

THE SOCIAL ORGANIZATION OF HEALTH IN MEXICO

How a Society Transforms Health
Needs into Health Outcomes

Alberto Ortiz Bolaños



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For the people who care for our health in Mexico



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Preface

At Bank & Finance, we view research as a cumulative process. We begin with questions that can be addressed with evidence and revisit their scope as the work progresses. Sometimes answering them requires bringing in new sources and examining relationships that initially lay outside the analysis.

This book grew out of a study of Mexico's pharmaceutical industry: its structure, evolution, and productive capacity. Understanding that industry required tracing the path of medications, from the domestic and imported inputs used in their manufacture to the buyers, distributors, institutions, and pharmacies that bring them to people.

The research then expanded to encompass the economic organization of health. We examined pharmaceutical production alongside other health-related manufacturing, medical services, and commercial networks. Studying these activities together allowed us to identify functions that operate at different scales and in different locations, and to understand how they relate to one another to make goods and services available.

What remained to be explained was how these capacities become a response to a person's health need. That question led us to examine who takes responsibility for providing care, how care is financed, and what conditions enable people to use it. After a visit, the path through care may continue with tests, treatment, and caregiving. Whether these activities are carried out and sustained depends on the decisions and contributions of institutions, businesses, professionals, and households.

This broader inquiry led to *The Social Organization of Health in Mexico*. The economic perspective becomes part of a larger question: how does a society transform health needs into health outcomes? The budget, labor, infrastructure, and health care goods are examined in terms of the functions they perform and their relationship to the care people receive.

The project also reflects our approach to generating and sharing knowledge. We bring together evidence that is often studied separately, distinguish what we observe from the explanations we propose, and revise our arguments as we incorporate new information. We present our sources and methods so that the findings can be examined, discussed, and used as a basis for further research.

We hope readers will find in these pages a clear map for understanding the organization of health in Mexico: what each participant contributes, how they relate to one another, and what conditions make it possible to sustain care. In doing so, we aim to contribute to an informed discussion and offer a starting point for new questions and better decisions.

Alberto Ortiz Bolaños

Bank & Finance Consulting Group

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Executive Summary

In 2024, Mexico recorded 192,518 deaths from heart disease and 112,577 from diabetes mellitus. In the comparison published by the OECD in 2025, life expectancy is 75.5 years, 5.6 years below the OECD average. Treatable mortality reaches 175 deaths per 100,000 population, compared with 77 in the OECD; preventable mortality is 243, compared with 145. Following admission for acute myocardial infarction, mortality within 30 days is 22.6 per 100 admissions in Mexico, compared with an OECD average of 6.5; following ischemic stroke, the figures are 17.0 and 7.7, respectively (INEGI, 2025c; OECD, 2025a, 2025b).

These figures underscore the importance of improving prevention and care and raise the question that organizes this book: how does a society transform its population's health needs into health outcomes? Answering it requires understanding the relationships between people who need care and the institutions, professionals, businesses, and households that help provide it.

The study examines this transformation from two directions. From the person's perspective, it analyzes the recognition of a need, care seeking, options for access, and service utilization. From the perspective of society's response, it examines how responsibilities are distributed, financing is pooled, and resources are combined to produce goods and services and make them available. The concept of a trajectory organizes these relationships; the empirical evidence describes aggregates, episodes, and some transitions after a visit. Reading them together shows where clinical decisions meet the resources needed to carry them out.

Mexico's organization is plural because of the diversity of participants, segmented because of its population and financing channels, and distributed because of the specialization of functions. The book's contribution is to show how this structure works: affiliation does not fully determine where care is received; tests and medications may be obtained outside the site of the visit; and households sustain part of the response with money, time, and caregiving. These findings are examined alongside changes in resources, production, and financing that make care possible.

Needs Are Changing and Require Care over Longer Periods

According to CONAPO projections, the population aged 20 or older will increase from 91.7 million in 2026 to 115.6 million in 2070, a rise of 26.1%, while the population aged 60 or older will grow by 171.7%, from 17.8 to 48.4 million. Assuming that the age-specific prevalence of previously diagnosed diabetes and hypertension is held constant, the combined number of cases of the two diseases is estimated to increase by 84.5%, from 25.5 million in 2026 to 47.0 million in 2070. This exercise indicates that a substantial increase in Mexico's health needs can be expected (CONAPO, 2023b; Shamah-Levy et al., 2024; author's calculations).

The mechanism is the change in the population's composition. The age groups in which both diseases are more common account for a growing share of the population, causing cases to increase faster than the number of adults. This transformation makes it more important to organize follow-up, medication supply, and caregiving over extended periods. The coexistence of diseases adds to this challenge: ENSANUT 2023–2024 estimates that 39.7% of people aged 60 or older have multimorbidity. The response must bring together services that can be sustained and coordinated around the same person, alongside prevention and care for other health needs (Manrique-Espinoza et al., 2025).

