JOURNAL OF PUBLIC GOVERNANCE AND POLICY:
LATIN AMERICAN REVIEW

JOURNAL OF PUBLIC GOVERNANCE AND POLICY: LATIN AMERICAN REVIEW Año 07, No. 7, enero-diciembre 2021, es una publicación anual editada por la Universidad de Guadalajara, a través del Instituto de Investigación en Políticas Públicas y Gobierno (IIPPG), División Economía y Sociedad, Centro Universitario de Ciencias Económico Administrativas, CUCEA. Edificio B-202, Periférico Norte No. 799, Núcleo Universitario Los Belenes, C.P. 45100, Zapopan, Jalisco, México. Teléfono: 33-3770-3412 y 33-3770-3300 ext.25876, https://journalofpublicgovernance.cucea.udg.mx/index.php/jpgp/index, journal.iippg@gmail.com Editor Responsable: Alvaro Guevara Castillo. Reserva de Derechos al Uso Exclusivo del Título: 04-2015-120712050900-102, ISSN Electrónico: en trámite, otorgados por el Instituto Nacional del Derecho de Autor. Responsable de la última actualización de este número: Instituto de Investigación en Políticas Públicas y Gobierno, División Economía y Sociedad, CUCEA, Alvaro Guevara Castillo. Fecha de la última modificación: 1ero de diciembre, 2021.

JOURNAL OF PUBLIC GOVERNANCE AND POLICY: LATIN AMERICAN REVIEW Year 07, No. 7, January-December 2021, is an annual publication edited by the University of Guadalajara, through the Institute for Research in Public Policy and Government (IRPPG), Economy and Society Division, University Center for Economic and Administrative Sciences, CUCEA. Building B-202, Periférico Norte No. 799, Núcleo Universitario Los Belenes, C.P. 45100, Zapopan, Jalisco, Mexico. Telephone: 33-3770-3412 and 33-3770-3300 ext.25876, https://journalofpublicgovernance.cucea.udg.mx/index.php/jpgp/index, journal.iippg@gmail.com Editor: Alvaro Guevara Castillo. Reservation of Rights to the Exclusive Use of the Title: 04-2015-120712050900-102, eISSN: in process, granted by the Instituto Nacional del Derecho de Autor. Responsible for the last update of this issue: Institute for Research in Public Policy and Government (IRPPG), Economy and Society Division, CUCEA, Alvaro Guevara Castillo. Last modified: December 1st, 2021.

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eISSN: En trámite.

Printed in Mexico

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WHAT'S NEXT? THE CHALLENGES OF PUBLIC MANAGEMENT POST-COVID-19

María del Carmen Pardo*

The post-COVID-19 crisis presents a difficult forecast, which translates into colossal tasks and challenges that governments and their public administrations will have to face. These paper intends to provide some thoughts in relation to these challenges due to this health crisis that the entire world is suffering. This moment generates uncertainty and it is possible that governments will not have time and perhaps resources to plan actions for the immediate future.

COVID-19

The arrival of COVID-19 seems to resemble a pendulum: even though we move forward, the health crisis met by all countries and societies seems to return violently, or perhaps it´s a boomerang that hits all as a result of a huge and cumulative abandonment of our environmental and social environments, and also an indiscriminate use of non-renewable resources. Jorge Hinze offers the following data:

> After rising steadily for decades, global carbon dioxide emissions fell 6.4%, or 2.3 billion tons, in 2020 due to COVID-19 that suffocated economic and

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> social activities around the world, (...) and is expected not to last once the virus is under control…[1]

Also the insistence or stupidity of refusing to act with a long-term vision, and make a determined effort to substitute those non-renewable resources.

Likewise, the meager investments in different public areas, and not considering or giving the necessary priority to an urgent investment on the research of life threatening infections or other health concerns. There is a clear disparity between military investment vs research regarding infectious diseases and health.[2]

To formulate an indication as to how governments will react and face new challenges when the pandemic is overcome, we must assess its impacts and tally the damages. Currently we can only foresee an uncertain and discouraging future due to a complex economic scenario (i.e. rising unemployment, insecurity in different spheres among others). The worst scenario being that societies will be left in an unprecedented vulnerable situation –presumably not temporary, but permanent–, by having to face the deficiencies and insufficiencies of our health services, provided by most public administrations worldwide.

THE CHALLENGES CONFRONTED BY PUBLIC ADMINISTRATIONS

In the midst of an economic crisis of enormous magnitude and depth, it is difficult to conceive how public services can be strengthened, at least in Latin American countries, that have a significant structural weakness. Socially and culturally societies will have to assimilate that the situation in the immediate future will not only register changes, but will differ completely. These changes will upset our known stability and certainties: our globalized world, countries, cities, workplaces, homes, all will be different. New references will appear, and people will not be the same, thus, there will be fresh social behaviors that were not known prior to the pandemic.

Social development will be marked by uncertainty that will be reflected in many of the fields of our social activity such as in our economy and labor. Repercussions will be felt on access to services, notably health and social security systems. Research will be constrained due to a lack of investment. Life, in numerous daily activities (financial, business transactions, online work

1 Jorge Hinze, “La crisis Covid y las emisiones de carbono”, Nature (https://www.nature.com/articles/d41586-021-00090-3).

2 Watch Bill Gates´ Youtube, “The next outbreak? We are not ready”.

and education, etc) will shift from face-to-face encounters to a virtual-online platform.

This scenario will undoubtedly affect governments and the way public administrations work. Their structures and bureaucracies will have to go from reactive to proactive. This means that bureaucracies most abandon traditional forms and develop empathy regarding the population's needs. Public officials who honor their participation in public administrations with their work, will have to amplify their service commitment and vocation and develop actions in a new direction, other than the one they have worked for decades. Technological resources will become a valuable input and ally to bring governments closer to their citizens. However, we must keep in mind that the so-called digital divide is still a critical liability that has not yet been reduced or overcome.

Administrations and their officials must make an effort to generate innovative and creative responses that internalize the needs of others, and seek different ways not only to face problems, but to offer solutions that go far beyond the sole purpose of being effective. Different values must be included and position them in a way that the responses are more equitable and empathetic.

This new form of action by public administrations requires sidestepping any attempt to simulate as in the past. Social programs, for example, must be designed and implemented to meet their objectives and not only seek to alleviate needs or worse, expand clienteles to favor campaigns in an electoral process.

We must leave behind the logics that foster inter-bureaucratic struggles and conflicts that have been the cause of abandoning modernizing initiatives or obvious failures. It is necessary to find harmony in the performance of elected officials with respect to appointed career public officers. Their discord has not helped to strengthen the governments' and their administrations performance, but has been the cause of strong resistance and deviations regarding improvement commitments.

CONCLUSION

The immediate future will register changes and will be different. The governments' and their administrations will be profoundly modified towards their citizens. Likewise, societies will have to stop their selfish behaviors and become more empathetic, supportive and generous, cultural. These latter traits perhaps do not characterize a vast number of our current societies; but that will have to be developed gradually, to effectively contribute to the construction of new relationships between governments their public administrations and citizens.

THE STATE'S MANAGEMENT OF THE PANDEMIC: REFLECTIONS ON THE LATIN AMERICAN EXPERIENCE

Oscar Oszlak*

ABSTRACT: The COVID-19 coronavirus pandemic is a typical problematic issue that meets the characteristics of a 'wicked problem'. This paper analyzes some aspects of the state's management of this crisis, the policies and technologies adopted by different governments to face it and try to solve it, the strategies and power resources used and the factors that conditioned the results achieved. The work highlights the great number of variables that contribute to explain the successes and failures produced in different countries, as well as the weight that can be attributed to the institutional capacity of governments. This conceptual examination of the subject is illustrated with special reference to the experience of Latin American countries.

Keywords: *COVID-19, wicked problems, institutional capacity, power resources, government strategies*

At the beginning of 2020, the first real and only World War in history was unleashed. This war was launched against a common enemy –the COVID-19 coronavirus– and involved and mobilized the entire humanity. Although a year and a half later, this war has not yet concluded, it seems that its final battles are now being fought. Curiously, it has also been a kind of Civil War, in which this invisible enemy could hide within all and any human being. Without a doubt, this has been a contest like no other, in which, among the few available weapons, stood out, first, the physical isolation from any possible contact with said enemy and, at a later stage, medical armies inoculating the population with presumably protective vaccines, until reaching the so-called 'herd immunity'.

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Social life seemed to disappear and human interaction was almost reduced to the realm of the nuclear family. Isolating the population from contagion required early and energetic action by governments which, in many cases, generated social reactions, raised serious doubts about the effective enforcement of public liberties that were protected by constitutional norms, and even called into question the democratic nature of many political regimes.

Never before had society been faced with such a dilemma that involved choosing between health and the economy; between maintaining or reducing the normal rhythm of economic and social activity, which seemed to be the main source of contagion and spread of the disease. These were all difficult decisions to make, by the way, because prioritizing health policies to contain the high morbidity and mortality caused by the pandemic required the paralysis of economic life, which, in the long run, could be even more lethal than the disease itself, even in terms of human lives, beyond the greater hardships for material and psychological life that entailed the suspension of productive activity or the social cost in terms of learning by an entire generation of students.

As in no other time, except in periods of conventional warfare, had societies experienced such a profound sense of collective anguish in the face of the human and material costs recorded in everyday chronicles, without the ability to foresee the end of this nightmare. Nor had they been so aware of the decisions and actions of their governments, who were suddenly turned into irreplaceable protagonists in this contest. All over the world, populations anxiously followed their governments' meetings, announcements and decisions from day to day. They celebrated those actions believed to be correct and harshly criticized those judged to be ineffective, harmful or inequitable. On many nights, applause or the noise of saucepans resounded from windows and balconies, expressing agreement or disagreement. Citizens had never manifested themselves in such a massive and instantaneous way.

Today, the end of this war seems near, because science, with the decisive contribution of the state, managed to produce the weapons that will probably allow us to win it, even when other equally lethal enemies may emerge in the future. Right now, hundreds of vaccines are being tested and placed on the market, allowing a massive immunization that will surely end the current pandemic. We are, then, close to starting a new state of normality that, as predicted, will not be the same as the one that existed before this health crisis. In part, because the crisis forced the search for scientific and technological solutions to mitigate its effects, accelerating innovation processes that otherwise would not have occurred or would have been much slower. Also, because the adoption of these solutions is here to stay and, therefore, will generate permanent changes in educational, labor, business and managerial routines and practices.

The disruption of economic and social life that the pandemic produced, highlighted the capacities (Mazzucato and Kattel, 2020) of state institutions, but also their shortages, to face and solve its most critical aspects: ensuring the confinement of the population, expanding and specializing health infrastructures, assisting the most vulnerable social sectors, responding remotely to the requests and demands of citizens or issuing new rules and regulations at the speed required by the abrupt changes in the evolution of the health crisis.

This paper will analyze some aspects of the state's management of the crisis generated by the COVID-19. It will address the issue starting with a characterization of this pandemic as a socially problematic issue, suggesting the reasons why it can be considered a 'wicked problem' and, in this sense, identifying which possible solutions should have been tried to solve it. The conceptual examination of the subject will be illustrated with special reference to the experience of the Latin American countries. No attempt will be made to describe the public management process during the pandemic or to provide a narrative of its successes or failures. Instead, it considers that the experience of this health crisis offers a magnificent opportunity to deepen the study of public policies and state management around issues that affect practically all facets of social interaction, a topic to which this paper aims to contribute with the reflections that follow.

THE PANDEMIC AS AN ISSUE

Along with O'Donnell, we have defined public policies as position stances (and, today I would add, also as courses of action), adopted by state actors in the face of socially problematized issues (Oszlak and O'Donnell, 1976). Normally, these issues[1] become public and are incorporated into the state agenda 1) when they are raised by certain social actors, whenever they consider that their needs, interests, rights or values are undermined or neglected by the state, or 2) whenever state institutions adopt decisions and mobilize resources in anticipation to the emergence or aggravation of certain social problems. Also, by omission, a state can choose not to act or intervene in the face of a problem, for a wide variety of reasons, which still turns this position into a public policy.

Given the truly exceptional characteristics of this issue, it is worth asking whether, conceptually, the pandemic can be characterized as 'perverse' or 'wicked'. Although the definitions of this concept are varied, there is coincidence that these are difficult or impossible problems to solve for, at least, the

1 The term 'issue' refers to a topic or problem susceptible to debate or discussion.

following reasons: 1) the knowledge about them is incomplete or contradictory; 2) there is a large number of people whose opinions about their possible solutions diverge; 3) the economic cost of solving them is high; and 4) these types of problems are closely intertwined with other problems. Let's see if the pandemic responds to these features defining a wicked problem.

First, since it is a new virus of uncertain origin, what we knew about its characteristics and the ways to combat it were gradually obtained, even though, right from the beginning, we knew that isolation and vaccines would be the main weapons to prevent this disease. In the past, the production of effective vaccines took years. This period was reduced to just a few months, given the haste with which the different testing stages were carried out and the magnitude of resources that were mobilized worldwide. However, uncertainty was the distinguishing feature in the different stages of the cycle of public policies adopted in each country: it was difficult to decide which vaccines to choose among the dozens that were on the market; whether to wait or not until these vaccines were approved by the health regulation authorities; or to choose between different criteria to privilege certain populations that were to be vaccinated earlier. In addition, other drugs or alternative treatments emerged that were subjects of controversy, and a variable part of the populations of different countries decided to reject inoculation, which generated policy measures that ranged from the offer of varied material or symbolic incentives (nudges)[2], to the plain and simple adoption of repressive measures.[3]

Second, the COVID-19 was also the subject of intense controversies, that largely transcended the field of sanitary authorities and led to the contradictory effects attributed to the different policies that tried to combat the virus. Choosing between 'health and economy' was the dilemma that all governments faced from the beginning. Very early on the pandemic, governments were forced to quickly establish advisory committees mainly made up by experts from different sectors (health, population, economy, work, education), although in general, epidemiologists and infectologists prevailed. Likewise, sectoral committees were formed, with some degree of participation from academics, as well as social and business organizations. This types of units, both formal and informal, was reproduced in subnational governments (e.g., provinces and municipalities) with which –in addition to the direct

2 A 'nudge' is a stimulus, in the form of a variety of behavioral options, that tends to predictively alter people's behavior without prohibiting them from making other decisions or significantly modifying implicit economic incentives. For example, in some countries people were encouraged to get vaccinated by offering them drinks or food (Israel) or by installing vaccinations on beaches (United States).

3 In France, for example, President Macron decided to approve the display of a "health passport" for being allowed to carry out a large number of procedures or to access certain places, also opening the possibility of firing unvaccinated personnel from their jobs.

representatives of the affected sectors that developed an intense task of defense and promotion of their interests– they ended up creating a dense map of actors with contradictory demands, interests and political affiliations.

Thirdly, few issues on the state agenda incur, for their resolution, a cost similar to that which countries allocated to combat the COVID-19 –a cost that was increased by the oligopoly exercised by the companies that produce vaccines, one of the main components of the global cost of pandemic care.[4]

In order to fully characterize the COVID-19 pandemic as a 'wicked problem', it is evident that it more than meets the fourth of the aforementioned criteria (its interconnection with other problems) by simultaneously and recursively affecting a wide variety of areas of public policy, which explains the need to make decisions on various fronts (health, logistics, labor, educational, production, security), while, at the same time, discriminating on the basis of territories, age or occupational criteria. Few issues on the state agenda exhibit this decidedly troublesome feature.

Whether we consider it 'wicked' or not, the pandemic is, at the very least, an exceptional issue since, as it also occurs with natural phenomena (earthquakes, forest fires, floods or hurricanes), the lives and material assets of a population were suddenly, almost without any prior notice, threatened, thus demanding immediate responses and state interventions without the explicit demands from any actor, only because it is a natural responsibility of the state's role before society.

But just as the initial impact of this issue affected populations as a whole –since practically no one can escape the possibility of contracting the coronavirus disease or any of its various strains– the rapid spread of the virus immediately created a population segmentation in terms of vulnerability to the infection, illness and death: the elderly or people with comorbidities; young people that, even if infected, could go through the disease with low mortality rates; practically immune children or people exposed to contract the virus by their activity. Other circumstances, unrelated to these age or occupational distinctions, also created differential impacts. For example, the insular condition of some countries, which facilitated border control and early detection of the virus; the availability of a robust and territorially extended health infrastructure, which allowed for a faster identification, care and

4 Recently, the *People's Vaccine Alliance* estimated that vaccinating the whole world could be at least five times cheaper if pharmaceutical companies did not abuse their oligopolistic position regarding vaccine production and distribution (OXFAM, 2021). The Pfizer / BioNTech and Moderna companies are charging governments up to $ 41 billion above the estimated cost of production. Israel paid $ 28 per dose for these vaccines (almost 24 times the potential production cost), while Colombia, a country heavily affected by the virus, paid for them an estimated overprice of $ 375 million (OXFAM, 2021). These amounts obviously do not include costs incurred in logistics, cold chains or vaccination personnel, as well as other direct or indirect costs.

treatment of patients; or the relative centralization of policies to respond to the pandemic, which accelerated the decision-making process and avoided the possible conflicts that usually arise in federal political-institutional systems or where, as a result of the fragmentation of power, it is difficult to coordinate or reach policy agreements.

Therefore, although it is true that the pandemic generated an epidemiological threat to the world population as a whole, its differentiated impact created a complex social stratification which required an equally differentiated response from the state, which, in turn, also developed different segmentations and imbalances due to these responses to the pandemic, thus raising new position stances and courses of action. For example, promoting the isolation and confinement of the population interrupted certain economic activities, but not others, thus reducing production, increasing unemployment and generating greater impoverishment and social inequality. Facing the impact of these consequences, new state policies sought to mitigate them, partly through subsidies to companies or unconditional transfers to vulnerable sectors, which did not always reached all potential beneficiaries. Or, as another illustration, the decision to close schools, opting instead, after a prolonged quarantine, for virtual teaching modalities that were not accessible to all children and young people due to their social situation, thus aggravating the situation of social exclusion and leading to look for other remedial solutions ('bubbles', free distribution of computers, special protocols, classes with alternate presence, etc.).

The effects and impacts of the variety of 'corrective' or 'fine-tuned' policies were not limited to producing a reduction in the inequalities or imbalances generated by previous measures. These also aimed to maintain or, if possible, to improve the legitimacy that governments enjoyed based on their exercise of public management during the pandemic. Almost everywhere, this legitimacy suffered enormous ups and downs in citizen approval, depending on the expectations generated by the announcements by the authorities about the measures to be adopted and the results generated by them (or by the non-timely adoption of certain decisions), which sometimes led to extremely varied expressions of support or rejection. In part, the variety of reactions, and their expression in the approval rates of a government's management, also depended –in addition to the correctness or not of certain policies– on each country's political-electoral conjunctures and the degree of the relative hegemony of parity of forces between party coalitions. In circumstances such as these, the discursive strategies of the competing sectors and the communication and dissemination policies (which dominate content in the media and social

networks in times of enormous uncertainty, such as those that characterize a pandemic like the one we are analyzing) become particularly important.

POLICIES ADOPTED AND DECISION-MAKING PROCESSES

Other aspects of the state management of the pandemic that are worth reflecting upon concern the policies and characteristics of the decision-making process that were adopted –topics that I will analyze in this section. Regarding the first aspect, I will identify the different types of policies adopted and the various instruments of implementation. And, in regard to the decision-making process, I will consider the role played by the different actors involved, the advisory organs and bodies, the unusual acceleration of the times in which states commonly make decisions, and the more authoritarian or democratic nature of this decision-making process.

As a first observation, I will point out that the pandemic response required the application of a combination of policies implemented through substantive technologies and support (or managerial) technologies. Since this distinction is not obvious, I will clarify its meaning. In any policy area, different positions and courses of action can be adopted aiming towards the solution of certain issues that I will call 'substantive' (e.g. agricultural stagnation, wage arrears, tax evasion or, as in this case, a pandemic control). Each of those issues requires the application of specialized knowledge for its solution, as well as 'core technologies', in the sense proposed by Thompson (1967). These are applied at the 'technical' level of the organizations and, metaphorically speaking, correspond to the 'factory' of the organization, where the production function is carried out and inputs are transformed into outputs (goods, services, regulations). There is where substantive policies are adopted and implemented through technologies such as agricultural research and extension, labor negotiation, tax control or mass vaccination, just to illustrate some possible responses to the problem areas proposed as illustrations.

In turn, the 'support technologies' correspond to those that Thompson (1967) places at the managerial level of an organization and Barzelay (2003) calls 'public management policies', among which this author includes the planning, financial management, labor relations, organization and methods, hiring, etc. Any resemblance to the old and well-known PODSCORB is not a coincidence: it is simply the different ways in which we, authors, call the functions carried out at that part of an organization where the production of

goods and services is designed and controlled, inputs (personnel and material goods) are obtained or assigned and products are delivered.

It could be argued that the substantive technologies in the fight against the pandemic were mainly related to four major areas of public policy: 1) health care (experimentation, vaccine production, tracking of infected, hospitalization, treatment, vaccination), 2) regulation of social behavior (particularly in matters of compulsory confinement, control of occupation, employment, circulation and transportation), 3) containment and social assistance (subsidies and monetary transfers to companies in difficulties and vulnerable families) and 4) information and communication which, in such an exceptional and uncertain situation, become critical (monitoring and communication of the number and location of victims, press campaigns, protocol design and dissemination).

In each of these areas of public policy, more or less rigorous criteria of selectivity and scope had to be applied –not always successfully–, considering the differential effects of the pandemic on different groups of people. A situation as exceptional as a health crisis tends to generate or accentuate various forms of social inequality, by virtue of two basic circumstances: 1) the different degree of vulnerability to the pandemic by different strata of the population, which required, for example, the prioritization of care for the elderly, people with comorbidities, families living in overcrowded houses, passengers on means of transport that did not offer adequate distance; and 2) the differential impact of government measures, according to their effects on the stoppage of activities or the need to reassign personnel to attend essential services (e.g. informal workers, public employees, personnel employed in companies that had to suspend their activities as a result of more or less prolonged quarantines).

Therefore, it was necessary to formulate and implement 'fine-tuned' policies that had to consider the differential situation of the population against the virus and, therefore, make decisions such as priority vaccination for the elderly, medical personnel or other groups; total or partial prohibition of certain economic and social activities that, due to the place in which they are carried out and the risk of human contact involved, negatively affect those who offer or demand them (shops, transportation, public shows, schools, etc.).

Many of the public policies adopted by governments during the pandemic were designed to mitigate or correct the effects on people and sectors that had to suspend their normal activities, their mobility or were exposed to other restrictions, thus creating various forms of inequality. Some of these policies consisted of monetary transfers to families that lost their sources of income or to companies that had to close and cover the payment of their personnel's salaries. Other forms of compensation or solutions to partial problems faced

by sectors affected by the pandemic consisted of the prohibition of dismissals of personnel, forgiving money lending interests, the automatic extension of contracts or prohibiting the suspension of home services due to non-payment. In general, these measures were adopted to varying degrees and for varying periods, depending on the availability of resources by governments and the relative severity of the pandemic spread in each case.

Support technologies –which make the implementation of substantive technologies feasible– continued to fulfill this role during the pandemic but, generally speaking, had to adapt to the emergency and, in many cases, underwent significant changes. The technologies that were hit the hardest include financial management, digitization, maintenance, logistics, purchasing and supplies, and personnel management. In general, they suffered some type of change or adaptation as a result of the obstacles or demands created by this exceptional situation. As an illustration of those that underwent the greatest changes, I will point out the following:

a) The widespread adoption of telework, which implied changes in logistics, digitization and personnel management.
b) Procurement, whether direct or without bidding, that, for urgency reasons, determined the suspension of procedures established in the state procurement and supply processes, thus creating opportunities for corruption.
c) The reassignment of personnel functions due to the need for new tasks demanded by the fight against coronavirus, or the reinforcement of work teams overwhelmed by the demand for services.

In the following section, I will return to the analysis of policies and technologies used to combat the pandemic. But first, I will deal with a pending issue: the role of the different actors responsible for solving this critical issue.

To put it in a resounding way, and at the risk of exaggeration, perhaps there is no other problem of a planetary scope, such as the COVID-19, whose solution depends so much on the behavior of each individual. From the human experience in treating past pandemics, it is well known that voluntary isolation and the lack of peer contact is the most effective way to prevent a disease and stop its spread. It is difficult to imagine another social problem with a global scope in which each and every person could be the protagonist of its solution. But for multiple reasons, and despite all the preaching and quarantines, the isolation, social distancing and global confinement of the population are impossible objectives to meet, which entails a significant risk of premature death from other causes. It goes without saying that, in order to achieve this,

it would be necessary to suspend all forms of collaborative work, educational activities, collective transportation or care for other health problems, where human contact is unavoidable. Therefore, it was necessary for the power and intervention of states everywhere to be placed at the service of minimizing the contact between people by all available means, in addition to developing other prevention and health care activities.

Almost everywhere, the decisions and actions against the pandemic concentrated in the executive branch of the State. This was natural, given the territorial and population scope that the spread of the disease was acquiring. But how were the decisions made? How were governments advised? How were actions coordinated in order to respond to the multiple challenges that arose in social, health or economic matters?

These questions are especially relevant considering the turbulent nature of the issue to be resolved, which was reflected in the uncertainty that accompanied each stage of the public policy cycle that attempted to solve it. First, because there was no real knowledge of the nature of this issue, since there was only rudimentary information about how to prevent its spread and treatment and –since it is a permanently mutating virus–, it became a mobile enemy. Second, because it required making decisions in multiple fields of action, not only for reducing the magnitude and virulence of the disease but, at the same time, to mitigate its most deleterious consequences on multiple aspects of social activities. Third, due to the speed and the extent with which the virus wreaked havoc, it required quick and not always effective actions in which every decision was subjected to a logic of trial and error. And fourth, because the implementation of policies required a coordinated action between multiple governmental actors whose respective actions could have important consequences in terms of political legitimacy and electoral chances.

