

Regulation of nursing in Mexico: actors, processes and outcomes

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Abstract *This paper aims to analyze the regulatory structure of nursing in Mexico through its legislation and perspectives of participant stakeholders. A case study was undertaken using qualitative and quantitative data sources, as well as from the review of official documents. The analysis included data from the sources according to the four realms proposed by the Moran & Wood (1993) model. The more advanced realm was the market entry since the state regulates entry through a license of practice. The regulation of competition is weak, showing very reduced areas of autonomous practice. The labor market is offering a wide variety of entry options with clear signs of deterioration. The dominant payment mechanism is salary, showing a structure that incorporates a component that does not impact on pensions at the end of the labor cycle. The regulation of nursing is a component of its professionalization, and as such, it is understood as a multidimensional consolidating process, particularly realms related to the regulation of competition, market structure, and payment mechanisms, in which nursing representatives should play a more active role in the future.*

Key words *Nursing, Legislation, Mexico, Health workforce, Health care sector*

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Introduction

Mexican nursing is going through significant changes. On the one hand, one can observe the increase in training years and practice roles, and on the other, a dynamic labor market but with signs of deterioration¹.

While graduated nurses have been training for more than half a century, the production volume has increased exponentially only in the last ten years. The labor market has shown more interest in recruiting licensed nurses to the detriment of lesser educated nursing personnel who dominated the market for decades². In training, the growth of the private sector in the nursing education market is particularly relevant. Other countries have witnessed a significant increase in the number of private schools that train nurses at the technical and undergraduate level. Private training builds on business logic with two strands, namely, one of low and another of high quality, and the former is the most prevalent. Mexico follows this pattern, which has also been observed in countries such as Brazil and Colombia³.

The deterioration of the nursing labor market is also documented. Underemployment and unemployment rates were reported among Mexican nurses who graduated from universities¹ despite nursing staff indicators by population in the country showing the need to train more nurses. These two market phenomena denoted the clear need for state intervention to increase the demand for this personnel by health institutions. Job insecurity for nursing graduates is a market phenomenon that has already been reported in countries such as Brazil and many sub-Saharan African countries⁴. In Mexico, it has not been analyzed for nursing, despite some conditions that seemed to be promoting it. Examples of the trend include higher levels of temporary contracts and outsourcing of labor relationships.

On the other hand, it is crucial to consider that Mexican nursing is undergoing a process of professionalization⁵ through which it seeks to increase its training years to acquire more specific knowledge about the population's health care and try to establish a monopoly of practice⁶.

Professional regulation can be understood, in general, as a "dynamic framework within which professional standards can be identified to serve public protection. Regulatory systems must be focused, flexible, and enabling, ensuring that standards are clear, visible, and attainable"⁷.

In this paper, the development of nursing regulations in Mexico is contextualized from

the existence of factors such as health reforms, demographic and epidemiological changes, new care modalities, as well as the exercise of labor rights⁸.

The professional regulation structure model

The participation of professionals in the production of health services can be studied through the regulation model proposed by Moran & Wood⁹, defined as "the mechanism used to establish the characteristics of the practice and the required technical standards." This model includes four dimensions: 1) market entry mechanisms; 2) professional competence control; 3) labor market structure; and 4) payment mechanisms¹⁰.

For nursing, the market entry mechanism refers to the conditions required to practice. The objective is to obtain a professional certificate or license after complying with the schooling requirements that accredit the bearer as an ideal person to exercise said position.

The regulation of competency is related to functions shared between occupational groups in the health field or with roles not clearly established or recently created, and that may be subject to duplication among health personnel. This regulation implies the "closure"¹¹ that members of a profession carry out to avoid or limit the participation of other groups in the activities defined by the profession as their area of influence.

The structure of the labor market is related to how professional groups are inserted into the labor market. In the vast majority of countries, the most common way in which nurses are linked to the labor market is through public health institutions and with salary mechanisms⁹. The development of independent exercise and the production of private services, outside the institutional environment, are still scarce.

