of a population. To be sure,

\(^\text{148}\) Page et al. note that “[a]lthough the government has blamed the crisis on US sanctions, which have included exceptions to the purchase of food and medicines and focused on addressing corruption by key officials, economic deterioration preceded sanctions.” (p. 1254.)
industrialization also creates health problems, but the means for dealing with them are known in many cases. Economic development is, therefore, the crucial element if living standards are to be raised and health conditions improved.\textsuperscript{149}

3.4 Public Health in the Real World

Good intentions and political slogans are not sufficient for devising and implementing public policy that is in everybody’s interests. Practical and realistic proposals require a non-romantic (to borrow a characterization from Nobel Prize winner James Buchanan\textsuperscript{150}) understanding of how democratic governments work. This requirement is as valid in the field of public health as in other areas, and is even more important in a time of crisis and fear.

In the second part of the 20\textsuperscript{th} century, economists developed new tools of analysis to understand how public choices are made by governments. The “public choice” school of economic analysis starts from the reasonable assumption that, in general, individuals have the same self-interested motivations whether they operate in the private economy or in the public sector. To paraphrase James Madison,\textsuperscript{151} government is not run by angels, which should be pretty obvious to anybody observing actual, not ideal, governments. The activist thinks that his own ideal government would be different but, as history confirms, governments are everywhere subject to similar inefficiencies and prone to similar dangers.

The conclusions of public choice economics can be briefly summarized in five propositions:\textsuperscript{152}

(1) The individual voter, whose single vote is highly unlikely to change the result of an election or referendum, is motivated to remain “rationally ignorant” of politics, that is, to spend

\textsuperscript{149} Rosen, \textit{A History of Public Health}, 283.
\textsuperscript{151} In Federalist # 51: “If angels were to govern men, neither external nor internal controls on government would be necessary.” https://www.constitution.org/fed/federa51.htm.
little time and other resources on gathering information; he votes blind.153

(2) The politician’s incentives are to promise more than he knows he can achieve and to support special interests that can be useful to him—instead of supporting his electors’ interests, which are not homogeneous anyway.

(3) Because of their concentrated interests as opposed to the diffuse interests of voters and consumers, interest groups gain a dominating influence on public policy.154

(4) The government bureaucrat is not a pure selfless altruist; he first of all cares about his own interests. Higher-level bureaucrats, the ones who wield some influence on public policy, are motivated to protect their turf and to expand the size of their bureaus (think mission creep) so as to increase their opportunities, salaries, career prospects, and perks.

(5) For all these reasons, “government failures” are at least as prevalent as “market failures.” Government interventions to correct market failures have net benefits only when they are not subject to worse government failures.155

Public health does not escape these strictures. It is one thing to think of a great public policy; it is another thing for government (politicians and bureaucrats) to implement it correctly. Hence the constant dissatisfaction with government interventions, each new contender to power and his supporters claiming they can do better but failing in their grand nirvana schemes like the previous governments did. In particular, it should not be expected that public health experts, who generally work in government bureaucracies or in government-subsidized institutions, will all be Mother Teresas. And even if they were, they would still have the problem of devising schemes that can work in the real world of individuals as they are. Moreover, policy makers and experts are subject to the same cognitive limitations and biases as ordinary individuals are.156

155 See also Gordon Tullock, Arthur Seldon, and Gordon L. Brady, Government Failure: A Primer in Public Choice (Cato Institute, 2002).
When one scheme does not work or works too well, public health experts propose a new one, usually extending the scope of the public-health enterprise. We observe the self-interest of public health bureaucrats and campaigners in the current reorientation of their attacks on smoking to vaping (even if it leads to more smoking, as is likely) for there is more funding to be obtained for a new cause and a new war.\footnote{157}

As should be apparent from now, public health theorists and experts generally ignore the inconvenient discipline of economics. And they nearly always ignore public choice economics, including the economics of bureaucracy.\footnote{158} Turnock’s textbook of public health, currently in its sixth edition, seems pretty typical in not even mentioning public choice economics, while his topic is basically the public choices made in health matters. If he had taken this strand of economics into account, he might not be surprised by “the lost opportunities in securing and using recent tobacco settlement … funding to shore up a sagging public health infrastructure.”\footnote{159}

In certain cases, economists themselves, when they work with public choice experts, ignore the lessons of public choice analysis and assume that voters and politicians are more rational than ordinary individuals.\footnote{160}

Another thing that public health theorists seem to forget is that their proposed interventions have costs. One feature of the real world is that every good or activity has a cost, that is, it prevents something else from being produced or done. Turnock writes intriguingly: “The argument that resources are limited and that there simply are not adequate resources to meet treatment, as well as prevention purposes, is uniquely American and quite inimical to the public’s health.”\footnote{161} Every individual has to make trade-offs between his health and other good;

\footnote{161} Turnock, Public Health, 6th edition, 320.
no individual spends all his resources on his health. There is nothing uniquely American about this; on the contrary, Americans spend more on health care than the people of any other country, and about half of this is spent voluntarily.

More realistically, the Stanford Encyclopedia of Philosophy notes that “[p]ublic health resources are always in short supply and priority setting in public health policy and practice is always morally challenging.” It is also economically challenging and, from all we know, markets are generally more efficient than governments in producing and allocating goods and services. For example, in fighting malaria in Africa, governments over-distribute insecticide-treated bed nets in big cities and under-distribute them in the countryside; as opposed to other means of fighting malaria, too much money is probably spent on bed nets, “partly because nets are easy to count—a feature that aid programmes are particularly fond of.”

Perhaps we can hope that the current epidemic crisis will instill in the public movement the idea that the interventions they propose carry costs that are paid by ordinary people.