When reviewing the experiences of different countries during the year and a half that has elapsed since the beginning of this health crisis, the large number of variables that intervened in each case stand out to explain the different styles of leadership, decision-making and management that were adopted. Much depended on each country's territorial extension, population size, political system's characteristics, distribution of powers between central and subnational governments, relative robustness of health systems and idiosyncratic culture of its inhabitants. But it all also depended on the certain country's degree of confrontation between political forces, moment in their electoral cycle and the ideological orientations of its leaders, including their international political alignments.

In addition to the ministers of health, that virtually turned into czars in the fight against the pandemic, a large number of leaders appealed to specialists in order to base their critical decisions on mandatory preventive isolation, the suspension of schools, the closure of shops or the gradual reopening of activities. While health specialists rose to prominence, they were not the only ones to contribute to the planning, design, and communication of government action. In a survey conducted in 19 Latin American countries (Legislative Directory, 2020), different types of units (working groups, committees or councils) were identified in playing a role in this process. Around 20% of these units have functioned informally, that is, without the issuance of any decree, resolution or official norm to govern the constitution of their members, the form of their appointment, the adequacy or probity requirements that they had to meet, or the accountability for their actions.

Even in those units with some official endorsement, many of these aspects are not clearly specified, which makes it difficult for citizens to monitor their activities. According to different countries, expert committees were created exclusively in health and other areas, covering different sectors (e.g., employment, tourism, telecommunications, finance, transportation). Some specialized in problems that were specific to single sectors (for example, in labor, to decide which sectors or companies to benefit from employment subsidies). Some units were even created to adapt the processes of contracting goods and services by establishing direct purchase procedures or creating special funds. The participation of the academic sector, social organizations and private as well as business sectors was much lower. The report by Directorio Legislativo indicates that, in the few cases in which committees included this kind of representatives, there were difficulties in their relationship with the governments due to restrictions on access to public information or various disagreements.

Another notable absence in the decision-making process was that of the Legislative Power. Generally speaking, legislatures played a reduced role in managing the pandemic. Directorio Legislativo reports that only 10% of the measures adopted in relation to COVID-19 emanated from the legislative power, which shows the almost exclusive nature of the Executive in said management.

As for governors and mayors, their role depended, among other factors, on the political-economic gravitation of the provinces and municipalities[5] they governed, their leadership styles and their affinities or confrontations with the heads of their national Executive Power. Other important factors were whether territories had or did not have international borders and the moment of the

5 I choose these generic names, knowing that sub-national political jurisdictions may have, depending on the country, other names, such as states, departments, municipalities, etc.

political-electoral cycle in which the statistics of deaths, the infected, the hospitalized and the vaccinated population from COVID-19 weighed on how did citizens assessed their leadership.

Another actor that should have played a crucial role in managing the pandemic but, instead, turned out to be quite irrelevant, was the international community. Both the United Nations and the many regional and multinational bodies saw their activities practically paralyzed. As Burci (2020) points out, COVID-19 provoked nationalistic and unilateral reactions rather than international cooperation and coordination, further exacerbating existing rivalries and divisions, and creating new divisions, even among close allies.

A final aspect to consider is the more or less democratic style exhibited by different political leaderships in solving the issue. This is a subject covered by a large number of works (Flinders, 2021; Elstub et al., 2020; Kurlantzick, 2021). Particularly, because both the health emergency and the haste with which it was necessary to decide and act before it, some rulers were led to put aside procedures normally accepted or expected in a democracy. Aside from the importance in terms of the characterization of the current political regime, what is also in question is the effectiveness and relative successes that a democratic or authoritarian management of the pandemic can produce.[6]

POWER RESOURCES AND STRATEGIES OF POLITICAL ACTION

Another singularity of the pandemic is that it has turned the entire world into a scenario where human survival itself is threatened and where the actions of countries to combat the virus are not sufficiently articulated or collaborative; a scenario where there are other dramas unfolding aside from the health issue,

6 In this regard, a recent paper (Chih-Wei Hsieh et al., 2021) analyzes the performance of the National Team for the Prevention of Epidemics of Taiwan, the successful experience of a collective synergy between the government and society in the fight against COVID-19, which was presented as a model of collaborative governance between a central government, local governments, private companies and citizens. In the opinion of the paper's authors, the control of epidemic outbreaks can only be successful if a system is integrated in this way, which would demonstrate that liberal democracies can control and counter the pandemic without resorting to authoritarian methods of containment. It is interesting to note that the aforementioned work expands the concept of the 'whole-of-government approach' developed in Great Britain to refer to collaboration networks that can be established between all actors, state and civil society, whatever their jurisdiction or place of residence. However, in order to consider the possible application of this model in other contexts, certain singularities that make Taiwan a special case, perhaps even unique, should be considered: its insular nature, the learning obtained in the management of a previous pandemic, the particular idiosyncrasies of its society and the nature of the country's political regime. Schwak (2020) adds some elements that ratify the uniqueness of the Korean case. He highlights, for example, that the country has a communal political culture, inherited from the social unit of the village, with a strong influence of Confucianism and a notable trust in the government. He also highlights the learning gained from mistakes made in 2015, during the management of the Middle East respiratory syndrome pandemic.

since most people may suffer other hardships or see other interests and values affected in addition to becoming a potential victim of this illness. In this sense, COVID-19 has created a context in which the very policies adopted by states to combat it give rise to multiple issues that each actor tries to resolve according to the power resources at their disposal and their possibility for developing effective action strategies to solve them. In turn, as we have already seen, certain social reactions and forms of collective action tend to cause the rectification of decisions or the adoption of new ones, which makes the scenario even more problematic and complex.

By resources of power, I refer to the means that social actors use when they decide to act, thus producing political consequences. These are material or immaterial elements that allows a political actor to prevail over another or others, in situations where their respective positions differ or are potentially in conflict. The literature agrees that the ability to exercise coercion; access and use of information; the possession and use of material goods; and ideological control, summarize the main sources of power.[7] The type and amount of these resources varies from one actor to another. But its possession and use does not necessarily ensure the desired results. This depends on the relevance of its use in each circumstance,[8] of the eventual enhancement or mutual cancellation of the effects resulting from the use of two or more resources,[9] or even the mere possession of a resource, even when it is not effectively employed.[10]

It is also possible to point out that the various types of power resources are not necessarily interchangeable. The effectiveness of its use will depend on the objective sought and the political action strategy being considered. Not all resources are of equal 'value' in all circumstances. In a way, when deciding upon a certain course of action, political actors evaluate their power resources in terms of expenditures and capitalizations, of flows and stocks. And in doing so, they evaluate which strategies are deemed most appropriate to achieve their desired ends.

These reflections suggest the convenience of incorporating into our analysis, the diversity of action strategies used by different actors during the pandemic. I am referring to those decisions and behaviors that both state and social actors, and their organizations, adopt to make their preferences prevail over the options available to resolve this issue. In principle, it would seem

7 For example, see Ilchman (1984) and O'Donnell (1984).

8 For example, it is not always possible or convenient to use coercion, even when its control is extensive, since it may imply a loss of legitimacy.

9 As Apter (1970) pointed out, the more coercion is exerted by a government, the less contextual information is received. But the possession of information and material resources is often effective in prevailing in a confrontation.

10 Thus, the threat of coercion, due to its dissuasive nature on the eventual reaction of the person on whom it is exercised, can be as effective as its specific use.

that four strategies would make it possible to account for these different modes of action, which I will call: 1) isolation; 2) care; 3) compensation; and 4) communication.

These various strategies are closely linked with the four major areas of public policy suggested above in the fight against the pandemic, which are oriented, respectively, the regulation of social coexistence, the treatment of health, the containment and social assistance, and communication and public information. The first two, aimed at preventing the disease and caring for the infected, were based on the long experience of humanity in the face of similar health crises: to achieve maximum isolation from the population and to care for the sick using the recommended treatments by the current level of scientific and technological development available. The third type of policies tended to correct and compensate, as far as possible, the effects –particularly the economic ones– generated by the adoption of preventive measures, especially those of isolation and compulsory confinement, while communication and information policies served to announce the measures adopted by governments, to report on the ravages caused by the disease, to persuade the population to take extra care and, indirectly, to provide indicators on the results of the results of the policies tried. I will briefly review each of these strategies.

The isolation strategy seeks to minimize the spread of the virus through various measures designed to avoid physical contact between people, be it through preventive distancing, the mandatory use of masks or chinstraps in public spaces, population confinement in their homes, the reduction of circulation on specific days or schedules, the closure of establishments and borders, or the suspension of shows and mass events, among other measures. The care strategy includes all those measures aimed at strengthening the health infrastructure like the disinfection of public spaces, the detection of infected people, the care and treatment of the sick and, especially, the mass vaccination of the population. Compensation includes a number of palliative measures that aim to mitigate the adverse consequences produced of certain strategies, especially by the isolation strategy, due to its differential effects on the population's activities and income. Prominent among them were the subsidies made to companies in order to cover the payment of salaries of confined personnel, the granting of interest-free or reduced-rate loans, the reinforcement of food distribution to social organizations and poor households, the unconditional transfers to unemployed and vulnerable families and, at times of smoothing the contagion and death curve, various measures of partial or gradual opening of socioeconomic activities. Finally, the communication strategy that sought to keep the population informed about the vicissitudes of

the pandemic, its speed of spread, the number of victims, internees, vaccines acquired and inoculations carried out, protocols to observe and extreme care.

Adopted by governments and complied by social actors with varying degrees, the measures classified according to these different action strategies, require for their effective implementation, all the resources of power described above, although some of them predominate in each different strategy.

Thus, coercion or threat of coercion is the main resource to ensure isolation, as it backs the prohibition or limitation of circulation, demanding people to respect the limit in capacity within premises and means of transportation, the compliance with mandatory isolation periods and the payment of fines or the threat of arrest and imprisonment. These measures were also used in health care, as in the requirement of swabs or the exhibition of health passports; in compensation measures, by providing for the automatic extension of contracts, the freezing of prices or rates and the employer obligation to continue paying the salaries of personnel who remain confined; and even in communication strategies, such as the compulsory assignment of spaces in radio or television media for the dissemination of official information related to the pandemic.

Material resources were, without a doubt, the essential power resource in the care strategy, since they served to finance research on possible disease treatments, to expand and update health infrastructure, to pay for larger staffs and, above all, to acquire vaccines and other supplies required in vaccination campaigns. But these resources were also very necessary to finance the costs of compensation measures, communication and dissemination campaigns and, even, the largest expenditures in materials and cash for logistics and security activities for imposing the mandatory isolation.

Information, seen as a power resource, allows to know the characteristics of the virus, its mutations and the most effective treatments against it; to identify sources of infection and monitor infected and sick people. It also serves to build databases and computer platforms for the registration of beneficiaries of economic aid, in order to provide support for activities carried out through teleworking and for the population to know and permanently update their knowledge about the scope of their rights and duties within the context of the pandemic.

Lastly, ideological resources play a fundamental role in the announcement of different policies, in order to legitimize them before public opinion, either to persuade the population about the importance of isolation, to highlight the efforts made by governments in their struggle to preserve life or to meet the needs of the most vulnerable social sectors and, very often, to compare the country's government strategy with those adopted by others with different political-ideological orientations.

Let us review the arguments developed so far. I began this paper by stating the reasons why I consider that the COVID-19 pandemic could be considered as social issue that could be categorize as a 'wicked problem'. I then classified various public policies adopted by governments to combat the pandemic, as well as the substantive and support technologies used to implement them. I also analyzed the role played by different actors in the decision-making process. Finally, I suggested a possible classification of the action strategies and power resources used by political decision-makers, according to the nature and objectives of the measures they adopted. The treatment of the factors that could explain the relative success or failure of governments in the fight against the coronavirus remains pending, a topic that I will address in the final section of this paper.

SUCCESS OR FAILURE INDICATORS

Although few social problems have generated so much information and indicators on the pandemic and its management, it is not easy to provide definitive evidence on the successes or failures of the policies adopted to control or reduce its consequences. First of all, for the simple fact that, when these lines were written, the pandemic was not over yet, and because its different waves show that, in some apparently 'successful' countries, the results turned out to be short-lived, when a new strain or new wave make them go back in the various rankings that form the day by day account of this health war's vicissitudes. And secondly – although there are surely other reasons–, because certain geographic, demographic, cultural and even ethnic factors can explain comparatively greater successes, without the result necessarily or mainly depending on the public policies adopted. For example, island territories; countries with small areas and populations;[11] age composition with a predominance of young people, less prone to contracting the virus; the validity of a culture of trust or deference towards the government; recent experience of another pandemic; relative importance of 'anti-vaccine' sectors; or even, reduced weight of ethnic or racial minorities.

With these exceptions, I will analyze some statistical indicators available on the web, which allow us to appreciate the COVID-19's virulence and effects, as well as the performance of different countries in the application of control measures. Particularly, I will refer to the experience of Latin American countries, using recent indicators of a series of variables, which can serve as the basis for a comparative analysis (Table 1).

11 For instance, very small and low populated countries, such as Malta, Maldivas, Katar and Iceland, are today the ones heading the ranking in terms of proportion of vaccinated people with one or two doses.

TABLE 1. INDICATORS ON THE INCIDENCE OF COVID-19 IN LATIN AMERICA

Countries	No. of deaths per million habitants	Fatality Rate %	No. of confirmed cases	% of vaccinated habitants (2 doses)	Stringency index
Argentina	2414	2,1	5.052.884	22,32	75,93
Bolivia	1558	3,8	480.229	17,78	56.48
Brazil	2679	2,8	20.245.085	23,62	56,94
Chile	1905	2,2	1.625.467	68,16	74,07
Colombia	2429	2,5	4.852.323	27,15	53,71
Costa Rica	1032	1,2	424.472	17,00	54,63
Cuba	361	0,8	483.710	26,80	65,28
Dominican Republic	367	1,2	345.118	43,07	60,19
Ecuador	1806	6,5	491.831	27,38	60,19
El Salvador	431	3,1	90.129	29,91	32,41
Guatemala	625	2,7	398.990	3,00	50,00
Haiti	51	2,8	20.389	1,00	50,93
Honduras	852	2,7	312.192	5,45	78,70
Mexico	1929	8,2	3.020.596	22,88	72,69
Nicaragua	30	1,9	10.251	5,19	2.78
Panama	1614	1,6	444.695	19,77	62,04
Paraguay	2167	3,4	456.064	4,01	49,07
Peru	5987	9,3	2.128.516	20,85	74,07
Uruguay	1728	1,6	382.873	69,29	48,15
Venezuela	134	1,2	314.480	3,86	97,22
South America	2583	n.d.	n.d.	n.d.	n.d.
World	561	n.d.	n.d.	n.d.	n.d

Note: Data as of 08/14/2021.

Source: Johns Hopkins University of Medicine. Coronavirus Research Center. Coronavirus.jhu.edu/data/mortality and Global Change Data Lab, Our World in Data, https://ourworldindata.org/coronavirus

An eloquent indicator of the severity of the pandemic is the 'case fatality rate' (known by the acronym CFR), which results from dividing the number of deaths by the number of confirmed cases. Countries around the world have

reported very different case fatality rates, which may be due to: 1) differences in the number of people screened, since a greater number of tests allows to identify more people with milder cases, thus reducing the case fatality rate; 2) mortality tending to be higher in older populations, as has already been pointed out; 3) mortality increasing as the health system reaches a point of collapse due to lack of beds, respirators and other care resources; 4) a deliberate underestimation by some countries, as we will see shortly. And probably other factors that are still unknown.

If the world's case fatality rate (2.1%) is compared with the average in Latin America (3.1%), one can observe that, in this region, the number of deaths in comparison to the total number of confirmed patients is almost 50% higher. But these values are strongly influenced by cases in some particular countries, such as Peru (9.3%), Mexico (8.2%) and Ecuador (6.5%), which are not only significantly higher than in the rest of the region, but are among those who head the world statistics in this area.[12] The comparison between the world statistics of deaths per 100 thousand inhabitants also shows a marked disparity, since the average for Latin America (151.50 x 100 thousand inhabitants) almost triples the world's average (55.4 x 100 thousand inhabitants) .

Although, once again, the case of Peru (606.41) raises the average, it is appropriate to consider another factor that could be affecting this result: the deliberate underestimation of the number of patients and / or deaths which, in some cases, are notoriously eye-catching. Nicaragua stands out with only 197 deaths declared (1.9% fatality), which is equivalent to 3.01 deaths per 100 thousand inhabitants; o Venezuela, with 3,733 deaths (1.2% fatality) and 13.09 deaths per 100,000 inhabitants –figures that are strongly disputed by other sources.[13] In other words, the average for the region could be worse, unless the underestimation in the world as a whole is greater than in Latin America.[14]

A curious case is that of Cuba, a country that reports the lowest fatality rate in Latin America (0.8%), despite being the one with the highest average age in the region, i.e., a high proportion of the population that is much more

12 Only in June 2021, the COVID-19 death toll in Peru tripled the number registered until then, which placed the country at the head of the world and also raised the total number of deaths per 100,000 inhabitants to a record figure (606.41).

13 For example, Observatorio Ciudadano, a monitoring platform made up of doctors, specialists and members of civil society that aims to 'fill the information gap' in official data which states that Nicaragua accumulated 4,818 cases of COVID-19 and only 144 deaths during a certain period. But Observatorio Ciudadano reports 10,205 infections and 2,707 deaths in that same period, a huge difference. PAHO has repeatedly demanded to audit the official figures reported by the government. In the Venezuelan case, the opposition to the government, as well as medical corporations, have repeatedly denounced the notorious underestimation of cases and deaths. Also in Haiti, the statistics of deaths from COVID are greatly underestimated (barely 5.05 cases per 100,000 inhabitants). Suffice to compare them with those of the neighboring country of the same island, the Dominican Republic, where deaths are five times higher.

14 Whichever be the case, it is significant that the average for South America is almost five times higher than the world average.

susceptible to contracting the disease and dying from it. The country is recognized for the high quality of its health infrastructure, which would partly explain its better care for the sick and the fewer number of deaths. However, in recent months, a notable deterioration and virtual collapse of Cuban hospitals, as well as a notable increase in the number of cases, have been reported in that country. The number of fatalities also grew, to the point that, in July 2021, their monthly number was close to 50% of deaths from COVID-19 during the entire pandemic.

Table 1 also shows the figures that estimate the so-called 'Stringency Index', which is made up by a series of metrics related to the degree of rigor implicit in the measures of containment, isolation and suspension of activities adopted by governments.[15] In relation to a maximum value of 100, Venezuela (97.22) tops the list, a number that makes it a virtually immobilized country in terms of the pandemic. It is followed in rigorousness by Honduras (78.70%), Argentina (75.93), Chile (74.07) and Mexico (72.69), with numbers that seem believable if one considers the prolonged quarantines, flight suspensions and restrictions on the mobility of people reported by the press. The high rate in Cuba (65.28) can also be explained, given the strong reduction in foreign tourism, the strict monitoring and identification of cases, and the discipline and isolation of the country's population. Most of the other countries are around 50% rigorous but, once again, the case of Nicaragua is surprising since, as a result of its *laissez faire* campaign and the return to 'normality' promoted by its government, it obtained a minimum solitary figure of 2.78%.

Other available statistics provide information on other policies adopted by different countries such as the closure of schools, the cancellation of events and meetings, the confinement to homes, the use of face masks, public information campaigns, international and domestic flights, testing and identification of close contacts, vaccination policies and financial support.

Almost everywhere, the question of whether or not to close schools was a controversial decision and the countries not only adopted different policies in this regard, which went from total closure or selective openings at certain educational levels or geographic areas, to simple recommendations to subnational governments to make partial openings or even to make no closures at all, as it only occurred in Nicaragua. Furthermore, all of these decisions underwent successive changes during the pandemic.

There were also four types of decisions in regard to the closing of businesses and the cancellation of events and meetings. Currently in the region, there is

15 This Index is based on the following nine metrics: school closings; closures of work places; cancellation of public events; restrictions on public gatherings; public transport closures; confinement demands; public information campaigns; restrictions on internal mobility; and international travel controls.

no single case in which some sort of measures haven't been adopted. Only Uruguay seems to simply 'recommend' closures. Most are distributed between countries that require the closure of some activities and countries that require it for most, except for essential activities (Chile and Venezuela).

Today, Ecuador, Peru and Uruguay are the only countries that 'recommend' confining its populations to their homes. In all others, there are certain restrictions (at least, in some localities) when leaving home, with exceptions for daily exercise, necessary purchases and essential travels. There are no longer cases in which strict confinement at home is ordered, as it was during the pandemic's most dramatic moments.

On the mandatory use of chinstraps or masks, we have little information. Its use is only recommended in (again) Uruguay. In Argentina, Chile, Colombia, Cuba, Ecuador, Costa Rica and Honduras, they must be used in certain public spaces or in situations where social distancing is not possible. And in Brazil, Peru, the Dominican Republic, Mexico, Venezuela and Guatemala, they must be used within all public spaces.

Most of the countries in the region do a more or less systematic tracking of close contacts. Bolivia appears in the statistics as the only country that does a limited tracking, while Brazil does not do any direct tracking. Regarding vaccination, the statistics show very different situations (Table 1). Uruguay (69.29%) and Chile (68.16%) top the ranking of the population fully vaccinated against COVID-19 (with both doses), while in some of the largest countries in the region (Brazil, Argentina, Mexico), the percentages almost coincide (between 22% and 24%). A minimum proportion fully vaccinated is verified in Paraguay (4.01%), Venezuela (3.86%), Guatemala (3.00%) and Haiti (1.00%).

Finally, in terms of financial support to workers who lost their jobs or to vulnerable families, the vast majority of the region's governments adopted compensation policies that generally covered less than 50% of the lost income. The only countries in which this type of payment was not available were Mexico, Guatemala, Costa Rica, Cuba and Nicaragua. Outside the region, many countries offered compensation in excess of 50% of the lost income.

CONCLUSIONS

At the time of drawing up the conclusions for this paper, a year and a half has passed since the COVID-19 pandemic began. As a result of the global and systemic crisis that it originated, the management capacity of governments around the world has been compromised. To a greater or lesser extent, all of them adopted policies of population isolation and closure of activities;

detection, monitoring and care of the disease; partial compensation of the negative externalities produced by the virtual cessation of activities; and public communication, with the purpose of informing, preventing and convincing the population about the required or desired behaviors before this emergency. Thus, they designed various action strategies and put into play all the power resources at their disposal in order to achieve the common result that they all sought: to contain the spread of the disease, to care for and rehabilitate the sick, to minimize the number of fatalities and to reduce the negative effects of the adopted policies.

The statistics of the pandemic eloquently demonstrate that the achieved results were very different in each country, as was the intensity or timeliness of the policies adopted. The degree of isolation and confinement of the population not only shows differences between countries, but also that the rigor of the adopted measures varied successively depending on phases, outbreaks and new strains of the coronavirus. The tracking of people possibly infected with the disease and the number of tests carried out, as well as the rate of vaccination, also varied from country to country. In some of them, state intervention in saving closed businesses or families and workers without income was extensive and generous, while in others it was non-existent. There were governments that organized intense communication and dissemination campaigns, while others completely dispensed with them.

In part, the choosing of the different strategies depended on the particular juncture in which the pandemic surprised each different country. Although the health crisis everywhere required the diversion of budgetary resources to meet the direct and indirect costs of the health crisis, the starting conditions of each country (or the baseline, if you prefer) were very different: the magnitude of their fiscal deficit, income level and distribution, situation of foreign exchange reserves, unemployment rates and informal work or the degree of dependence of their marginal sectors on unconditional state transfers, among other factors. The infrastructure and the logistical capacities available in each country also had an important weight, especially in terms of health, transport and communications.

We also pointed out differential factors of an infrastructural nature, such as size, number of population and the insular nature of some countries, which may have had some influence on the results that each of them achieved in their fight against the virus. We could even add other distinctive factors, such as international alignments, time of the pre-electoral process, predominant cultural values, degree of democratization and trust in the authorities, and so on.

Although it is far from being exhaustive, this list at least leaves us closer to being able to isolate and attribute part of the explanation for the dissimilar results that different countries have achieved so far, in this unique pandemic war, to the relative institutional capacity of their governments. What is left out?

Perhaps the most relevant institutional capacity, in a scenario as complex and 'wicked' as this, is to exercise a strategic leadership, i.e., to offer the necessary leadership and inspiration to generate and implement a shared vision, a mission in which society as a whole can see itself identified in a collective will to achieve a common goal. But this also implies other capacities, which must be previously institutionalized and cannot be improvised in the midst of a crisis. For example, those of planning, programming, negotiating, coordinating, monitoring and controlling –or those of innovating, communicating and convincing, subordinating political speculation.

I am not sure whether the consideration of the aforementioned set of factors would help explain, on a case by case basis, the varied results that countries and their governments have achieved in containing the pandemic and its consequences. In any case, the analytical effort deployed in this paper points to future work to deepen this line of inquiry.

On the other hand, there remains the wide field of counterfactual speculation that academia, the press and political opposition pose daily: What would have happened…

- If quarantines and confinements had been less extended, thus reducing the serious negative economic consequences of immobilizing the productive activity.
- If a much more selective closing of schools had been arranged earlier, thus avoiding the irrecoverable pedagogical and social costs imposed on a whole generation of students.
- If instead of assuming demagogic and supposedly reassuring behaviors –such as publicly denying the threat of the virus or referring to it as a simple flu– some political leaders had shown more responsible attitudes.
- If while negotiating with the great world powers that produce vaccines, certain countries had set aside their political-ideological alignments, thus favoring the urgency in the acquisition of vaccines and being able to immunize their population quicker.
- If some governments had prevented or reduced corruption in public procurement processes, clandestine vaccinations and other conflicts of interest, through a firmer exercise in management control.