This work aims to analyze the regulatory structure of Mexican nursing through regulations and the stakeholders involved.

Methods

We used the "case study" method as the study's design¹². The presentation of results derives from the use of qualitative data complemented with quantitative data. This study was conducted in three simultaneous phases described below.

The first phase consisted of a review of documents that included: news, laws, standards,

methodological, and legal tools about the regulation of nursing practice in Mexico. Documents published between 2005 and 2018 that contained information about the regulations, as mentioned above, were included.

The second phase included secondary data from the National Survey of Occupation and Employment (ENOE, 2018) and the Administrative Information System of Human Resources in Nursing (SIARHE, 2018). This information provided a quantitative context of the study phenomenon. The ENOE has a nationally representative probabilistic design, is applied by the National Institute of Statistics and Geography (INEGI)¹³, and is available on its website (<https://www.inegi.org.mx/programas/enoe/15ymas/>). Data obtained from SIARHE derived from a non-probabilistic survey conducted by the Ministry of Health annually to collect data on the employment situation of nursing staff in the country, which is available at: <http://www.salud.gob.mx/unidades/cie/siarhe/>.

In the third phase, interviews were conducted (between May 2018 and February 2019) with nurses who were currently working in government decision-making positions with planning and management of human resources functions, both in the health sector and in the education sector; also, nurses were interviewed who worked in clinical, community, educational, research and administrative roles, and had at least five years of work experience. All worked in public institutions.

Eighteen interviews (13 women and 5 men) were conducted in Mexico City. All participants gave their consent¹⁴. Given the level of information and experience, as well as their perspective on the institutional structure, their opinions reflected a phenomenon occurring on a national scale.

The access to the informants was made through professional networks¹⁵ and the selection of the subjects through a “sampling of maximum variation”, which in this case corresponded to the health personnel and nurses who complied with the characteristics described above. The interviews were analyzed using content analysis¹⁶, preserving the identity of the participants by assigning pseudonyms to each interview.

This work is part of a broader research on nursing professionalization in Mexico, which was evaluated by the Ethics Committee of the National Institute of Public Health of Mexico, before the collection of primary data, which validates compliance with the ethical aspects thereof.

Results

The results of the four dimensions proposed by Moran and Wood are arranged in three sections: stakeholders participating in the process, existing regulations, or processes defined by the corresponding authority and results of the regulatory exercise in the 2005-2018 period.

Table 1 shows the documents oriented towards the regulation of nursing in Mexico. These documents are the basis for the analysis of the stakeholders participating in the regulation, processes, and results of each realm.

Market entry mechanisms

The stakeholders of this regulatory process are: a) the Congress of the Republic, establishing the achievement of a professional degree as a requirement; b) Higher Education Institutions (HEI), when issuing said title; and c) the General Directorate of Professions (DGP) of the Public Education Secretariat, when issuing a professional ID to the new graduates, equivalent to a practice license.

The DGP issues the practice license. However, the intervention of the State to enforce the regulation is minimal since it is common for undergraduate students to be hired into mainly private health units. Public institutions do request a practice license to hire a nurse, even part-time.

A new strategy of re-entering a specialized market is through the certification of professionals. This consists of the verification of theoretical knowledge in a specific area, which makes them suitable professionals to perform in the field of interest as per the evaluating institutions, which is equivalent to re-entering a more specialized market niche. Nurses organized in schools authorized by the State to carry out this function participate in this process.

E2 (S): *Someone can have the degree, a professional ID, but if they also have a certificate, that should give them a bonus to opt for a level C or D [positions with higher income] vacancy, that is, it does have a value also in the dynamics of employment [...], but we are only in the early stages in Mexico.*

Professional competence control

The main stakeholders in this process are the Permanent Nursing Commission (CPE), who participates in the presentation of draft standards and in their follow-up, as well as the Con-

Chart 1. Documents oriented to the regulation of nursing in Mexico.

