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Saberes, actores y estrategias: la vacunación contra la viruela en la Ciudad de México, 1803-1872

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Introduction

1 Smallpox, one of the most feared communicable diseases for centuries, was particularly destructive in Mexico City in 1761-1762, 1779-1780, and again in 1797-1798. Numerous colonial officers, ecclesiastical authorities, charitable organizations, physicians and the public in general resorted to a wide range of procedures, including: religious processions, public prayers and quarantines in an attempt to curtail its propagation, as had happened since 1520, when smallpox first erupted in Mexico-Tenochtitlan.1 However, during the smallpox epidemic of 1797-1798, the efforts to prevent smallpox also included resorting for the first time to an ancient procedure: variolation. That preventive method rested on “taking active matter from a smallpox pustule, and then scratching it into the hand or arm of an individual (or sometimes blowing it into the nostrils), in order to produce a mild case of the illness”.2 In 1779 in New Spain, physician Esteban Morel earnestly supported variolation, a practice that since 1722 had become widespread in Europe, and a procedure adopted in Guatemala in 1780 and in Peru in 1790.3 However, variolation could produce a serious case of smallpox, it could also inadvertently spread the disease into the community, and did not become a generalized practice in New Spain regardless of the support it received from Viceroy Martín de Mayorga (1779-1783).4
By contrast, the preventive method that became widespread in most countries during the course of the nineteenth century was the arm-to-arm smallpox vaccine. During the 1780s the British physician Edward Jenner observed that milkmaids who contracted cowpox (variolae vaccinae), a related cattle disease, became immune to smallpox. Jenner published his findings in 1798 in a study that was rapidly translated into different languages and that circulated at an impressive pace in the scientific networks of the period, and numerous individuals, institutions and agencies procured to prevent epidemic smallpox via that novel preventive strategy. One of the most notable enterprises to contain that disease was the Royal Philanthropic Vaccine Expedition, organized by the King of Spain, Charles IV in 1803, an Expedition that has been characterized as the first global health campaign of the modern era, and which was undertaken only five years before Napoleon invaded the Iberian Peninsula and Charles IV abdicated to the throne. ^5

In the midst of that political crisis, which was followed by decades of economic turbulence, disease and warfare, smallpox vaccination became a central element of medical practice, and gradually evolved into an essential responsibility of different governments and their public health institutions as the nineteenth century progressed. In this article attention will be placed on the multiple actors and divergent strategies that contributed to turn smallpox vaccination into a central – albeit inconsistent – practice in Mexico City between 1803, when the Royal Philanthropic Vaccine Expedition began, and 1872, when the Superior Board of Health (Consejo Superior de Salubridad) took over the coordination and administration of the vaccine in Mexico City. Thus, the purpose of the following pages will be to argue that although smallpox vaccination lacked of a solid and uniform legal and institutional framework between 1803 and 1872, it was prompted by multiple actors and institutions that resorted to diverse strategies during a period when the institutionalization and centralization of the state was continuously challenged. Thus, attention will be placed on the vast circulation of knowledge, techniques, instruments and vaccines that made possible the practice of vaccination, and on the relations and interrelations between scientific knowledge, practices, and techniques that were resorted to in an attempt to contain smallpox before the consolidation of the nation-state and the affirmation of the positivist paradigm that was to characterize public health interventions in Mexico during the last third of the nineteenth century.

