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The Commodification of Health Services: an Alternative for the Marginalized Population of Mexico City

A mercantilização dos serviços de saúde: uma alternativa para a população marginalizada da Cidade do México

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Abstract *The Doctor's Office Adjacent to Pharmacies (DAP) model has grown exponentially in Mexico. Its proliferation is due to two factors. The first is the high cost of medical consultations in private hospitals, and the second is that public health services are insufficient. To gauge the importance this model has acquired, it is necessary to analyze the pattern of distribution and operation of this type of doctors' offices and determine whether they are responding to the unmet demand of a population that is socio-territorially marginalized from health infrastructure. A database was created with updated, geo-referenced information on the precise location of DAP throughout Mexico City and its metropolitan area. Information was obtained on the location, condition and type of franchise, and the infrastructure of each establishment. The analysis found that the distribution pattern of DAP satisfies an unmet need in areas with the highest demand for health services. This situation occurs particularly in areas inhabited by the most marginalized population.*

Key words *Private health services, Access, Poor population*

Resumo *No México, o modelo Consultório Médico Adjacente às Farmácias (DPA) cresceu exponencialmente. Sua proliferação se deve a dois fatores. A primeira é o alto custo das consultas médicas em hospitais privados e a segunda é que os serviços públicos de saúde são insuficientes. Para determinar a importância que este modelo adquiriu, é necessário analisar o padrão de distribuição e funcionamento deste tipo de consultórios e verificar se estão a responder à procura não satisfeita de uma população socioterritorialmente marginalizada da infraestrutura de saúde. Metodologicamente, foi criado um banco de dados com informações atualizadas e georregerenciadas sobre a localização precisa dos DAP em toda a Cidade do México e sua região metropolitana. Foram obtidas informações sobre a localização, condição e tipo de franquia, e a infraestrutura de cada estabelecimento. A análise constatou que o padrão de distribuição de DAP atende a uma necessidade não atendida em áreas com maior demanda por serviços de saúde. Esta situação ocorre particularmente coincide onde se encontra a população mais marginalizada.*

Palavras-chave *Serviços privados de saúde, Acesso, População pobre*

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Introduction

Mexican cities have new consumer health service schemes that have emerged through the combination of commercial activity and public service. This combination constitutes a new private health scheme designed for low-income groups, known as Doctors' Offices Adjacent to Pharmacies (DAP). In this scheme, a pharmacy is set up in the same economic unit or establishment registered as a business, where medicines and other supermarket products are sold, but there is also a Doctor's Office, which depends on the pharmacy. In some cases, in addition to the pharmacy and the doctor's office, other health-related services are also located in the same establishment, such as a clinical analysis laboratory. On the one hand, this health model affects the spatial organization of health services, through the formation of clusters or concentrations in central areas of the city where the population with the highest purchasing power is located. On the other, it follows a more disperse pattern on the periphery of cities where highly marginalized groups are found, where DAP are also attempting to cover this population, which lacks access or affiliation to public health services.

This scheme is obviously creating fierce competition in commercial activity, which has affected small Mexican pharmaceutical companies or forced the closure of pharmacies without a doctor's office[1]. In 2010, the outbreak of the H1N1 influenza pandemic led the World Health Organization to urge countries to improve antibiotic use and control bacterial resistance. In this context, Mexico displayed a resistance rate of 55%, since the population sought to solve its symptoms by purchasing antibiotics without a prescription, with the sale of antibiotics eventually accounting for 45% of the income of pharmacies. To control this situation, the government implemented a strategy of only administering antibiotics with a medical prescription issued by a health professional, which drove drug sales down. It was precisely at that moment that there was a rapid increase in DAP, which marketed similar antibiotics at low costs, and had the added attraction of charging just two dollars for a medical consultation. This led to the closure of three to five thousand establishments due to the unfair competition caused by this type of DAP[2], as well as the demise of private health clinics (not adjacent to pharmacies). Various problems jeopardize the health of users. The health services provided by these establishments are unregulated since there is no specific law governing commercial health services. They are characterized by the doctors drawing up a partial record of patients' medical history and over-prescription of drugs in medical prescriptions[3-5].

Moreover, the lack of information in Mexico on the distribution pattern where DAP are located and what they are like has prevented the design of health strategies to improve the service, and would significantly prevent the commodification of health or the commercialization of a good such as health. According to the World Health Organization and the Organization for Economic Cooperation and Development, health policies should benefit the most vulnerable population. Specific strategies include promoting political will and additional resources for health, enhancing the efficiency of health spending, and streamlining financial systems[6]. In the case of Mexico, Article 4 of the Constitution states that the public health strategy involves "implementing actions that ensure the right to health protection by those in charge of the government", in other words, formulating a series of actions such as improving the public health service to prevent the proliferation of DAP and regulating their operation in terms of infrastructure, quality of care and the control of prescribed medication[7].