- If, as Varoufakis (2021) imagined, instead of undermining confidence in the European Union (or, for that matter, in any other multinational organization), COVID-19 had convinced its leaders that it was an opportunity to overcome years of acrimony and fragmentation, thus catalyzing a more solid and integrated bloc to the world.

We could continue imagining other possible situations, but the counterfactual reasoning must be contrasted with the evidence produced by the case studies in future research on this exciting topic.

REFERENCES

Apter, David E. (1971). *Choice and the Politics of Allocation: A Developmental Theory.* Yale University Press.

Burci, G. L. (2020). COVID-19 y la gobernanza de organizaciones *internacionales, Revista de Derecho de Organizaciones Internacionales, 17* (3), 485-491 doi https://doi.org/10.1163/15723747-01703001

Chih-Wei H., Mao W. & Natalie W. M. Wong (2021). A whole-of-nation approach to COVID 19: Taiwans's National Epidemic Prevention Team. *International Political Science Review 2021*, Vol. 42(3) 300–315.

Directorio Legislativo (2020). President's advisors on COVID-19. June 1, 2020.

Elstub, S. E., Shan-Jan S. L. & Maarja L. (2020). Coronavirus and Representative Democracy, *Representation*, 56:4, 431-434, DOI: 10.1080/00344893.2020.1843108

Flinders, M. (2021). Democracy and the Politics of Coronavirus: Trust, Blame and Understanding. *Parliamentary Affairs*, Volume 74, Issue 2, April 2021, pp. 483–502, https://doi.org/10.1093/pa/gsaa013

Ilchman, W. and Uphoff, N. (1970). *The political economy of change.* Berkeley, University of California Press.

Kurlantzick, J. (2021). COVID-19 and its effect on inequality and democracy: a study of five large democracies. Discussion paper. Council of Foreign Relations. Retrieved from https://cdn.cfr.org/sites/default/files/report_pdf/kurlantzickdp_final_1.pdf

Mazzucato, M. and Kattel, R. (2020). COVID-19 and Public-Sector Capacity, *Oxford Review of Economic Policy*, Volume 36, Issue Supplement_1, 2020, pp. S256–S269, https://doi.org/10.1093/oxrep/graa031

O'Donnell, G. Apuntes para una teoría del Estado: enfoques críticos. In Oscar Oszlak, comp.; *Teoría de la burocracia estatal.* Paidós.

Oszlak, O. and O'Donnell, G. (1974). Estado y Políticas Estatales en América Latina. Doc. CEDES/G.E.CLACSO/4. Retrieved from https://www.redalyc.org/pdf/907/90711285004.pdf

Oxfam International (2021, July, 29). Los monopolios de las vacunas hacen que el costo de vacunar al mundo contra el COVID sea al menos 5 veces más caro de lo que podría ser. Retrieved from https://www.oxfam.org/en/press-releases/vaccine-monopolies-make-cost-vaccinating-world-against-covid-least-5-times-more

Schwak, J. (2020). A Democratic *tour de force*: How the Korean State Successfully Limited the Spread of Covid-19. Asie. Visions 117. Center for Asian Studies, November.

Thompson, J. D. (1967). Organizations in Action: Social Science Basis of Administrative Theory. New York, McGraw-Hill.

Varoufakis, Y. (2021). Una COVID contrafáctica para Europa. Project Syndicate. Retrieved from https://www.project-syndicate.org/commentary/covid19-counterfactual-stronger-more-integrated-europe-by-yanis-varoufakis-2021-04/spanish

THE TRANSFORMATION OF THE STATE AND PUBLIC MANAGEMENT DURING THE POST-PANDEMIC DIGITAL REVOLUTION: FROM TAYLOR TO GOOGLE

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ABSTRACT: The developed organization and management models that result from industrial revolutions have a direct influence over state and administrative structures and the development of their public policies. The moments of crisis allow an acceleration of transformations. This proves the relationships between Taylorism, Fordism and bureaucracy, Toyotaism and the New Public Management and, finally, the influence of the digital revolution, led by Google, which the pandemic crisis has accelerated in the ongoing transformation of state organization models and public management. The article concludes with a comparative presentation of these three models of State: bureaucratic, matrix and platform, with their respective characteristical conceptions of public intervention: direct, indirect and 'intelligent'.

Keywords: *bureaucracy, New Public Management, neoliberalism, neoinstitutionalism, toyotism*

Aside from being unexpected and contingent ruptures, crises also accelerate trends. The health crisis caused by the COVID-19 virus can thus be considered as a powerful accelerator of transformation for the paradigmatic management model of organizations and, furthermore, of collective action in general –a transformation that was already underway. In the context of modernity, it can be observed that the management models of the current dominating industries

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acquire a paradigmatic character that is transferred to the public sector after certain adaptations. All throughout the 20th century, this phenomenon could already be observed on two instances. The first one occurred with the development of Taylorism and Fordism at the beginning of the 20th century, whose accelerating crisis was the First World War. In the public sector, this organizational and management model corresponded to the development of a State and a bureaucratic administrative model. The second transformation began with the cultural and socioeconomic crisis expressed by the protests of May 68 and the oil shock of 1973. This double crisis accelerated the replacement of the industrial bureaucratic model (Perrow, 1992) by a new organizational and management model inspired, to a large extent, by the successful experience developed by the Japanese automotive company Toyota as a headquarter company. The adaptation of this model to the public sector was implemented under the name *New Public Management* (NPM). Currently, with the consequences of the health crisis caused by the global pandemic of COVID-19, this latest model is evolving towards a new one that takes up the organizational characteristics developed by the new dominant digital industry, particularly represented by Google, a company whose growth in recent decades has left the traditional automotive industry far behind as a benchmark for economic growth[1].

Thus, after the period of the 20th Century dominated by Fordism, during its first three quarters, and then by Toyotaism, during its final decades, the progressive replacement of the automotive industry by the data industry as the dominant one during the final decade of the 20th Century, placed the organization and management principles developed by Google as the main managerial reference. Thus, 'Google-ism' is emerging as the new management paradigm in the public sector as well.

TAYLOR, FORD, AND THE BUREAUCRATIC STATE

In terms of a management model or doctrine, the First World War allowed the 'Taylor system' to establish itself as the dominant paradigmatic organizational model. The need to rapidly increase industrial productivity in order to respond the demands of the war facilitated the reduction of social and legal resistance to the new scientific organization of work proposed by this engineer and its

1 The data technology-based industry currently ranks 8 of the top 10 companies by market capitalization (March 1, 2021). Toyota was relegated to 33rd place and, significantly, the leader in the automotive industry is now the company with a strong technology component Tesla (8th position). The top 10 companies, from highest to lowest, are: Apple, Aramco (oil), Microsoft, Amazon, Alphabet (Google), Tencent, Facebook, Tesla, Alibaba, Berkshire Hathaway (financial services). Source: https://economipedia.com/ranking/empresas-mas-grandes-del-mundo-2021.html. Accessed June 14, 2021.

subsequent adaptations. With Taylor's contributions to production models, those of Fayol in general management and administration, and those of Weber in public administration, the classical modern administrative paradigm –based on the idea of the superiority of rational calculus and of the military type of organization for achieving maximum effectiveness and efficiency– prevailed in all organizational areas along with the characteristic elements that derive from its implementation: centralization, hierarchy, formalization, standardization and specialization (Perrow, 1992, pp. 32-33). This organizational model was particularly well adapted for allowing the mass production developed by Henri Ford's new automotive industry. The success achieved by this still expanding industry then served as a general model for the organization and management of all work activities –including the public sector.

From industry to politics, including organizations from civil society, the pursuit of greater effectiveness and efficiency through the implementation of these principles of modern scientific management will lead to a significant increase in productivity in all sectors based on the specialization and professionalization of work. The development of professionalization, which was particularly vigorous after World War II, the golden age of Fordism, will in turn feed work dynamics towards a greater specialization of tasks (Fischer, 2009). This industrial bureaucratic paradigm (Perrow, 1992), based on command-control authority relations, and through instruments of direct cooperation (*hardpolicy*), will continue to develop until the 1970s in the western capitalist countries and, in the socialist countries, until the implosion of the Soviet system by the end of the eighties. It was the time of the great mass organizations: factories, administrations and 'fortress' organizations that, in on a same place, gathered thousands of members assigned to carry out an increasingly specialized part of the production or administrative process. However, its development also meant a constant growth of coordination administrative and control tasks that resulted in a cost increase and a decrease in overall efficiency.

THE MATRIX STATE, THE NEW PUBLIC MANAGEMENT AND GOVERNANCE

A new stage in the search for greater efficiency developed as a result of the social and cultural crisis of 68 and of the subsequent economic crisis of the 1970s and 1980s that both served as accelerators of change. These crises mark the exhaustion of the Fordist production process, and of its Keynesian political and socio-economic framework, or of the import substitution strategy

in the case of Latin America, based on the large, private and public, planning bureaucratic organizations registered in a national framework. The criticism towards consumer society and its process of massification and sociocultural homogenization produced by industrial bureaucratization led to an aspiration to recognize social and individual diversity on the one hand and, on the other, that large organizations, as well as their homogenous public and private regulation, appear as an obstacle for the freedom of both individuals and businesses and as a brake on innovation (Mises, 2005). The growth of bureaucratic regulation exercised by the modern State thus echoed the thesis that heralded that these would inevitably lead humanity towards servitude and totalitarianism (Hayek, 1944).

In response to these crises, a new production management model emerged as a solution to bureaucratic expansionism: Toyotism. Unlike the bureaucratic model, this management model did not focus on hierarchical command-control and the planned supply of services, products and controls predefined by large organizations, but on the demand expressed by customers through indications on the market and a continuous improvement strategy to eliminate waste of all kinds throughout the production and management process. Known as the Five Zeros technique (zero defects, zero breakdowns, zero bureaucracy, zero deadlines and zero stock), Just-in-Time, teamwork and outsourcing, the Toyota model was constituted in a new organizational paradigm: thus we went from the 'fortress' factory, with its thousands of direct employees, to the 'diffuse' or 'fluid' factory made up of a swarm of smaller companies formally independent, but in a position of great economic dependence to a parent company (Bihr, 1990). The intention of this model was to move from domination through the privileged use of instruments of direct coercion or the use of force (norms that prohibit and authorize behavior, *hard policy*), to instruments of indirect coercion, through economic (market), social and psychological incitements (*soft policy*).

With this, large companies were fragmented into a multitude of small autonomous ones that depended on parent companies. In this system, productive integration was no longer carried out through the coordination and control that bureaucratic hierarchy exercised over workers hired directly by the company, but through economic pressures that the market exerted both on small and medium-sized companies, and on independent workers (e.g. statutes of independent entrepreneurs or sole proprietorship). Domination, that is, the willingness to obey, previously obtained mainly by authority and its bureaucratic regulations (*hard power*), is now articulated with another source of indirect domination exercised, as far as possible, by the economic laws of the market and the social pressure within the group of workers (*soft power*).

This new strategy of business organization was conceptualized particularly with the development of the main-agent theory (Ross, 1973). Just as the reflection of the times in organization theory indicates, this new operating mode of the matrix type sought to combine the advantages of functional organization and of organization by projects (Galbraith, 1971; Grimes et al., 1972). The main characteristics of Toyotism can thus be synthesized

> working in groups, in the 'just in time' system (which implies the abandonment of standardized mass production to focus instead on the diversification of the offer by focusing on the tastes and needs of the clients), total quality control, the search for continuous improvement of production and functional versatility, which would put aside the technical and social division of work inherent to the (Fordist) system. (Zuccarino, 2012, p. 202)

The success obtained by the development of the diffuse factory system and its matrix organization in the industry were, in our opinion, a central source of inspiration and legitimation for transferring these ideas to the public sector, from the eighties and on, under the name of *New Public Management* (NPM). This legitimized outsourcing, or outsourcing of administrative tasks, for the execution of public policies and programs. These tasks were fragmented into projects contracted externally by the government. Similar to the role played by parent companies in private industry, public action was divided into a multitude of specific tasks carried out through projects contractually executed by private companies, non-governmental organizations (NGOs) or other entities under a logic of competition for resources through the creation of a new market within the public sector and the organization of its suppliers. In this way, it has been seen, particularly in Latin America, how numerous NGOs were created specifically to carry out public tasks through projects, then becoming dependent on public contracting, that is, on a government that became 'parent' to maintain its activities and its staff.

Progressively, public administration began focusing its work more on the management and control of projects than on the formulation and execution of public policies and programs. This is the very meaning of the letter of recommendations made by CLAD (1998), under the name of *A new public management for Latin America*, which attempted to synthesize or hybridize between the commercialization of the State and a reduction of this practice, and its redefinition or bureaucratic (re)construction. In this way, it can be said that we went from a 'fortress' public administration to a 'diffuse' or fragmented administration; from a bureaucratic state or government to one of a matrix type.

Barzelay (1998) considered this new organizational configuration as 'post-bureaucratic'. While in the classical modern bureaucracy, the specialized elements are functionally integrated through strict compliance with the regulations written by each of its officials, in the post-bureaucratic *New Public Management* (NPM), the performance and functional integration of tasks is achieved through economic incentives to autonomous agents (individual or collective) mainly motivated mainly by money (*homo economicus*). In the public sector, whenever outsourcing was not possible, the transformation of productive or administrative units into cost centers also tended to reduce costs and favor labor flexibilization. Officials began assuming tasks beyond the usual manual of individual functions to the extent that the group of employees began being considered as collectively responsible for their results as a unit. Thus, pressure is generated on the individual for limiting their absenteeism at work.

It is worth noting that, generally, these 'industrial' parallels are rarely pointed out by the academic literature on the transformation of public administration. In a reference article, Hood (1991, pp. 5-6) indicates that the *New Public Management* has its beginnings in the marriage between the neo-institutional economics developed in the 1970s (theories of public choice and of the costs of transactions and of the main-agent), and a succession of business-type waves in management within the public sector (managerialism) without further clarification.

The diffuse or fluid public administration, which we have called here of a matrix type, corresponds to what Christensen and Laeger (2005, p. 557) have called a lighter and more fragmented state. With this reform, with the government acting as a 'company headquarters', the intention was to limit the size and reduce the cost of public administrations by contracting private entities to carry out large part of administrative and execution tasks, especially in relation to the delivery of public services. However, according to these two authors, it is necessary to specify that this is a 'main panorama', (since) there is a considerable degree of national variation, product of the differences in the existing structural apparatuses before the reform and of the traditions historical-cultural. Just as the subtitle of a pro NPM book in vogue announced, it was necessary to 'reinvent the government' by putting it under the influence of entrepreneurship (Osborne, Gaebler, 2002), extending the implementation of a market logic as far as possible.

As a corollary, the implementation of the NPM had, at a political level, a change in the way of directing the behaviors of actors and a greater participation of these in the political decision-making bodies. Collaboration between the public and private sectors for the execution of government objectives

then meant a new way of governing. Thus, on the one hand, new techniques of orientation of behavior based on incitements (neoliberalism and neo-institutionalism) were progressively developed and, on the other hand, the issue of governance reappeared, as shared government or co-government, thus legitimizing a co-responsibility and a co-participation between actors from both government and civil society in decision-making processes.

FROM THE NEOLIBERAL RETIREMENT OF THE STATE TOWARDS ITS NEOINSTITUTIONAL RETURN

The dynamics induced by this matrix-type State, initially neoliberal, on the one hand, soon led to adverse economic, environmental and social consequences and, on the other hand, and particularly in the case of Latin America, it faced the persistence of cultural traditions.

Thus, in the first place, neoliberal deregulation policies, and their globalization, implied the withdrawal of the State from many spheres of intervention and regulation and ultimately led to the outbreak of a series of sectoral crises. Thus, first, the financial crises of the Asian (1997) and Argentinian (1998-2002) peripheries occurred, aggravated by the liberalization of the financial sector prescribed by international financial organizations (World Bank, International Monetary Fund). Subsequently, a global security crisis was detonated by the terrorist attacks of September 11, 2001 in the US. Then, again in 2008, a financial crisis, that of the 'subprime', started, this time, from the financial center of the United States and affecting the whole world. Meanwhile, with a succession of climatic events such as droughts, fires, tornadoes, rains, etc. that were out of the usual, the climate crisis was evident, leading to the signing of the international treaty known as the Paris Agreement of 2015, committing the States to take measures to drastically stop the emission of CO_2 as responsible for global warming. As a whole, these crises forced a reinforcement or a progressive return of State interventionism in these sectors, although with instruments of intervention that were different from those of the bureaucratic era.

Instead of an imperative bureaucratic regulation, this will be done from incitement from a perspective based on the neo-institutionalist theory. With this, it is intended to design more inciting rather than imperative norms to guide the behavior of the actors (considered as rational towards the achievement of public policy objectives (see Roth, 2014)). An emblematic example of these interventions based on neo-institutionalist theory were conditional cash transfer policies in Latin America, which were offered to poor families on the condition

that children met school and health requirements. It should be noted that these mechanisms have been implemented by governments classified both as right and left.

The 2008 *subprime* crisis also allowed to expand and consolidate the neo-institutional theory with the development of its branch of behavioral economics. With the study of the psychological mechanisms at work at the moment of decision-making by economic actors, Sunstein and Thaler (2008) developed the theory of *nudges*, thus showing the potential of psychological promptings to achieve a change in the behavior of the citizens that were the target of public policies. The experiments in behavioral economics thus opened the way to designing public policies that integrate economic and rational incentives with social and psychological ones. With this, the toolbox of inciting neo-institutional regulations is expanded towards the use of techniques that oscillate between affectionate incitements and psychological manipulation in a clear resurgence of a neo-behaviorist perspective.

Although each of these crises showed the possibility and need for greater regulations and public interventions in different sectors, the 2020 health crisis, due to its multisectoral, systemic consequences, ended up being the great accelerator of the paradigm shift towards the digital transformation of private and public management. This summation of crises then calls for a redefinition of the role of the State and its forms of organization and intervention.

In second term, in the case of Latin America, the managerial paradigm of the NPM also faced resistance from the cultural traditions of patrimonialism and clientelism. The persistence of these behaviors has been considered an important factor that prevented the long-awaited modernization of the State (see Torres, 2008). We believe that, rather, the fragmentation of public actions and the multiplication of public contracts ended up offering more opportunities to reaffirm patronage control and corruption over segments of the public administrative apparatus and over its personnel in even more precarious situations. Furthermore, it extended its bureaucratic nature and its operation in stalemate through a meticulous legal formalism. By adopting NPM-type reforms, the Latin American public administration did not leave behind previous traditions, but rather evolved towards a somewhat baroque overlap, hybridization or mixture of different administrative traditions, practices and principles (patrimonial, bureaucratic and managerial) and even contradictory at core.

THE RESURGENCE OF GOVERNANCE

Governance and 'good government' or 'good governance' are concepts that come from European medieval times to characterize a form of government shared between several relatively autonomous actors, particularly between the feudal estates, the nobility and the Church. Its resurgence in contemporary times accounts for a 'transformation in the matrix of relations between the State and civil society' (Graña, 2005), indicating a change in the balance of powers between the state authority and other civil society organizations. The concept means a mode of management or governance of public affairs shared and assumed as such between different actors: State, non-State and private, within the framework of the process of globalization that has tended to erase the boundaries between public and private, between National and international. It is a reflection of the interdependence of a plurality of actors in terms of the resources, capacities, information and data necessary to share in order to govern 'well'. Governance –with its multiple definitions and in association with the idea of a greater horizontality and a more participatory democracy– moved from the multilateral political sphere of international institutions to the national and local levels (Aguilar, 2006; Arellano et al., 2014).

Governance favors a representation of collaborative or networked power, as opposed to a pyramidal and vertical representation of modern state power and its bureaucratic model. The concept also allows to articulate and legitimize the new post-bureaucratic relationships established by the NPM between public, semi-public and private organizations, particularly marking the loss of the government's ability to impose its authority over society with the mere deployment of its administrative arm. As Kooiman (1993) points out, governance consists of establishing new government structures and capacities that are derived "from the interaction of a multiplicity of influential actors" (Subirats, 2015, p. 130).

The evolution towards a form of matrix State is then characterized by a certain diversity in terms of the configuration and content of the collaboration that must be established between the government and the market, between state domination and domination by private actors. Hence, governance will have different configurations according to specific situations: from governance in the form of an open network with many participating actors to governance of a corporatist or authoritarian type composed of two or three dominant actors in the intervention sector. Thus, the role of the very same State can vary along a continuum between a monopolistic position of maximum domination, to a position that is absolutely dominated as a function of the different resources available and mobilized by the actors belonging to the network of the specific

field where governance is exercised. Theoretically, it was intended to establish an intermediary path, a third path, between the bureaucratic regulation of social and individual behaviors and their regulation by the market or by the main actors active within it (Blair, 1998; Giddens, 1999). During the 1990s, the logic of the market was triumphant and gained ground everywhere. However, with the succession of the aforementioned crises, from the new century and on, government regulation gradually regained ground, retaking spaces of regulatory influence through renewed modalities of interventions of a neo-institutionalist type.

Ultimately, the concept of governance was particularly well adapted to the development of digital technology. It actually allows more horizontal communication modes, with less hierarchy and with multiple actors simultaneously. Thanks to this technology, it was then sought to build a governance capable of correcting and more efficiently solving the coordination problems resulting from the fragmentation and dispersion of public actions. Coordination through the technological system in turn provokes a process of recentralization of decision-making, and makes it possible to reduce the work of intermediation. This situation also extends to trade unions and political parties, and clearly to the public administration as an intermediary institution between government and citizens.

In conclusion, as of the new century, the combination of interventions of the neo-institutionalist type, complemented by the nudges of behavioral economics, on the one hand, and the return of the State, on the other, led to a substantial evolution of the structure and substance of governance in an increasingly behavioral perspective. The matrix State and the principles of the NPM, initially focused on the prioritization of the market, were evolving towards a greater government activity, which has been described as being a post-NPM process (Christensen, Laegreid, 2007). This growing interventionism by the State was concretized with the development of the reformist movement called the *whole-of-government* or public governance. The whole-of-government thus seeks to generate a process of greater coordination and integration that implies a recentralization of decision-making power in favor of the government actor (Christensen, Laegreid, 2007; Chica, Salazar, 2021; Mariñez, 2021) which, in turn, is endowed with new inciting instruments to influence human behavior.

THE HEALTH CRISIS AS AN ACCELERATION FACTOR OF THE DIGITAL TRANSFORMATION

In 2020, the outbreak of the COVID-19 health crisis, with all of its systemic consequences, revealed the fragility of all health systems that were optimized by the application of the NPM management principles and guided by measures taken from the neo-institutional toolbox. All of these systems came to the brink of collapse in many countries due to the little installed capacity for prevention against a pandemic event: there is no epidemic demand on the market! (Roth, 2021).

In almost all countries, the health crisis forced the State to implement a multisectoral intervention in order to coordinate the fight against the pandemic and mitigate its devastating economic and social effects. The confinement and social isolation measures taken to prevent the spread of the COVID-19 virus, extraordinarily favored the expansion of the digital industry. Particularly, administrative, private and public activities –that were already widely digitized– were transferred en *masse* from the offices to the private homes of their employees. The towering office buildings were completely emptied. This crisis had consequences for the digital industry similar to those that the conflagration of World War I had for Taylorism. In a few days, all social, cultural and legal resistance to teleworking –which was seen until that moment even with a certain strangeness and marginality– were overcome.

While it is true that the administrative function had previously resisted the post-bureaucratic Taylorist and matrix industrial rationalizations, the transformation of physical documented information into digital information allows a significant rationalization leap to be made in this sector. The pandemic allowed the possibilities of telecommuting on a large scale to be explored in unexpected ways and never dreamed of by the digital industry. Through digital network technology, most if not all of the administrative tasks can be carried out from anywhere connected to the internet. Digital technology makes it possible to finally break with the idea of an office. Particularly for the public sector, large administrations, with their numerous jobs gathered in one place, can be drastically reduced by teleworking their officials, thus generating lower physical infrastructure costs. Administrative teleworking, with a redefinition of the division of labor and other adaptations, deepens the individualization and dematerialization of work, breaks the labor collective, while the function of hierarchical surveillance and control can be exercised in a non-face-to-face way in a virtual manner or, even, through an automated digital form using algorithms. If Toyotism favored indirect (soft) regulation using market mechanisms and instruments of social and psychological pressure, digitization

aims to complement these with the development of 'smart' regulation through the use of data on the network.

And precisely, since the nineties, the final decade of the XX century, the development of a new industry based on information and data was already underway, particularly with the famous GAFAM companies (Google, Amazon, Facebook, Apple, Microsoft) and their innovative and dynamic start-up environments or ecosystems. The crises of 2008 and 2020 were decisive for this new industry's growth and influence. The use of data, and particularly of the possibilities offered by the use of big data, allowed these companies (Google in particular), with their organization on the platform and their use of artificial intelligence, to impose themselves as a new model of business organization and management, of which some elements are now being transferred to the public sector and redefining the model of the State.

GOOGLE AND THE STATE AS PLATFORMS

Similarly to the previous transformation that made it possible to replace the fortress factory with the diffuse factory, today, digital technology allows the 'toyotization' of public administration. Thus, the replacement of traditional public administration, still mostly organized as a fortress (ministries, etc.), by diffuse or pulverized public administration is envisioned. Digitization allows the administration to explode in a multitude of administrative work plots interconnected by the internet. In this way, administrative work can be carried out from anywhere on the planet, without the need for a physical meeting. The tasks of direction, coordination and control of administrative work are carried out through digital technology from a central point, similar to the matrix type. However, unlike the traditional parent company limited to a specific activity sector, digital companies can develop their data processing activities in all type of sectors and all over the world since all organizations have administrative tasks to fulfill.