Stakeholders	Law	Chap./ Art./ Year	Content
Congress	General Law of Health	Chap. 3 Art.89 Art.91	Education, training, and updating of health personnel. Requirements for the opening and operation of health personnel training institutions.
CIFRHS ¹	Evaluation of programs	2013	Criteria to evaluate plans and curricula for the nursing career
Market entry-oriented regulation			
Stakeholders	Law	Chap./ Art.	Content
Congress	General Law of Health	Title 4. Chap. 1 Art.79	Title requirement for the exercise of professional activities.
		Chap. 2 Art.84	Social service provision
Regulation oriented to the nursing care field (competence control)			
Stakeholders	Document	Year	Content
SSA ² /CIFRHS	Guidelines for continuous improvement of nursing services	2004	Proposes methodologies and guidelines to improve the quality of nursing services. Formulation of quality policies (standards)
Stakeholders	Law/Norm	Year	Content
Congress CPE ³	Art. 28 bis of the General Law of Health	2016	Guidelines for prescribing medications by nursing graduates.
SSA	Agreement	2017	Agreement by which the guidelines containing procedures and criteria for the prescription of medications by the nursing staff are issued.
Congress	NOM-007-SSA2-2016	Modified in 2016	For the care of women during pregnancy, childbirth and puerperium, and of the newborn
	NOM-019-SSA3-2013	2013	Establece lineamientos para la práctica de enfermería en el Sistema Nacional de Salud.
	NOM-022-SSA3-2012 ²	2012	Conditions for the administration of infusion therapy.
	PROY-NOM-018-SSA3-2009 ⁴	2007	Establish the criteria for the provision of home and hospital nursing services that are contracted and offered through individuals
	PROY-NOM-020-SSA3-2009 ⁴	2007	Establishes guidelines for the practice of the obstetrician nurse in the National Health System.
	PROY-NOM-021-SSA3-2007 ⁴	2007	Establishes guidelines for outpatient nursing care for patients with chronic degenerative and prolonged treatment.

it continues

gress of the Republic, responsible for reviewing and approving the proposed standards.

In this realm, nursing regulation is scarce and oriented to institutionalized care exercise. The Official Mexican Standards (NOM) establish nursing's field of action in the national territory. We also find draft standards (PROY-NOM) that aim to create independent exercise spaces, which

have not yet been approved and are still pending review.

A greater emphasis on internal competence criteria (between different training levels) is observed through the approved standards. The NOM-019¹⁷ establishes differentiated functions for each training level, favoring staff of higher academic level. Concerning external competen-

Chart 1. Documents oriented to the regulation of nursing in Mexico.

Stakeholders	Law	Chap./ Art./ Year	Content
Recruitment Forms (labor market structure)			
Stakeholders	Document/Law	Year of update	Content
Congress	Federal Labor Law	2015	Establishes the basis of the employment relationship between employee and employers
Directors of the institution and union members	Labor general conditions of the Ministry of Health	2016-2019	Regula el ingreso, permanencia, baja, cese, promoción y estímulos de los trabajadores de la Secretaría de Salud.
	IMSS Collective Agreement	2017-2019	Regulates work relationships between employees and employers.
Payment methods			
Stakeholders	Document/Law	Year of update	Content
Directors of the institution and union members	IMSS payment tab for nurses	2017-2018	Salaries established for the period
	SSA tab for nurses	2018	Salaries established for the period

¹Interagency Commission for Human Resources Training for Health. ²Health Secretariat. ³Permanent Nursing Commission. Unit of the Health Secretariat, responsible for conducting and analyzing actions and activities considered as nursing competence. ⁴Draft standards that are in the process of being approved (registered as of 2007).

ce criteria, the NOM-007¹⁸ and Art. 28 Bis of the General Law of Health (LGS)¹⁹ stand out, both of which establish the participation of nurses with a bachelor's degree, matching their responsibility and support of their activities with that of other health professionals.