Circulation of Knowledge, Techniques and Vaccines

In 1798 one of the most rapidly circulated reports ever published appeared in the scientific, medical, political and popular media in different parts of the world. The text in question was titled “An Inquiry into the Causes and Effects of Variolae Vaccinae... known by the Name of Cow Pox”, were its author, the English countryside physician Edward Jenner, presented an alternative method to the widespread practice of inoculation or variolation: the cowpox vaccine. Jenner had fortuitously noticed that those who contracted cowpox did not contract the human smallpox disease. ^4 In 1796, to test his observations, he scratched some cowpox, variolae vaccinae or literally, smallpox of the cow, into the arm of a boy and later confirmed that he had not contracted smallpox when in contact with individuals infected with the disease. Jenner’s findings, presented in just over 70 pages illustrated with a series of handsome engravings of one of the milkmaids hands infected with cowpox, caused great interest in Europe and the Americas, but were also initially met with enormous incredulity. Some physicians considered that his
findings should not be disseminated, and that cowpox should not be administered because the procedure was based on “vulgar stories” and “unbelievable innovations.”7 Other physicians suggested that use of the cowpox would result in a grotesque metamorphosis of people into animals, as illustrated by English physician James Gillray in his cartoon: “Edward Jenner Vaccinating Patients in the Smallpox Hospital at St. Pancras: the Patients Develop Features of Cows” (1802).8 However, and notwithstanding the doubts and challenges that the novel preventive measure generated, the possibility of arresting smallpox contagion using the arm-to-arm or Jenner’s vaccine, a method that was said to be very simple and that provided greater protection than the practice of inoculation, encouraged a wide range of actors and institutions in different parts of the world to support and adopt it at a surprising pace.

5 In 1798, the same year when Jenner’s text was published, the Geneva-based journal, the Bibliothèque britannique, became a forum in which physicians, surgeons and public officials shared their opinions and reported on their experiences with the vaccine.9 A year later in England, The Medical and Physical Journal began to inform its readers of the experiences of a number of vaccinators.10 In 1801, physician Jacques-Louis Moreau de la Sarthe published the French translation of Jenner’s text, and in 1802, Spanish physician Francisco Piguillem Verdecero published in Barcelona: La vacuna en España o cartas familiares sobre esta nueva inoculación (The vaccine in Spain, or family letters regarding this new inoculation), relating his pioneering experience as a vaccinator in a number of Catalonian districts using cowpox that had been sent to him from Paris.11 One year later, the Tratado histórico y práctico de la vacunación (Historical and Practical Treatise on Vaccination), a translation of Moreau de la Sarthe’s work was published in Spain by military surgeon Francisco Xavier de Balmis, a text that became the “first official vaccination manual recognized as such by a government.”12 According to Balmis the aim of his Tratado was to provide clear and accessible orientation on how to obtain, perpetuate and apply the smallpox vaccine, information that circulated in academies, hospitals, government and physicians offices, and in the press.

6 At the same time that the findings and procedures required for the practice of vaccination were spreading, a vast network of physicians, surgeons, government officials and clergymen espoused the urgency to obtain variolae vaccinae (initially limited to Gloucestershire, London and Lombardy), to propagate it and preserve it in liquid or dried form, or in the arms of children, and naturally, to apply it to the largest number of people.13 In less than a decade – beginning in 1798 – the preservation, and application of the vaccine got under way in Canada, Denmark, France, Italy, Russia, Spain, Sweden, the United States, the Caribbean and New Spain, and in other possessions of the Spanish Crown.

7 The circulation of knowledge, techniques, and experiences with the vaccine in Spain, and also the worrying news of the impact caused in 1802 and 1803 by a smallpox outbreak in Santa Fe de Bogotá, gave impulse to the organization of the last of the Bourbon monarchy’s expeditions. In 1803, King Charles IV authorized the Real Expedición Filantrópica de la Vacuna (Royal Philanthropic Vaccine Expedition, also known as the Balmis-Salvany Expedition, 1803-1810) to sail to its Spanish possessions. It was financed by the Royal Treasury, and was inspired by the scientific expeditions in the American and Filipino Spanish territories, that among their objectives procured to identify and exploit “American plants for medicinal and commercial purposes”.14
On November 30th, 1803 the Royal Philanthropic Vaccine Expedition sailed from the port of La Coruña with two physicians, two surgeons, one physician’s assistant, four nurses, the ex-rector of the Santiago de Compostela Orphanage and 22 orphans ranging from 3 to 9 years of age. The members of the Expedition also had lancets; cowpox fluid in dried form, in glass slides and in the arms of some of the children, as well as 500 copies of Balmis’ translated Tratado. However, the enormous enthusiasm of the Expedition was fugacious. When they arrived in Puerto Rico in February 1804, they found that vaccination had already begun and that it was being applied widely on the island. Surgeon Francisco Oller, with the help of the island’s governor Ramón Castro, had obtained the vaccine fluid from the neighbouring island of Saint Thomas and had proceeded to vaccinate his family, the governor’s family and more than 1,500 people. That meant that the application of the smallpox vaccine commenced before the imperial decree, plans and proposals were implemented. The former was possible due to the circulation of a vast amount of medical and scientific literature, and the testing of techniques, procedures and instruments regarded as essential to promote the practice of vaccination.