In this way, the organization model is more like a platform, an inescapable interconnection hub for any company due to its technological dependence in relation to its information systems. Like a Swiss army knife, each tool or company is independent, but is hopelessly tied to, and dependent on, a single platform (Girard, 2008). Thus on the organizational level, the 'platform' system is a deepening of the matrix logic due to its extension to all administrative tasks. In turn, the Google platform company has developed management principles that constitute, according to Girard (2008), a revolutionary model that would be applicable to any other company. The author thus highlights

a dozen novel management principles that would be particularly adapted to managing complexity, including customer-focused strategies, whose satisfaction is a priority, work in small autonomous and interconnected teams that reduce decision-making times and generate a community spirit, and customer participation, in the conception of new products. Other principles are, for example, leaving a great deal of autonomy for employees to define their own work schedules, motivating them to develop personal projects, automate business relationships with customers and develop customer satisfaction measurement systems.

In many aspects, digital technology is perfectly suited to the organizational evolution identified as post-NPM: it allows greater coordination while maintaining the fragmentation of tasks and the independence of work groups, with a more centralized direction and control. However, unlike the matrix type noted above, Google's platform-like organizational structure allows the hierarchical pyramid to be further flattened by reducing or eliminating the need for intermediary levels through automation.

Likewise, the transfer of Google's management principles into the public sector has already been carried out. The importance taken by ideas such as an user-centered management or the strategy of an open State or government seek to facilitate citizen collaboration in the elaboration of solutions to public problems or challenges (see Ramírez, 2021). Initiatives such as public innovation laboratories that seek to provide solutions based on a more intensive use of data technology are also multiplying (see, for example, the movement of 'smart cities').

The forced confinement and expansion of telework caused by the pandemic have also broken a traditional dictum of modernity, implying a redefinition of its respective spaces: the separation between public life and private life. The home, as a private space, has been transformed into an office, a work space, and vice versa. Work time has increasingly mingled with private time. This situation also corresponds to Google's management principles, which tend to erase the separation between private life and work life, including the development of personal projects during work time, turning an employee's work project into a life project (Girard, 2008) . Likewise, the exchange between citizens and public officials has been virtualized and automated and is in the process of robotization thanks to the development of algorithms, automated and deep learning (*Deep learning*).

The digitization of public administration can then mean a change in the organizational paradigm that increases the rationalization and efficiency of a government. In this sense, the Google company has become the inspiration of a new management model for the public sector as well.

CONCLUSION

Throughout this work we have pointed out how the exercise of domination by governments has relied on different conceptions and organizational technologies implemented in private industries. With the passing of time, new technologies have made it possible to expand the number and diversity of available tools capable of influencing more and more efficiently the behavior of people for obtaining their obedience –which is the objective of any organization. Thus, the emphasis of the instruments of coercion used has been shifting from direct coercion by force (*hard policy*) to indirect coercion (*soft policy*). Now, with the digital revolution, the emphasis has been on the use of data and artificial intelligence (*smart policy*). Table 1 offers a synthetic comparison of these three models that correspond to three types of State. It should be noted that, more than a replacement of instruments, it is an accumulation of available techniques that are combined according to the circumstances and capacities of each State. Each case uses a particular mix of the different available techniques. Thus we can also glimpse a classification of different types of States based on the emphasis on government techniques used. The most technologically advanced countries will mainly use smart technology to govern, and as the case moves away from this center, the use of technologies based on incitement and the use of violence is intensified and prioritized.

TABLE 1. *FORMS OF GOVERNMENT, MANAGEMENT MODELS AND TYPES FOR REGULATING CONDUCTS*

	Bureaucratic state	Matrix State	Platform State
Accelerating Crisis	**WW 1 / Great Depression**	**May' 68/ Oil Crisis of '73**	**Health and environmental Crisis**
Economical regime	Oligopolistic (or State) authoritarian capitalism	Neoliberal and neo-constitutional capitalism	Digital information capitalism
Paradigmatic company	Taylor / Ford	Toyota	Google (GAFAM)
Mode of government	Government	Plural governance, third way	Authoritarian governance
Privileged instrument for dominance	Force, violence	Money	Data, Big Data
Model of public management	Bureaucracy	New Public Management (NPM) and Post-NPM	Smart Public Management, algorithmic governance
Privileged instrument for coordination	Law, Regulations	Market	Technology / Algorithms
Privileged instrument for the regulation of conducts	Authoritarian command and control, Hard policy	Economic incentives, neoliberalism ('90s) and neo-constitutionalism (00-20s)	Economic, psychological (nudges), neuronal and Smart Policy
Privileged science	Positive Law	Neo-classical and neo-constitutional economics	Behavioral sciences and neurosciences

Source: The author.

REFERENCES

Aguilar Villanueva, l. F. (2006). *Gobernanza y gestión pública.* México: FCE.

Álvarez Newman D. (2012). El toyotismo como sistema de flexibilización de la fuerza de trabajo. Una mirada desde la construcción de productividad en los sujetos trabajadores de la fábrica japonesa (1994-2005). *Si Somos Americanos. Revista de Estudios Transfronterizos,* Vol. XII, No. 2, july – decembre, pp. 181-201.

Arellano Gault, D., Sánchez Cetina, J., and Soto, B. R., (2014). ¿Uno o varios tipos de gobernanza? Más allá de la gobernanza como moda: la prueba del tránsito organizacional. *Cuadernos de Gobierno y Administración Pública,* Vol. 1, No. 2, pp. 117-137.

Barzelay, M., (1998). *Atravesando la burocracia. Una nueva perspectiva de la administración pública,* FCE: México (trad.).

Bihr, A., (1990). La fragmentation du prolétariat. *L'Homme et la société, 98,* 5-20.

Blair, T. (1998). *The Third Way: New Politics for the New Century,* Fabian Society.

Chica-Vélez, S. A. and Salazar-Ortiz, C. A. (2021). Posnueva gestión pública, gobernanza e innovación. Tres conceptos en torno a una forma de organización y gestión de lo público. Opera, 28, 17-51. doi: https://doi.org/10.18601/16578651.n28.02

Christensen, T. y Per Lægreid (2005). El estado fragmentado: los retos de combinar eficiencia, normas institucionales y democracia, *Gestión y Políticas Públicas,* Vol. XIV, No. 3, pp. 557-598.

Christensen, T. y Per Lægreid (2007). The Whole-of-Government Approach to Public Sector Reform. *Public Administration Review,* pp. 1059-1066.

CLAD (1998). *Una nueva gestión pública para América latina,* Caracas, CLAD. Retrieved from https://clad.org/wp-content/uploads/2020/07/Una-Nueva-Gestion-Publica-para-America-Latina.pdf (consultado 22-06-2021)

Fischer, F., (ed.) (2009). *Democracy & Expertise. Reorienting Policy Inquiry*, Oxford: Oxford University Press.

Friend, J. M. & Thayer, B. A. (2013). Neuropolitics and Political Science: Providing a Foundation for the Study of Politics. *The world of biology and politics: Organization and research areas Research in Biopolitics*, 11(1), 71–90.

Galbraith, J. R. (1971). Matrix organization designs How to combine functional and project forms, *Business Horizons*, Volume 14, Issue 1, pp. 29-40.

Giddens, A. (1999). *La tercera vía: la renovación de la socialdemocracia*. Taurus Ediciones.

Girard, B. (2009). *The Google way: how one company is revolutionizing management as we know it*, San Francisco: No Starch Press, Inc.

Graña, F. (2005). Globalización, gobernanza y "Estado mínimo": pocas luces y muchas sombras. *Polis* Revista Latinoamericana, 4(12),0. [Accessed June 9, 2021]. ISSN: 0717-6554. Retrieved from https://www.redalyc.org/articulo.oa?id=30531204

Grimes, A. J., Klein S. M., Shull F. A. (1972). Matrix Model: A Selective Empirical Test. *Academy of Management Journal.* Vol. 15, No. 1, pp. 9-31.

Hayek, F. (1944). *The Road to Serfdom*. London: Routledge Press.

Hood, C. (1991). A public management for all seasons?, *Public Administration*, Vol. 69, pp. 3-19.

Kooiman, J. (1993). *Modern Governance*, London: Sage.

Mariñez Navarro, F. (2021) ¿Cuál es el aprendizaje en el campo de la Administración Pública y las políticas públicas en tiempos de pandemias Covid-19? Reflexiones sobre la post-Nueva Gestión Pública. In: Mariñez Navarro, F., Calzada Torres. M. (Coord.) (2021). *Gestión pública y políticas públicas en tiempos de emergencia*, México: Tirant lo Blanch, pp.19-49.

Mariñez Navarro, F. and Calzada Torres. M. (Coord.) (2021). *Gestión pública y políticas públicas en tiempos de emergencia*, México: Tirant lo Blanch.

Mises, Ludwig (von) (2005) [1964]. *Burocracia (gestión empresarial frente a gestión burocrática)*, Madrid: Unión Editorial.

Osborne, D. & Gaebler, T. (2002). *La Reinvención del Gobierno. La influencia del espíritu empresarial en el sector público*. Ediciones Paidós Iberica, Barcelona. 7ª Edicion, 494 pages.

Perrow, C. (1992). Una sociedad de organizaciones. *REIS: Revista Española de Investigaciones Sociológicas*, No. 59, pp. 19-56.

Ramírez Alujas, Á, (2021). Hasta que el gobierno abierto se haga costumbre. La ruta hacia una gobernanza abierta, resiliente e inclusiva para el desarrollo sostenible post pandémico. In: Mariñez Navarro, F. y Calzada Torres M. (Coord.). *Gestión pública y políticas públicas en tiempos de emergencia*, México: Tirant lo Blanch, pp. 83-121.

Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem, *American Economic Association*, vol. 63, no. 2, pp. 134-139.

Roth D., A.-N. (2015). Neo-institucionalismo y transformación democrática del Estado. In Endera G. (Coord.). *El rol del Estado: contribuciones al debate*. Quito: Senplades/FES-ILDIS. First edition, pp. 13-59.

Roth D., A. N., (2021). Modelos administrativos y gestión de pandemias de la edad media hasta nuestros días. In: Mariñez Navarro, F. and Calzada Torres M. (Coord.). *Gestión pública y políticas públicas en tiempos de emergencia*, México: Tirant lo Blanch, pp. 53-82.

Subirats, J. (2015). Nociones conceptuales de gobernanza, política y administración pública. In Endera G. (Coord.). *El rol del Estado: contribuciones al debate*. Quito: Senplades/FES-ILDIS. First edition, pp. 121-155.

Thaler, R., Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. Yale University Press.

Torres Fragoso, J. (2008). La influencia de las culturas nacionales en el desarrollo de la Nueva Gerencia Pública (NGP) en Latinoamérica. *Revista del CLAD Reforma y Democracia*, (42), 49-90. [Accessed on June 25, 2021]. ISSN: 1315-2378. Retrieved from https://www.redalyc.org/articulo.oa?id=357533673003

Zuboff, S. (2020). *La era del capitalismo de la vigilancia*, Bogotá, Colombia: Paidós.

Zuccarino, M. (2012). Modelos estadounidense-fordista y japonés-toyotista: ¿Dos formas de organización productiva contrapuestas? *Historia Caribe*, Vol. VII, N° 21, July-Decembre, pp. 197-215.

TREATING COVID-19 AT THE STATE LEVEL AND HORIZONTAL LEARNING: BUILDING CONTINUOUS TRAINING AND KNOWLEDGE MANAGEMENT

Ester Kaufman*

ABSTRACT: COVID-19 released unforeseen challenges to the public sector, forcing institutional organization criteria to be flexible, develop nonexistent competencies, along with continuous training means, transversal innovation and an adequate management of knowledge to achieve a systemic impact. We require arbitrated cultural devices that activate transversal collaboration, integration mechanisms and continuous training that focuses on a networked government organization. In this paper, I analyze devices that resemble communities of practice (CoPs) and network; informal mechanisms that –if properly managed– allow permanent cross-training among peers, complement knowledge creation, organizational and knowledge integration, as well as the advancement of explanations regarding what to do and what would be the most appropriate instruments to achieve. These devices should validate their own merit. I embark from a conceptual perspective and in regards to their use to face crisis scenarios. The pandemic and post-pandemic setting require horizontal and integrative procedures that allow presenting proper solutions. The important feat is to take advantage of the full potential generated by connected knowledge.

Keywords: *communities of practice. networks. knowledge management. cross-cutting teams. integrated know-ledge base*

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Managing the pandemic opens questions regarding some areas within bureaucracy. Resources and personnel cannot be squandered in dysfunctional areas, with lifeless programs that resemble 'geological layers' of unfertile soil. Currently we need to stack in one column all the government's capacity to face this catastrophe; since many areas face COVID-19 with scarce human and economic resources.

There has been a serious transformation in areas such as health, education, social security, transportation, social development, etc. We have witnessed the solidary behavior of some who perform tasks far from their roles and competences, but not from their human values, that have generated an unusual multisectoral public-private and intergovernmental collaboration. Nonetheless, it is not sufficient. We require the incubation of competences from the learned experiences –achievements as well as errors– and structure the 'lessons learned'.

The entire public sector is learning 'on the way'. The problem is that in this experimental field there is little margin of error due to the situation and the partisan confrontations in our increasingly polarized societies.

With so many new policies to implement today it is not possible to maintain the comfortable hypertrophy of some sectors and the overloads and shortages of others. Flexible and multifunctional ways must be welcomed, particularly where resources and competent personnel is scarce and are at the forefront of the fight. Our anachronistic formal structures should be reconverted beyond the usual agreements and resistances. For example, many universities are committed to producing medical instruments and protective utensils such as facemasks. Even though it is not their usual function, they do it. Therefore, conceptually we must consent for informal actions to go beyond the formal ones and adapt our structures, functions and capacities. As we will see with 'hypertext organizations' (Graph 1).

Public officials and their organizations need to be accelerated 'learners' and prevent any loss of the knowledge acquired in the process including good practices. If some of the improvisations put in place became a public health risk and were seen as a catastrophe, the innumerable new situations prognosticate a tsunami if we do not manage our collective knowledge through usable and transferable records for the public endowment and future stakeholders.

This scenario, does not allow for mistakes justified by lack of prior knowledge. There is no time to resort to traditional training, which has been ineffective. Competencies must be fulfilled –in record times– to respond to these new multifunctional requirements. Learning bases are found in the experiences lived where successes and failures can be collected. It would be a

mistake to sacrifice the achievements and errors only in the memory of their makers. This confronts us with methodological problems regarding how the newly acquired knowledge can circulate and have immediate impact among the new entrants. For this reason, training organizations and areas responsible of specific functions should adopt methodologies to transfer knowledge and the generation of competences. We will present examples that focus directly on these knowledge transfers to highlight that it is possible to do it.

A successful proposal regarding the identification and collection of knowledge and transfer rests on how close it is with those who manage the crisis, having a record-keeping of this management and the pedagogical impact of these experiences. It is important to provide feedback so that the specific practices can be replicated in other cases and thus provide solutions to the crisis from governments that are fully functioning and systemically enriching themselves.

To meet this context, we analyzed horizontal training experiences carried out through CoP's, which have become Learning Communities, and Networks that complement each other. Our framework resides in knowledge management schemes in order to capture, formalize and transfer them, and establish procedures and practices that are identified as effective.

It is not intended to highlight a single approach, but rather identify useful responses based on prior experiences. Our objectives point to how to integrate a government in a transformation processes, and foster learning in new and complex contexts, and how these new approaches are transferred to public officials rapidly.

This complexity requires new visualizations and practices. Vital to remember Mc Luhan (Mc Luhan and Powers, 1995, p. 149) when he states that the world behind us hinders us as a reference. We must not look through the rear-view mirror because this diminishes our ability to observe new scenarios. We must identify, the accomplishments and errors without preconceptions, and transfer the teachings immediately. In the pandemic's management, and certainly in the post-pandemic, our present's learnings are a privileged source of new forms of management to face the present and future contexts' challenges.

CONCEPTUAL APPROACH OF PEER TRAINING MECHANISMS: COMMUNITIES OF PRACTICE AND NETWORKS

We address first conceptual aspects, followed by implementations, and finally we discuss their usefulness.

In a community of practice (CoP) its members develop their competencies in a specific practice through the construction, exchange and pooling of a repertoire of resources. This allows to generate an environment for shared behaviors. Networks, on the other hand, enable mutual negotiation from different specializations (Coherendet and Creplet, 2001).

TABLE 1. *DIFFERENCES BETWEEN NETWORKS AND CoP'S*

	Objectives	Agents	Cognitive activity	Recruiting guidelines	What maintains the Community united?
Networks	Mutually negotiated specialization	Hetero-geneous	Knowledge exchange	Mutual trust	The need to access complementary knowledge
CoP´s	Skill and competencies improvement regarding a specific activity	Homo-genous	Gained knowledge over a specific activity. Passing along the best practices	Members select themselves	A common passion for an activity

Source: Cohendet, R. et al. 2001

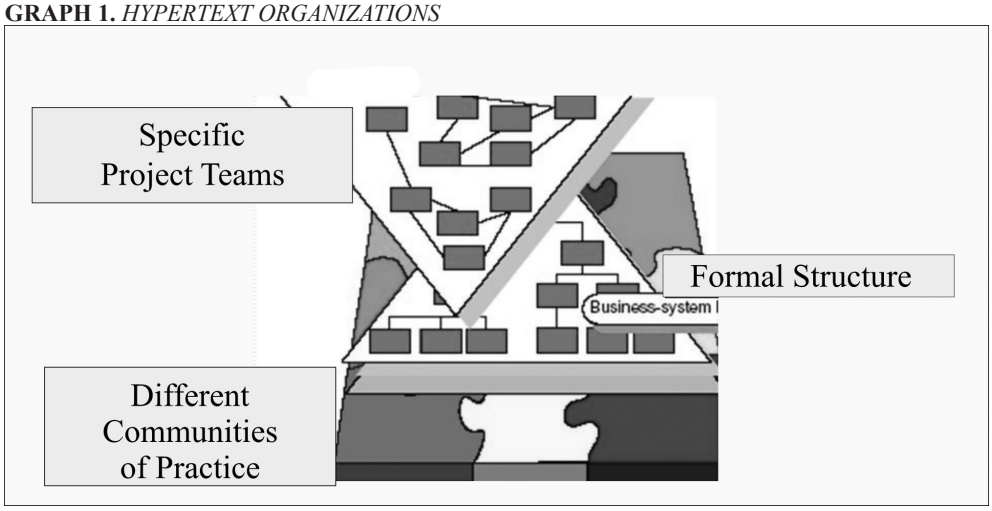
There is a long tradition –and achievements– regarding the development of CoPs and networks used to face institutional transformations, integration of institutional areas, consensus for the implementation of policies, generation of protocols through collaborative mutual support to learn about specific practices.

Both CoPs and complementary networks historically appeared as an effective approach to handle unstructured problems and share knowledge peripheraly to the traditional structural boundaries. They created another way of conceiving 'institutionalities': having informal integration models and bureaucratic models coexist together, where the former provides dynamism to process the context and the latter a rapid response. These interrelations, formal structures subsist supplied by the production generated by their members

through the different communities and networks, intertwined diffusely and cross the organizational territory.

To solve problems in an efficient manner –at any given moment– we place in the foreground and alternately the type of structure needed: be it teams, formal structures, CoP's or networks. These alternations are characterized as 'hypertext organizations' (Tuomi, 1999).

GRAPH 1. *HYPERTEXT ORGANIZATIONS*



Source: Adapted from Tuomi, 1999.

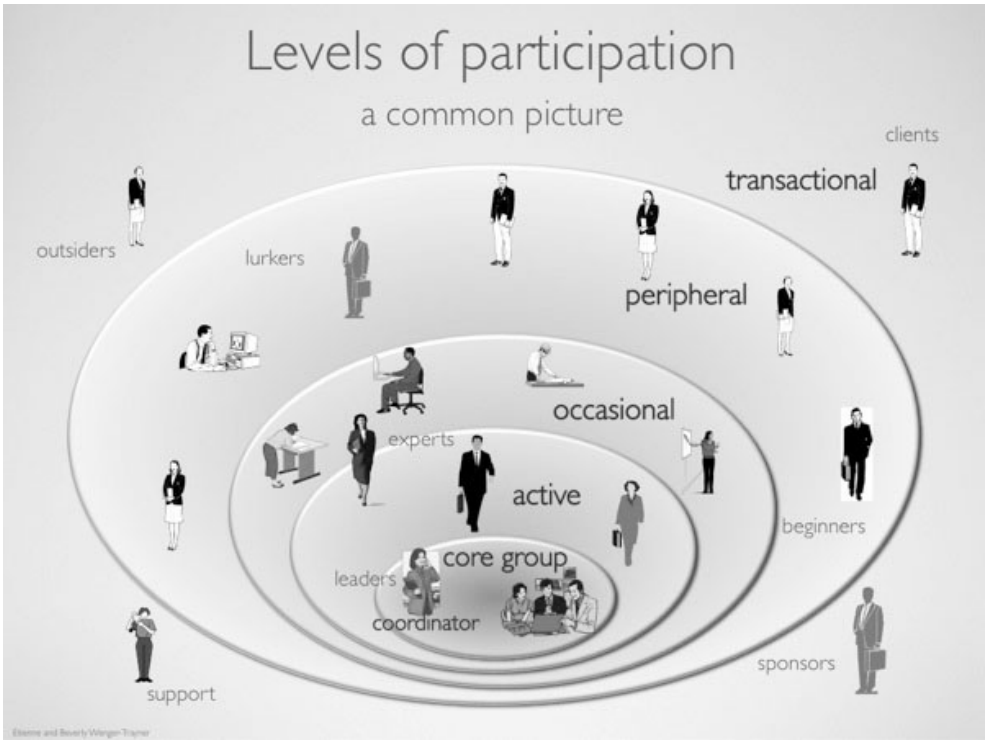
Hypertext organizations allow for 'border meetings'. These generate cognitive dissonances that can nourish problem solving and innovation instances. Here members of two or more CoP's combine their capacities to exchange different practices and trigger knowledge processes within each area, through their 'border practices', and advance towards the formation of complementary knowledge networks.

In these processes artifacts and tools are shared. These bridges have prospective because they allow for communities, institutions and individuals to confront differences, experience 'cognitive dissonances' between their own practices' and of others. They incorporate new resources, themes, languages and behaviors. They can include entrepreneurs, developers, officials, academics, NGO's, etc. The roles and insertion are variable, as CoP's practitioners, members of an institution or part of a network of complementary knowledge.

The generation of new competencies in this pandemic implies methodological problems regarding how the emerging knowledge in this environment can flow with an immediate impact on public employees and stakeholders involved in the public service. Traditional training methods are not suitable for these challenges. Thus, training organizations (and specific immediate response areas) must adopt methodologies to transfer knowledge and generate competences speedily, and in this paper, we include several experiences.

We highlight that joining CoPs is voluntary. This means different levels of participation that may not be constant. However, and even with this instability, they are very much capable of generating social learning dynamics (Lave and Wengers, 1991).[1]

GRAPH 2. *SOCIAL LEARNING AND LEVELS OF PARTICIPATION WITHIN CoPs*



Source: Wenger, 2011. Retrieved from https://wenger-trayner.com/resources/slide-forms-of-participation.

1 It is likely that 'voluntary' does not apply in the case of the transversal teams in Colombia, which is the last case discussed in this article.

Every new member learns from a veteran member in an environment of participation in the practice in question. In the case of the newcomer, their participation develops from the periphery until they reach full integration.

Graph 2 presents the different levels of participation. At the center (core group), we find the closest and most committed people, along with the most connected and influential. Beyond the limit of the central circle are those most connected with said circle (those who have knowledge of what happens within the general context). They can control the flow of information: what is shared and what is not. On the periphery, we have those who are not committed-connected but have the potential to be a source of new information and fresh ideas (Kaufman, 2012, p. 123).

From historical experience, both CoP's and networks complement, among other issues, informal learning structures, but may require formalized mechanisms, reliant to the set objectives.

These methodologies are not unique. We do not reject other ways of responding to uncertain contexts, but those incorporated as magical assumptions 'of what solves everything'; such as Innovation Labs when they do not generate systemic impact.

Our proposal is to develop a knowledge management framework. That helps what specific areas within the public sector –responsible of managing pandemic issues– produce or identify, is available to all other sectors, on different types of platforms where interactions and conclusions are documented. Thus, facilitate similar interventions. This would formalize and make it possible to share the existing knowledge through this tool. Figure 3 illustrate the Integrated Knowledge Base used by the Canadian government.

This approach has a long international adoption history.[2] It began in the Anglo-Saxon world, spread to our region, as is the case of Spain (Barrera-Corominas, 2018). Then other Latin American countries gradually incorporated it.

Argentina played a relevant role in its implementation. To respond to the 2002 crisis CoP's and networks were part of the government's actions (Kaufman, 2005, 2006, 2007). In the midst of the current pandemic (COVID-19), the government bolsters this approach. The documents of 'INAP 2020 Annual Management Meeting' (INAP, 2020), highlights the incorporation of CoP's approach in the training courses.

2 The number of experiences within the English-speaking world underscores the use of these training methods. *The Encyclopedia of Communities of Practice in Information and Knowledge Management*, coordinated by Coakes, E. and Clarke S., includes an article regarding the development of CoP´s in Argentina (Falivene and Kaufman, 2005).