This, in turn, has been facilitated by the presence of large entrepreneurs in the generic drug market. These drugs have the same composition and pharmaceutical formula as the original patent medicine and are marketed with the name of the active ingredient. It is therefore necessary to ask what explains the emergence of this new health service scheme, and what the implications of its proliferation are.

The hypothesis is that DAP are satisfying an unmet need that public health services have been unable to cover. Above all, they are an alternative for the poor due to the availability of medicines, flexible opening hours, and low-cost consultations, since they are designed for the low-income population; and short waiting times to obtain a medical consultation, all of which is facilitated by their presence in nearly all urban locations.

The purpose of this study is to analyze the causes and consequences associated with the emergence of this new health service scheme, and the way it has become an alternative means of accessing health services, particularly for the poor population that seeks these services and also benefits from them, while also serving other social classes. It examines the absences and weaknesses of public health policies, which has

allowed the presence of this health scheme. To exemplify the impact of the latter, a detailed analysis is conducted of the distribution and operating pattern of DAP, distinguishing between those that have franchises and those that do not (a franchise is a commercial association between the owners of a brand); the type and diversity of medical services, together with an evaluation of whether they satisfy the unmet demand of a socio-territorially marginalized population.

The Neoliberal Phase and Changes in Access to Health Services

In the wake of the transition from the welfare to the neoliberal state in Latin America between 1986 and 2019, access to health services underwent significant modifications due to the changes in social policies. The main changes can be summarized as follows.

First, the Mexican health scheme tended to be concentrated in the central areas of the main cities, which encouraged duplication between public health institutions due to the overburdening of health services in these urban areas. This segmentation also led to the distribution of public resources among various health institutions, because of which the budget was unevenly divided[8,9], which was exacerbated by the growing concentration of the poor population in suburban and peripheral areas of cities with low rates of affiliation to social security institutions.

Second, during the 36 years of the neoliberal phase in Mexico, the health sector was one of the social sectors to which the lowest percentage of public spending was allocated, which gradually led to the deterioration of these services until recently. For example, at the beginning of the neoliberal phase (1986), universal health coverage failed to be achieved due to the economic stagnation caused by the oil crisis and pressure from international organizations such as the World Bank and the International Monetary Fund to adopt structural adjustment policies, because of which the state stopped spending on social services such as health and education[10].

Third, until after the 1990s, demographic change and epidemiological change in Mexico exceeded financial resources, which were insufficient to expand hospital infrastructure, operating at maximum capacity, and unable to expand and or meet the needs of other sectors in the health scheme, such as the development of specialized health schemes to care for groups such as women, children and the elderly[10].

Fourth, the neoliberal state decreased its distributive capacity, providing more scope for private investment and restricting state management. Between 1980 and 1990, health coverage in Mexico rose from 43% to 52%. Yet despite this increase, less than half the population had access to health services. The final trend was the reduction of health service coverage to a third; by 2004, it had decreased to 37%[9]. Unlike the welfare state, which was entirely responsible for public spending on health, in the neoliberal state, government health expenditure is divided between the population with medical insurance and the population without social security, with contributions being split between the federal government and state governments. This difference in contributions is reflected in the unequal distribution throughout the territory in terms of infrastructure provision. Some areas of the country are better equipped than others, which lack even basic infrastructure such as primary care clinics[6].

Fifth, segmentation and diversification were the hallmark of health services in Mexico and certain Latin American countries, which used to have a single sector under state management, which, following the reforms, was divided into several segments. The first continued to be the public sector; the second involved the segmentation of various institutions in the health scheme; the third included the private sector; while the fourth was the so-called mixed sector, comprising the public and private sectors[9], yet with a tendency towards institutional precariousness. This translated into a lack of resources for the consolidation of a health scheme network with sufficient technology, physicians, and medicine[11].

The sixth factor is that in Mexico as in several other countries, the private sector has not played a leading role within government strategies in health, private insurance, or medical insurance policy. It has gradually expanded by offering voluntary insurance for complementary or supplementary products, while its potential market has been limited to the wealthiest strata of the population given the low purchasing power of most of the population[12].

Seventh, in 2016, public health expenditure in Mexico accounted for three percent of GDP. In 2019, only $133 per capita was invested and by 2021, spending had significantly declined to one percent[13-15].