It is not only the supply of public health by government that tends to increase, for the reasons just reviewed. The public also addresses a demand for “public health” to governments. As seen in Part 1 of this paper, a serious argument exists that the demand of public health as a public good should be partly satisfied by government, preferably by subsidies. But when the demand for “public health” tends toward total government care, it is more difficult to justify normatively because it violates the preferences of certain individuals. Yet it is probably true that such a demand has been expressed by more people over the last several decades. The phenomenon is related to what James Buchanan calls “parentalism,” or “parental socialism,” defined as, or responding to, “the attitudes of persons who seek to have values imposed upon

164 It is of course important to distinguish between, on the one hand, economics as a positive science (individuals have preferences that they will try to satisfy, which gives rise to various social consequences) and, on the other hand, the normative values imbedded in one’s public policy proposals. (“Normative value” is the term that economists use for moral values or principles.) That all individuals are morally equal—is a principle that constitutes the normal basis for the economist’s public policy recommendations, although the principle is often interpreted differently. James Buchanan expresses the classical liberal interpretation in one sentence: “Each man counts for one, and that is that” (Buchanan, The Limits of Liberty, 4). Needless to say that as is the case in classical English and as Buchanan’s whole work makes clear, “man” means “individual” whatever his sex.
them by other persons, by the state or by transcendental forces.”165 People expressing this demand want the government to be a father or a mother to them; they demand that the state be effectively parens patriae. This faction of the population wants to be dependent on the state, and wants everybody else to be equally dependent on the state.

From what has been explained above, it is pretty clear that the new public health rests on the power of the state to impose on some individuals a conception of happiness and “social justice” that they do not accept.

3.5 The Drift Continues

Total government care in a strict sense is impossible; as the ideal is approached, resources are lacking more and more—as Venezuela provides a current example.166 But this does not prevent the new public health from continuing to drift. For example, some spokesmen now claim that nutrition is a state responsibility. A comment in the Lancet, a prestigious British medical and public health journal, suggests that a goal is to “deliver good nutrition for all, everywhere.” The author explains, in the jargon of today’s public health, which it calls “a shared language”:167

"We must address the underlying drivers that incentivise endless market and consumption growth over human and planetary health. ... The message of a 2013 Lancet Comment that only collective action will end undernutrition remains true today. But given the political economy of food, the commodification of food systems, and growing patterns of inequality worldwide, a broader response is now required. ... Needless to say, the meaningful engagement of children, adolescents, and young people is vital. ... However, companies cannot be allowed to influence and interfere in public policy making or bias the science that underpins this process. While constructive dialogue is necessary, a default seat at the table for private-sector representatives should not be assumed. ... This multistakeholder effort to end malnutrition must prioritise the engagement, inclusion, and empowerment of rights-holders, such as women, smallholder farmers, young people, and marginalised groups.

As mentioned in the Introduction of this paper, the advance of the model of public health

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as total care has not been linear. For example, eugenics and Prohibition (of alcohol, that is) have been abandoned. But there remains a visible trend of growing rejection of individual choices in favor of pervasive collective choices, that is, government decisions. Without this ideological component, it is difficult to understand the continuing drift of public health toward total government care.

4 The Voluntary Cooperation Model of Public Health: An Alternative

4.1 Another Approach

Is there an alternative to the continual drift and expansion of “public health,” up to the point where it is not clear what it means except as a label for extensive and coercive government intervention? As suggested by our discussion thus far, it is important to clearly distinguish between, on the one hand, ordinary medical care and lifestyle choices, and, on the other hand, public health proper. Even in the field of public health, a model of voluntary cooperation should be considered. The general rule in such a model is individual freedom, to be corrected by government intervention only in the presence of market failures and when government failures are not likely to be worse than market failures.

This approach is not as radical as it may look like. It is based on the idea of economic freedom that led to the Industrial Revolution and the unprecedented explosion of income that followed. From a moral-philosophical viewpoint, it implements John Stuart Mill’s principle that “over himself, over his own body and mind, the individual is sovereign.”

This paper argues that private health and public health are two different issues that, if only for the clarity of the analysis, should be kept separate. They should also be kept separate because, as shown above, the temptation is apparently irresistible to include in “public health” everything that public health theorists and experts think is important in life. The general question asked in this part of the paper is: To which extent can a model of voluntary cooperation produce

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public health in the sense of public good (or a set of public goods)?

4.2 A Model of Voluntary Cooperation

In the voluntary cooperation model, public goods are efficiently produced on the market just like ordinary private goods are. There are examples, both historical and current, of public goods that are privately produced despite the free rider problem. In the early 18th century, a private company operated a lightboat (a boat with an onboard lighthouse) to assist navigation on the river Thames, collecting voluntary contributions from ship owners who used the apparently nonexcludable service. The voluntary contributions were apparently paid *ex ante* through subscriptions to the project or *ex post* through a reputational network based on coffee-houses.169 A more mundane example is the Appalachian Mountain Club, a voluntary association that manages trails and hiker refuges in the Appalachian mountains, while non-members may free-ride using the trails (which are numerous and long enough to be, for all practical purposes, a non-rival good).170 Other such examples of clubs producing “public goods” can be found. Why wouldn’t this work in the production of public health understood as protection against epidemics?