EXPERIENCES OF COPS, NETWORKS AND KNOWLEDGE MANAGEMENT

MINISTRY OF NATURAL RESOURCES, CANADA (NRCAN) AND OPSPEDIA

An experience regarding knowledge transfer and integration through CoP's/ Networks took place in Canada at the Ministry of Natural Resources (NRCan).[3]

NRCan intended to integrate areas that had functioned separately and were incompatible with each other. Such problems are common within any initiative to modify government structures, essential to face new contexts such as the pandemic and post-pandemic.

An *ad hoc* team was established to provide an integrative solution and modify the established cultural guidelines, develop an institutional corps and thus achieve inter-area collaboration practices. That team proposed creating a Wiki. The existing CoP's were housed in the Wiki with the help of internal social networks.

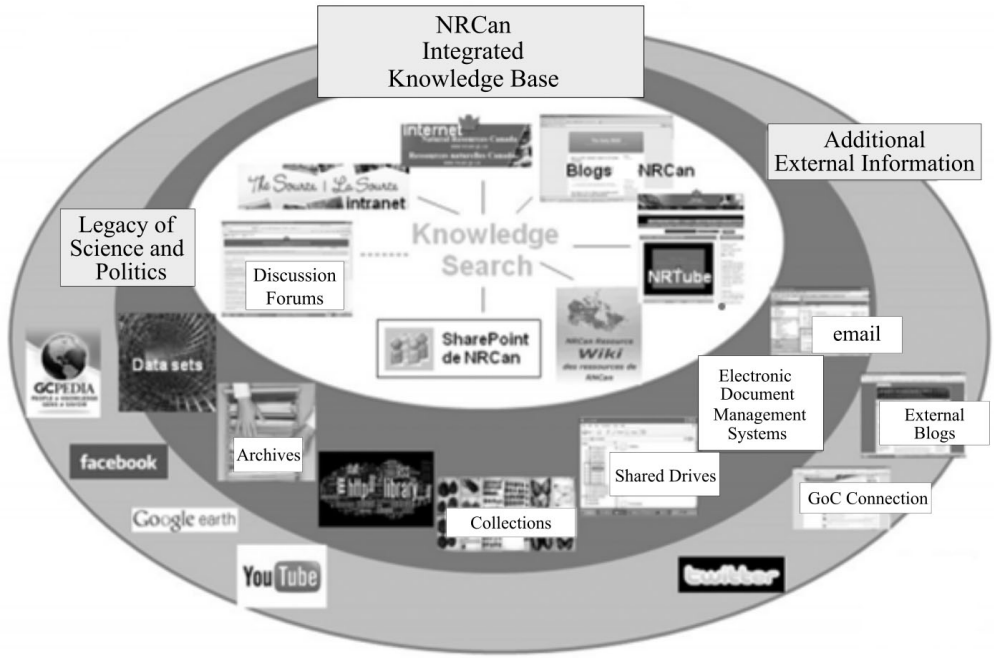
CoP's and networks are relevant in Canada to assemble formal structures since they cannot integrate by themselves. Through these morphologies they complete formal institutionalized training instances. They believe that this combination can ensure peer learning, influence new skills, and generate innovation circles in real time. In 2010, we researched this experience in Canada.

NRCan created the Integrated Knowledge Base in order to share experiences, knowledge and learning (Graph 3). This initiative inspired others like the Wiki that housed the entire Canadian federal government (GCPedia), as well as the provincial and local level. At the provincial level, it was possible to investigate OPSpedia, a collaborative web environment development by the Ontario provincial government to better organize the offer of public services (Kaufman, 2012, Chapter two).

In the center, we have the internal social networks, accessible through a Login. The shaded ring around it is the information reservoir (archivists and officials responsible of managing documentation and archive operations). Here archivists and document makers attend the programs described in that middle ring. The outer ring is for open social networks. The intermediate ring orders and links the interior and exterior rings, manages information and knowledge, allows transferring information from the inner circle and incorporates what is generated outside the institution.

3 Kaufman, 2012, documented this experience after observing *in situ* these developments, gathering information and interviewing public officials.

GRAPH 3. *INTEGRATED KNOWLEDGE BASE*



Source: NRCan Integrated Knowledge Base (Kaufman, 2012, p.117).

Knowledge management also captures organizational memory: agendas and minutes; employee feedbacks; documentation of specific projects, etc.

Internal social networks interact through tools used by an extensive set of CoPs created with the governmental purpose of gradually integrating internal silos in order to achieve what is known as the 'Network Government'.[4] Those networks have functional similarities to YouTube, Twitter, LinkedIn, blogs, Facebook, etc.

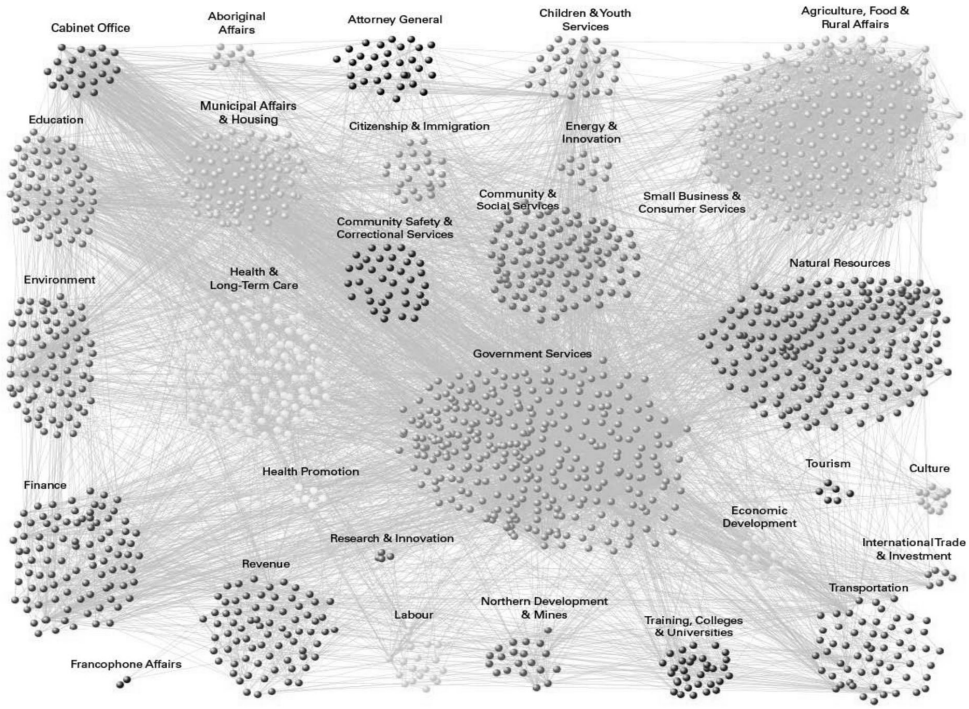
In this experience, as well as others, innovation is central, in a framework of inter-institutional integration that should dilute bureaucratic silos. Such is the case of the Innovation Laboratory created for Ontario Public Services (OPSpedia), and focuses on:

1. Timely Investigations: Crucial to make sure they develop the right initiatives.
2. Trials/Tests: If new tools and techniques are identified, it is very important to carry out internal trails.

4 A 'Network Government' is defined following the decree 450/009 from Uruguay: "…in the network of links between organizations, through which services are provided, activities are managed and shared objectives are pursued. The network resulting from these links, transcends the borders of public institutions and intertwines with society, creating the foundations of a connected society", (Oszlak and Kaufman, 2014, p. 171).

3. Learning: Sometimes trials are successful, others not. Each initiative is recorded 'in detail' (what happened). This compilation is used to inform other projects along the same lines. The best project is, eventually, a collective enterprise.
4. Expansion: If warranted, the benefits of the trails must be shared throughout the organization.

GRAPH 4. *CONNECTION BETWEEN OPSPEDIA'S MEMBERS THROUGH CoP's AND NETWORKS*



Source: Chartier, 2010, p. 22; Kaufman, 2012, p. 126.

Innovation as a collective enterprise to be shared by all, responds to the expectations of a systemic impact of experiences, accompanied by transversal forms of social learning.

Graph 4 shows the transversal integration connections operated in OPSpedia and the other cases, such as the Argentinian forums and the Colombian transversal teams, to be discussed later.

ARGENTINA AND ITS TRANSVERSAL FORUMS IN THE FACE OF THE 2002 ECONOMIC CRISIS

For Argentina CoP's were identified as 'transversal forums', similar to the perspective of 'transversal teams' in Colombia, although without the support in social networks, due to the time in which they took place.

The origin of these transversal forums con be traced to the Dialogue Table, integrated by the Argentinian government, the United Nations and the Episcopate. The Table's purpose was to convey different social organizations and national leading sectors and reach agreements and solutions on issues regarding Argentina's bankruptcy that distanced the country from the international arena due to non-compliance with its debts and had its population in extreme impoverishment.

Specifically, on its public issues, some recommendations emerged. INAP (entity with specific work linked to educate and train the public sector) established operating rules that set the institutional foundations for the subsequent transversality relationship of some forums. One of the most important was incorporating informality (as a counter-bureaucratic mechanism) in the design of public policies. This informality was necessary given the absence of minimal resources to operate normally, such as lack of paper or ink for printers. INAP's decision to operate as a potential articulator was added to this framework. It is highly relevant, as previously reported, that 20 years later INAP itself develops a similar training strategy in the framework of the current pandemic.

Those forums remained until 2015 under the name of 'Digital Agenda'.[5] At its inception (2002) institutional agreements were made to achieve the creation of sectoral and transversal forums that were born under the general objective to: '…articulate and develop networks…'; the latter emerged from the identification of 'macro-processes'. These processes should serve to train; exchange and ponder; strengthen daily management by having updated information on the themes they were responsible; provide specific training; exchange acquired knowledge and experiences; and prepare a diagnosis of the situation and proposals for future actions.

The identified macro processes (which ran across the entire national public administration) had different focal points (governing bodies). These bodies together with INAP, were responsible for conducting the different forums. Examples we can highlight are: 'Human Resources' headed by the National Office of Public Employment; 'Public Statistics' within the National Institute of Statistics and Censuses (INDEC, in Spanish), 'Documentation and Information Management', directed by the Documentation Centers of the Ministry of

5 We suggest reading 'Encuentro anual de Gestión INAP 2020' (INAP, 2020).

Economy and INAP; and lastly, 'Information Technology', directed by the National Office of Information Technology (ONTI, in Spanish).

ONTI carried out a forum, identified as 'IT Managers Forum', which survived along with others until 2015, allowed thinking in new ways about the Back Office with methods implemented by first world governments. Argentina was developing in parallel, similar experiences without knowing it. These were leading experiences in our region.

These forums had –among other tasks– to establish transversal consensus between organizations and generate inter-institutional networks. These 'CoP's/ networks' forms were embedded in 'Knowledge Management' models that link 'learning/innovation' within organizational environments. Today, these models are the core of knowledge theories.

The following case we will describe is similar to that of Argentina, although bolstered by social networks.

COLOMBIA AND ITS TRANSVERSAL TEAMS TO MANAGEMENT OF COVID-19

The transversal teams practice developed by Colombia's national government, constitutes an experience closely linked to the advancement of Open Goverment.[6] Fernando Grillo, Director of the Administrative Department, explains that '…they sought to create working networks to facilitate communication and knowledge and experiences exchange between the leaders regarding their mission processes and support different entities within the Executive branch both the national and the territorial entities' (3º Conversatorio RAGA, 2020). These teams are not informal, since they are established by law.

They share on a daily basis the most recent decrees or resolutions and all information related to the guidelines issued by Colombia's Presidency and the Ministry of Health and Social Protection to prevent COVID-19 risks of contagion.

It was in 2014 that Liliana Caballero, Director of Public Function introduced this modality to generate inter-institutional synergies promoting the Peace Accords. They were discontinued only to emerge again in response to the pandemic.

As of 2020, there are 12 national level Transversal Teams with 1,700 members; and 13 territorial level teams with 1,100 members.

6 3th RAGA Colloquium 2020 / 3º Conversatorio RAGA 2020 Estado Abierto y Gestión del COVID-19: 'Estado Abierto en Red en Colombia', https://www.facebook.com/watch/live/?v=259032128582591&ref=watch_permalink&t=17222/5/2020. Including the documents presented by the speakers (Fernando Grillo and Fernando Segura Restrepo, both public officials).

TABLE 2. *TRANSVERSAL TEAMS INTERNAL AND EXTERNAL LEADERS OF COLOMBIA*

Transversal team	Executive branch entity	Leader within the Public Function
Legal Defense	National Legal Defense Agency	Legal Directorate
Technologies	Information and Communications Technology Ministry (MINTIC, in Spanish)	Information and Communications Technology Office (OTIC, in Spanish)
Acquisition	"Colombia Compra Eficiente"	General Secretary
Communications	Presidency	Communal Action Organizations (OAC, in Spanish)
Planning	National Planning Department	Institutional Performance General Office (DGDI, in Spanish)
General Secretaries	Public Function	General Secretary
Internal Control	Transparency and Public Function Secretary	DGDI
Legal	Legal Secretary, Presidency of the Republic	Legal Directorate
Citizens' Service	Citizen National Service Program	Participation, Transparency and Citizen Service Office (DPTSC, in Spanish)
Management of Documents	National General Archives	General Secretary
Human Talent	Public Function	Public Employment Office
International Affairs	International Cooperation Presidency's Agency	International Management Group
Subdirectors and Vice ministers	Public Function	Sub directorate

Source: Fernando Segura Restrepo.

Fernando Grillo comments:

> We have taken advantage of the collaborative work tools that ICTs offer us to convene virtual meeting spaces. With the platform, 'Public Officials Network' we deal with the contingency. It houses virtual courses as the 'Integrated Planning and Management Model (MiPG) and Integrity and Fight against Corruption' (developed and led in conjunction with the Vice-Presidency and the Higher School of Public Administration-ESAP). This virtual space allowed us to formulate and redesigned strategy to construct communities of practice and learning in digital environments, within the framework of the

> Knowledge Management and Public Innovation policy. (3º Conversatorio RAGA, 2020)

Fernando Grillo adds that the private sector was already using these forms to group workers and focus them to common objectives and thus increase the speed of decisions and perform them through multi-institutional and multi-level collaborations. This way they took advantage of the innovative experience of those who made. At the same time, these processes generated peer learning, not a minor achievement since training begins to be organized around current and urgent problems.

The same speaker sustains: "We have taken advantage of these good organizational innovation practices by transferring them to the public sector. In this way we achieved articulation in the executive branch. An articulation that traditionally does not occur". In this way it also allows the group to organize who's who and what is being done (3º Conversatorio RAGA, 2020).

Through these teams, work and communication networks are created that allow to generate knowledge within the leaders of each network, and all their specific public officials.

Each team is headed by the Director of an entity (see Table 2, column 3) and also has an internal leader belonging to the Public Function who administers it. This organization is similar to that of the transversal forums in Argentina, where INAP represented the Civil Service.

The ways of connecting to organize work changed due to the pandemic. Now they are conveyed through WhatsApp chats (with phones and profiles). These have become an indispensable resource for managing the knowledge produced.

"These teams provide follow-up of daily tasks… in the territorial order, which strengthens decentralization. These chat meetings can bring together up to 3,000 public officials in connection with the authorities, a situation impossible to consider in times of face-to-face normality". The junction of chats promotes debate and analysis on certain issues, which allows to elaborate strategies based on concrete experiences (3º Conversatorio RAGA, 2020).

The Public Officials Network (similar to an internal Facebook), "…allows legal directors, auditors, human talent, etc., to publish articles, pass research on practical issues ... They are also exchanged opinions and experiences". This Network serves to support innovation and collective intelligence (3º Conversatorio RAGA, 2020).

These teams take part in the courses of the Higher School of Public Administration (ESAP, in Spanish) for public managers and territorial officials.

Likewise, they have served to sustain important values, for example, the Integrity Code for the Republic of Colombia, Dr. Grillo adds:

> In the context of the pandemic, these teams became a vital communication channel from home. The Public Function office shares new every day regulations by WhatsApp. This way, each team has is updated regarding the emerging regulations. This is how they share the administrative decisions or the guidelines and protocols from the Ministry of Health for state entities regarding COVID-19. (3º Conversatorio RAGA, 2020)

At the same time, they put together the questions asked by citizens. As a by-product easy-to-understand videos were developed to clarify issues regarding the pandemic or paperwork that had to be done.

Elected officials end up involved. Grillo adds: "over time we have developed a directory, constantly updated, of governors and mayors who connected with specific teams in the territory for strategic reasons" (3º Conversatorio RAGA, 2020). These are decentralizing policies. They also have 32 territorial leaders who have joined.

Fernando Augusto Segura Restrepo also participated in the 3th RAGA Colloquium 2020 (3º Conversatorio RAGA 2020). He was in charge of the Directorate of Participation, Transparency and Service to the Citizen of Public Function. Fernando linked these teams to Open State policies. He considers that to develop this approach it is essential to have inter-institutional cross-cutting processes collaborating in a network.

Fernando Segura Restrepo, mentions:

> We realized, years ago, that it was important to have dialogues within the institutions with the leaders regarding planning, internal control, citizen services, public contracting issues. Al these policies we lead from the Public Function and each has a manager within each institution. Before we developed guidelines that we sent into thin air, because we could not guarantee their effective arrival of the manager in charge of putting them into practice. Thus, we characterize these value groups and programed face-to-face and virtual scenarios in order to integrate leaders in the same issue in order to enhance compliance with the guidelines. The advantage of transversal teams is that they do not respond to a hierarchical structure. They are all on the same level no differences. These dialogues are very important because the opinion of the other is valued not as a boss but because of the relevance of their comments, in fact: a 'peer' that helps to move forward. (3º Conversatorio RAGA, 2020)

These modes guarantee access to information since transmissions occur in real time thanks to ICT, which ensures impact and audience segmentation. It is relevant to know what the public value offered means to them.

Furthermore, participation and collaboration principles are materialized, as well as the collective construction. Officials' requirements and their resolutions, are known in real time, including their experiences, policy implementation doubts or how to better serve citizens. Training needs to generate competencies in solving pressing problems are also highlighted. This helps build the planning process itself.

Meetings between teams ensure, in parallel, forms of accountability and feedback on errors and suggestions for improvements.

Another result from the Public Function was a kit to implement Open State policies in the framework of the pandemic. Segura Restrepo considers:

> What happened is that the entities were canceling Open Government activities as a result of the pandemic. Finally, they decided to give it a boost because they considered that this is the moment where that approach cannot be abandoned. Today is when people need the most to know what governments are doing and to be able to demand accountability if they consider that things are not being done well. (3º Conversatorio RAGA, 2020)

As mentioned, each transversal team has a public policy leader, who is in charge. Those who manage the circulating knowledge in their line are the leaders who are at the forefront of each team. They ensure that requirements and requests are not lost, while identifying experiences and new approaches.

What is captured in these workstations results in academic training instances, thus guaranteeing the generation of competencies to face the pandemic in real time, through shared problems and responses.

FINAL THOUGHTS

Government institutions have historically failed to produce comprehensive responses to crisis situations, especially when they must respond by making their structures more flexible and generate new skills or competencies in their officials.

Traditional structures have limits or restrictions that are too patent by their proclivity to generate watertight compartments; and then it is difficult for them to incorporate new functions, competencies and actors to interact in contexts marked by complexity and urgency.

CoP's and networks can reduce the process of the government's increasing weakness, now ravaged by different crises, in addition to the pandemic (poverty increase, disbelief and their relationship with social inequality); and

its own internal problems of patronage and corruption. On this last point, both networks and CoP's in fact assume, control tasks, even without intending to do so. This allows the government in itself to consolidate its own strengthening tasks and eradicate improper actions, an unresolved issue. The 'technical rationality' that encourages these communities and networks, can put some limit to clientelism and dark political interests that increases mistrust and social outbursts in a framework of suffering –physical, economic, social and psycho-emotional– caused by COVID-19.

Of course, these mechanisms are not enough. They are only instruments that allow some improvements.

On the other hand, in the face of new contexts that mark the pandemic and the post-pandemic, it is necessary to enhance collective knowledge by connecting knowledge and experiences. These 'frontier' encounters may well provoke cognitive dissonances, that if successful, will allow to construct a common language to agree on innovative responses.

In those cases, innovation should not be enclosed in 'superficial' and disconnected laboratories. That is why it is important to incorporate it systemically, and place it on the 'shoulders of giants', as mentioned by OPSpedia. Since 'the best project is, eventually, a collective enterprise'. Its benefits should also be understood along these lines because, once the relevance of innovation has been proven, it can be shared with 'the entire organization'.

Finally, the transformation of professions and competencies in the face of new contexts must be highlighted. Beyond the increasing multidisciplinarity that generates dialogues between knowledge, including one's own professional path; information and knowledge management requires identifying which are the most relevant professions to be charge, although many more end up getting involved. Unfortunately, the public sector in Latin American countries has not yet assumed, for the most part, the relevance of these competencies, a situation that the pandemic underscores, and in many cases, has generated disorderly and fleeting initiatives.

REFERENCES

3º Conversatorio RAGA Estado Abierto y Gestión del COVID19: Estado Abierto en Red en Colombia. 22/5/2020. Speakers: Fernando Grillo and Fernando Segura Restrepo. Retrieved from https://www.facebook.com/watch/live/?v=259032128582591&ref=watch_ permalink &t=172

CLAD (2020). La Carta de Iberoamericana de Innovación en la Gestión Pública. Retrieved from https://clad.org/wp-content/uploads/2020/10/Carta-Iberoamericana-de-Innovacion-10-2020.pdf

Barrera-Corominas, A. (2018). *Comunidades de práctica en la administración pública. transferencia de aprendizajes informales*. INAP. México. ISBN INAP: 978-84-7351-644-0. Retrieved from https://www.inap.es/documents/10136/1685056/PagInicia-Comunidades-de-practica.pdf/ea7da727-cbd5-759e-3055-f337a80c9997

Cohendet, P.; Creplet, F. & Dupouët, O. (2001). CoPs and Epistemic Communities: A Renewed Approach of Organisational Learning within the Firm. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.611.4087

Falivene, G. & Kaufman, E. (2005). The potential of Communities of Practice (CoPs) in Argentina to articulate Public Organizations into networks. The Encyclopedia of Communities of Practice in Information and Knowledge Management. Coakes, E. and Clarke S. Edit. (Univ. Westminster / Hull. UK). Idea Group. USA.

Kaufman, E. (2020). La gestión estatal del COVID 19 y el aprendizaje horizontal. Telam 28/04/20. Retrieved from https://www.telam.com.ar/notas/202004/457203-opinion-gestion-estado-coronavirus.html

_____. (2012). *Aportes para el Gobierno Abierto y la entrega de servicios. Experiencias canadienses*. Buenos Aires, Argentina Auspiciado por ASAEC y la Embajada de Canadá de Argentina y Paraguay ISBN: 978-987-33-2658-5.Retrieved from http://www.esterkaufman.com.ar/?page_id=512 .

_____. (2012). Ambientes Web Colaborativos y Gobierno Abierto, Chapter two in Kaufman, E. (2012), *Aportes para el Gobierno Abierto y la entrega de servicios. Experiencias canadienses*. pp. 93-138. Buenos Aires, Argentina ISBN: 978-987-33-2658-5. Auspiciado por ASAEC y la Embajada de Canadá de Argentina y Paraguay. Retrieved from http://esterkaufman.com.ar/wp-content/uploads/2012/10/SegundaParte2.pdf

_____. (2005). Comunidades de práctica y back office incremental: el gobierno electrónico hacia la sociedad de la información: La experiencia del Foro Informático argentino. Panel 'Comunidades de Práctica (CoPs), redes y foros para el desarrollo del gobierno electrónico y la sociedad de la información'. Ponencia para el X Congreso Internacional del CLAD sobre la Reforma del Estado y de la Administración Pública (2005 Oct. 18-21: Santiago). -CLAD. Retrieved from http://florille.files.wordpress.com/2010/02/kaufman2005.pdf

_____. (2007). The Argentine I.T. Directors Forum: Building the Basis for the Back Office through Communities of Practice. In Gascó-Hernández, Mila (Ed.) Latin America Online: Cases, Successes and Pitfalls. International Institute on Governance of Catalonia, pp. 1-33. Barcelona (España) e Idea Group, USA. ISBN 978-1-59904-057-8.

INAP. Argentina (2020). Encuentro anual de Gestión INAP 2020. Retrieved from https://www.argentina.gob.ar/noticias/inap-gestiona-encuentro-anual-de-gestion-inap-2020

Lave, Jean & Wenger, Etienne (1991).: Situated Learning. Legitimate peripheral participation. NY. USA. Cambridge University Press.

Mc Luhan, M. & B. R. Powers (1995). *La aldea global*. Barcelona, Spain. Ed. Gedisa, 3º edition. ISBN: 84-7432-403-3. Retrieved from https://monoskop.org/images/2/2c/McLuhan_Marshall_Powells_BR_La_aldea_global.pdf

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. Organization Science, 5 (1), pp. 14-37., NY, USA, Oxford University Press. Retrieved from http://www.svilendobrev.com/1/Nonaka_1994-Dynamic_theory_of_organiz_knowledge_creation.pdf. 17/11/2018

Oszlak, O. & Kaufman, E. (2014). Teoría y práctica del gobierno abierto. Lecciones de la experiencia internacional. Edit. OEA-Red GEAL-IDRC. Retrieved from http://www.redacademicagobabierto.org/wp-content/uploads/2017/04/kaufman-oszlak.pdf o https://redinpae.org/recursos/kaufman-oszlak.pdf .24/05/2019

Tuomi, I. (1999). Corporate Knowledge: Theory and Practice of Intelligent Organizations. In *Organizing for strategic knowledge creation*. Retrieved from http://www.jrc.es/~tuomiil/articles/OrganizingForStrategicKnowledgeCreationCh14.pdf.