Moreover, every year, the price of health insurance rises by between 11 and 13 percent due to the incorporation of new technologies, the ageing of patients, and the rise in the number of

cancer cases in men, women, and children. In addition, prices have been adjusted due to the measures implemented to deal with the COVID 19 pandemic, such as disinfection, COVID 19 tests and medicines[16]. However, in some countries, these transformations have led to the emergence of new segments of private health services, such as DAP, promoted and sponsored by the private sector, and primarily targeting the middle and lower classes. The penetration of other strata of the population by the private health sector thereby significantly increased.

Eighth, was the exclusion of many social groups from the Mexican health sector. The Mexican health system is divided into seven government entities: the Mexican Institute of Social Security (IMSS in Spanish), the Institute of Social Security and Health for State Workers (ISSSTE in Spanish) and the Ministry of Health (SSA in Spanish), which are the most important ones, followed by The Mexican Oil Company (PEMEX in Spanish), the Ministry of the National Navy (SMN in Spanish), the Ministry of Defense (SDN in Spanish) and the private sector.

Likewise, the Mexican health system has four types of users: those who work in federal and state government agencies, with access to ISSSTE, SDN, PEMEX and SMN; those employed by the private sector and certain government agencies who can access the IMSS; those who can afford private health insurance and those who are not affiliated and have no formal or informal employment, who can access SSA services[17]. As can be seen from the above, segmentation became a key factor in the exclusion of many sectors of informal workers who were excluded from state funding schemes for state employees. These poor as vulnerable sectors, lacking affiliation to social security institutions, were subsidized by the Ministry of Health yet with minimum levels of care quality[18,19]. In Mexico, there are seven health schemes with seven different models of insurance or affiliation to the health system. Eligibility for these services is determined by formal employment status; a person with a job usually has some form of health insurance[20]. Segmentation became the main obstacle to achieving universal coverage. For example, there are institutions that only serve the state worker bloc, while the health ministry serves another sector of the poor and vulnerable population and yet another segment is served by the private sector. Despite this, a significant bloc of the poor population was excluded from medical care[20].

These eight points shower the changes and some gaps that occurred during the transition from neoliberalism and that were taken advantage of by pharmaceutical entrepreneurs prompted the emergence of DAP, beginning with the health budget cuts, which was leveraged by the private sector through the greater presence of hospitals while encouraging the emergence of new health schemes, reinforced by the proliferation of DAP. The foregoing was consolidated in the administration of former President Felipe Calderón (2006-2012) saw the greatest attempts to privatize health services through the reduction of drug sales in pharmacies, which spurred the proliferation of DAP, which increased by more than 230% between 2010 and 2012. This phenomenon occurred during the transition between the lack of control of medicine prices and the measures to control the provision of antibiotics through medical prescriptions[1,2].

The Status and Distribution of Health Services in Mexico City and its Metropolitan Area

The distribution and density of public and private health services in Mexico City (MC) have created gross territorial inequality associated with historical, social, and territorial aspects. The historical aspects are related to the fact that Mexico City has concentrated most of the leading health services nationwide. From the 1950s onwards, several of the most important medical specialty hospitals in the country were built, that offering various levels of primary health care, which to this day continue to be of great importance in specialty health care.

In territorial terms, this process of massive construction of health units in MC created unequal distribution, which resulted in the over-provision of health infrastructure in the central part of its entire metropolitan area, leaving gaps on the periphery of the city where services are dispersed and there is a dearth of hospital services. The distribution pattern of the medical infrastructure reveals the territorial groupings of the various health services, at both the level of care and the various institutions that administer it. It detects areas with a multiplicity or excess of health infrastructure and shows that the concentration-dispersion variations existing between different territorial units determine the territorial inequality of health infrastructure between the center and the periphery (Figure 1).

In local terms, it is important to note the existence of health services dependent on Ministry of Health of the Mexico City, which arose as a re-

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sponse to the peripheral territorial gaps lacking this service, where the majority of the marginalized population is concentrated.

At the same time, it detects major limitations in health care access, because not all residents of the capital have free access; the pattern of segmentation and distribution of health services in Mexico City (MC) and its Metropolitan Area is as follows: IMSS (58%), the ISSSTE (16.8%) the SSA (18%) which are the most important ones, followed by PEMEX, SMN and SDN (1.56%) and the private sector (6.64%)[21].

In addition, due to the pressure exerted on the infrastructure of medical units, coverage is inefficient since they not only serve the affiliated population of Mexico City but also the population of its metropolitan area and other states in the country. In addition, there is a shortage in certain peripheral areas with a growing demand for services, together with suburban areas with a large population where access has not improved, which is why they have an under-supply of health services.