Detection is part of this preparation. In ENSANUT 2023, the total prevalence of hypertension among adults whose blood pressure was measured was 31.1%: 19.6% had a prior diagnosis, and 11.5% had readings consistent with hypertension without a previously known diagnosis. The needs expressed as requests for visits therefore represent only part of the problems requiring a response. Organizing prevention and detection makes it possible to bring people whose conditions remain unrecognized into care (Shamah-Levy et al., 2024).

Financing and Resources Are Organized through Different Channels

The comparison by financing scheme published in *Health at a Glance 2025* attributes approximately 52 out of every 100 pesos of current health expenditure in Mexico in 2022 to government and compulsory insurance schemes, 39 to household out-of-pocket payments, and 9 to voluntary schemes and other mechanisms. This distribution shows the importance of collective financing alongside the substantial amounts people must pay when they need care (OECD, 2025a, Figure 7.9).

How these resources are pooled determines how the cost of illness is distributed. Taxes, social security contributions, and insurance premiums pool resources before a need arises and allow its financing to be shared. With out-of-pocket payment, the household must have the money available when it needs the service or medication. The same episode of care may combine both mechanisms: an institution finances the visit, and the household later pays for a purchase. The distribution of responsibilities is thus reflected both in where resources come from and in decisions about their use.

Insurance adds a relationship between coverage and financial protection. In ENIF 2024, 7.5% of people ages 18 to 70 reported having medical expense insurance. Its use depends on each policy's terms, and coverage can coexist with social security entitlements. At IMSS and ISSSTE, medical coverage includes workers, pension recipients, and family members, while their budgets also include pensions and other benefits. Examining these arrangements makes it possible to identify which obligation is being financed and which payments remain the household's responsibility (INEGI, 2025d; IMSS, 2025a, 2025b; ISSSTE, 2026; author's calculations).

In 2025, expenditure on a cash basis under the Health function of the federal public sector covered by the budget totaled 951.2 billion pesos, or 9.91% of net expenditure on the same basis. Compared with 2020, the increase was 12.8% after adjustment using the overall INPC, while the share declined from 10.76%. The 2026 PEF, in turn, allocated 965.7 billion pesos to this function, with 57.6% going to IMSS and 17.3% to IMSS-Bienestar. The evolution of expenditure and the distribution of new allocations show two dimensions of the public response: the resources used and the responsibilities for managing them (SHCP, 2026a, 2026b; author's calculations).

The OECD's comparison of resources places Mexico below the average of its member countries: 2.7 practicing physicians per 1,000 population compared with 3.9, and 3.0 nursing professionals compared with 9.2. In the private and market-based groups covered by the census panel, services have expanded through different forms of organization. Between 1998 and 2023, average employment per private inpatient care establishment rose from 19.33 to 55.44 persons. Diagnostics combined more establishments per capita with greater workforce scale, while outpatient care retained a network of small units. These differences matter when deciding which



resources to bring together within each unit and which services to link through other organizations (OECD, 2025b; INEGI, Economic Censuses; author's calculations).

The IMSS network shows how these capacities are organized on a large scale. At the end of 2024, its regular social security scheme comprised 1,850 medical and support units, ranging from family medicine to highly specialized care. That year, it recorded 96.1 million family medicine visits, 23.8 million specialty visits, and 18.0 million emergency visits. Heart disease and diabetes accounted for 42% of family medicine visits. Care for these conditions requires sustaining the links between first contact, specialized services, and supply over extended periods (IMSS, 2025a, Tables V.1 and IX.1).

Production and Distribution Are Part of the Response to Health Needs

Care uses goods that may be produced far from where they are needed. The pharmaceutical industry, equipment manufacturers, importers, wholesalers, and pharmacies perform tasks that make it possible to supply providers and people. Their scales and geographies differ from those of a visit or a hospital stay. Connections among these activities bring industrial products to specific clinical needs.

The panel of thirteen economic activity groups constructed from the Economic Censuses shows an expanding productive base whose composition is changing. Employment rose from 472,510 persons in 1998 to 1,462,385 in 2023. Within this predominantly private and market-oriented group, pharmaceutical manufacturing increased its employment from 51,083 to 88,829 persons, a rise of 73.9%, while its share declined because other activities grew faster. The equipment, instruments, and optics aggregate gained weight in employment, value added, and investment. The economic transformation of health thus brings together distinct industrial and service trajectories (INEGI, Economic Censuses; author's calculations).

Imports also became more important. In the study's approximation to apparent national consumption of pharmaceutical products, their share increased from 45.1% in 2018 to 58.1% in 2025. In distribution, the share of purchases that pharmacies without convenience stores made from wholesalers rose from 55.4% to 87.0% between 2018 and 2023. Both changes place international and commercial relationships at the center of supply. Continuity requires production, purchasing, preservation, and replenishment to be coordinated through to the points of supply (INEGI; Banco de México; author's calculations).