In practice, the area that nurses have established as their natural space is that of "care", which is hugely indefinite as it includes promotion, prevention, personal care, rehabilitation, and palliative actions. Several occupational groups compete with nursing the implementation of actions, particularly doctors. Currently, a specific field where nursing has gained ground to establish its practice model is in the low-risk delivery care.

E3 (C): *There must be important changes in the General Law of Health [...] so that nurses can expand their role [...].*

E3 (C): *The draft Standard-020 for the practice of obstetric nursing is being worked on. It states that [...] the nurse trained with the competences in the field of maternal care is a stakeholder that must be incorporated [into the service structure]...*

E10 (H): *In 2016, rule 007 was modified where non-medical personnel are included in childbirth care was modified [...] we will be able to encourage to speak more explicitly about professional midwifery services.*

Labor market structure

The main stakeholders in this field are the public and private health institutions that define their nurses' requirements as per their internal guidelines. The leading employers of nurses are the Ministry of Health (SSA) and the Mexican Social Security Institute (IMSS). In these institutions, the unions of the institutions play an essential role in negotiating the terms of recruiting nurses as per collective agreements. However, the jobs protected by the union have been significantly reduced, and the new forms of recruitment are temporary and do not include the rights defined by Mexican labor law. Private institutions have increased their presence in the last 20 years, and are an increasingly important source of demand but with more flexible working conditions compared to public institutions, particularly concerning the existence of contracts with no defined term.

There is no general market regulatory process to establish a balance between the supply and demand of nurses, so each institution establishes its strategies for the recruitment of nurses by level of training. However, some labor regulations establish how contracts must be offered and the benefits to which workers are entitled²⁰.

Data from the Ministry of Health reveal that, between 2006 and 2018, nurses licensed in the

labor market have risen from 16.6% of the total nurses to stand at 37.1%, with the implicit reduction in the representation of nursing technicians and assistants. However, in 2018, nursing technicians accounted for 47.6% of the market and were still a majority²¹. The increasing trend of university nurses is also confirmed with data from the ENOE²².

On the other hand, the type of contract varies across institutions. In the Health Secretariat and the IMSS subsidized regime (IMSS-Prospera), temporary nurses with temporary contracts represent 36% and 35% of the workforce, respectively. This recruitment type in private institutions reached 21% of the total number of nurses hired. The social security institutions (IMSS and ISSSTE) to date have managed to keep their workers' cadre with permanent contracts and replace the deceased and retired with new staff occupying those positions.

E1 (C): The type of temporary and per fee hiring has increased [in the SSA], and that stirs nurses' a high level of concern.

E9 (A): As of last year, many nurses retired [in this institution], [...] those vacancies have not been reported [offered] [...] I don't know whether it has to do with the new labor reform, [...] what I have heard is that they are going to hire nurses without benefits.

E11 (M): We have two recruitment types: The base [permanent unionized position] and internships, people who are temporarily hired to occupy work positions of staff who have already retired while the base is held by another person; while it is assigned, they have a temporary contract; those hired as interns sign a contract every year but do not generate seniority [...].

Payment mechanism

Nurses work predominantly in institutions, so the most common way to receive income is through salaries. According to ENOE data, in 2016, 75% of nurses with employment were salaried, 6.4% declared themselves as the owner of a company, and 15.3% self-employed.

Salaries are established by the entity that hires the services, commonly following national policies and the approval of annual budgets by the National Congress. The Ministry of Finance and Public Credit approves the labor codes and salaries associated with them, for public health institutions. Each institution establishes its salary categories from these codes. As noted, most of the nurses in the country work for public insti-

tutions, and the two institutions that incorporate the majority of nurses at their different levels are the Health Secretariat (42%) and the Mexican Social Security Institute (34%). Both are powerful stakeholders in the negotiation of wages and payment methods. Salaries are negotiated periodically with the unions of the institutions.