On the one hand, the unequal socio-territorial distribution means that health services are constantly saturated, and their capacity exceeded because they are *overused*. On the other, many primary care health services have insufficient capacity due to the lack of personnel and medical equipment, meaning that they are *underused*.

Doctor's Offices Adjacent to Pharmacies and their Penetration Rate of Primary Health Care

In the mid-1990s, Mexico encouraged the influx of interchangeable generic drugs or similar drugs as a strategy for averting the drug crisis in the public sector. In 2010, the pharmacies were the only establishments that could control the supply of drugs such as antibiotics and antivirals on presentation of a prescription. However, in practice, drugs were sold both with and without a prescription. This situation alarmed the Ministry of Health, which attempted to avoid self-medication and stamp out the informal sale of antibiotics. A scheme for providing a medical diagnosis and guidance for the purchase of suitable antibiotics was proposed. This led to a new private health service scheme, which consisted of setting up a pharmacy with an adjacent doctor's office. Pharmacies were therefore responsible for supplying the antibiotics prescribed by the doctor established in the adjacent doctor's office, which encouraged the sale of drugs in the pharmacies. This triggered the introduction of generic anti-

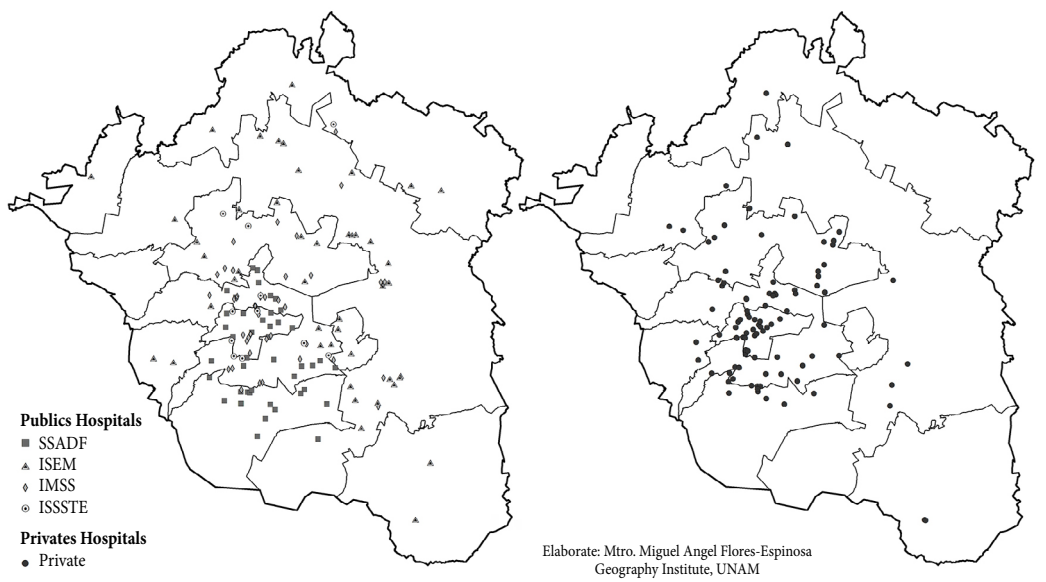

Figure 1. Metropolitan Zone of Mexico City. Territorial distribution of public and private health sector infrastructure.

Source: Authors based on data from the Ministry of Health, 2016.

biotics, which were cheaper than patent drugs, which were only incorporated, as part of a money-making deal, by DAP. This condition greatly benefited the emergence and growth of DAP.

DAP originated fifteen years ago in Mexico. According to data from the Federal Commission for Protection from Health Risks (COFEPRIS in Spanish)[22], they began to expand in 2002. That year, there were 1,000 DAP, by 2010 there were 4,300, increasing to 15,000 by 2014. By 2017, the number of DAP had risen to 16,000, with 18,000 estimated for 2021, accounting for 45% of the over 40,000 pharmacies with and without a doctor's office existing in Mexico. It has been calculated that there is a DAP every 500 meters in the country[23-25]. These establishments currently occupy second place with 325,000 daily medical consultations, after the IMSS, with 490,000, and are mainly concentrated in cities. According to the National Association of Pharmacies in Mexico (ANAFARMEX in Spanish), during the pandemic and before the saturation of public and private hospitals, DAP remained open and became the first point of contact for COVID-19 patients. Despite being front-line workers, DAP doctors were not vaccinated, and many became infected or died[24]. This reflects the scant attention paid to these establishments, of which there is no census record or inventory documenting their socio-territorial influence on health, the population or their penetration of the country, quality of care or regularization in the health scheme.