The Royal Expedition’s disillusionment endured as it advanced. When the expedition arrived in Cuba in May 1804, it acknowledged that more than 4,000 individual had been previously vaccinated due to the initiative, tenacity and personal and professional networks of physician Tomás Romay y Chacón. That physician, a keen admirer of Pedro Hernández’s Origen y descubrimiento de la vaccinia (Origins and Discovery of Vaccinia, Madrid 1801), had procured to obtain the vaccine fluid on several occasions, but remained unsuccessful until February 1803, when he obtained it from Puerto Rico.

Also, when the Expedition disembarked in the port of Sisal (Yucatan) on June 25 1804, the disappointment was similar: the vaccine had already arrived via Cuba and large numbers of people had been vaccinated. Likewise, when the Expedition reached Mexico City on August 9, arm-to-arm vaccination had been underway since the month of April in the Foundlings Home and the Viceregal Palace, and a public demonstration to display the virtues and benefits of the vaccine had also been organized. On April 25 1804 the youngest son of Viceroy Iturrigaray, of 21 months of age, had had his arm scratched with cowpox in front of the city’s inhabitants and had received the “blessing of the Viceroy’s court, the Archbishop, the city’s government and the Protomedicato.” The vaccine also made its way throughout the rugged geography of New Spain, reaching Chihuahua, the provinces of New Mexico and New Biscay, Guanajuato, San Luis Potosí, Oaxaca, Puebla and Campeche before the Royal Expedition.

An essential aspect for the success of vaccination was to propagate and maintain the cowpox vaccine fluid permanently available through sequential inoculations, an issue recognized in Mexico City in 1804. The city’s authorities considered that because the number of children in the Foundlings Home was very limited, it was imperative to enlist the support of the families so that they would allow their children to carry and propagate cowpox. To obtain that support, the Bishop of Puebla published the “Exhortation to the People of his Diocese to Come Calmly for the Important Practice of Vaccination.” In that text he reiterated that the ecclesiastical authorities would inform the public of the advantages and virtues of the vaccine, and strong parallels between religious rites and the practice of vaccination were established in an attempt to obtain the public’s acceptance of the vaccine.

The early years of smallpox vaccination in New Spain were possible due to the rapid circulation of knowledge, practices, instruments, and instructions, processes that implied
the sharing and the reconfiguration of knowledge, or knowledge in transit. According to
Secord, "science as a practical activity, located in the routines of everyday life... as a form
of practice" implies the dismissal of "old distinctions between words and thing, between
texts, books, instruments and images", and the acknowledgment of the mutable and
adaptable nature of scientific knowledge and of the processes, practices and techniques
that comprise it. In New Spain the circulation and adaptation of knowledge and
techniques for vaccination were possible due to the networks among physicians,
surgeons, clergymen and government officials who made use of the intellectual and
scientific flows and of the commercial routes of the time.

It is relevant to note that the practice of vaccination represented a rupture with the
methods in which public health policies and programs had operated at an international
level prior to that point in time. Public health and sanitation measures recurrently
underlined that it was imperative to modify certain habits and practices among the
inhabitants of the capital, and to transform and order the unhealthy working and living
spaces. Likewise, rigid sanitary cordons and quarantines were established to avoid
contagion in moments of epidemic emergencies, and important sanitary reforms were
promoted in the largest urban centres to benefit the public's health. However, the
practice of vaccination entailed that healthy people – voluntarily at first and later by
law – should accept a foreign substance into their bodies and become infected with an
animal disease. In Mexico City the preservation and application of the arm-to-arm
vaccine were responsibilities that rested during the course of most of the nineteenth
century among diverse actors and institutions, encompassing physicians, priests and
other clergymen, city government officials, vaccination and sanitary boards, as will be
examined in the following section.