Both the SSA and the IMSS have different ways of categorizing nursing levels, but in general, are divided into assistant, general, and specialist. Also, we have positions of command, denominated positions of trust, that are not included in the union negotiations, as is the case of temporary contracts, which arrive at 36% of all jobs in the SSA, and less than 1% in the IMSS. Each level is assigned a code that, in turn, contains the job description and salary. The salary structure is complex since the fixed amount that a worker receives biweekly consists of a set of items as per productivity, labor risk, and geographical location, among others. In the SSA, the salary consists of three items: a) monthly base salary, b) gross monthly allowance, and c) assistance for monthly gross update expenses. The monthly base salary is used to calculate the worker's pension upon retirement. The rest of the salary items are not used to establish the value of the pension, but if taxes are deducted. The value of items b) and c) can reach a proportion of 50%, depending on the occupational category.

E9 (A): [In this institution] as 90% of nurses receive benefits, the remaining 10% is the one that has no base [...], and it is not convenient for the government to have base nurses, because it does not pay them what is due, it is no longer going to pay pensions, benefits, etc. You, as a base nurse, received all the benefits.

Discussion

The results shown suggest that the nursing regulation model or mechanism in Mexico is in a development process and that its results are still to be determined. The development of a regulatory nursing structure has accelerated in the last two decades as a result of global changes in the training of health professionals and the acquisition of demonstrable skills, as well as in the reform of health systems that promote management of resources as per criteria such as cost control and increased productivity²³.

These nursing regulation adjustments are a concern in various countries. For example, in Australia, the recent expansion of positions and

roles of nurses in the health system requires an update of the regulation to generate an articulated order among this whole range of functions²⁴. The study published by Robinson and Griffiths²⁵ on the regulation of nursing in OECD countries emphasizes educational aspects since, until recently, the training of nurses was transferred to universities; however, some countries still maintain it in the hospitals. Also, mobility between the European Union (EU) countries has demanded strategies for harmonizing training curricula to ensure employment opportunities in member countries.

Four dimensions were used to study Mexican nursing regulation, which together underpin the regulatory model proposed by Moran and Wood⁹. Each shows varying advancements compared to the general model. These differences are established both in the participation of stakeholders and the development of the processes, but particularly in the endpoints.

The first dimension of market entry reflects that regulatory mechanisms are established and sufficiently specific. While the State grants a license, one can observe its incapacity to ensure graduates' market entry as licensed nurses. This control is also not exercised by professional representation groups, which favors the breach of current regulations and opens up spaces of vulnerability, which are exploited by the employing institutions. There are at least two ways of entering the market that do not comply with the regulations: private institutions temporarily hire active students and people with incomplete nursing training to fulfill the functions of a licensed nurse, and the incorporation of students (social service) who completed university credits but have not received a degree or license, in order to offer them a practice space for one year. These students perform activities that are frequently equivalent to those of a registered nurse.

As noted in the results section, the nursing functions are established around care, which includes a wide range of different technical level actions. Since care is such a broad field of activity, various occupational groups compete with the nurse²⁶. Together with the scarce regulation in this realm, this feature makes it a complicated process to establish norms that define a clear monopoly of practice and allow nurses to protect themselves against their competitors. Behind this phenomenon is the fact that nursing has different levels of training; therefore, competences differ by level of training. Training at the technical level implies the development of essential competen-

ces, while that at the university level, it includes, besides clinical competences, more complex skills such as health services management and research²⁷. However, delivery of nursing care is a field of practice where progress has been made in the control of competences. As of the approval of the modified version of the NOM-007-SSA2 standard of 2016, respected delivery models where obstetric nurses have gained autonomy, control over their practice, and specificity in their execution²⁸ have been implemented. Other practice control areas are more specific, such as home care and wound treatment.