To build a formal voluntary cooperation model, imagine that there is no government. A potential free rider realizes that his refusal to participate in the financing of a public good he wants implies a certain probability that it will not be produced (think of a lighthouse or a flood-control dam). If he assigns a high probability to the possibility that the minimum number of contributors will not be reached without his participation, he may rationally play “sucker”—in fact, punter—because he thinks it is a fair bet that his contribution will be indispensable. Similarly, an entrepreneur who considers offering the public good will make a bet regarding the number of non-free-riders necessary to make the project profitable. This can be related to the idea that an individual often has an interest to cooperate in social games in order to entice the

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169 Candela, Rosolino A., and Vincent J. Geloso, “The Lightship in Economics,” *Public Choice* 176 (2018), 479-506. Note that this public good is only a public good for a section of society, namely shippers, although it could be argued that it reduces cost for all consumer of goods transiting at the port of London.

beneficial cooperation of others.\footnote{171}

Another way to see the possibility of voluntary cooperation despite the free-rider temptation is the following. A public good will be produced by individuals or groups of individuals who prefer to pay for them even if that implies a gift to free-riders. These paying consumers will choose to risk being “suckers” instead of going without the good. The game-theoretic equivalent is called the “snowbank game”: two cars are stopped by a snowbank blocking the road; each driver would prefer the other to shovel, but any one of the two will do it alone if it’s the only way to continue his trip.\footnote{172}

In this model, we expect some private financing and production of public health as a public good. Some individuals will hedge their bets of being victims of epidemics by voluntarily contributing to public health measures, whether they be vaccination, self-quarantines, or other mitigation measure. And some private entrepreneurs will produce specific goods—vaccines, diagnosis tests, laboratories, quarantine facilities, etc.—necessary for that purpose if they think that there is a good chance that the number of paying customers or charity money will be sufficient to make a profit.

This model provides a reasonable expectation that public goods can be produced by naked self-interest. Whether it will be in “optimal” quantity is another issue, but defining and measuring optimality is a difficult challenge (if not a mission impossible) anyway.

Philanthropy and charity should not be ignored as another motivation for the production of public goods, especially in the field of health. This observation is also valid outside the realm of public goods proper. From the eighth to the 12th centuries, for example, monasteries played the role of hospitals for the poor.\footnote{173} In the 18th century, many English hospitals and dispensaries were financed by philanthropists—whose charitable impulses were probably strengthened by their frequent right to have their sick friends admitted.\footnote{174} Philanthropy and charity filled many

\footnotesize{\textsuperscript{171} De Jasay, Anthony, \textit{Social Justice and the Indian Rope Trick} (Liberty Fund, 2015), 153-163. “Games” is used here in the sense of game theory.  
\textsuperscript{172} Sugden, Robert, \textit{The Economics of Rights, Cooperation and Welfare} (Palgrave Macmillan, 2005), 132-136.  
\textsuperscript{173} Rosen, \textit{A History of Public Health}, 33,  
\textsuperscript{174} Robert Kilpatrick, “‘Living in the Light’: Dispensaries, Philanthropy and Medical Reform in Late-Eighteenth-Century London,” in Cunningham and French, \textit{The Medical Enlightenment of the Eighteenth Century}, 256 (254-280).}
the functions of the welfare state that (in America) roared in with the Great Depression.\textsuperscript{175} It is true that organized charity, where religious groups used to dominate, may carry a stigma for the recipients and lend itself to donors’ paternalism. But the stigma is not necessarily bad, for it makes the resort to charity a last resort. Moreover, paternalism is not absent from the welfare state, and arguably more dangerous there.\textsuperscript{176}

Some evidence suggests that Americans are the most charitable people in the world. They give to charitable organizations the equivalent of about 1.44\% of their GDP, compared (for example) to 0.54\% in the U.K. and 0.11\% in France. Another estimate suggests that the two-thirds of American households who give to charity contribute 4\% of their incomes. Some 15\% of these donations go to “human services” and 11\% to health.\textsuperscript{177} There is a large reservoir of charity in America.

The fact that 39\% of American charitable donations go to religious causes suggests that charity often answers religious motivations. But morals are also produced by social rules and conventions that developed precisely to motivate social cooperation when it cannot be produced by ordinary market relations. For example, rules of etiquette and grammar produce common codes of interaction, which are forms of public good. Another example can be found in driving rules—pure conventions such as who should yield the right of way in certain conditions—which can evolve spontaneously from the self-interested behavior of individuals.\textsuperscript{178}

When the state does not occupy an area of social interaction and evicts voluntary cooperation, new institutions (set of rules, sometimes associated with specific organizations) often develop to deal with complex social problems. In America, the 18\textsuperscript{th} and especially the 19\textsuperscript{th} centuries were characterized by the growth of fraternal societies that offered benefits to their members in case of disease or death. According to Beito et al., at the end of the 19\textsuperscript{th} century, “[a] fairly safe bet is that fraternal membership encompassed one-third or more of the voting-age


\textsuperscript{176} “The more one considers the matter, the clearer it becomes that redistribution is in effect far less a redistribution of free income from the richer to the poorer, as we imagined, than a redistribution of power from the individual to the State.” (Bertrand de Jouvenel, \textit{The Ethics of Redistribution} [Liberty Fund, 1990, 1952], 72.)

\textsuperscript{177} Philanthropy Roundtable, Statistics on U.S. Generosity, \url{https://www.philanthropyroundtable.org/almanac/statistics/u.s.-generosity}.

\textsuperscript{178} Sugden, \textit{The Economics of Rights, Cooperation and Welfare}.
male population”. Many of the fraternal orders offered life insurance. “By 1895,” Beito et al. estimate, “half of the life-insurance policies in force were on the fraternal plan,” as opposed to commercial life-insurance. It is a reasonable hypothesis that the fraternal societies started declining in the 1930s because of both the strain of the Great Depression and the competition of the welfare state.

An interesting question, related to the Part 1 discussion of the Roman sewer and aqueduct systems, is whether such services, which may have been necessarily public in former ages, would not be naturally provided by private businesses in a modern and wealthy economy. Private demand for clean water and sewage disposal is probably now universal enough to justify its production on a purely commercial basis without (or with only little) government intervention. An aqueduct or a sewer system is not properly a public good, for those who would want to free-ride could be easily excluded by not being connected—just as water can now be cut off from a customer who does not pay his bill—although it may be argued that the role of sewer services in preventing epidemics is a public good. When there is a private money-backed demand, supply follows.