Wenger, E. (1998). Communities of Practice -Learning, Meaning and Identity. NY, USA, Cambridge University Press.

PATTERNS OF INEQUALITY AND SOCIAL DEPRIVATIONASSOCIATEDWITHSEVERITY INDICATORS IN COVID-19 PATIENTS WITH LETHAL PROGRESSION IN MEXICO

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ABSTRACT: This article analyzes multivariate association patterns regarding social, economic, demographic and health factors with severity indicators in adult patients infected by SARS-CoV-2 and who developed COVID-19 with lethal progression. We identified the predictors with the greatest explanatory capacity based on Binary Logistic Regression (BLR) models. Using Mexico's Ministry of Health's databases and records regarding social marginalization, lack of health access and municipal inequality, among other predictors we constructed the BLR. Based on these models, cross-product ratios are estimated to determine the probability of being diagnosed with pneumonia, being hospitalized, intubated or admitted to an Intensive Care Unit (ICU). Our results indicate that increases in the combination of comorbidities increase the risk for all the severity indicators, while the lack of social security increases the risk of a confirmatory diagnosis of pneumonia and admission to an ICU. We found that living in a municipality with a high degree of social marginalization compared to one with a low degree, increases the patient´s probability of having a confirmatory diagnosis of pneumonia in COVID-19 with lethal progression, while the latter reduces the probability of hospitalization, intubation and admission to the ICU.

Keywords: *COVID-19, SARS-CoV-2, acute respiratory syndrome, social marginalization, inequality*

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Severe Acute Respiratory Syndrome Type 2 (SARS-CoV-2), is a coronavirus that causes Coronavirus Disease 2019 (COVID-19). SARS-CoV-2 was detected on December 31, 2019 in Wuhan city, Hubei province, in China (Sohrabi, et al., 2020). By 2020, the disease had caused worldwide more than 300 thousand deaths (estimate), while still rising (Rodríguez-Izquierdo et al., 2020). COVID-19 patients experience cough, secretions and fever symptoms; presenting clinical features that can carry lethal effects. Indicators of disease severity with lethal progression include hospitalization, pneumonia, pulmonary edema, intubation and admission to an ICU, among others (Chen et al., 2020). Hypertension, diabetes, obesity, smoking and advanced age are among the comorbidities that can progress to more severe stages and the death of the patient due to COVID-19 (Ortiz-Hernández and Pérez-Sastré, 2020).

In addition to the progression of symptoms to severe forms that imply a greater risk of lethality, the disease spreads rapidly due to its high transmissibility. Estimates speak of a 2.2/3.5 persons on average spread capacity, by an infected case (Callaway et al., 2020). It is also estimated that both the spread of the disease and the distribution of diagnosed COVID-19 positive cases could be influenced, conditioned and even determined by factors related to social living conditions, human development processes, socioeconomic status, social gaps and inequality (Ferreira, 2020; Merino et al., 2020; Mejía-Reyes, 2020). Mexico presents structural social gaps, high distributive income inequality and high percentages of the population living in poverty persist. It is possible to hypothesize that the impacts of the health crisis and the indicators of severity (risks) that lead to death from COVID-19 are differentially distributed and affected and follow a pattern defined by social stratification factors.

Social deprivation and inequality in Mexico occur at different levels: intrafamily, by social groups, segmented by territorially defined units (regions, states, municipalities and localities). Some authors affirm that the country is characterized by being geographically polarized (Ortiz-Hernández and Pérez-Sastré, 2020). Another type of polarization scarcely studied regarding the pandemic, refers to discrimination and deprivation of social rights faced by indigenous people and the population with indigenous ancestry (Ortiz-Hernández et al., 2018).

Mexico's National Evaluation of Social Development Policy Council (Coneval, in Spanish) forecasted and warned that, due to the adverse effects of the pandemic in Mexico on the household economy, extreme income poverty will affect between 6.1 and 10.7 million more people, while income poverty will reach 70.9 million compared to 61.1 million in 2018 (Coneval, 2020). Such scenarios will exert social and political pressure to develop innovative

models of governance and social participation that integrate the public policy design construct of social welfare that Pribble (2011) invites us to think about, based on the distinction between public policies aimed at preventing falling into social risk (risk prevention policies), and those of protection against risk, once it is being experienced (risk coping policies). This is probably one of the great lessons of the pandemic, that of learning to 'fish upstream', anticipating the emergence of the crisis (social, economic and health) by developing conditions and capacities to reduce its impact once it has occurred. We are talking about a paradigm shift in the design of public policy and in the philosophical bases of the conception of social welfare, a change that should entail the rhizomatic transformation (structural and not conjectural) of the welfare regime, placing greater emphasis on the pillars of prevention and social promotion based on new institutional arrangements among the actors involved in its definition (market, State, family and civil society).

In sum, more knowledge is needed regarding the role and possible effects of social stratification and inequality factors on the severity indicators of COVID-19. Improving knowledge about the nature and the relationship between social processes and living conditions and the severe forms of the disease that increase its lethality will strengthen the precision and effectiveness of public policies and social development deployed to confront the pandemic; reduce the overload of medical services that impact mortality levels, but also to strengthen the factors of prevention and protection against the disease, such as the promotion of healthy habits and lifestyles programs and inclusive policies of access to health care.

MATERIALS AND METHOD

We used information from the database of Mexico's Ministry of Health, General Directorate of Epidemiology (DGE, in Spanish). DGE records COVID-19 cases (suspected and confirmed) by medical facilities of the three levels of health care in the public and private sectors. Cases detected through the Epidemiological Surveillance System for Viral Respiratory Disease (SISVER, in Spanish) are reported through 475 Health Units Monitoring Respiratory Diseases (USMER, in Spanish), with presence in all 32 states.

From this database we selected cases in which the progression of the disease had a lethal progression (death of the patient) from March 1, 2020 to November 27, 2021, in a population between 20 and 95 years of age. Following the recommendation of Ortiz-Hernández and Pérez-Sastré (2020), to reduce possible biases, the population under 20 was excluded, and to reduce possible

delay effects of reported deaths, records corresponding to the last 15 days were excluded. Thus, we obtained a database with 79,946 records of deaths associated with COVID-19. 89% of the cases contained complete data records (n=71,017). In order to reduce the cause-effect bias between disease and death, we decided to work with an n=56,882 records of deaths due to COVID-19 in patients previously diagnosed as confirmed positive, either by clinical epidemiologic association, an opinion committee or a laboratory sample. After this delimitation, we still obtained 89% of the cases with complete data records (n=50,123). The indigenous variable was the one with the most missing cases (1.6%), followed by the comorbidities variable (0.8%).

The predictive capacity of the model was analyzed regarding four severity indicators associated with the lethal outcome of the disease: i) confirmatory diagnosis of pneumonia, ii) hospitalization, iii) intubation, and iv) admission to an ICU (Ortiz-Hernández and Pérez-Sastré, 2020). As predictors (independent variables) we considered: sex, age, indigenous ancestry, type of health institution (social security sectors), comorbidities, the Social Gap Index (ISL, in Spanish), the Human Development Index (HDI), the Marginalization Index (MI) and social cohesion understood as social inequality obtained through the Gini index coefficient.

With the original stratification by levels and degrees of each index considered for our analysis,[1] a quartile segmentation was established for other indicators, such as social cohesion (distributive inequality) (Table 1). The 'health institution' variable distinguishes between the general population, made up of those who received care in centers of the Ministry of Health, Red Cross, Family Development System (DIF, in Spanish), university services, IMSS-Bienestar, and the population that received care in social security services (like IMSS, ISSSTE, Sedena, Semar and Pemex) or private health centers. The variable 'comorbidities' is an ordinal polytomous type, its categories represent the combined sum of these (diabetes, hypertension and obesity) (Table 1). Its construction responds to the finding that people usually present not one, but several metabolic comorbidities simultaneously. The decision to select diabetes, hypertension and obesity is based on the finding that they tend to overlap each other by forming the same component (factor) when an exploratory factor analysis is applied to the database (Ortiz-Hernández and Pérez-Sastré, 2020).

1 Very low, low, medium, high and very high in the case of ISL and MI and low, medium, high and very high for HDI.

TABLE 1. *SUMMARY OF THE VARIABLES INCLUDED IN THE MODEL, INDICATORS, VALUES AND TYPES*

Variables	Indicators	Final value	Type
Pneumonia (dependent)	Pneumona diagnosis	0. No (RC) 1. Yes	Dichotomous nominal
Hospitalization (dependent)	Patient's admission to hospital	0. No (RC) 1. Yes	Dichotomous nominal
Intubation (dependent)	Patient requieres intubation	0. No (RC) 1. Yes	Dichotomous nominal
Intensive care (dependent)	Patient is taken to an ICU	0. No (RC) 1. Yes	Dichotomous nominal
Sex	Sex charcteristics	0. Female (RC) 1. Male	Dichotomous nominal
Age	Age declared	Age	Numerical continuum
Comorbidities (predictor)	Cardiometabolic comorbidities (diabetes, hypertension and obesity)	1. None (RC) 2. One 3. Two 4. Three	Ordinal polytomus
Indigenous (predictor)	Patient identifies as an indigenous person	0. No (RC) 1. Yes	Dichotomous nominal
Health institution that provided care (predictor)	Institutions providing care to the open population without social security or private health services	0. No (RC) 1. Yes	Dichotomous nominal
Social Gaps (predictor)	2015 Municipal Social Gap Index	1. Very low (RC) 2. Low 3. Medium 4. High 5. Very high	Ordinal polytomus
Marginalization (predictor)	2015 Marginalization Index	1. Very low (RC) 2. Low 3. Medium 4. High 5. Very high	Ordinal polytomus
Human Development (predictor)	2015 municipal Human Development Index	1. Very high (RC) 2. High 3. Medium 4. Low	Ordinal polytomus
Social cohesion (predictor)	Distributional inequality measured by the Gini index coefficient of household monetary income.	1. Very low (RC) 2. Low 3. High 4. Very high	Ordinal polytomus

Note. RC= reference category

Source: The Author.

To estimate the socioeconomic conditions of the population, we used the 2015 municipal level ISL provided by Coneval. The index constitutes a measure of social deprivation based on the indicators defined by the Mexican General Law of Social Development (LGDS, in Spanish) for the definition, identification and measurement of poverty (Coneval, 2007). The ISL is constructed as a weighted measure that captures and summarizes information from four deprivation indicators associated with access to social rights (education, health, basic services and housing space) (Table 2) (Coneval, 2007).

TABLE 2. *INDEX OF SOCIAL LAG (ISL) DIMENSIONS AND INDICATORS*

Dimensions	Indicators
Education	Percentage of the population aged 15 years and over who are illiterate.
	Percentage of population aged 6 to 14 years not attending school.
	Percentage of homes with population between 15 and 29 years old with family members with less than 9 years of schooling.
	Percentage of population aged 15 and over with incomplete basic education.
Access to health services	Percentage of population without access to health services.
Housing quality and room space	Percentage of homes with dirt floor.
	Average number of occupants per room
Home basic services	Percentage of homes without toilet or sanitary facilities.
	Percentage of homes without running/drinking water.
	Percentage of homes without drainage.
	Percentage of homes without electricity.
Home appliances	Percentage of homes without a washing machine.
	Percentage of homes without a refrigerator.

Source: Coneval, 2007.

The second index used is the 2015 MI, which captures the structural gaps in social living conditions from the perspective of territorial units (municipalities), weighting the factor of population distribution in different habitats (urban and rural). The MI, by the National Population Council (Conapo, in Spanish), provides information regarding four dimensions of deprivation of access to social rights: education, housing, monetary income and impact by spatial location (Table 3). These refer to nine forms of social exclusion and helps to rank municipalities according to their marginalization degree. The

forms of social exclusion captured by the MI, reflect "the population that does not have access to essential services; these deficiencies prevent to grow assets and the generation of basic capacities to manage their personal life projects; they also imply the non-exercise of human rights" (Conapo, 2016, p. 12).

TABLE 3. *DIMENSIONS, TYPES OF EXCLUSION AND INDICATORS OF THE MARGINALIZATION INDEX (MI)*

Concept	Socioeconomic dimensions	Exclusion types	Indicator
Multiple structural phenomenon that assesses exclusion (dimensions, forms and intensities) in the process of development and enjoyment of benefits.	Education	Illiteracy.	Percentage of population 15 years of age and older who are illiterate.
		Population without full primary education.	Percentage of population aged 15 years or older without completed primary education.
	Housing	Homes without sewage and sanitation services.	Percentage of occupants in homes without sewage and sanitation services.
		Homes without electricity.	Percentage of occupants in homes without electricity.
		Homes without piped water.	Percentage of occupants in homes without piped water.
		Homes with some degree of overcrowding.	Percentage of homes with some degree of overcrowding.
		Homes with dirt floors	Percentage of occupants in homes with dirt floors.
	Population distribution	Localities with less than 5,000 inhabitants.	Percentage of population in localities with less than 5,000 inhabitants.
	Income	Employed population earning up to two minimum wages.	Percentage of employed population with income up to two minimum wages.

Source: Conapo, 2016.

The third index is the 2015 HDI, which reflects the existing gaps between Mexico's municipalities according to their levels of human development by summarizing information on the population's ability to: (1) enjoy a long and healthy life; (2) acquire knowledge through formal education; and (3) have access to resources that guarantee a decent standard of living (see Table 1). These three capability components: (1) enjoy a long and healthy life; (2) acquire knowledge through formal education; and (3) access resources, guarantee

a decent standard of living (United Nations Development Program [UNDP], 2014). In contrast to the ISL and MI, the HDI is estimated from the aggregation of the indexes of three capabilities components through the use of the geometric mean. Whereby "a poor performance in any of the components is directly reflected in the value of the index and there is no longer perfect substitutability between them" (UNDP, 2014, p. 13), thus strengthening the accuracy of the final HDI measure.

The health index (component 1), considers a child's survival rate as a proxy to estimate life expectancy at birth, the education index (component 2), is a combined measure estimated from the expected years of schooling versus the average schooling years, while the income index (component 3), estimates the per capita monetary economic income adjusted to the annual Gross National Income (GNI), in US dollars, adjusted by the Purchasing Power Parity (PPP). The aggregation of these indexes –by means of the geometric mean– gives rise to the HDI, which is expressed in values to three decimal places between zero (0.000) and one. Closer values to 0.000 being an expression of the lowest possible achievement in well-being and human development and values closer to 1.000 the inverse (UNDP, 2014). Thus, a stratification of human development can be established that, under the new HDI methodology, differentiates between 'very high', 'high', 'medium' and 'low' degrees of municipal human development.

RESULTS

A retrospective cross sectional predictive analysis was performed, employing a Binary Logistic Regression (BLR) based on which the relationships analyzed are not strictly established on a causality principle, but can be inferred implicitly (López-Roldán and Fachelli, 2015). Unlike the traditional linear regression model, in which predictions are made based on the probabilities estimation for a dependent variable (quantitative) when the independent variables (predictors, which are also quantitative) vary. In BLR the aim is to predict the behavior of a dependent variable that is qualitative or categorical, depending on the change of one unit in the predictor variables (predictors) that can be quantitative as well as qualitative or categorical, "with the advantage, compared to the classical regression model, of not having to establish the series of application conditions that hinder its use and its possibilities, in particular, in the context of survey study" (López-Roldán and Fachelli, 2015, p. 60). BLR allows to develop the analysis of the explanatory capacity of the independent variables (predictors) on the dependent variable, considering both the individual effect of the former

and the effect of their interaction (multivariate association), expressed through an exponential function that makes possible the multiplicative interpretation of the parameters of the equation. Under this technique, the explanatory weight of each predictor on the dependent variable is estimated from the coefficients in a regression equation that employs the iterative maximum likelihood (LR, likelihood ratio) algorithm (López-Roldán and Fachelli, 2015). In the first iteration, the model value is taken into account only for the constant, while the rest of the coefficients or parameters are worth zero. When the iterations begin to be redundant and no longer add more likelihood (explained variability of the dependent variable) the process stops, obtaining the log likelihood for the full model (Log-Likelihood Full Model or -2 log of the likelihood) and its Cox and Snell and Nagelkerke pseudo R squared, which allows to evaluate the degree of fit of the model and its explanatory capacity. If the log of the full model is higher than that of the initial model (model only with the constant) and the pseudo R square's report an acceptable explained variability, then the model is accepted, since there are no statistically significant differences between the observed and expected frequencies under the model (Orós, 2019). In other words, if the goodness-of-fit test based on the maximum likelihood test, which is after all a Chi-square test ($\chi 2$), shows a p-value (Sig.) less than or equal to 0.05 (omnibus test table), the null hypothesis, which states that –except for the constant– all coefficients are zero and the alternative is accepted, insofar as at least one coefficient is significantly different from zero (Orós, 2019; Escobar, Fernández and Bernardi, 2009).

PNEUMONIA AS A SEVERITY INDICATOR

Table 1 shows the results of the bivariate statistical analysis, indicating that there is a significant association, estimated by the Chi-square test, for most of the relationships between the predictors and the independent variable for the confirmatory diagnosis of pneumonia. With the exception of the variable 'age', whose inclusion in the regression model does not contribute significantly to increase its predictive power, the p-value results significant (<0.05) for the rest of the independent variables.

Table 2 shows that the variables selected for the analysis are statistically significant (p-value <0.05) and can predict the risk factor of having a confirmatory diagnosis of pneumonia by means of the regression equation used to estimate the model.

TABLE 1. *BIVARIATE ASSOCIATION TEST BETWEEN PREDICTORS ENTERED INTO THE BLR MODEL AND DEPENDENT VARIABLE PNEUMONIA*

Predictors	Score	gl	Sig.
Sex	7.386	1	.007
Age	1.701	1	.192
Comorbidities	128.803	3	.000
Comorbidities (1)	37.360	1	.000
Comorbidities (2)	6.389	1	.011
Comorbidities (3)	23.481	1	.000
Indigenous	28.256	1	.000
Health institute (sector)	5065.621	1	.000
ISL	378.774	4	.000
ISL (1)	144.604	1	.000
ISL (2)	96.126	1	.000
ISL (3)	79.073	1	.000
ISL (4)	5.883	1	.015
MI	264.477	4	.000
MI (1)	72.954	1	.000
MI (2)	77.184	1	.000
MI (3)	49.361	1	.000
MI (4)	24.678	1	.000
HDI	213.882	3	.000
HDI (1)	22.258	1	.000
HDI (2)	206.210	1	.000
HDI (3)	4.410	1	.036
Social cohesion	172.922	3	.000
Social cohesion (1)	3.997	1	.046
Social cohesion (2)	31.373	1	.000
Social cohesion (3)	135.776	1	.000
Overall statistics	5450.136	21	.000

Source: The Author.

TABLE 2. *TEST OF THE SET OF VARIABLES ON THE MODEL'S COEFFICIENTS (OMNIBUS TESTS)*

	Chi square	gl	Sig.
Stepwise	5934.097	21	.000
Block	5934.097	21	.000
Model	5934.097	21	.000

Source: The Author.

The correction of Cox and Snell's R square by Nagelkerke's R square indicates that the model explains 10.5% of the change in the dependent variable, correctly classifying 70.6% of the cases, as shown in Table 3.[2]

TABLE 3. *R-SQUARED BLR MODEL*

-2 log likelihood	Cox and Snell	Nagelkerke	Clasification (% global)
87483.886	.074	.105	70.6

Source: The Author.

Table 4 summarizes the coefficients and estimators of the multivariate analysis of the BLR model. The Wald Chi-square, which is a multivariate test of statistical independence, indicates that when it is equal to or greater than 1, the predictors are making a significant contribution to the explanation of the dependent variable (pneumonia), so it is appropriate to keep them in the model.

The analysis of the results of the variables in the regression equation shows a significant p-value for most of the variables selected, except for HDI (2 and 3) and social cohesion (2). The interpretation of the exponentiated multivariate risk coefficient (Exp-(B) column), which is a measure of odds ratio,[3] indicates important variations in the risk of presenting a positive diagnosis of pneumonia when the institution where health care was received (sector), the social marginalization of the municipalities where the patients

2 The Cox and Snell R-squared, like the Nagelkerke R-squared, capture the explained variability and rarely provide high values as does the counterpart indicator of the linear regression technique. It is common to find results between 0.2 and 0.3, and even lower if the number of predictors decreases, with R-squared values higher than 0.6 being much less common (López-Roldán and Fachelli, 2015).

3 All the values of the coefficient (Exp-(B)) in this case and the other severity indicators analyzed were within the 95% confidence interval (CI).

live and, to a lesser extent, the number of comorbidities and indigenous ancestry vary.

In order of greater to lesser predictive power for the diagnosis of pneumonia, we have the health institution (sector); when the variable health institution (sector) varies by one unit, which means going from having social security or private health services to not having them and, therefore, being part of the open population, the risk of being diagnosed with pneumonia increases 4 times (3.966).

Likewise, the greater the social marginalization of the patient's municipality of residence, as captured by the ISL, the greater the risk of being diagnosed with pneumonia; when the municipality goes from having a very low to a medium degree of social marginalization, the risk of pneumonia increases 2 times (1.918), and when it goes from a very low to a high degree, the risk increases 2.6 times (2.616).

In contrast to this result, the MI is significant, but behaves inversely; increases in the degree of marginalization of the municipality of residence, means a decrease in the probability of pneumonia diagnosis in COVID-19 patients with lethal progression. The explanation for this behavior lies in the fact that the MI does not capture the lack of access to health services, as does the ISL. In addition, the ISL is a more robust index, with a total of 13 indicators for five components of deprivation and social exclusion, five more than those captured by the MI; among others, it omits deprivation of access to health services, socioeconomic status through household assets and availability of toilet/sanitary facilities as part of basic housing services.[4]

Adding comorbidities in combination to the clinical features increases the probability of being diagnosed with pneumonia. From having no comorbidities to having one increases them by 1.2 (1.191) times and from having no comorbidities to combining three comorbidities increases them by 1.3 (1.294). On the other hand, having indigenous ancestry versus not having one decreased the risk of a diagnosis of pneumonia by 1.2 times (1/.865).

The variables sex and age proved to be statistically significant (column Sig.), however, the values of their beta coefficients (column B), parameters of the additive model that constitute indicators of hierarchy and intensity of the predictors, are close to zero, therefore, too modest (.044 and .003, respectively); scarcely relevant compared to the set of significant predictors of the risk of a confirmatory diagnosis of pneumonia in COVID-19 patients with lethal progression.

4 The ISL integrates two indicators to capture the lack of access to education not contemplated by the MI; one of school attendance in the population aged 6 to 14 years old and the other of educational lag in homes with a population aged 15 to 29 years old.

TABLE 4. *PREDICTORS IN THE BINARY LOGISTIC REGRESSION EQUATION FOR PNEUMONIA. ODDS RATIO EXPRESSED AS EXPONENTIATED B COEFFICIENTS*

Predictors	B	E.T.	Wald	gl	Sig.	Exp(B)
Sex	.044	.017	6.532	1	.011	1.045
Age	.003	.001	18.012	1	.000	1.003
Comorbidities			110.792	3	.000	
Comorbidities ***(1)***	***.160***	***.020***	***65.079***	***1***	***.000***	***1.174***
Comorbidities ***(2)***	***.175***	***.022***	***65.094***	***1***	***.000***	***1.191***
Comorbidities ***(3)***	***.258***	***.035***	***52.834***	***1***	***.000***	***1.294***
Indigenous	***-.144***	***.068***	***4.527***	***1***	***.033***	***.865***
Health institute (sector)	***1.378***	***.021***	***4362.970***	***1***	***.000***	***3.966***
ISL			104.824	4	.000	
ISL (1)	***.388***	***.042***	***83.853***	***1***	***.000***	***1.475***
ISL (2)	***.651***	***.088***	***54.237***	***1***	***.000***	***1.918***
ISL (3)	***.962***	***.134***	***51.292***	***1***	***.000***	***2.616***
ISL (4)	***.761***	***.383***	***3.940***	***1***	***.047***	***2.140***
MI			83.197	4	.000	
MI (1)	***-.139***	***.045***	***9.700***	***1***	***.002***	***.871***
MI (2)	***-.435***	***.064***	***45.521***	***1***	***.000***	***.647***
MI (3)	***-.938***	***.105***	***79.628***	***1***	***.000***	***.391***
MI (4)	***-.966***	***.215***	***20.136***	***1***	***.000***	***.381***
HDL			131.466	3	.000	
IDH (1)	***-.220***	***.021***	***110.658***	***1***	***.000***	***.802***
HDI (2)	.063	.068	.863	1	.353	1.065
HDI (3)	.246	.462	.283	1	.595	1.278
Social cohesion			14.694	3	.002	
Social cohesion (1)	.073	.023	10.073	1	.002	1.076
Social cohesion (2)	.003	.023	.022	1	.883	1.003
Social cohesion (3)	.057	.025	5.365	1	.021	1.059
Constant	.213	.044	23.887	1	.000	1.238

Source: The Author.

HOSPITALIZATION AS A SEVERITY INDICATOR

Regarding hospitalization, the model adequately classified 89.9% of the cases (Table 6) and the omnibus tests that report the degree of success in the selection of predictors to account for the dependent variable show statistically significant coefficients (p-value <0.05) (Table 5). The R-squared values, which report the predictive capacity of the risk of hospitalization through the logistic regression equation for the model, are somewhat low; a Nagelkerke's R square of less than 2% (Table 6). However, a cluster of predictors is shown to be significant in the bivariate association with hospitalization, namely; sex, age, comorbidities (2), indigenous ancestry, MI (2) and social cohesion (2 and 3) (Table 7).

On the assumption of significant bivariate associations, high correct case classification and significant values in the omnibus tests, we resolved to interpret some parameters (Exp(B)) of the model (Table 8).