This health care scheme has prompted a change in the use and availability of health services, due to the insufficiency and deterioration of public ones. The 2015 Inter-census Survey[21] reported that 9% of the population nationwide uses DAP, while the 2016 National Health and Nutrition Survey (ENSANUT in Spanish) reported a rate of 27.7%[26]. In other words, the population increasingly prefers being treated at these establishments, even if they must use a significant percentage of their household expenses to meet a health need, such as consultations or medications.

However, it is important to ask why they have been so successful among the population. One possible answer is associated with the socio-territorial features of the proliferation and location of DAP, coupled with two factors that have made them attractive to the population: they are accessible as regards price, time, distance and available to everyone. These clinics have a broad pattern of territorial distribution encompassing almost all classes and social sectors. The public can obtain consultations there at any time of the day and finds that drugs are available and health care is prompt, all without having to travel long distances due to their widespread territorial presence. This impacts the frequency of use of DAP more than other public health services. In other words, their access potential is significant because of their spatial distribution, which is considered equitable[27].

However, important questions arise about their existence. First, what lies behind the rapid growth rate of these establishments? This trend is neither politically nor statistically normal in the history of health schemes in Mexico. One structural condition concerning the origin and growth of the DAP has been the transfer of responsibilities from the state to the private sector. This process can be interpreted as a gap filled by powerful businessmen linked to the pharmaceutical industry, under the guise of helping the poor. Pharmaceutical entrepreneurs offer services with consultations and medicines at low prices, thereby benefiting the poor sector without access to public health services, since the main objective is obviously not to provide health services for the poorest sectors, but to achieve profit and enrichment at the expense of the most vulnerable, with the slogan: "The same but cheaper". In Mexico, the situation that has been most exploited by this group of entrepreneurs, given the shortage of medicines in the public sector, is that the poor are the most unprotected. They are not properly attended, and totally excluded from large pharmaceutical chains, which, in turn, is compounded by the low budget assigned to the health sector[25]. This means of commodifying health has been so important that medical consultations alone account for up to 20% of the profits of the pharmacies, coupled with the fact that there is a medical laboratory, pharmacy, and doctor's office at the point of sale[25].

The fact that DAP are the result of a commercial merger with a public sector such as health means that they are not regulated by legislation. DAP are not typified as a unit either in the commercial code or in the General Health Law. Pharmacies are typified as an economic activity involving the wholesale commercialization of pharmaceutical products with or without convenience stores and health care items. However, there is no regulation or typification registering them as a unit (pharmacy with attached medical office). In 2013, the conspicuous presence of these pharmacies was questioned due on their widespread availability throughout the country.

There are parts of Mexico with no public health infrastructure, where DAP exist. In the midst of this questioning, in 2013, the COFEPRIS published a Guide to Good Health Practices and Clinics[28] in which, according to this institution, the aim was to regulate these establishments, as separate, differentiated units. One would belong to the health sector (doctor's offices) and the other to the commercial sector (pharmacies) when both sectors operate together. Medical prescriptions would be written out in one and medicines sold in the other. The two are sometimes merged as a means of avoiding taxes, and legal and labor demands[28]. Second, Mexico lacks the necessary information on where DAP are located and operate. Third, given the lack of information of this nature, how feasible is it to guarantee the safety of the health care offered to the user population? There is a dearth of information on the poor population that is not affiliated to any public health scheme. How do they deal with their health problems? It is not known where this social sector goes when it gets sick[29]. There is therefore also a lack of information on the relationship between the poor population and the use of the health services offered by DAP. Similarly, little is known about their distribution, operation, quality of infrastructure, differences by condition and type of franchise, and the type of population they serve, as well as the perception of DAP users. Based on these questions, a methodology was defined to analyze the distribution of DAP in MC and its metropolitan area as a case study, and to answer some of the questions raised.

Study Methodology

First, a database was created with updated, geo-referenced information on the precise location of DAP throughout CDMX and its metropolitan area. Information was obtained on the location, condition and type of franchise, and the infrastructure of each establishment. One of the official sources consulted was the National Statistical Directory of Economic Units (DENUE in Spanish)[23] published by the National Institute of Statistics, Geography, and Informatics (INEGI in Spanish)[30], which provides updated information until 2017 on the identification and location of over five million business through the country. Data such as company name, employed personnel, address, state, municipality, block, and basic geostatistical area were obtained.

However, despite the detailed information DENUE provides on all the pharmacies in the country (40,000 pharmacies in 2018), it fails to distinguish whether pharmacies have a doctor's office, since pharmacies are registered as economic units in the retail trade section including health care items, pharmaceutical and naturopathic products, and pharmacies with and without mini supermarkets (which sell items for personal hygiene, packaged foods, and fast food). Due to the lack of differentiation, a virtual street-by-street tour was conducted using Google Earth, which provides street views of the whole of Mexico City and its Metropolitan Area.