### 4.3 Can Immunization Be Voluntary?

One way to test this model of voluntary cooperation is to examine if it could solve the paradigmatic case of immunization. Can herd immunity against contagious diseases be produced by individuals acting in their own self-interest?

One problem in answering this question is that many vaccines are most useful for infants and children, who are nowadays the ones usually targeted by compulsory vaccination. In a free society, adults should be treated as adults, that is, capable of making their own trade-offs between different benefits, costs, and risks. Children are, however, by definition, incapable of making these choices in their best interest. Most of the vaccination decisions are thus made by their parents—with the help, or under the gentle pressure of their doctors or their peers. Without government coercion, the pressure can only be gentle. Concern may exist that some parents will

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179 Beito et al., *The Voluntary City*, 196.
180 Beito et al., *The Voluntary City*, 195.
misjudge their children’s interest. But what is the alternative? If public authorities set coercive mandates related to children, a legitimate concern arises that politicians and bureaucrats (even public-health bureaucrats) will make the wrong decisions.

Parents are genetically programmed to love their children, and sacrifice their interests for their sake. Politicians and bureaucrats don’t have the same programming for other people’s children, besides other forms of government failures reviewed in Part 3. Vaccination is just a special case of the general principle that public authorities should usurp parents’ authority over their children only in extreme cases. The least danger seems to be to let the parents be responsible for their children. The British government does not impose compulsory vaccination for children and, as we shall see, no catastrophe has resulted.

Part 1 suggested that herd immunity can be considered a public good. It is non-rivalrous, as everybody will benefit from the zero risk of catching the disease in question. And it is non-excludable: free riders can avoid paying their share (in money, inconvenience, and risk) by not being vaccinated themselves. Yet, it is an unusual public good: for the typical individual, herd immunity has a close and low-cost private substitute, that is, individual vaccination. It is true that this substitute is not available to individuals who are too young or too old to be vaccinated, or who may have other medical contraindications such as a compromised immune system, or for whom the vaccine is not effective.¹⁸² Most individuals can be expected to reach vaccination decisions on the basis of their own self-interest or, in the case of parents, of what they perceive to be their children’s interest. One study has shown that parents’ decision to have their children vaccinated was largely based on their perceived benefits, not on a perceived duty to contribute to herd immunity.¹⁸³ But the incentive to free-ride would be much stronger if a close and effective substitute—individual vaccination—were not available. Thus, herd immunity is not a pure public good.

It can also be argued that herd immunity is not anyway a public good for the whole society (all individuals in society) since it unambiguously benefits only the part of the population that cannot obtain immunity through vaccination. This amounts to considering herd immunity as

¹⁸² Navin, Values and Vaccine Refusal, 5, 12.
a mere externality for a section of the public.\textsuperscript{184} The question then becomes: Can these externalities be produced through voluntary cooperation? Can this unilateral transfer—the gifting of herd immunity by the vaccinated to the non-vaccinated—be made voluntarily, so that individuals incapable of being effectively or safely vaccinated can benefit from herd immunity?

The vaccination decision may be viewed as a Snowbank Game: every individual would prefer everybody to be vaccinated except for himself, but if a large number of other individuals are not, he may still prefer to get vaccinated (assuming there are no medical contraindications in his case). As University of Chicago economist Tomas Philipson showed, the fewer people are vaccinated, the higher the risk factor (the “hazard rate”) for the unvaccinated, and the higher their incentives to get vaccinated, or to use other prevention measures:

\textit{Incentives for prevention make epidemics self-limiting, because the prevalence of a disease raises the incentives for preventive behavior. ... The economic approach yields the insight that public intervention often provides less benefit than predicted by epidemiology, because private incentives counteract its effects.}\textsuperscript{185}

In the case of non-communicable diseases, of course, prevention is easy. Just don’t engage in the risky behavior: drink less, smoke less, practice fewer risky sports (at the limit: live less, but that is a matter of individual preferences). In the case of communicable diseases, to follow Philipson’s argument, the more successfully government intervenes to limit the spread of communicable diseases, the less individuals will be incited to engage in private prevention. Philipson writes that:

\textit{...there is little role for public prevention of non-communicable diseases, and that the crowding out of prevention, discussed here, limits the benefits for communicable diseases as well.}\textsuperscript{186}

Philipson provides supporting evidence in the cases of HIV where, in the absence of a vaccine, prevention methods included condoms, choice of partners, and reduction of sexual activity.\textsuperscript{187} He also provides evidence in the case of measles vaccination.\textsuperscript{188} His research shows a

\textsuperscript{184} This is often a problem of public goods. Few are public goods when all individuals in a society are included.
\textsuperscript{186} Philipson, “Economic Epidemiology and Infectious Diseases,” 1796-1797.
\textsuperscript{187} Philipson, “Economic Epidemiology and Infectious Diseases.”
tendency for the proportion of unvaccinated not to go below a certain threshold. When an epidemic develops, vaccination rates (or other preventive measures) increase, giving rise to cycles above that threshold. The import of this analysis is considerable: it shows that rational behavior does, in some way, control the spread of epidemics.

It is true that these doubts about the necessity of government intervention in vaccination and herd immunity are attenuated by an argument mentioned in Part 1. To the extent that vaccination coverage and herd immunity contribute to eliminating or reducing antibiotic resistance, by reducing the number of infections or even eliminating some of them, they seem to regain their status of public goods, even if not pure ones. Or look at it the other way: suppose that a low vaccination coverage against pathogen X requires frequent use of antimicrobial A, which leads to mutating forms of X and its eventual resistance to A (and other forms of microbials). The public good consisting in protection against microbial resistance will not have been produced.