Conservation, Perpetuation and Vaccination

Throughout the course of most of the nineteenth century, the conservation,
perpetuation, and application of the arm-to-arm vaccine was not the outcome of a firm
adhesion or popular conviction regarding the innovative preventive measure, nor was it
an uninterrupted activity, always carefully planned, financed and organized. Vaccination
customarily intensified in times of epidemic emergencies, being that between 1828 and
1872 at least 22 epidemic outbreaks were registered in different regions throughout the
country.

The preservation, care for and distribution of the vaccine to the different vaccination
boards, and to physicians, clergymen, sanitation boards and to charitable boards and
organizations, were responsibilities that fell on Mexico City’s Vaccine Board or Vaccine
Preservation Office, established in 1804 by Francisco Xavier Balmis and Viceroy
Iturrigaray, and that remained under the City’s Council direct authority until 1872. In
addition, during more than six decades two physicians were responsible for the
functioning of the Vaccine Preservation Office. In 1804 surgeon Miguel Muñoz was named
the first Vaccine Preserver, and in 1842 he inherited the position to his son, physician
Luis Muñoz, who held it until 1872. The Muñoz physicians worked alongside other
medical professionals, city administrators, priests and other social actors, and for more
than half a century they procured to ensure that the vaccine was adequately preserved
and tenaciously applied, especially during epidemic outbreaks.
The fact that for more than half a century the preservation of the vaccine remained anchored in a small and solid network of noteworthy physicians and administrators belonging to the elite of Mexico City, also points to the fact that vaccination and the containment of that disease were not solely the incumbency of the Royal Medical Board (Real Tribunal del Protomedicato up to 1831), of Mexico City’s Faculty of Medicine (between 1831 and 1841), nor of the Superior Board of Health, the highest public health office established in 1841 due to the reforms in medical education and medical police projects set forth in 1840.24 Moreover, mandatory vaccination, a political innovation that extended the powers of the state over the will and decisions of individuals in the interest of public health, did not form part of the country’s public health laws until late in the century.25 However, the preservation, perpetuation and application of the smallpox vaccine were distinctive practices that point to the circulation of medical and scientific knowledge and of preventive measures among different social sectors. The transmission of knowledge and the practice of vaccination among different social actors also encouraged the forging of a system of organized observations and an incipient medical statistic. It is relevant to mention that vaccine registries were required to record the names of vaccinated children and of their families, the children’s ages and addresses, the date of vaccination, the name of who the pus for vaccination had been taken from, the duration of the blisters, and the results of vaccination alongside the variations that occurred with the vaccine in different geographical areas of the country.

Key to the preservation and perpetuation of the vaccine was to guarantee that the chain of vaccination was not interrupted. That meant that parents of healthy children not exposed to smallpox were encouraged to take them to the Vaccine Preservation Office on a daily basis. In that office, vaccinated children who developed good blisters were selected, the fluid was taken from the smallpox pustules in their arms and then scratched into the arms of children who had not been exposed to cowpox or who had survived smallpox. The procedure could cause pain and discomfort, it was surrounded by uncertainty and involved a number of technical challenges, being that one of the most frequent was the ease with which the vaccine became inactive, producing “false vaccines” and the ineffectiveness of vaccination.26