These establishments were subsequently classified by (i) franchise; (ii) number and type of services; and (iii) location in homogeneous zones or contours, and highly marginalized Urban Basic Geostatistical Areas (AGEBs in Spanish). AGEBs is a geographical area occupied by a set of blocks perfectly delimited by streets, avenues, walkways, and other easily identifiable features on the ground used to identify the interior of urban locations[30].

To analyze the above socio-territorially, Mexico City and its metropolitan area were divided into areas from the center to the periphery, known as contours (Figure 2). This delimitation corresponds to the period of urban-metropolitan growth from 1970 to 2010, comprising 55 municipalities and 16 *alcaldías (town hall)* distributed throughout a central city and four contours[31]. Municipality is the name assigned to the territorial division of the State of Mexico and *Alcaldía* (formerly *delegación*) is the name assigned to the territorial division of Mexico City. Areas with high marginalization were established over these contours, based on the average of the degree of high marginalization of the AGEBs obtained by the National Population Council (CONAPO in Spanish)[32]. The high level of marginalization was considered, because this is where the highest percentage of the population in that condition was concentrated in 2010.

The virtual tour identified 3,788 DAP out of 13,590 pharmacies located in Mexico City and its Metropolitan Area according to DENUE[23], equivalent to 10% of pharmacies nationwide and 27.8% of those in MC and its metropolitan area.

Distribution and Type of DAP in Areas with the Greatest Demand for Health Services

The purpose of this section is to determine whether the distribution of DAP is satisfying an unmet need in areas with the highest demand for health services, particularly if it coincides with

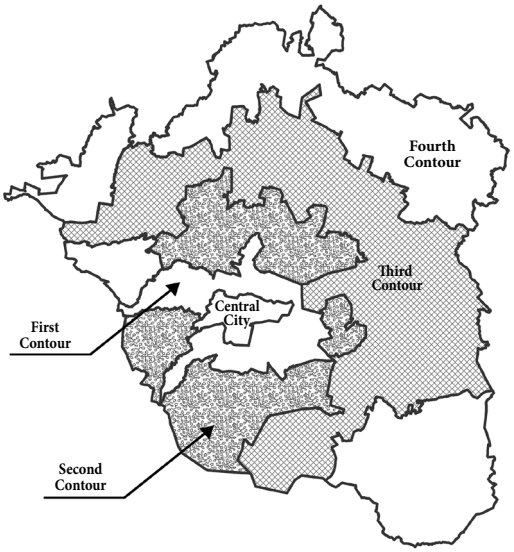

Figure 2. Metropolitan Zone of Mexico City. Delimitation by Contours.

Source: Aguilar[31].

the marginalized population in MC and its metropolitan area.

To this end, the distribution of DAP was correlated with the homogeneous areas with high marginalization, and this correlation, in turn, was combined with the classification of the establishments by (i) whether the establishment was franchised; (ii) number and type of services; and (iii) location in homogeneous areas of high marginalization.

Establishments with or without franchise

Mexico lacks accurate information from health institutions and academic studies on DAP. It is not known whether they are identified as service providers in the health sector, whether they comply with all existing health standards such as minimum infrastructure and equipment requirements, epidemiological surveillance, biological waste disposal; homogenization and updating of clinical and digital files, infrastructure for the disabled, adequate ventilation, and so on[3].

Accordingly, in this paper, alternatives were sought that would support the characterization of DAP based on their sales model, such as franchises.

On the one hand, franchises are likely to ensure good quality, since a franchise includes adaptations to the commercial establishment, billboard advertisements, two air conditioners, a desk, shelves, refrigerators, electrical installations, staff training, feasibility and socioeconomic studies and the purchase of inventories. In other words, they adapt the infrastructure to be able to provide good quality service. On the other, a franchise guarantees the investment without putting it at risk, which determines whether it can provide certain advantages with respect to public health services, such as devoting thirty minutes to the patient, well above the official World Health Organization standard stipulating that a medical consultation should last between ten and fifteen minutes. There is very little waiting time to obtain a medical consultation; no medical appointments are required; medications and consultations are inexpensive; and waiting rooms are not crowded. However, these advantages are deceptive, since unlike public health services, DAP are staffed by doctors who are not specialists. They do not give short- and long-term treatments; treat short-term illnesses partially and temporarily and do not treat complex diseases or provide surgical care[33,34].