Yet, the consequences of vaccination freedom are often exaggerated. Vaccination coverage is often high and sometimes above, or at least close to, the herd immunity threshold. When herd immunity is obtained, we meet again the phenomenon of private production of a public good. Data gathered by *The Wall Street Journal* suggest that only 15% to 30% of American primary schools show an immunization rate lower than 90%. These schools are pockets of non-immunity liable to start epidemics. Because of this, “[w]ith over 1,200 confirmed measles cases across 31 states, 2019 has been the worst year for measles in the U.S. in 25 years.” But the resurgence seems under control, despite a dose of practical vaccination freedom through exemptions of vaccination mandates.

A similar phenomenon is, or was, observed in other countries. Many vaccines that were merely recommended in France before the new vaccine mandates of 2018 already showed high rates of coverage for children at two years of age: 91.6% for the Pneumococcal, 90.5% for the first dose of the MMR, and 78.8% for the second dose. It is true that there were exceptions,

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190 Attwell et al., “Recent vaccine mandates in the United States, Europe and Australia,” 7381.
such as the Meningococcal C which, at 70.9%, had the lowest coverage of the seven recommended vaccines. As the figures suggest, herd immunity was not always attained, but there was no out-of-control epidemic either.

In the United Kingdom, the absence of compulsory vaccines, even for children’s admission in school, does not seem to cause more problems than in other European countries. In the past few years, coverage has decreased, but this recent trend might have been temporary. In Scotland and Northern Ireland, coverage for the MMR vaccine has reached herd immunity (95% coverage). There is some evidence that "despite not having mandates, many European countries have equally high pertussis vaccination rates to [sic] the US and Australia." This has not prevented calls for mandatory vaccination, although not all doctors agree with that.

These observations suggest that vaccines don’t have to be compulsory for immunization to attain high levels and in some cases herd immunity. It is true that recommended vaccines are typically subsidized, following the public-good model. But, as reviewed above, Philipson’s analysis suggests that governments’ efforts toward herd immunity actually crowd out some private vaccination and other protection efforts. Moreover, it’s not unreasonable to believe that in a society where public health would be a matter of voluntary cooperation, parents would be more attuned to individual responsibility in general and responsibility toward their children in particular. Add to this that charitable organizations could subsidize vaccination and organize vaccination campaigns.

Other factors support voluntary vaccination. That most people want vaccination, and

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191 “Analysis of varied legislative approaches across the European Region does not point to any one ‘best approach’,” writes the Sabine Vaccine Institute, Legislative Approaches to Immunization Across the European Region, December 2018, 24, https://www.sabin.org/sites/sabin.org/files/legislative_approaches_to_immunization_europe_sabin_0.pdf.
especially for their children, is not surprising in a rich, advanced country, influenced by the
general belief in reason and science inherited from the Enlightenment (and ultimately from
classical Greece). Except in marginal social groups, such as American Amish or Dutch orthodox
Protestants, social rules (sometimes called “norms”) spontaneously develop that support
vaccination and pressure people to conform. As Dubé et al. put it, “people have their children
vaccinated because everybody does so and it seems the normal thing to do.”196 Rules of that sort
are one of the most powerful regulators of a free society and there is reason to believe that the
least coercive government would be, the more such rules would become important.

Voluntary cooperation may not work as smoothly in poor countries. The few countries
where polio has not been eradicated provide an example. What is needed there is economic
growth, first and foremost, and it should not be discouraged by the planning visions of the public
health movement.

The focus of this paper, however, is on advanced and rich countries, where vaccines are
accessible at a low cost. That, in general, voluntary cooperation works reasonably well for
vaccination is an indication that public health could be (at least partly) “privatized,” that is, it
could be left to the domain of free, voluntary action. Legal coercion is certainly not as required
as the proposals of the new public health require. Individual liberty should be the first
presumption.

**4.4 Quarantines and Social Distancing**

Many readers will have noticed that some arguments against compulsory vaccination are
also valid for an epidemic for which no vaccine is available. In the case of HIV, Philipson
showed that private prevention measures were available and presumably contributed to slowing
down the epidemic until more effective treatments were available.197 The same reasoning applies
to SARS CoV-2, whose danger can be minimized (although not eliminated) with self-
quarantines, social distancing, personal hygiene, and protective devices such as face masks and
plastic gloves.

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196 Dubé et al., “Vaccine Hesitancy,” 1769-1770.
197 See above.
If we accept Epstein’s argument and the arguments developed in Part 1 of this paper, protection against an epidemic such as Covid-19 can be conceived as public good, which would justify, if necessary, coercive government measures like quarantines, *cordons sanitaires*, compulsory social distancing, and such. We would then have an exception to the general efficiency of the voluntary model. Before resorting to such extreme measures, governments should adopt other measures such as guaranteeing and subsidizing widespread testing as well as medical care for the infected, and making sure it itself does not raise obstacles against the efficient functioning of markets and prices. Extreme measures such as business closures or requisition of property can be very economically costly and have undesirable political consequences in the long run.

Thus, it is not totally clear that, all things considered, the voluntary model should be discarded even in an extreme case such as the current Covid-19 epidemic. At any rate, thinking of public health in the context of voluntary cooperation to produce public goods suggests innovative ways to approach the problem.

4.5 The Limits of Coercion

Coercion can only go so far anyway, in public health as in other areas of life. Vaccine resistance is one of the factors that point to the limits of coercion. The anti-vaccine movement was launched by a 1854 pamphlet entitled *Our Medical Liberties* in reaction to an 1853 British law making the smallpox vaccine compulsory for all infants born in England and Wales. The current wave of vaccine resistance may have been fueled by the expansion and imperialism of “public health,” which has come under the radar of more and more people in the last few decades.