In addition, in different reports that the Vaccine Preservation Office submitted to Mexico’s City Council, the parents’ refusal to allow the vaccination of their children was recurrently cited. For instance, in October 1814 Miguel Muñoz established that during the previous four months, when a smallpox epidemic had disrupted the city, the generalized fear of contracting smallpox had made possible the vaccination of “as many children as there were in the capital who had not been attacked by the pox.” However, Muñoz also underlined that when the epidemic outbreak subsumed: “... no one or almost no one comes in for voluntary vaccination, despite the notifications made in advance to inform of the dates and times of vaccination.” In his opinion, vaccination had to occur “almost by force” during times of calm, and added that the responsibility for searching for unvaccinated children relied on the work of a “vaccine agent”, an individual hired to search for children not previously exposed to cowpox, and whose work faced innumerable problems on a daily basis. 27 According to Muñoz the vaccine agent was rarely able to conduce a dozen children to the vaccination establishments, and had to resort to “begging and gratifications” in an attempt to persuade children and their families of the benefits of the vaccine. Furthermore, the salary of the vaccine agent was so miserable that he barely had “enough for the gratifications [that were given to the
families] or to pay for the car that on many times he has to hire in order to bring in the children...” resulting in a complete lack of motivation or effort to find and bring in more children. Another setback was that numerous parents were unable to go to the vaccination boards due to their occupations and work hours. In light of that difficulty, in 1820 the priest of Salto del Agua in Mexico City expressed that it was imperative “for the good of humanity” that “one of the physicians from the vaccine commission come...to this parish, where I will earnestly have the children come forth, and with what comfort is possible, oversee...” their vaccination.

The different Mexico City vaccination boards and services under the City Council’s authority between 1808 and 1872 required to work in constant and close collaboration with the ecclesiastical authorities and with its personnel in order to carry out their assignments, and it is relevant to underline that the practice of vaccination demanded a concerted effort of persuasion. Thus, in 1826, when a smallpox epidemic gripped Mexico City, the City Council informed the public that vaccinations would take place in the 14 parishes of the capital “placing them under the direct protection of their respective parish priests, asking them to enlist honourable members of their congregations to persuade and force the miserable people...to present their children to the establishment to be vaccinated.” It also specified that the physicians would have the responsibility of providing clear instructions for vaccination. With the purpose of overcoming “the reticence of children’s parents”, physicians and priests were also asked to reward “each of those vaccinated with a real on the day he presented himself with good blisters.”

The importance that ecclesiastical actors and agencies had in spreading the practice of vaccination can also be appreciated in an edict issued by Mexico City’s Council on March 1829: all vaccination boards were asked to include a representative of the City Council or a mayor, one physician, two community volunteers, one clerk, and also a “priest, or curate, if there is not one already present”. The priests’ closeness to the population, their moral influence and their indispensable presence and spiritual consolation in the most important moments of people’s lives, were elements that contributed to them becoming key intermediaries between the vaccine preservation office, the City Council and the general public, in the quest to contain one of the most feared communicable diseases of all times. Thus, in their sermons and Sunday masses they sought to convince parents of the usefulness of the vaccine, reiterating that vaccination was free, harmless effective and, a gift from God. It is relevant to mention that some vaccine boards were placed under the leadership of parish priests, such as the one established in the Parish of San Sebastián supervised by Gregorio González, or the one on Costado de Santo Domingo Street, assigned to Friar Domingo Arana, Prior and Vicar General of the Order of Santiago. In addition, during the 1840 smallpox epidemic, the charity board headed by Bishop González oversaw the application of the vaccine in the city’s barracks and tenement homes, and procured to make sure that all the children in the Poor Home were vaccinated. Vaccination was also accompanied by the publication of numerous papers, booklets and informative pamphlets destined to the general public, being that in 1840 Miguel Muñoz published a “Booklet or Brief Instructions for the Vaccine.” In that text he acknowledged that the application of the vaccine was far from being a generalized practice and underlined that it should reach “the centre and all corners of Mexico”, and that the “poor, who lack education” should be instructed on how to protect themselves from the disease.
As can be seen, during the early decades of the nineteenth century smallpox vaccination was not the exclusive prerogative of the City Council, of the public health authorities or of certified physicians. It was a practice in which numerous individuals and institutions participated, resorting to persuasion, exhortation and to the moral authority that they could exercise over different social groups. Physicians, vaccine preservation officials, clergymen and public officials procured to persuade and instruct the public on a daily basis by word of mouth, and also, through the distribution of booklets and pamphlets, underlining that vaccination was a relatively simple procedure, one that practically anyone could properly carry out with a previous and simple training; a practice that was essential to save the lives of children and adults.