TABLE 5. *TEST OF THE SET OF VARIABLES ON THE MODEL'S COEFFICIENTS (OMNIBUS TESTS)*

	Chi square	gl	Sig.
Stepwise	393.752	21	.000
Block	393.752	21	.000
Model	393.752	21	.000

Source: The Author.

TABLE 6. *R SQUARE BLR MODEL*

-2 log Likelihood	Cox and Snell	Nagelkerke	Clasification (global %)
50017.999	.005	.011	89.9

Source: The Author.

TABLE 7. *BIVARIATE ASSOCIATION TEST BETWEEN PREDICTORS ENTERED IN THE BLR MODEL AND THE DEPENDENT VARIABLE HOSPITALIZATION*

Predictors	Score	gl	Sig.
Sex	9.948	1	.002
Age	40.505	1	.000
Comorbidities	30.192	3	.000
Comorbidities (1)	.805	1	.370
Comorbidities (2)	20.888	1	.000
Comorbidities (3)	3.674	1	.055
Indigenous	6.268	1	.012
Health institute (sector)	119.975	1	.000
ISL	6.788	4	.148
ISL (1)	1.231	1	.267
ISL (2)	1.201	1	.273
ISL (3)	3.026	1	.082
ISL (4)	1.372	1	.241
MI	11.432	4	.022
MI (1)	.027	1	.870
MI (2)	10.546	1	.001
MI (3)	.101	1	.751
MI (4)	.504	1	.478
HDI	.953	3	.813
HDI (1)	.204	1	.651
HDI (2)	.005	1	.944
HDI (3)	.766	1	.381
Social cohesion	177.876	3	.000
Social cohesion (1)	1.166	1	.280
Social cohesion (2)	34.795	1	.000
Social cohesion (3)	57.641	1	.000
Overall statistics	393.184	21	.000

Source: The Author.

The significant predictors that show greater strength in the prediction of the variation of the hospitalization indicator are ISL (2) and health institution (sector) (Exp(B) column), while sex, age and comorbidities (1 and 2) are among those with the lowest predictive strength (Table 8).

The model reports that patients residing in municipalities with a medium degree of social marginalization (ISL 2) with respect to those with a very low degree which are 1.5 times more likely to be hospitalized when they become ill with COVID-19. However, when we compare those with a very high degree of social marginalization (ISL 4) with respect to those with a very low degree, the risk is reduced 2.8 times (1/.360). This behavior of the predictor could be revealing a social barrier according to which the population residing in municipalities with very high social marginalization has fewer resources and faces greater difficulties in accessing hospitalization, once they have contracted the disease (COVID-19) that will lead to their death.[5] The results for the IM predictor support this reading; moving from a municipality of very low marginality to one of medium marginality decreases the probability of hospitalization by 1.4 times (1/.360).

An analogous interpretation would apply to the predictor of health institutions (sector), which reports that the general population is 1.3 (1/.784) times less likely to be hospitalized if they have COVID-19 with lethal progression than the population with social security or private health institutions. Although it has not been shown to be statistically significant, the interpretation of the exponentiated beta parameter of the predictor of indigenous ancestry is interesting;[6] having this ancestry compared to not having it, decreases the probability of hospitalization by 1.2 (1/.873). In contrast, having two comorbidities compared to having none moderately increased the probability of hospitalization by almost 1.2 (1.140).

5 The analysis considered only cases with lethal disease progression.

6 López Roldán and Fachelli (2015) mention that depending on the objective of the research, it may important to focus on the interpretation of the variables parameters not found to be significant, but that may prove to be as important for the analysis as the significant ones.

TABLE 8. *PREDICTORS IN THE BINARY LOGISTIC REGRESSION EQUATION FOR HOSPITALIZATION. ODDS RATIOS EXPRESSED AS EXPONENTIATED B COEFFICIENTS (EXP(B))*

Predictors	B	E.T.	Wald	gl	Sig.	Exp(B)
Sex	-.053	.026	4.259	1	.039	.949
Age	.004	.001	24.561	1	.000	1.004
Comorbidities			21.917	3	.000	
Comorbidities (1)	.076	.029	6.940	1	.008	1.079
Comorbidities ***(2)***	***.131***	***.032***	***16.518***	***1***	***.000***	***1.140***
Comorbidities ***(3)***	***-.036***	***.049***	***.546***	***1***	***.460***	***.964***
Indigenous	***-.136***	***.086***	***2.512***	***1***	***.113***	***.873***
Health institute (sector)	***-.243***	***.025***	***91.302***	***1***	***.000***	***.784***
ISL			***29.803***	***4***	***.000***	
ISL (1)	***.137***	***.060***	***5.213***	***1***	***.022***	***1.147***
ISL (2)	***.431***	***.115***	***14.002***	***1***	***.000***	***1.538***
ISL (3)	.058	.171	.116	1	.733	1.060
ISL (4)	***-1.021***	***.436***	***5.478***	***1***	***.019***	***.360***
MI			29.577	4	.000	
MI (1)	-.028	.063	.198	1	.657	.972
MI (2)	***-.345***	***.087***	***15.764***	***1***	***.000***	***.708***
MI (3)	-.209	.142	2.154	1	.142	.812
MI (4)	.447	.291	2.363	1	.124	1.564
HDI			5.547	3	.136	
HDI (1)	.013	.032	.160	1	.689	1.013
HDI (2)	.116	.089	1.687	1	.194	1.123
HDI (3)	1.300	.610	4.538	1	.033	3.670
Social cohesion			170.932	3	.000	
Social cohesion (1)	***-.237***	***.036***	***43.164***	***1***	***.000***	***.789***
Social cohesion (2)	***-.393***	***.035***	***128.074***	***1***	***.000***	***.675***
Social cohesion (3)	***-.418***	***.036***	***132.048***	***1***	***.000***	***.658***
Constant	2.240	.065	1201.797	1	.000	9.398

Source: The Author.

INTUBATION AS A SEVERITY INDICATOR

Excluding comorbidities (1 and 3) and HDI (3), Table 9 reports the existence of significant bivariate association of all predictors with the intubation dependent variable; a residual Chi-square value of 937.654 for 21 degrees of freedom and a p-value <0.05. It is expected that in the multivariate analysis of the model these variables contribute to explain the severity indicator.

TABLE 9. *BIVARIATE ASSOCIATION TEST BETWEEN PREDICTORS ENTERED INTO THE RLB MODEL AND THE INTUBATION DEPENDENT VARIABLE*

Predictors	Score	gl	Sig.
Sex	21.506	1	.000
Age	311.184	1	.000
Comorbidities	7.904	3	.048
Comorbidities (1)	1.768	1	.184
Comorbidities (2)	6.200	1	.013
Comorbidities (3)	2.216	1	.137
Indigenous	54.607	1	.000
Health institute (sector)	305.559	1	.000
ISL	166.739	4	.000
ISL (1)	51.931	1	.000
ISL (2)	44.094	1	.000
ISL (3)	37.872	1	.000
ISL (4)	10.111	1	.001
MI	189.149	4	.000
MI (1)	8.489	1	.004
MI (2)	81.524	1	.000
MI (3)	72.380	1	.000
MI (4)	5.299	1	.021
HDI	215.986	3	.000
HDI (1)	67.930	1	.000
HDI (2)	101.908	1	.000
HDI (3)	.831	1	.362

CONTINUED TABLE 9.

Predictors	Score	gl	Sig.
Social cohesion	71.954	3	.000
Social cohesion (1)	54.552	1	.000
Social cohesion (2)	11.615	1	.001
Social cohesion (3)	27.340	1	.000
Overall statistics	937.654	21	.000

Source: The Author.

The p-values of the model in the omnibus tests (Table 10) are statistically significant (<0.05), indicating that the selected predictors are adequate to explain the dependent variable under the BLR model. However, the predictive capacity noted by the Nagelkerke R square indicator is somewhat modest (3%), but with a correctness percentage of 61.2% in the statements made from the model; that is, adequately classifying that percentage of cases (Table 11). It was decided to interpret the exponentiated beta coefficients (Exp(B) column) to know under the multivariate model, the magnitude and direction in which the predictors contribute to explain the risk of intubation.

TABLE 10. *TEST OF THE SET OF VARIABLES ON THE MODEL´S COEFFICIENTS (OMNIBUS TESTS)*

	Chi square	gl	Sig.
Stepwise	***952.342***	***21***	***.000***
Block	***952.342***	***21***	***.000***
Model	***952.342***	***21***	***.000***

Source: The Author.

TABLE 11. *R SQUARE BLR MODEL*

-2 log Likelihood	Cox and Snell	Nagelkerke	Clasificaton (global %)
90813.732	.014	.019	61.2

Source: The Author.

The results of the analysis shown in Table 12 show that the comorbidities (2), ISL (1 and 3), MI (1 and 4), HDI (3) and social cohesion (3) variables should be excluded from the model because they are not significant for the intubation indicator (p-value less than 0.05). The results show that the change of one unit in the ISL predictor, that is, moving from residing in a municipality with a very low degree of social marginalization to one with a low degree, the probability of intubation of COVID-19 patient increases 1.2 times (Exp(B) column), but when the change is from a municipality with a very low to a very high degree of social marginalization, the probability decreases by 2.8 (1/.359) (1/.359). 8 times (1/.359). This leads us to a persistent social barriers that define differentials between social strata with respect to access to second and third level health care, as was observed for the previous severity indicator (hospitalization).

For intubation, the MI results are in line with those observed in the ISL, and it can be affirmed that patients residing in municipalities with a high degree of social marginalization compared to those with a very low degree have a 1.3-fold (1/.790) lower probability of undergoing intubation when they are ill with lethal progression of COVID-19. Likewise, it is possible to interpret the HDI predictor (2), indicating that patients living in municipalities with a medium level of human development compared to those with a very high level are 1.2 (1/.820) times less likely to be intubated. Having indigenous ancestry compared to not having it reduces the probability by 1.3 times (1/.795), while not having social security health coverage or private health care services compared to having them reduces it by 1.4 times (1/.748). In contrast, having three comorbidities compared to having none increases, albeit slightly, the probability of intubation.

TABLE 12. *PREDICTORS IN THE BLR EQUATION FOR INTUBATION. ODDS RATIO EXPRESSED AS EXPONENTIATED B COEFFICIENTS (EXP(B))*

Predictors	B	E.T.	Wald	gl	Sig.	Exp(B)
Sex	.067	.017	16.115	1	.000	1.069
Age	-.011	.001	366.329	1	.000	.989
Comorbidities			14.100	3	.003	
Comorbidities (1)	.053	.019	7.710	1	.005	1.055
Comorbidities (2)	.017	.021	.662	1	.416	1.017
Comorbidities ***(3)***	***.102***	***.033***	***9.348***	***1***	***.002***	***1.108***
Indigenous	***-.230***	***.065***	***12.383***	***1***	***.000***	***.795***
Health institute (sector)	***-.291***	***.017***	***278.856***	***1***	***.000***	***.748***
ISL			19.676	4	.001	
ISL (1)	-.013	.040	.111	1	.739	.987
ISL (2)	***.191***	***.080***	***5.690***	***1***	***.017***	***1.210***
ISL (3)	.013	.123	.011	1	.916	1.013
ISL (4)	***-1.025***	***.400***	***6.576***	***1***	***.010***	***.359***
MI			36.400	4	.000	
MI (1)	.072	.042	2.997	1	.083	1.075
MI (2)	***-.203***	***.062***	***10.656***	***1***	***.001***	***.817***
MI (3)	-.235	.097	5.917	1	.015	.790
MI (4)	.195	.182	1.142	1	.285	1.215
HDI			58.396	3	.000	
HDI (1)	***-.151***	***.021***	***53.729***	***1***	***.000***	***.860***
HDI (2)	***-.198***	***.062***	***10.234***	***1***	***.001***	***.820***
HDI (3)	.670	.429	2.438	1	.118	1.955
Social cohesion			31.617	3	.000	
Social cohesion (1)	.069	.022	9.782	1	.002	1.072
Social cohesion (2)	-.051	.022	5.342	1	.021	.950
Social cohesion (3)	-.030	.023	1.649	1	.199	.970
Constant	***.321***	***.042***	***57.322***	***1***	***.000***	***1.378***

Source: The Author.

ADMISSION TO ICU AS A SEVERITY FACTOR

With respect to admission to an ICU as an indicator of severity, the variables defined for inclusion in the model, with the exception of indigenous ancestry, ISL (4) and HDI (1 and 3), were found to be significant in the bivariate statistical analysis with a p-value and a residual Chi-square p-value of less than 0.05. A significant p-value in the omnibus tests, inform that the model is adequate and with predictive capacity from the variables entered (Table 14), with a Nagelkerke's R square value of 9% and a correctness percentage of 88.6% in the statements formulated from the BLR model (Table 15).

TABLE 13. *BIVARIATE ASSOCIATION TEST BETWEEN PREDICTORS ENTERED INTO THE RLB MODEL AND DEPENDENT VARIABLE ICU ADMISSION*

Predictors	Score	gl	Sig.
Sex	24.175	1	.000
Age	152.625	1	.000
Comorbidities	50.751	3	.000
Comorbidities (1)	25.571	1	.000
Comorbidities (2)	7.490	1	.006
Comorbidities (3)	15.452	1	.000
Indigenous	.018	1	.894
Health institute (sector)	3189.604	1	.000
ISL	140.674	4	.000
ISL (1)	20.371	1	.000
ISL (2)	50.237	1	.000
ISL (3)	53.555	1	.000
ISL (4)	.000	1	.996
MI	119.947	4	.000
MI (1)	14.216	1	.000
MI (2)	17.020	1	.000
MI (3)	55.429	1	.000
MI (4)	18.368	1	.000
HDI	92.807	3	.000
HDI (1)	.123	1	.725

CONTINUED TABLE 13.

Predictors	Score	gl	Sig.
HDI (2)	85.641	1	.000
HDI (3)	1.315	1	.251
Social cohesion	221.471	3	.000
Social cohesion (1)	13.358	1	.000
Social cohesion (2)	4.849	1	.028
Social cohesion (3)	208.608	1	.000
Overall statistics	3427.367	21	.000

Source: The Author.

TABLE 14. *TEST OF THE SET OF VARIABLES ON THE MODEL'S COEFFICIENTS (OMNIBUS TESTS)*

	Chi square	gl	Sig.
Stepwise	***3236.780***	***21***	***.000***
Block	***3236.780***	***21***	***.000***
Model	***3236.780***	***21***	***.000***

Source: The Author.

TABLE 15. *R SQUARE BLR MODEL*

-2 log Likelihood	Cox and Snell	Nagelkerke	Clasification (global %)
45656.407	.046	.090	88.6

Source: The Author.

In the BLR model, the severity indicator of admission to an ICU is associated with the predictors of comorbidities (1, 2 and 3), indigenous ancestry, health institution (sector), social marginalization (ISL 4), marginality (MI 2) and municipal social cohesion (3). Although other predictors were statistically significant (p-value < 0.05), their contribution to explaining the variation in the severity indicator is modest (sex and social cohesion 2) or very low (age) (Table 16).

Among the predictors with the greatest explanatory power are health institution (sector) in which the patient received medical care. Patients without social health insurance coverage (open population) with respect to those who do have it (state or private), increase 3.7 times the probability of being admitted to an ICU. A striking result that puts all interpretative capacity to the test, making further analytical incursions necessary.[7] On the other hand, in patients with three comorbidities simultaneously, the risk of admission to an ICU increases 1.3 times. Being a man compared to a woman increases the risk, although marginally, 1.1 times more.

Having indigenous ancestry compared to not having it reduces the probability of admission to an ICU by 1.6 times, residing in a municipality with a very high degree of social marginalization compared to one with a very low degree reduces it by 2.5 times and residing in a municipality with a medium degree of social marginalization compared to one with a very low degree reduces it by 1.2 times (1/.824).[8]

Regarding social cohesion, understood as distributive inequality of economic income, it is noted that COVID-19 patients with lethal progression who reside in municipalities in the quartile with the highest inequality (Q4) with respect to the lowest quartile (Q1), the probability of admission to an ICU increases 1.4 times (1.374). These results allow us to venture a new hypothesis, which states that greater spatially stratified (by municipality) social deprivation (ISL and MI) in COVID-19 patients with lethal progression, as well as having indigenous ancestry, are conditions that contribute to the deprivation of access to third-level health care units that provide intensive care,[9] while, in contrast, the greater spatially stratified (by municipality) concentration of economic income increases the chances, possibly explained by a combination of factors of social polarization in these municipalities.

7 A subsequent analysis using multinomial logistic regression (MLR), a generalization of BLR and allows to explain a polytomous qualitative variable that can be constructed from the combination of the different severity stages considered in this analysis, could shed light on the result reported for the ICU admission severity indicator. For example, differentiate probabilities between the diagnosis of pneumonia; the diagnosis of pneumonia plus hospitalization; the diagnosis of pneumonia + hospitalization + intubation and so on. Such an analysis would allow us to disentangle more specifically the significance and strength of association of the model´s variables and thus validate or rectify the achieved result.

8 See footnote 2.

9 The database is based on COVID-19 death cases.

TABLE 16. *PREDICTORS IN THE BINARY LOGISTIC REGRESSION EQUATION FOR ICU ADMISSION. ODDS RATIO EXPRESSED AS EXPONENTIATED B COEFFICIENTS*

Predictors	B	E.T.	Wald	gl	Sig.	Exp(B)
Sex	***.098***	***.026***	***13.811***	***1***	***.000***	***1.103***
Age	-.006	.001	49.346	1	.000	.994
Comorbidities			40.076	3	.000	
Comorbidities ***(1)***	***.149***	***.030***	***24.969***	***1***	***.000***	***1.161***
Comorbidities (2)	.086	.033	6.687	1	.010	1.090
Comorbidities ***(3)***	***.264***	***.050***	***27.603***	***1***	***.000***	***1.302***
Indigenous	***-.448***	***.094***	***22.742***	***1***	***.000***	***.639***
Health institute (sector)	***1.317***	***.026***	***2627.955***	***1***	***.000***	***3.734***
ISL			4.723	4	.317	
ISL (1)	.021	.059	.127	1	.721	1.021
ISL (2)	.040	.112	.131	1	.717	1.041
ISL (3)	.085	.160	.279	1	.597	1.088
ISL (4)	-.929	.513	3.284	1	.070	.395
MI			6.885	4	.142	
MI (1)	-.092	.062	2.206	1	.137	.912
MI (2)	-.193	.090	4.612	1	.032	.824
MI (3)	-.103	.133	.599	1	.439	.902
MI (4)	.105	.227	.214	1	.644	1.111
HDI			3.758	3	.289	
HDI (1)	-.040	.033	1.492	1	.222	.960
HDI (2)	.015	.086	.029	1	.866	1.015
HDI (3)	.718	.539	1.777	1	.182	2.051
Social cohesion			92.120	3	.000	
Social cohesion (1)	.055	.036	2.259	1	.133	1.056
Social cohesion (2)	***.104***	***.036***	***8.453***	***1***	***.004***	***1.110***
Social cohesion (3)	***.318***	***.036***	***78.814***	***1***	***.000***	***1.374***
Constant	-2.510	.067	1397.993	1	.000	.081

Source: The Author.

CONCLUSIONS

We present a predictive analysis between health (comorbidities), sociodemographic (sex, age, indigenous ancestry) and social (conditions of social deprivation, human development and inequality) factors, to explain four severity indicators (pneumonia, hospitalization, intubation and admission to an ICU), which constitute risk and protective factors against COVID-19 lethal progression. We developed a binary logistic regression model evaluation, using data from the records of the Ministry of Health of the government of Mexico, Coneval, Conapo and UNDP.

The results of the bivariate analysis allow us to affirm the statistical significance of the association between comorbidities, indigenous ancestry, health institution (sector) and social cohesion (distributive inequality) and the severity indicators considered. The results of the multivariate analysis of the regression models showed that the lack of social security (state or private) significantly increased the risk of having a confirmatory diagnosis of pneumonia; four times more in the open population. Adding comorbidities to the clinical picture increases the risk of a confirmatory diagnosis of pneumonia, and the same occurs as the municipal social exclusion of residence increases. On the other hand, having indigenous ancestry decreases the probability of being diagnosed positive for pneumonia in COVID-19 patients with lethal progression. This result could respond to multiple factors, such as the conditions of social disadvantage faced by this population to obtain timely diagnoses when the patient is ambulatory (not hospitalized) for COVID-19 disease. Residence in isolated communities, spatially distant from health care centers, as well as other culturally rooted factors.

As for hospitalization, the results of the model report that the probability decreases when moving from one extreme to the other in the degree of social marginalization of the municipality of residence (in the change from 'very low' to 'very high' degree). Hospitalization could also be another factor of social segmentation on which to advance in subsequent analyses, since it constitutes an apparent privilege for certain strata. In addition, it was found that the open population, compared to those with health care security, is less likely to be hospitalized when they become ill with COVID-19 lethal progression. Similarly, indigenous ancestry population with COVID-19 lethal progression suffers a similar fate; a reduced probability of hospitalization.

The evidence of the analysis allows us to affirm that patients residing in municipalities with a very high degree of social marginalization, with respect to those with a very low degree, have a significantly lower probability of undergoing intubation; the same could be affirmed, both for those residing in

municipalities with a high degree with respect to those with a low degree of marginalization, and for those residing in municipalities with an intermediate level with respect to those with a very high degree of human development. Social marginalization and human development of the municipality of residence were found to be significant social determinants of the probability of intubation in COVID-19 patients with lethal progression; even more so, in terms of intensity, than the health determinants (comorbidities 3).

Both having indigenous ancestry and not having social health insurance coverage were shown to be important social determinants in reducing the probability of intubation in COVID-19 patients with lethal progression.

In contrast, being a COVID-19 patient with lethal progression and lacking social security or private health service increased the chances of admission to an ICU; a finding that should be validated in further analyses. Having a comorbidity compared to having none also increases the probability, but even more so does having three comorbidities together. However, having indigenous ancestry or residing in a municipality with a very high or high degree of marginalization decreases them.

Being a COVID-19 patient with lethal progression and residing in municipalities with very high social inequality increases the probability of being admitted to an ICU. Results such as these encourage hypotheses based on social polarization factors as a response to the greater probability of admission to an ICU; on the one hand, there are greater opportunities for admission to an ICU for patients from strata with a high concentration of economic income while, on the other hand, there is a large contingent of the population residing in these same municipalities with low and very low income concentration and without social security, which also showed a greater probability of access to an ICU.

The evidence derived from the analysis suggests revisiting and debating the model of universal access and quality of health services for all the population introduced by the current federal government administration with the so-called 'fourth transformation' that created the Instituto de Salud para el Bienestar (Insabi), in 2019. The decree that originated Insabi, involved the repeal of a series of provisions within the National Health Institutes Law and the General Health Law, which supported the previous program (Seguro Popular (SP)), free, universal, effective, equal, timely, non-discriminatory and quality access to care services at the first and second level of health was emphasized, including hospitalization, access to pharmacological medicine and surgical intervention (Secretaría de Salud, 2019).

However, the results of the analysis indicate that the population of patients who did not use private or social security services with respect to those who

did, were more likely to have a diagnosis of pneumonia (first level of care), but less likely to be hospitalized. The differential can be attributed to a public health system saturated in its capacity to reach the hospitalization levels (second level of care) required by the general population, even despite the efforts made by the government to expand its capacity (i.e. number of beds, ventilators, human resources and hospitalization spaces) (Cruz, 2020). Likewise, hospitalization represents high economic costs for the population, especially within the framework of a Catastrophic Expenses Fund that was extinguished after the disappearance of the SP and redirected to operating expenses and payroll under Insabi (Barba, 2021). The probability of undergoing intubation was also lower for the general population, which could be attributed to the higher quality, and therefore more expensive, private services.

In turn, patients residing in municipalities with a very high degree of social marginalization compared to those with a low and very low degree had a lower probability of hospitalization, intubation and admission to an ICU. This differential in access to second and third level of care life support is linked to the lower endowment of resources (equipment, technological, human, human, financial, etc.) and low accessibility that historically have been the main reasons for this differential, and low accessibility that has historically characterized public services with respect to private and social insurance services (Laurell, 2013), but also to two concomitant factors played in the political-administrative arenas, namely; the tensions between the Federal Government and state governments motivated by the law that centralized the transfer of human, material and financial resources from the subnational to the national level in order to consolidate Insabi. A number of states level governments refused to adhere to Insabi arguing the impacts on the efficiency and functioning of the decentralized subnational health system, which has accentuated the contrast in conditions and resources with which each state faces the pandemic (Gutiérrez and Giraldo, 2020). An old problem whose inertia was noticed with the pandemic, namely, the lack of consolidation of social health insurance for independent workers (self-employed) and unemployed, whose concentration is greater in municipalities with a higher degree of social marginalization.[10]

Finally, the experience of the pandemic and the results of our analysis highlight the need to introduce a social and human rights approach into the public policy agenda in order to gradually reduce the influence of ascriptive

10 Before Insabi, there was Seguro Popular insurance for these workers. With the creation of Insabi, a historic opportunity window opened. However, it is not yet in place a comprehensive system to integrate Insabi with the two main health systems in the country that insure formal sector and state employees; the Mexican Social Security Institute (IMSS) and the Institute of Social Security and Services for State Workers (ISSSTE) (Barba, 2021).

factors and social conditions on health protection schemes. In this sense, a central role will be played in the future (medium and long term) by strengthening governance mechanisms and giving more space to social management and citizen and inter-sectoral participation in decision-making, which is essential for developing risk prevention policies. The consolidation of community networks, the solidarity and reciprocity promoted by civil society organizations, the strengthening of social trust and collaboration agreements between the main actors involved in the generation and distribution of social welfare goods and services from a risk prevention (and protection) perspective, make up a social capital to be increased, capable of being activated to face health, economic and social crises in Mexico with advantages gained beforehand ('fishing upstream'). Developing this capital is possibly one of the most relevant lessons learned from the pandemic experience and its impacts. Having defined, based on empirical evidence in the analysis presented, profiles and characteristics of populations with greater vulnerability with respect to COVID-19 disease severity indicators with lethal progression is one of many necessary steps to advance in this direction. Further analysis is still needed.