In 2016, the Australian government strengthened penalties to enforce the mandatory

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198 Epstein, “Let the Shoemaker Stick to His Last.”
199 We know that, in the case of Covid-19, in the United States and elsewhere, massive government failures occurred at a time when the epidemic would have still been less costly to counter. See Pierre Lemieux, “Government Failure on a Grand Scale,” Econlib, March 20, 2020, and the links therein.
children’s vaccination program that had come in force in 2015. The penalties include the non-payment of a family tax benefit and two childcare subsidies.\footnote{Helps et al., “It Just Forces Hardship,” 157.} Catherine Helps of the School of Public Health at the University of Sydney and her colleagues conducted in-depth interviews of a group of 31 Australians in a local community with a low rate of vaccination spanning two decades. Many interviewees intended to go without the government subsidies instead of having their children vaccinated, at the cost of significant hardship to families and children, especially among the poor. Although intentions and words are not the same as actual behavior, and the authors admit that it remains “too early to identify the durability of this resistance to vaccination,”\footnote{Helps et al., “It Just Forces Hardship,” 158.} this research illustrates what seems to be a growing vaccine resistance movement. Navin says that, in the United States, “there are more vaccine refusers every year.”\footnote{Navin, Values and Vaccine Refusal, 9.}

It seems that, in Western countries, no more than 2% of parents refuse vaccination in principle and about 5%-10% refuse only some vaccines.\footnote{Navin, Values and Vaccine Refusal, 9.} But a larger portion express concerns: a 2010 U.S. survey suggested that 77% of parents of children between one and six years old have a vaccine concern.\footnote{Attwell et al., “Recent Vaccine Mandates in the United States, Europe and Australia,” 7378.} A 67-country opinion survey realized in 2015 showed that mistrust of vaccines is especially high in Europe. In France, the most skeptical country, 41% expressed concern over vaccine safety.\footnote{Larson et al., “The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey,” EBioMedicine 12 (2016), 295-301. Cohen, R., et al. “Impact of Mandatory Vaccination Extension on Infant Vaccine Coverages: Promising Preliminary Results,” Médecine et maladies infectieuses 49 (2019), 35.}

Although vaccine resistance is often attributed to marginal socio-geographic categories, there is apparently no clear correlation between trust in vaccines and social position. Larson et al. report that “countries with higher mean years of schooling are less likely to report positive vaccine sentiment,” but that “within a country those with some education hold more positive views on vaccine importance, effectiveness, and religious compatibility.”\footnote{Larson et al., “The State of Vaccine Confidence 2016,” 300.} Philosopher Mark Navin interprets the literature as showing that “vaccine refusers are not only more educated, but they also often have more knowledge about vaccines than parents who vaccinate.”\footnote{Navin, Values and Vaccine Refusal, 10.}
Reasons for vaccine refusal or hesitancy include the spread of mistaken fears, made easier by the Internet and social networks. One example was the scare that the measles vaccine causes autism, which started with a 1998 article in the *Lancet*. The article was later “retracted,” but its author, Dr. A.J. Wakefield, now widely discredited in professional circles, has acquired a following among “anti-vaxxers.” There are other factors, including general doubts about the efficiency of vaccines, different evaluations of the trade-off between benefits and risk, mistrust of medical authorities, “democratic epistemic norms” (the belief that the people know at least as much as the experts), and other values such as “natural forms of bodily purity.” The rise of vaccine refusal and hesitancy has recently been used as a justification or an excuse by many jurisdictions to impose stricter vaccine mandates as well as limitations (or abolition) of exemptions, notably in California, Italy, France, Australia, and Washington State.

Some public health experts and supporters have warned against the perverse effects of coercive vaccination. Helps et al. raise “[t]he risk of coercive policies being perceived by citizens as undermining core principles of medical integrity such as consent,” referring to the right not to be treated against one’s consent. Citing another study, they also warn that “vaccination can lead to increased levels of anger amongst vaccine-hesitant people, increasing their efforts to regain the constricted freedom of choice … a psychological phenomenon known as reactance.” Philosopher Mark Navin, despite believing that “vaccine refusal is usually immoral” and that the state is morally justified to impose compulsory vaccination, warns that coercion can have the effect of politicizing resistance and reducing uptake.

The focus of the new public health on controlling lifestyles may have understandably generated public mistrust. France, with its high rate of vaccine skepticism, may be one instance of this. The war on smoking has hurt traditional lifestyles at the working place, at the bar, in other social gatherings, often at the bottom of the social scale. Ordinary people feel, with good reason, that “public health” experts are out to deprive them of their Second Amendment

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211 See https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(97)11096-0/fulltext.
212 Navin, *Values and Vaccine Refusal*, 36 and passim.
213 Attwell et al., “Recent Vaccine Mandates in the United States, Europe and Australia, 7378.
215 Navin, *Values and Vaccine Refusal*, 220, 221.
The primacy of collective choices—which is the common denominator of the new public health’s proposals and advances—may end up alienating people deprived of their individual choices. In a section called “The Dialectic Between Individualism and Collectivism,” Fran Baum illustrates by asking rhetorically, “Should we control gun ownership or is the choice of owning a gun an individual matter?”\textsuperscript{220} Control by the collective is a constant public-health leitmotiv; it is not surprising that it leads to resistance and confrontation. If true, this hypothesis suggests that a retreat by the interventionist public health movement may, in time, promote instead of compromise vaccination and, in general, public health well understood.