**Warnings, Precautions and Debates**

The fact that the vaccine was recommended, supervised and applied by a wide range of institutions and individuals also implied that some of the most important precautions to guarantee that vaccination did not entail unnecessary risks were not always followed. The precautions included cleansing the arms of both the vaccinating (previously infected) children and those that would receive the vaccine for the first time, and assessing that vaccinated children did not have communicable diseases. Also, during time of epidemics, health professionals, representatives of the City Council, schoolteachers, priests, and even hacienda administrators, vaccinated. Therefore, the procedures were not homogeneous and the results were recurrently called into question, in particular when inactive vaccine was used. Additionally, a further predicament came to light.

During the course of the first six decades of the nineteenth century a number of physicians in different parts of the world asserted that one of the main causes of the transmission of syphilis was the arm-to-arm vaccine. Since 1804, the likelihood that the smallpox vaccine could encourage the transmission of syphilis led Neapolitan physicians Michele Troja and Gennaro Galbiati to recommend not to preserve, perpetuate or apply it, and that it was necessary to resort to pus from young cattle to generate the animal vaccine. The production of vaccine by growth of vaccinia on the skin of a calf was a method that relied on making “multiple inoculations by making scratches on the calf’s belly and applying material from a vaccination pustule. Seven to ten days later... the pustular material was taken from those lesions and used for vaccination of humans or to inoculate other claves to produce more material”. That method spread rapidly, and “primitive factories” were gradually established in different cities around the world. By the 1840s Neapolitan physician Negri improved the production of the animal vaccine, and reiterated that only “vaccine material from one animal to another [should be used].”

In 1864 the debates and arguments that called into question the arm-to-arm vaccine were particularly intense during the sessions of the International Medical Congress celebrated in Lyon, France, were physicians Ernest Chambon and Gustave Lanoix, among others, strongly challenged the virtues of arm-to-arm vaccine. In was also in 1864 when the first Institute of Animal Vaccination was established in France, followed by the instalment of similar institutes in Germany, Belgium, England, Switzerland, and Russia. In Mexico physicians Lino Ramírez and Ángel Iglesias also proposed abandoning the arm-to-arm vaccine during the 1860s. In 1864 Iglesias travelled to France to study the work carried out with the animal vaccine by physician Depaul, the director of smallpox vaccination in Paris. On his return to Mexico in 1886, he introduced the animal vaccine in test tubes and
glass slides and presented the results of his studies to the members of the Medical Society of Mexico in a study titled: *Memoir on the Animal Vaccine*.\(^{41}\) Iglesias underlined that only the use of animal vaccine would allow the legitimate concerns regarding the transmission of syphilis to cease, and that only through the production and application of the animal vaccine it would be possible to overcome the difficulty of finding a constant influx of children to carry cowpox, and to surpass the persistent resistance of mothers to allow their children to receive and preserve the arm-to-arm vaccine.\(^{42}\)

Likewise, in 1866 physician Lino Ramírez expressed that “the transmission of syphilis by way of the [arm-to-arm] vaccine, which is intended to produce a positive result, could convert it into a problem with grave consequences,”\(^{43}\) and underlined that one of the most important advantages of the animal vaccine was that it was impossible to “inoculate other ills” if employed.\(^{44}\) At the same time that Ramírez and Iglesias espoused the need to abandon the arm-to-arm vaccine and petitioned other physicians and the city authorities to favour and finance the production of the animal vaccine, a number of rumours and newspaper articles published in Mexico City disclosed cases of people that had contracted syphilis after receiving the arm-to-arm vaccine.\(^{45}\)