REFERENCES

Barba, C. (2021). *El régimen de bienestar mexicano: inercias, transformaciones y desafíos* (Informe 191). Serie Estudios y Perspectivas Sede Subregional de la CEPAL In México. Retrieved from https://repositorio.cepal.org/bitstream/handle/11362/46960/1/S2100333_es.pdf

Callaway, E., Cyranoski, D., Mallapaty, S., Stoye, E. and Tollefson, J. (2020). The coronavirus pandemic in five powerful charts. *Nature*, 579, 482-483. Retrieved from https://doi.org/10.1038/d41586-020-00758-2

Consejo Nacional de Evaluación de la Política de Desarrollo Social (2007). Los mapas de Pobreza en México, anexo técnico metodológico. Coneval. Retrieved from https://www.coneval.org.mx/rw/resource/coneval/med_pobreza/1024.pdf

Consejo Nacional de Evaluación de la Política Social (Coneval) (2020, mayo 11). La crisis sanitaria generada por la COVID-19 y sus consecuencias económicas ponen en riesgo avances en desarrollo social y puede afectar en mayor medida a grupos vulnerables. Retrieved from https://www.coneval.org.mx/SalaPrensa/Comunicadosprensa/Documents/2020/Comunicado_06_POLITICA_SOCIAL_EN_CONTEXTO_Covid_19.pdf

Consejo Nacional de Población (Conapo) (2016). Índice de marginación por entidad federativa y municipio 2015. Ciudad de México. Retrieved from https://www.gob.mx/cms/uploads/attachment/file/459282/00_Preliminares.pdf

Cruz, Á. (2020, mayo 12). Están llenos los hospitales Covid en el Valle de México. Retrieved from https://www.jornada.com.mx/ultimas/politica/2020/05/12/estan-llenos-hospitales-covid-en-el-valle-de-mexico-8215.html

Chen, N., Zhou, M., Dong, X., Qu, J., Gong, F., et al. (2020). Epidemiological and Clinical Characteristics of 99 Cases of 2019 Novel Coronavirus Pneumonia in Wuhan, China: A Descriptive Study. *Lancet*, 395, 507-13. https://doi.org/10.1016/S0140-6736(20)30211-7

Escobar, M., Fernández, E. and Bernardi, F. (2009). *Análisis de datos con Stata*. Madrid: Cuadernos Metodológicos del CIS.

Ferreira, M. C. (2020). Spatial association between the incidence rate of Covid-19 and poverty in the São Paulo municipality, Brazil. *Geospatial Health 2020*, 15(2), 191-200. https://doi.org/10.4081/gh.2020.921

López-Roldán, P., and Fachelli, S. (2015). *Metodología de la investigación social cuantitativa*. Barcelona: Universidad Autónoma de Barcelona.

Gutiérrez, E., and Giraldo, M. (2020). Local governance processes: An analysis of the regional governance and social coordination observatory regarding Covid-19 in Yucatan, México. *Journal of Public Governance and Policy: Latin American Review*, 6(9), 133-51.

Mejía-Reyes, P., Hurtado Jaramillo, A., and Rendón Rojas, L. (2020). Efecto de factores socio-económicos y condiciones de salud en el contagio de COVID-19 en los estados de México. *Contaduría y Administración*, 65(5), 1-19. https://dx.doi.org/10.22201/fca.24488410e.2020.3127

Merino, L., Valverde, K., and Ziccardi, A. (2020). Las desigualdades sociales de la Ciudad de México ante la pandemia del COVID-19. *Ciencia, Revista de la Academia Mexicana de Ciencias*, 71(3), 38-43.

Orós, C. (2019). Relación entre origen social y el empleo de titulados de la Universidad de la República al momento del egreso para el año 2015. Principales resultados. *XVIII Jornadas de investigación*. Ponencia llevada a cabo en Facultad de Ciencias Sociales, Uruguay.

Ortiz-Hernández, L., Ayala-Guzmán, C., and Pérez-Salgado, D. (2018). Posición socioeconómica, discriminación y color de piel en México. *Perfiles Latinoamericanos*, *26*(51), 215-239. https://doi.org/10.18504/pl2651-009-2018

Ortiz-Hernández, L. and Pérez-Sastré, M. A. (2020). Inequidades sociales en la progresión de la COVID-19 en población mexicana. *Revista Panamericana de Salud Pública*, *44,* 1-8. https://doi.org/10.26633/RPSP.2020.106

Pribble, J. (2011). Worlds Apart: Social Policy Regimes in Latin America. *Studies in Comparative International Development*, 46, 191-216. https://doi.org/10.1007/s12116-010-9076-6

Programa de las Naciones Unidas para el Desarrollo (PNUD) (2014). Índice de Desarrollo Humano Municipal en México: Nueva Metodología. Retrieved from PNUD: www.undp.org.mx/desarrollo humano

Rodríguez-Izquierdo, E., Pérez-Jiménez, S., Merino-Pérez, L., and Mazari-Hiriart, M. (2020). *Spatial analysis of COVID-19 and inequalities in Mexico City* (Insights of the CDP members on the COVID-19 crisis report). Retrieved from Department of Economic and Social Affairs Economic Analysis, United Nations: https://www.un.org/development/desa/dpad/2020/in-sights-by-cdp-members-on-the-covid-19-crisis/

Secretaría de Salud del Gobierno Federal (2019). Decreto por el que se reforman, adicionan y derogan diversas disposiciones de la Ley General de Salud y la Ley de los Institutos Nacionales de Salud. Retrieved from https://www.gob.mx/cms/uploads/attachment/file/521359/2019_11_29_MAT_salud.pdf.

Secretaría de Salud del Gobierno Federal de México (2021). Bases Históricas de la Dirección General de Epidemiología. Mexico. Retrieved from https://www.gob.mx/salud/documentos/datos-abiertos-bases-historicas-direccion-general-de-epidemiologia

Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery*, 76, 71-76. https://doi.org/10.1016/j.ijsu.2020.02.034

INTERVIEW
THE ROLE OF PUBLIC ADMINISTRATION DURING AND AFTER COVID-19

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In the context of the political, economic and social impacts that COVID-19 has generated in Latin America, the following considerations are presented:

1. **How disruptive do you consider COVID-19 has been in the field of Public Administration?**

   The COVID-19 pandemic, which continues to plague the world after a year, has led to significant alterations in the field of Public Administration. These alterations, we can particularly highlight closing the provision of all face to face public services. Administrations around the world have been forced to devise new ways of offering public services and to carry out a number of their activities or services in a virtual environment. It is possible to assert that institutions have done their activities essentially in a different way and, consequently, through methods, procedures and means that, until now, were unfamiliar. This disruption, or abrupt interruption, has meant that administrations have done their work especially in a different manner and have sometimes been successful in providing citizens with public services.

   The pandemic outbreak took everyone by surprise and consequently become an important motive for public administrations to look for new ways to comply with their obligations towards citizens.

   One of the characteristics that can be learnt of public administrations is precisely their acknowledgement of the situation, since all responsible parties have provided attention to citizens' needs in spite of the obstacles, sometimes insurmountable, that the pandemic has represented.

* This interview was held by Dr. Christian Miguel Sánchez Jáuregui, during the 10th Anniversary of the Instituto de Investigación en Políticas Públicas y Gobierno [Institute of Research in Public Policies and Government] of the Centro Universitario de Ciencias Económico Administrativas, Universidad de Guadalajara, Mexico, march, 2021.

2. Do you consider that COVID-19 accelerated transformation trends already showing in the Public Administration?

Undoubtedly, the transformations that the pandemic brought, in some cases, have accelerated the digitalization of administrative procedures, the dominance of computer applications (that so far had only been used by experts) and, particularly, the general perception of responsible parties and cadres of public administrators that the seriousness of the situation had to be dealt by performing administrative activities in a new way.

In this sense, we must also underscore the increase in the purchase of technology, in unseen proportions, the growth of online communications and the development of innovative ideas and projects that are already being executed and that certainly will continue to be developed in the future.

3. If your answer to the previous question is yes, could you tell us which ones?

Among these innovative projects, I would highlight the efforts to accelerate online procedures, which we know have already taken place in all 23 member countries of the Latin American Center for Development Administration, the extension of telework, the multiplication of administrative activities subject to evaluation...

I also find it interesting to point out that those responsible for the Ministries and Organizations, whether at state, regional or local level, have become aware that all their officials (no matter their level) provide services demanded by citizens and, consequently, should be subject of greater attention in order to correspond to that demand, which so far has been provided by virtual means with some difficulties.

4. Currently, what routines within the Public Administration have been changed by COVID-19?

It is still too early to reach any conclusions, but I would point out that the main one has been taking into account the importance of activity itself, which has not been abandoned, but replaced by the existing technological means as far as possible.

It is particularly interesting to reflect on the fact that all Public Administrations think of new services not in an in-person manner but mainly in virtual environments. Not only will they try to continue providing services (some-

times following the same delaying and often chaotic routine), but these services will be redesigned precisely so that citizens can access them through technological means.

Those routines that have not changed, because there hasn't been a way to do so yet, are in the process of being transformed. As always, turning our eyes towards private companies teaches us that service providing (banking and all kinds of services) has become something that citizens can carry out from their own homes and, partly, this has already happened with some procedures and services in many countries. This way of providing services will soon be the dominant one and, thanks to technology, it will achieve a greater citizen satisfaction.

However, technological investments will not be enough to achieve this. It will be necessary to train public employees, and to also convince the responsible political parties. Finally, it will be necessary to fight the digital gap, which is more pronounced among the elderly and those who live far from the big cities.

The innovations that this pandemic has accelerated are an advantage for structural changes that benefit public administrations and also reduce the distance between citizens and leaders, improving their trust.

5. What will be the new normal in Public Administration after COVID 19?

Prophecies are rarely fulfilled, but we can anticipate that the new normal will be more technological and more asynchronous. Public administrations will be able to provide services to citizens regardless of schedules and even deadlines. In my book *El burócrata disruptivo* (CLAD, 2021), I state that we must think and act differently in order to face difficulties such as the pandemic. Public administration cannot be oblivious to these changes, but has to lead in the face of them instead.

Probably, we will see less citizens and public employees inside of administrative buildings, while the digitalization of procedures, robotization, artificial intelligence and algorithms will be the daily menu. All of these changes will undoubtedly bring employment problems in some organizations, but there will be a qualitative leap that will allow the creation of new jobs and activities hitherto unknown, as has happened in all industrial revolutions. Undoubtedly, progress can bring problems in the short term, but I am sure that, ultimately, public administrations will become more efficient and effective, more honest and will provide better services.

BOOK REVIEW GOVERNANCE PRACTICES AND METROPOLITAN PROCESSES OF EMPLOYABILITY

Sánchez, Christian M. (2021). *Gobernanza y gestión de políticas locales para la empleabilidad en el Área Metropolitana de Guadalajara.* Guadalajara, Universidad de Guadalajara

Bairon Otálvaro Marín*

The author of the book raises the question of: What are the characteristics of a governance process that enable to generate a public policy that promotes and improves the employability of citizens in the metropolitan area of Guadalajara?

His research recognizes the new forms of organization of neoliberal work, headed by international financial power institutions such as the World Bank (WB), the International Monetary Fund (IMF), the Inter-American Development Bank (IDB), and the Organization for Economic Cooperation and Development (OECD) have been promoted by transferring strategies of public policies to local (metropolitan) level institutions in Mexico.

The context of employability in Latin America is underscored by a structural phenomenon of exclusion, inequality and violence. These problems –particularly in Mexico– paralyze productivity and employment actions in large cities, where working conditions are increasingly precarious and pliant to the workers detriment. Within the Mexican context labor flexibility constitutes a strategy for competitiveness and economic growth of broad corporate groups and political organizations, which use it to push aside obsolete pro-

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ductive apparatuses and favor development and restructuring. However, they do so without the workers social and economic inclusion.

Changes relating to the countries and regions' occupational structure are accompanied by labor flexibility policies that affect the assurance of rights and the countries inner social contract. A series of institutional deregulation processes have deteriorated labor relations, in terms of working conditions, lower wages and minimal welfare for the communities. Sánchez (2021), observes two processes of work flexibility. One internal, related to schedules, destinations and functions of workers in the company; and another external, which aims to reduce costs through hiring, layoff and outsourcing mechanisms, regarding activities by the business community.

The book systematizes a series of labor flexibility policies in Europe, particularly in Denmark and the Netherlands. These examples show the existence of good practices within flexible markets that have positive results in terms of the worker's employment and *flexicurity*. These experiences are built in solid welfare regimes, with a high presence of the State in terms of employment and productivity of social policies. Denmark is characterized by workers and employers´ flexible labor legislation, thus, greater employability through a structure of incentives that the State provides. The Netherlands, for its part, has low levels of corruption in the public sector and a labor model based on the moderation of salary expenses, and a partial job schemes that foster a dynamic *flexicurity* with social advantages for the worker, with the accompaniment of policies and strong social programs.

Sánchez (2021) analyzes the Latin American experience, referring to the most prominent capitalisms of Brazil, Argentina and Mexico; globalized economies with expansion processes focused on international trade. The analyzed cases display that social employment protection policies are guided by economic measures characterized by the containment, regulation and management of passive policies for the economy´s formal sector. The limited State capacities to respond to informal employment are highlighted, a phenomenon that generates precarious income, without social security, however they contribute to the economic growth of the main cities of the region.

Specially in Mexico, the metropolitan area of Guadalajara plays an important role in regional and local economic development processes. Guadalajara's economy has been modified through modernization and specialization processes that seek to connect with international and local markets. The processes of economic growth throughout the first decades of the XXI century in Guadalajara focus on the services sector (financial, real estate, insurance, science, corporate, tourism and social assistance processes).

According to Sánchez (2021), the economically active population in Guadalajara and its metropolitan area in the fourth quarter of 2019 is 53.7%, and an unemployment rate of 4.0%, slightly higher than the national average (3.3%). The region's problems in terms of employability are related to the increase in informality, the precariousness of employment and low income of the population in the informal economy. These problems are associated with low education, an absence of sub-regional policies regarding employment protection and assistance to small and medium-sized enterprises.

Regarding the metropolitan area of Guadalajara's employment policies, most are aimed at avoiding unemployment, improving job offers and the market's functioning, by increasing job opportunities for workers and employers. The author analyzes and describes the different policies, programs and projects of local level government's (Aclatan de Juárez, El Salto, Guadalajara, Ixtlahuacán de los Membrillos, Juanacatlán, San Pedro Tlaquepaque, Tlajomulco de Zúgiña, Tonalá, Zapopan, and Zapotlanejo). He presents how in each context, either passive (correcting market failures) or active (universal strategies for employment and rights) policies are implemented in terms of employability and fostering economic development.

The metropolitan processes of employability in Guadalajara go in hand with a global economic trend of urban conglomerates that display a diversity of settlements with patent inequities and exclusions, citizens that face new production and commercialization systems regarding goods and services that drive the economic activities in the local environment. Local governments face these challenges, and must find convergence and coordination formulas with public and private stakeholders to favor the protection of employment and the expansion of the economies. Public employability policies must act under the principles of governance and seek employment's cooperation and democratization formulas under new institutional arrangements.

The metropolitan governance models collide with the republican institutions of the XIX and XX centuries that currently Mexico has. Democratic institutions have serious shortcomings to generate governance processes that contribute to solve the employability problems of large urban centers such as Guadalajara. Although the author highlights the creation of institutions and metropolitan coordination laws in Guadalajara aimed to define this metropolitan area or region, and the adoption of agreements and institutions, these are insufficient to address and solve the problems that society needs.

The governance process built to generate employability policies is epidermal, and has not been able –so far– to generate a strategic and participatory planning process at a metropolitan scale. The vision of the system is more institutional than social, which prevents the building of a collective leadership

among social, government and private actors that could generate greater economic development and the strengthening of employability in the local arena. Stakeholders require to be co-producers, co-creators and co-managers in the formulation and implementation of employment policies in the metropolitan area so that the promised governance processes are strengthened.

The conclusions of the study contribute to see how the flexible reforms of Denmark and the Netherlands that in practice seem attractive to the besieged labor markets of the XXI century by competitiveness and the loss of worker rights. This landscape in Latin America is characterized by the construction of dual employment protection systems that massify informality, underemployment and make workers' income precarious.

Employment flexibility measures in countries like Mexico are characterized by being external and passive. This makes it difficult to generate sufficient and necessary instruments to dignify employment and strengthen productive development. In the metropolitan area of Guadalajara, the results show a slight advance in coordination and governance practices between actors, although local measures are weak in terms of economic resources, and the insertion of the global order economies.

Job insecurity and having social employment policies as a commodity in the Metropolitan area of Guadalajara face three main challenges: i) labor informality within broad sections of the population, ii) the absence of convergence mechanisms between actors that allow to strengthen state and social capacities, and iii) the formation and training of the city's population that requires higher levels of well-being, both material and subjective.

BOOK REVIEW KEY ELEMENTS FOR PUBLIC MANAGEMENT, POLICES AND LEARNING IN PANDEMIC

Mariñez, F. y Calzada, T. (2021) (coords). *Gestión pública y políticas públicas en tiempos de emergencia. Lecciones aprendidas de la pandemia COVID-19.* Ciudad de México, Tirant lo Blanch

Christian Miguel Sánchez Jáuregui*
Ernesto Derek Landeros Valdez**

This book addresses in its 15 chapters the existing gap between public policy designers who lack the discussion, creativity, charm and seduction to pierce together external and internal entities, and the operators who strive to put theory into practice. The COVID-19 pandemic provides the analytical lens, with a geopolitical perspective and an holistic overview; this offers us to reconsider and rethink the governability-governance binomial.

Synergy between design and implementation is required to find and generate the contact points between the cores that contain the ideas of governance and the operators who execute them. This is essential for leveling ideologists and pragmatists so that the latter do not get lost in the former's theoretical elucubrations.

Even though New Public Management (NPM) provides the background necessary to focus on user satisfaction through efficiency and the achievement

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of results, but it is also useful to adhere to a proactive approach on the projection capacity regarding the organizational entelechy to consolidate institutional legitimacy in the eyes of society. This scenario places us on the creation of effective and transparent social communication models, flexible and constantly updated, and thus an issue at the dialogue tables regarding the generation of public policies. Institutional decentralization at the local level plays a key role in achieving objectives designed to accomplish the necessary social coverage, and the geopolitical vision returns to decision making at the highest level.

When talking about open governments and the inclusion of more stakeholders it is important to define the limits of this conceptualization, since a poorly defined concept brings inefficient actions. Inclusion can foster a perspective of consolidation in democratic processes and modernization in the execution of public policy; however, the need for certain discretion (especially regarding sensitive information) for the management and control of crises must be present in the discussion. Discretion refers to the correct communication of highly sensitive information to all social stakeholders. It seems to be a never ending dilemma to conceive public policy and government management as technical tools and actions aimed to deliver results, especially when public servants do not meet the basic requirement of honesty and spirit of service. This gap reflects in the opaque management of health services in Latin America, the region that is the focus of this work's analysis. With this consideration, and the need to accept that the current institutional models, along with the lack of ethics-conduct within public officials, deepens the limited ability to respond and, above all, to protect populations.

In the context of government management, troubled by the globalization wave, some techniques used in the private sector permeated since the eighties public institutions (neoliberal turn) to such an extent that many of them fell into an internal loop of suppression of information even within public officials, denying them a sense of identity and institutional belonging, putting in doubt the duty of an official, which is to provide solutions to the population. Given the stance of the post-NGP –the need to return to centralized organization– in order to increase control over public officials, and the execution of programs and public policies, including the dynamism and relationship with diverse social stakeholders, it is important to ask ourselves if this is a viable proposal in the face of the pandemic and its global reach (total geographical coverage), that does not distinguish status, life styles and, obviously, no border limits. Or must we return to an Orthodox Public Administration, linear, bureaucratic, that even though it takes into account diverse stakeholders, the centralized voice of

command ends up dictating what best suits (effectiveness, order and economic power) and not the interests and social needs of the population.

The book addresses the issue of Open Government. Which is gaining strength due to: the democratic quality of each nation-state, governmental flexibility to cooperate with other social actors, citizen participation derived from connectivity and digital-age, and relating through networks. This has grown stronger with the measures that several countries have taken trying to mitigate and damper COVID-19's, like social distancing, confining, monitoring (not only in the health area) for the prevention and identification of infected people, but also monitoring the population's profiles in social networks, a constant search for information to help reduce the sense of uncertainty that can be felt in the lack of capacity to respond by the government´s institutions. It is worth asking: Is citizen participation in government issues through social networks equivalent to their participation and interest in everyday life? Is there an equivalence between electronic interaction and real interaction? This may be an important point to ponder to measure the viability of open government (openness) in the medium and long term future.

The objective of public policy must not only be based on the containment of harm; its main importance must be its ability to prevent. The book *Gestión pública y políticas públicas en tiempos de emergencia. Lecciones aprendidas de la pandemia COVID-19* visualizes the expertise of some governments (Mexico, Brazil and Venezuela) to contain the fissure of each entelechy in their very particular way to face the current situation, and omits to a great extent, the capacity of foresight and pre-prospective of possible catastrophic scenarios such as Sars Cov 2. The work takes into account the multifactorial and sui generis perspective of each State-Nation.

For Brazil we address the existing problems between the quasi-perpetual Federalism through a militarized system and its evolution and transition to current scenarios of greater social participation until the country's democratic life is restored. Regarding Venezuela, where in the last six years its crisis in all areas from the economic to the social has increased, has paradoxically shown a much lower rate of lethality and contagion than was predicted, often fatalistically by various media. We do not make an absolutist apology of this government or shift responsibilities for factors that do not fall within the scope of the analysis of this work, but rather that against all odds, Venezuela has fared better than other governments, even with greater decline in various areas. For the analysis of Mexico, we are faced with a critical observation regarding the aforementioned centralization of the current government headed by President Andrés Manuel López Obrador and the power of communication

and operability granted to the Undersecretary of Health, Hugo López-Gatell, as well as the notorious institutional insufficiency to provide effective responses to the problems generated by the COVID-19 pandemic.

In the case of the three countries mentioned, the perspective of greater responsibility undoubtedly falls on the federal government and its presidents. The issue here, as the book addresses in chapters seven, eight, ten, eleven, twelve, thirteen and fourteen, specifically in the case of Mexico, although I presume as an example in another country, is whether the problem has not been addressed from the wrong pyramidal level. What we mean by this is, that if the major responsibility with full knowledge of the lack of intergovernmental coordination should not fall on the local government? Starting from the micro to the macro and not vice-versa. The implementation, design and proposal of the public policy from the municipalities, reviewed by the state level and if needed and feasible, for replication at the Federal level with their respective particularities (analysis of local conditions). This is most certainly a topic for debate. Study centers, academics, researchers, designers and executors of public policies that promote open government and transparency as resilient ways to rethink the post-pandemic Public Administration, should focus their proposals to solve problems at the local level, before wanting to ascend to the national level.

With the use of technologies, artificial intelligence models, foresight exercises, open digital documents, databases and inter-institutional cooperation at certain levels, could be more feasible and result in greater benefit to society if efforts are deployed at the local level. The lobbying of those who design public policy with the Political Coordination Boards of each of the states, who are the ones who decide and manage the programs, are essential to generate tangible coverage responses and not wait for a federal (presidential) ruling. Regardless of the status of a democratic country, the responsibility cannot fall on a single government level when fostering about openness and the participation of diverse social and private stakeholders, considering the future and horizon for which we will have to constantly fight.

When focusing in Mexico we can highlight the cases of the state governments of Nuevo Leon, Sonora, Yucatan, Jalisco and Sinaloa with their respective methods, strategies and programs to face the pandemic and its crisis. We find the constant complaint regarding the lack of inter-institutional coordination within the three government levels in the public health administration. These complaints do not respond to the constant disengagement of state governments with municipalities, which, do not commit themselves to make transparency a priority in their governments. Comparing the budgets between the different

states analyzed in this work, it is clear that the governors, rather than proposing and engaging in constructive dialogue, focus on demanding a larger budget from the federation and, additionally demand for freedom and autonomy to spend the money on their programs and strategies that do not admit any type of audit or supervision under the discourse of autonomy.

This is why it is necessary to rethink where the true public management is born, at what government level. We must leave aside the individualistic aspirational ideas and desires of public officials, who often confuse what they believe should be with what the circumstances and scenarios reveal as reality. One reality is that as long as there are no more severe filters for public officials, public policies gradually fade into the background and only the interests of a few prevail. This will only continue to be platforms for the opulence and bureaucratic corruption that still permeates institutions at all levels.

The proactivity demonstrated by social external actors to the government that will force to make a 180 degrees turn to change the perspective. Doing 360 degrees just makes us end where we started, 'changing everything' to keep it the same, empty speeches, mismanaged programs, misunderstood, creation and suppression of new institutions that beyond seeking social progress and the resolution of known problems, continue to be incubators of bureaucratic parasitism.

From every crisis an opportunity is born. This work examines the opportunity to rethink the paths, form and substance of government institutions, their relationship with various social actors. From a technical perspective, it encourages –the academic– to use the most powerful weapons that exist, which are the proactive ideas that emanate from a genuine interest in providing real and tangible answers and solutions to the communities and populations deprived by the ineffectiveness and inefficiency of forms of governance or the ones that pretend to be.