Another indirect consequence of mounting laws and regulations has been the explosion of health litigation, which may have restricted the number of vaccines on the market. Epstein argues that the restrictions on freedom of contract and the rejection of “any form of assumption of risk” by consumers has caused market failures that have been detrimental to the health of the population.\textsuperscript{221} The mounting regulation of health care has also likely generated inefficiencies in that industry. The Covid-19 epidemic has shown how regulations have hindered a rapid private response, to the point where some have been suspended.\textsuperscript{222}

We should also be concerned about the systemic effects of coercive government regulations and controls. We have already mentioned the historically slippery slope between...
compulsory vaccination and sterilization. Another systemic effect relates to people’s habituation to authority imposing decisions on them, a fear expressed by 19th-century political philosopher Alexis de Tocqueville when he inquired about the future of democratic societies. He warned against regulating to the point where “each nation is reduced to nothing better than a flock of timid and industrious animals, of which the government is the shepherd.”223 He also wrote:

> It is, in fact, difficult to imagine how men who have entirely given up the habit of directing themselves, could succeed in choosing well those who should lead them; and it cannot be believed that a liberal, energetic and wise government can ever come out of the votes of a people of servants.224

Voluntary public health would avoid these serious dangers.

### 4.6 Minimizing Coercion

At the very least, coercion should be minimized. If voluntary cooperation did not work, as expected in case of some public goods, they could be subsidized. Some hesitant parents would no doubt have their children vaccinated if, besides convenient times and places, they were paid to do so. The taxpayers, many of whom would benefit from the additional level of vaccination, would pay the subsidies or bribes. Similarly, the question of whether the government should subsidize the production of new vaccines could be raised in a public-good perspective—although a preferred way might be to lighten the regulatory burden of drug companies in line with the concerns expressed by Richard Epstein. If coercive measures were adopted during an epidemic such as Covid-19, the individuals harmed could be compensated by the general taxpayer.225

A similar line of inquiry, under the public-good heading, relates to the financing of fundamental research by the government, especially in relation to the production of new vaccines or new antimicrobials. Much of this is already being done, perhaps over the optimal level: more than half of all fundamental research in the U.S. is financed by the federal government, to which must be added state financing of the 70% of research universities that are public institutions. In the case of medical research, the National Institutes of Health brags about being “the largest

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224 Tocqueville, *Democracy in America*, 1260.

225 An individual is harmed when he is forbidden to do something that would bring him utility, even if there are good reasons to prohibit his action—and, of course, if there are no sufficient reasons.
source of funding for medical research in the world.”

The problem with government funding of advanced research is the same as with any government activities: there is a difference between the professed intentions and the actual political and bureaucratic activities, which are largely driven by their own agendas. One result has been a stop-and-go funding that follows scares and political cycles and renders research planning difficult.

Whenever one argues that the government should intervene to correct market failures, these must be compared with the government failures that are likely to make the intervention much less beneficial than imagined. This principle applies to public health and further supports the case for the voluntary model or, at the very least, the minimization of coercion.

There are more-difficult public-good cases than vaccination toward herd immunity or fundamental medical research. One of them is an epidemic such as Covid-19. Another one, mentioned in Part 1, is antibiotic resistance and the measures and research undertaken to prevent the problem from worsening. Another one, also evoked in Part 1, is protection against asteroid collisions, which represents a public good because it is now known who will be hit. A collision with a large asteroid would potentially affect a large proportion, or perhaps all, of mankind. Two scientists argue that “[t]here is a 1-in-10,000 chance that a large asteroid (about 2-km diameter) or comet will collide with Earth during the next century” and kill a large portion of the world’s population.

Another way to minimize coercion is arguably to specialize the government’s public-health action in providing information. This idea, however, is not without danger, and must be qualified. Government information can easily become manipulative propaganda. The very fact that governments are now pushing the concept of public health as akin to total government care illustrates this danger. If government does provide public health information, it should be as objective as possible within a concert of free and diversified opinions.

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228 Climate change is arguably a less serious problem but, to the extent that it threatens everybody in a given society or on earth, it would count as a public-health-as-public-good problem.
Debates about vaccination or other issues of public health are valuable. As freedom of speech is the only way to find the truth, it is only through free debates that we can be relatively sure that, for example, the safety of any particular vaccine, the need for herd immunity, or the danger of an epidemic has not been exaggerated. Health experts don’t always agree among themselves. Studies have shown that nurses and doctors sometimes express concerns about vaccination and have a low coverage ratio (for the flu vaccine, for example). In France, nearly one in four GPs questions the usefulness of some vaccines recommended by the French government. It was recently revealed that the U.S. government’s nutrition guidelines, notably about against certain kinds of fat, have been mistaken for 35 years and that the committee responsible for their annual update did not consider contrary evidence. It was a *Lancet* article that started the false scare that linked autism to the MMR vaccine.

Moreover, the evaluation of risks and benefits will naturally vary according to individual circumstances and preferences. We can hope that the consumer will not reject large benefits to avoid a small risk, and that he will listen to his doctor’s advice, as is usually the case; but, in a free society, the decision should remain with the individual. As Mill wrote,

> Each is the proper guardian of his own health, whether bodily, or mental and spiritual. Mankind are greater gainers by suffering each other to live as seems good to themselves, than by compelling each to live as seems good to the rest.

To summarize Part 4, the voluntary cooperation model of public health should be considered as an alternative. Even in the case of public health proper (vaccination and epidemics), good reasons exist to believe that voluntary cooperation works. At any rate, coercion reaches its limits at some point, as can be observed in the current model of “public health.” It is

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230 Mill, *On Liberty*: “If even the Newtonian philosophy were not permitted to be questioned, mankind could not feel as complete assurance of its truth as they now do. The beliefs which we have most warrant for, have no safeguard to rest on, but a standing invitation to the whole world to prove them unfounded. If the challenge is not accepted, or is accepted and the attempt fails, we are far enough from certainty still; but we have done the best that the existing state of human reason admits of. … This is the amount of certainty attainable by a fallible being, and this the sole way of attaining it.”