Throughout the 1860s and 1870s diverse physicians and the Mexico City press reported on cases of children with congenital syphilis that the arm-to-arm vaccine had perpetuated; made public diagnoses of “discrete syphilis spread over the entire body” in previously vaccinated adults,\(^{46}\) and informed of children who had died due to “anomalous” vaccines in Mexico City and in other major capitals of the world.\(^{47}\) Albeit the debates, doubts and reserves that surrounded the arm-to-arm vaccine, diverse physicians declared that no one properly vaccinated fell ill with smallpox or with other communicable diseases, underlined that the arm-to-arm vaccine had not degenerated and that it produced “the same effects as when it had arrived to Mexico for the first time.”\(^{48}\) The vindication of the arm-to-arm or Jenner’s vaccine was sustained on the weight of tradition and on what physician Ricardo Manuell called “a veritable dogma of national medicine.”\(^{49}\) In his opinion generations of physicians, “from the oldest to the youngest... were pleased to teach that our vaccine was superior to the animal vaccine,” and underlined that doubting of its effectiveness and safety was tantamount to “the greatest of heresies, because it would have been like calling into question a veritable dogma of national medicine.”\(^{50}\) With those words, Manuell was alluding to the fervour with which a handful of physicians that belonged to the professional elite had embraced the task of preserving and applying the arm-to-arm vaccine throughout most of the nineteenth century.\(^{51}\) In particular, he was making reference to physicians Miguel and Luis Muñoz, who in his opinion had conducted their work during more than fifty years with “blind faith”: never questioning the safety and effectiveness of the vaccine, and thus, making it impossible to abandon that specific preventive method.\(^{52}\)

At the beginning of the 1870s, when those debates and disagreements were taking place, and after almost seven decades of the application of the arm-to-arm vaccine in Mexico City, the Ministry of the Interior issued a series of decrees and regulations aimed at strengthening the power and responsibilities of the Superior Board of Health. Those reforms were closely tied with the beginning of a wider process of the City Council’s administrative reorganization, when its functions and obligations became gradually “absorbed by the federal and District governments in the hope of establishing an order, a definition of functions and, as a result, a better political-administrative control.”\(^{53}\) It was also during the early 1870s when the arena of public health and the functioning of
asylums, poor houses and hospitals were separated from the City Council’s purview. For the first time the Ministry of the Interior assumed the responsibility of overseeing the functioning of those establishments and to guarantee the sanitation and hygiene of the capital city on a permanent basis, and not just during times of epidemic emergencies, arguing that “in any well-organized society, the branch of the sanitary police is one of the principal and preferable concerns of the public administration.”

The 1872 decree established that the members of the Superior Board of Health would be directly appointed by the federal government, that all appointees would be required to be Mexicans by birth or naturalization and to hold a legitimate license to practice medicine, pharmacy or veterinary medicine. Moreover, the Ministry of the Interior established that the Superior Board of Health would have the obligation to determine all public health and sanitation measures in normal times and during epidemic emergencies, and to supervise the hygienic conditions of homes, hospitals, prisons, and cemeteries, and industrial and commercial establishments. With regard to the vaccine, only the Superior Board of Health would have “under its supervision, the administration of the vaccine and its sanitary inspection”, and the obligation to appoint vaccinators. The former meant that responsibility for vaccination ceased to fall under the City Council’s authority, and its transference to the Superior Board of Health was justified in the following terms: experience had shown that the propagation of smallpox increased when ignorant, amateurs or people “absolutely foreign to medicine” vaccinated.

The reforms that smallpox vaccination services underwent since 1872, whereby the power and obligations of the Superior Board of Health were strengthened, were inexorably related to the larger processes of state consolidation and to importance that the protection of the health of the population acquired during the final decades of the nineteenth century. On June 1872 Luis Muñoz ceased to occupy the position of vaccine preserver, and physician Fernando Malanco was named chief of the General Vaccine Inspector’s Office, under the authority of the Superior Board of Health headed by physician Ignacio Alvarado. Among the responsibilities that the General Vaccine Inspector’s Office had, the following stood out: to preserve and perpetuate the chain of vaccine pus, to apply the vaccine in its offices and to distribute it to the private physicians that made a formal request. Also, it was obliged to gather systematic and accurate figures of the number of people vaccinated in Mexico City, and to gather reliable medical statistics. A decade later, those and other issues were the topics of discussion during the sessions of the first National Hygiene Congress held in Mexico City in 1883-1884, were the debates on whether or not to continue with the arm-to-arm vaccine and the possibility of making vaccination mandatory throughout the country were addressed.