The nursing labor market shows differences associated with the segmentation of the Mexican health system. Three large segments are noted, namely, Social Security, the Health Secretariat, and private institutions. Social Security has oriented its nursing staff requirements to recruiting technicians, despite the increasingly full availability of licensed nurses. The private sector also preferably employs nursing technicians to place them in hospital units²¹. Instead, the Ministry of Health has chosen to recruit licensed nurses as they are available in the market. One-third of these nurses are located in first level care units. However, employment conditions between nurses in the private sector and those in the public sector have deteriorated significantly in the last decade through the phenomenon of insecurity²⁹. The regulation of these phenomena in their most essential aspects is incumbent on the health institutions and their union structures. Although the current legislation – approved by the Health Secretariat as responsible for the system's governance – establishes differences between the training levels, the competences, and functions of each level, the institutions carry out the recruitment based on their priorities. The proper allocation of nursing levels in the health services structure is not a strictly national matter. Some differences are found among OECD countries between nations that train nurses in universities and those that do so in hospitals with technical levels³⁰.

The original Moran and Wood⁹ approach designed for the study on the regulation of doctors emphasizes the different payment mechanisms that exist for this occupational group. However, in Mexico, as in many other countries, nurses are salaried or hourly wage earners in public institutions. Therefore, other payment mechanisms such as fees, capitation, or payment for performance are scarce in these institutions. For the case study, differences in salary structures between institutions were identified despite this homogeneity.

The salary differences for nurses working 40 hours a week in public institutions are not significant. However, important discrepancies are observed between permanent and temporary workers. Permanent workers receive more generous salaries, but, over time, have been restructured following a rationale that protects the institution from paying a pension for the total income at the end of the worker's labor cycle³¹. In the Health Secretariat, the availability of permanent positions was drastically reduced at the beginning of the century, and the incorporation of nurses occurred through temporary contracts. In these contracts, workers are not entitled to a pension at the end of their work cycle and, therefore, the salary is compacted without differentiating between base salary and compensation. This rationale in the salary structure is the same as that used in the private sector³². Nurses' struggle for the value of wages and pensions is not exclusive to Mexico. In England, for example, in 2014 a 1% increase was suggested to the Ministry of Health to offset the loss of the salary value of nurses, which was rejected by the government at that time but applied until 2016 for all staff³³. Another aspect that the English government has emphasized has been the reduction of outsourced contracts for cost control³⁴.

Self-regulation is a sign of the status of a profession. From the perspective of the sociology of the professions, the professions seek to ensure that their members acquire the skills and competences of their field of knowledge at the highest level, for which they must receive formal recognition at the end of the training. The regulation also ensures that skills acquired in training are put into play in the labor market, to build monopolies of practice by excluding individuals who are

unable to show that they have the corresponding training³⁵. Other realms in the professions are not subject to regulation, among which are the development of a professional ideology or social prestige. Therefore, the regulation interferes with the development of specific realms of professionalization. A key aspect in professionalization is that members of the occupational group join to become a political stakeholder who participates – and ideally controls – the definition of standards, processes, and results of the regulation. In Mexico, the nursing regulation process has been built around state policy with the growing participation of nursing groups. The results point to the development of a state control model with the participation of nursing in primary aspects for the next years.

Conclusions

The State is the dominant stakeholder in the regulatory apparatus of nursing in Mexico. However, it has recently encouraged the participation of other players, including nursing representatives. The State maintains under its control licensing as a market entry mechanism. It also has a significant influence on the market since the regulatory processes are dominated by public institutions in which the State defines recruitment policies and payment mechanisms. As the main actor, the State has the responsibility of generating mechanisms between supply and demand that are compatible and balanced. On the other hand, nursing must develop strategies to increase its participation both in strengthening the legislation and monitoring its compliance thereof.

Collaborations

The idea, the design of the work, and data collection were carried out by PA and GN. Data were processed by PA. The analysis, interpretation of the data, and the first version of the manuscript were performed by PA and GN. AS and YR reviewed the manuscript and made substantive contributions. All the authors approved the final version.

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