The second is that franchised establishments are usually registered with the official norm with the Statistical Business Registry under the Technical Standard for the Incorporation and Updating of Information in Mexico, which states that all businesses and businesses are required to register with DENUE. Conversely, non-franchised DAP generally do not meet basic standards; do not guarantee good quality service and lack professional medical personnel, thereby jeopardizing the health of the user population. They cannot afford a franchise costing between five and seven hundred thousand dollars (the average price charged by the pharmaceutical business group of *Farmacias Similares*, the largest in the country, with over 5,000 DAP)[34].

They are not required to meet franchise requirements, such as the quality and type of infrastructure, the doctors hired have low levels of training, and some are recent graduates and therefore inexperienced. Non-franchised DAP have a higher frequency of rehiring doctors, constant changes in the salaries of the doctors hired and scant availability of drugs.

Accordingly, the importance of being franchised, particularly for the user population, lies in the fact that one of the main problems identified in the classification by franchise is that only 25 percent (968) of pharmacies are franchised, while the remaining 2,820 are not. Likewise,

during the virtual tour, over 800 DAP that do not appear in the DENUE register were identified.

Another significant factor regarding franchised establishments is that they are properly registered with DENUE and COFEPRIS. Conversely, unfranchised ones operate illegally and secretly, without the permission of a registered trademark, promoting unfair competition. At the same time, they do not guarantee safe service due to the lack of regulations established by COFEPRIS. For example, an announcement should be visible to the user public declaring there is a doctor's office adjacent or next to the pharmacy and showing the degree certificates of the doctors authorized to provide the service.

In territorial terms, DAP with and without a franchise tend to be located next to public health services, encouraging the duplication of the supply of health services, and providing the population with another means of accessing health care apart from public services.

A distinctive feature of franchised DAP is that they are more heavily concentrated in the central city. They occupy the first contour and are less concentrated in the second contour, in other words, areas where 51% of the population with a high degree of marginalization are concentrated (Figure 3). A key feature of unfranchished DAP is that the majority tend to expand in a more disperse way towards the periphery of the Metropolitan Zone of Mexico City

to cover the rest of the highly marginalized population located in the third and fourth contour, the sectors of the metropolitan area with the most acute lack of public health services, which not even DAP can cover due to their low presence (Figure 4).

Number and type of services

DAP have modified the health service supply scheme. Due to the lack of more rigorous regulations, in addition to providing general medical consultations, these establishments offer other specialized medical services such as ophthalmology, gynecology, orthopedics; mental health services such as psychology; laboratory services such as clinical blood tests, X-rays, and ultrasound in the same place. Eighteen per cent (643) of DAP providing other specialized medical services are located in the contours where 50 percent of the highly marginalized population are concentrated (Figure 5).

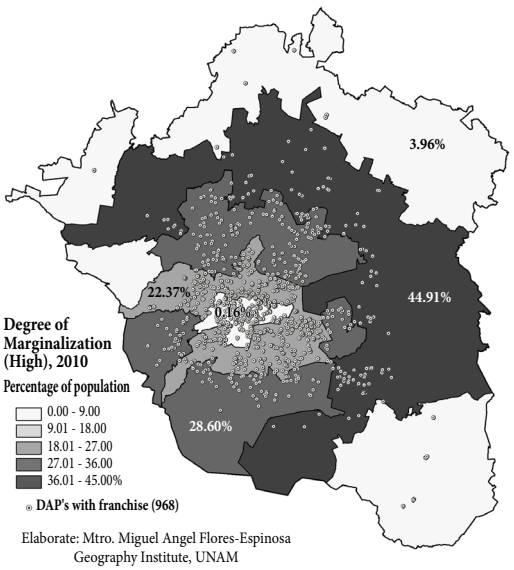

Figure 3. Metropolitan Zone of Mexico City. Distribution of Pharmacies with Adjacent Doctor's Offices with a Franchise.

Source: Authors based on data from DENUE[23] and CONAPO[32].