Final Considerations

Smallpox vaccination was an inconsistent practice throughout the course of the nineteenth century that lacked of a solid and uniform legal and institutional framework. However, it was also a practice in which numerous actors participated in an attempt to conserve and apply the vaccine. Between 1804 and 1872, an extended period marked by political and economic instability, by foreign invasions and public health emergencies, a forceful state leadership in the struggle against smallpox was not present; no single state institution was devoted exclusively to promote vaccination in a consistent and
permanent manner, vaccination was not mandatory by law and, the practice of vaccination "ebbed and flowed depending on local conditions". Thus, the preservation and application of the smallpox vaccine was possible due to the efforts of a wide range of public and private actors and institutions that followed a wide assortment of techniques and procedures. Furthermore, the success of vaccination required of the voluntary cooperation of the public. To that end, numerous recommendations, suggestions, exhortations and warnings were published in booklets, papers and specialized journals, information that was also commented upon in private gatherings, or read out loud in public spaces. In sum, the perpetuation and generalization of smallpox prevention was driven by the efforts of a heterogeneous number of actors that resorted to diverse strategies and procedures during a time when the institutionalization and centralization of the state, and of public health policies and programs, were in the process of formation.

NOTES

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58. Between 1872 and 1910 the directors of the Vaccine Preservation Office, or Vaccine Establishment, as it was also known, were physicians Fernando Malanco (1872-1898), Joaquín Huici (1898-1903), and Francisco de P. Bernáldez (1903-1910). See Agostoni, Claudia. *Médicos, campañas y vacunas. La viruela y la cultura de su prevención en México, 1870-1952*, Mexico City, Instituto de Investigaciones Históricas, UNAM, Instituto de Investigaciones Dr. José María Luis Mora, 2016, p. 42-63.


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**ABSTRACTS**

This article examines the multiple actors and varied strategies that contributed to turn smallpox vaccination into a central – albeit inconsistent – practice in Mexico City between 1803, when the Royal Philanthropic Vaccine Expedition began, and 1872, when the Superior Board of Health took over the coordination and administration of the vaccine in Mexico City. Thus, one of its central arguments is that, although smallpox vaccination lacked of a solid and uniform legal and institutional framework, that preventive practice was prompted by numerous actors and institutions that resorted to a wide array of strategies in an attempt to contain the propagation...
of that disease, and that they were carried out before the consolidation of the nation-state and
the affirmation of the positivist paradigm that was to characterize public health interventions
during the last third of the nineteenth century.

El artículo presta atención a los múltiples actores y a las variadas estrategias que contribuyeron a
que la vacunación contra la viruela deviniera en una práctica central – aunque inconstante – en
la ciudad de México entre 1803, al iniciar la Real Expedición Filantrópica de la Vacuna, y 1872,
cuando el Consejo Superior de Salubridad asumió la coordinación y administración de la vacuna
en la ciudad de México. Se argumentará que si bien la vacunación contra la viruela careció de un
sólido y uniforme marco legal durante la mayor parte del siglo diecinueve, esa práctica fue
impulsada por múltiples actores e instituciones que recurrieron a estrategias distintas en aras de
la contención de los contagios de esa enfermedad. Lo anterior tuvo lugar antes de la
consolidación del estado nacional y de la asunción de paradigma positivista que caracterizaría a
las intervenciones en el ámbito de la salud pública durante el último tercio del siglo diecinueve
en México.

L’article porte son attention sur les multiples acteurs et les stratégies variées qui ont
contribuèrent à faire de la vaccination contre la variole une pratique centrale – quoiqu’inconstante – dans la ville de Mexico entre 1803, date de l’Expédition Royale Philanthropique du Vaccin, et1872, lorsque le Conseil Supérieur de Salubrité assuma la
coordination et l’administration du vaccin à Mexico. Comme on le verra, alors que la
vacccination contre la variole manqua d’un cadre légal solide et uniforme pendant la majeure
partie du XIXe siècle, sa pratique fut stimulée par de multiples acteurs et institutions qui
recouraient à des stratégies différentes pour limiter la contagion de la maladie. Tout cela, avant
la consolidation de l’État national et de la montée du paradigme positiviste qui allait caractériser
les interventions dans le domaine de la santé publique durant le dernier tiers du XIXe siècle.

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Palabras claves: viruela, vacuna, vacunación, epidemias, Ciudad de México
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