231 Dubé et al., “Vaccine Hesitancy,” 1767.


234 Dubé et al., “Vaccine Hesitancy,” 1768.

impossible, in a free society, to prevent what individuals do when they choose to take risks with their own health. To the extent that complete reliance on voluntary cooperation would not be sufficient to produce public goods of a public health nature, indirect government interventions (mainly under the form of information and subsidies) could be considered.

5 Conclusion and Policy Orientations

This primer has focused on alternative ways of viewing and modeling what has been called public health for three centuries. To summarize this paper:

1. In the public-good model, public health corresponds to some common good that every individual deems to be in his own interest. This model focuses on protection against contagious diseases. Vaccination, herd immunity, the control of epidemics of contagious diseases, and the prevention of microbial drug resistance are examples of this model’s focus.

2. In the government healthcare model, public health is viewed as health care in general, to be financed if not supplied by the government. Public health care becomes public health care, that is, government health care, and the crucial distinction between public health and private health is lost. There is little room in this model for a distinct concept of public health since all health care is by definition public health.

3. The total government care model represents a further drift from the public-good model: health becomes an all-encompassing concept and the health care role of government becomes a role of total care. This “public health” is based on non-scientific conceptions of society, social welfare, and the public interest. The criterion of social justice serves to determine which individual preferences and which individuals will be discriminated against, who will be helped and those who will be forced to do the helping. In practice, the government tends to be to the “citizens” what parents are to their children. In this model, the importance of wealth in promoting health is ignored, and an angelic conception of government is
adopted.

4. The alternative of the voluntary cooperation model of public health should be considered. It can be used as an alternative or as a complement to the public good model. Even if the public-good components of public health can be subsidized if necessary, the focus of the model remains voluntary cooperation. Coercion reaches its limits at some point. The goal of the voluntary cooperation model can be conceived as the minimization of coercion in society.

Instead of looking for consensual solutions to epidemics of contagious diseases or similar problems, the new public health aims at replacing private choices and lifestyles by collective choices, that is, by government decisions. Looking at the evolution of public health since the 18th century and even more clearly since the end of the 19th century, it is difficult not to conclude that the public movement has been a department of the collectivist movement.

The epigraph of this paper (quoted from Ilona Kickbusch) suggests what should be and should not be done. What should be done is to take a hard look at the different models of public health. What should not be done is what Kickbusch herself proposes: to look for collective choices and government coercion. The voluntary model proposed in the present paper is very different in that it leaves every individual free to choose, with possible interventions for the production of genuine public goods.

If the analysis of this paper is valid, nearly every element and orientation of what is currently called “public health” needs to be reviewed. The arbitrary concept of public health needs to be replaced by a really public conception of “public” health—“public” in the sense of public goods. It should also be understood that “public” does not necessarily mean “government.”

The policy implications are numerous. Their common denominator is that government interventions should be based on individual preferences and individual consent, not on what a coercive elite—like the current public health movement—believes everybody else should think and want. These broad orientations of public health policies should be as follows:

**Orientation 1: Focus on public health as a public good in the economic sense, not as**
something that a portion of society can coercively impose on others. This implies the abandonment of coercive measures against non-preferred but non-violent lifestyles. It also implies looking for public health measures that meet unanimous or near-unanimous consent among all members of the society under consideration.

Orientation 2: When government intervention is necessary, favor non-coercive measures as opposed to injunctions and bans. Preferred policies may include prudent and objective provision of information, when there is a good reason to believe that the market does not provide enough of it, and subsidies to the production of public goods, including subsidies for protection against epidemics. State control and propaganda should be avoided. This implies that price controls should be abolished and markets left free to adjust to changing supply and demand.

Orientation 3: Distinguish between problems of poverty and issues of individual choice. If certain individuals need to be assisted, the problem should be addressed directly with cash transfers and with the removal of regulatory obstacles to people bettering their conditions and taking care of themselves.

Orientation 4: Treat children as children and adults as adults. On the one hand, and except in egregious cases, let parents (not the state) be the children’s guardians. On the other hand, do not consider adults as the state’s children.

Orientation 5: More generally, favor voluntary cooperation whenever possible. The voluntary cooperation model should always be kept in mind as a possible alternative or complement to the public good model. The ideal to keep in mind is that individuals should be equally allowed to take care of their own interests and health according to their own preferences.
Tables and Charts

Figure 1: Estimated Annual Incidence of Invasive Haemophilus Influenzae Type B (Hib) Disease in Children Less than Five Years Old, United States, 1980-2012

Figure 2: Health Expenditures from Public Sources as a Share of Total Health Expenditures, 2017 (or Nearest Year)

1. Public is calculated using spending by government schemes and social health insurance.
2. Public is calculated using spending by government schemes, social health insurance and compulsory private insurance.


https://doi.org/10.1787/888934016968
Figure 3: Trends in Vaccine-Preventable Diseases in Venezuela

Figure 4: Annual Incidence of Tuberculosis per World Bank Income Groups, 2018

ABOUT THE AUTHOR

Professor Pierre Lemieux is an economist affiliated with the Department of Management Sciences at the University of Quebec in Outaouais. He holds graduate degrees in economics and philosophy. Besides lecturing at a few Canadian universities, he has been a consultant for a number of private and public organizations in the world. The author of many books, published mainly in America and France, he is a regular contributor to Regulation. He also blogs at Econlib. His latest book is *What’s Wrong with Protectionism: Answering Common Objections to Free Trade* (Rowman & Littlefield, 2018). He lives in Maine.