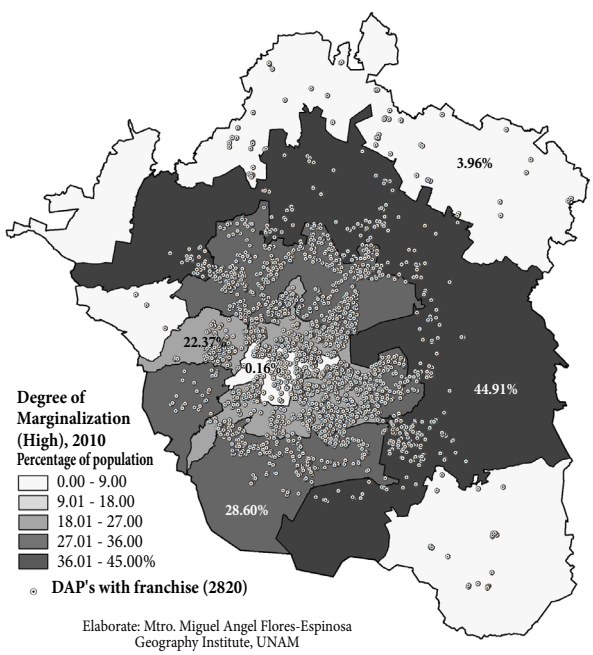

Figure 4. Metropolitan Zone of Mexico City. Distribution of Pharmacies with Adjacent Doctor's Offices without a Franchise.

Source: Authors based on data from DENUE[23] and CONAPO[32].

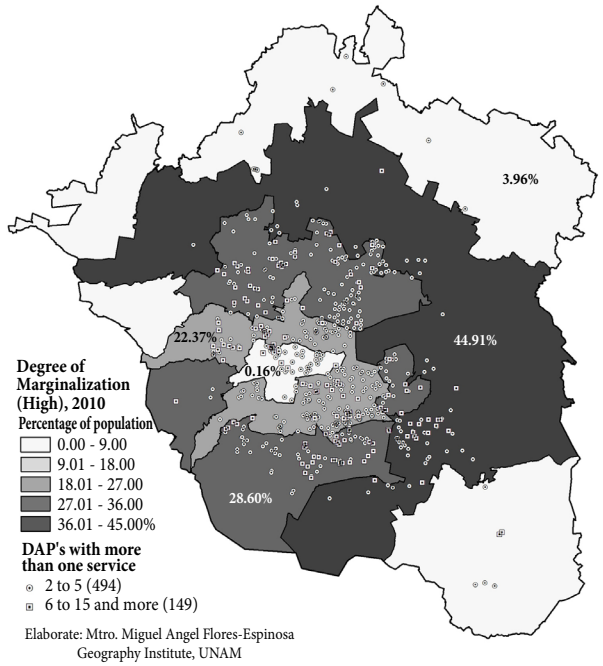

Figure 5. Metropolitan Zone of Mexico City. Distribution of Pharmacies with Adjacent Doctor's Offices offering more than two medical services.

Source: Authors based on data from DENUE[23] and CONAPO[32].

By location in homogeneous areas with high marginalization

The analysis found that the distribution pattern of DAP satisfies an unmet need in areas with the highest demand for health services. This situation occurs particularly in the third and fourth contour, in other words, the inner and outer suburbs of the Metropolitan Zone of Mexico City, whose location coincides with that of the most marginalized population. At the same time, a compact pattern of concentration was identified. In other words, DAP are less dispersed in areas with the lowest percentages of highly marginalized population, such as the central city, where other social strata are located that may include the population affiliated to a public health institution. This last finding confirms the insufficiency and inefficiency of public services, which are failing to meet the expectations of their affiliates, which is why the latter prefer to use DAP services.

Conclusions

DAP have become the main providers of health services, predominantly for the poor, and to a lesser extent, for the population of other social sectors affiliated to a social security institution. This was confirmed by the high concentration of DAP scattered among the urban peripheries that are home to the marginalized population, for whom lack of healthcare is one of the main forms of social deprivation.

The transformation of tertiary activity, which involves merging a commercial sector with a social one, has become a new means of commodifying health services for poor groups, essentially because of the affordable prices for this sector of the population. This group constitutes a potential market for this scheme, which undoubtedly provides an alternative means of accessing healthcare for these groups. Likewise, their prolific presence reflects their ability to fill a gap that the public sector failed to, and shows that they have been tolerated, albeit not acknowledged, as part of the public health COFEPRIS. For these actors and as a clear example of the delegation of responsibilities, it is easier for them to insert health services into socio-territorially disadvantaged spaces, which have been excluded from the public health system for many years.

The rapid expansion of DAP highlights the reduction of the coverage capacity of public health services and raises questions about their future role. The deterioration of the latter has been paralleled by an increasing tendency towards privatization. The DAP scheme has undoubtedly modified the use and consumption of public health services in urban areas, particularly in large cities such as Mexico City, yet been unable to contribute to advancing or be incorporated into a strategy to achieve the universalization and expansion of health coverage and access.

Collaborations

FML Guerrero carried out the research and development part of the theoretical review, designed the statistical part and elaborated the analysis methodology. MA Flores-Espinosa supported in the technical application of softwares for cartographical elaboration.

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