Territory adds another dimension to this organization. In May 2026, 394 municipalities classified as large dense nodes concentrated 78.4% of establishments recorded in outpatient care and related services, hospitals, and residential social assistance facilities, compared with 67.6% of the population; 300 municipalities with low relative presence contained 0.6% of those establishments and 3.0% of the population. The geography of functions also differs: 1,464 municipalities combined health care activities and retail trade within the study's health perimeter without recorded production or wholesale trade, while 352 had all four functions. Care delivery and the last mile therefore reach more territories than production and wholesale trade and depend on connections among different places (INEGI, DENU; CONAPO, 2024b; author's calculations).

Patents, regulatory authorizations, and technical requirements perform different functions within this organization. Applying these instruments and complying with their requirements draw on capacities for research, testing, assessment, and surveillance. Developing the supply of health



care goods and services includes these capacities alongside manufacturing and logistics. For care, what matters is having supply alternatives that can provide appropriate products with the required quality and timeliness.

People Use Multiple Providers and Contribute Resources to Complete Their Care

The reported episodes show that care crosses institutional channels. Among people entitled to IMSS benefits who received care for the need reported in ENSANUT 2023, 58.3% used the institute, 22.7% private services, and 12.6% pharmacy-adjacent clinics. Among those without entitlement to benefits, the latter two types of provider accounted for 60.8% of care. The reasons for choosing a provider help explain part of this distribution: affiliation and proximity were the most common reasons for choosing a facility, while distance and an appointment scheduled too far in the future stood out among those who used an alternative to the facility associated with their entitlement or to Ministry of Health services (Shamah-Levy et al., 2024).

ENSANUT Continua 2020-2024 shows that this territorial heterogeneity extends to both need and care. Across states, the proportion of people reporting a health need in the previous three months ranged from 15.6% to 27.6%; among those reporting a need, the proportion receiving care ranged from 71.3% in Chiapas to 93.4% in Zacatecas. Published confidence intervals accompany these estimates, and Annex A.6 presents all 32 states. Alignment between capacities and needs must therefore be read territorially, rather than only through national averages (Shamah-Levy et al., 2025).

A visit may lead to new needs for services. Among those for whom tests were ordered in ENSANUT 2023, 71.6% completed all of them, 5.1% some, and 23.3% none. For medications, 84.8% of those who received a prescription obtained all the prescribed medications, 10.7% some, and 4.5% none. Some of what was ordered or prescribed remained pending, and some was completed outside the place of care: 33.5% of those who underwent tests used a private laboratory, and 25.8% of those who obtained medications did so at a private pharmacy. These relationships show why follow-up must connect the clinical decision with completion of the test, delivery of the product, and subsequent care (Shamah-Levy et al., 2024).

Public care also combines in-house provision and contracted services. IMSS organizes comprehensive medical services for laboratory testing, hemodialysis, and other functions linked to its care network. At ISSSTE, contracting out accounted for 26.0% of magnetic resonance imaging tests, 24.9% of radiotherapy sessions, and 11.6% of hemodialysis sessions in 2025. In both institutions, the responsibility to provide care requires coordinating the work of different providers and maintaining clinical follow-up. IMSS and ISSSTE pharmacy records also make it possible to examine the scale and organization of medication deliveries (IMSS, 2025a, Table II.4 and Section V.2.2; ISSSTE, 2026; author's calculations).

Households participate along this path through money, time, and caregiving. ENIGH 2024 records monetary health spending in 64.1% of households; medications accounted for 31.3% of the health spending aggregate. In the spending and income reported by the survey, their burden was unequal: average medication spending represented 1.73% of average current income in the first decile and 0.47% in the tenth, about 3.7 times as much in the lowest-income group. Repeated

purchases for a course of treatment therefore have important distributional consequences (INEGI, ENIGH 2024; author's calculations).

Caregiving time adds to this contribution. Among those who provided unpaid care to household members with an illness or disability, women devoted an average of 12.8 hours per week and men 7.5, according to ENUT 2024, including emotional care and excluding supervisory care. Prolonged care draws on the resources of the person and those who support them. Evaluating its organization requires considering what care was obtained and what payments, travel, coordination, and work were needed to sustain it (INEGI, 2025a).

Outcomes Guide Improvement and the Development of Future Capacity

The relationship between treatment and outcomes creates another organizational requirement. The analysis of ENSANUT 2021–2024 estimates that 90.9% of adults with diagnosed diabetes reported pharmacological treatment and 77.4% regular use, while glycemic control reached 33.0% in the biochemical subsample. The widespread use of treatment makes it particularly important to examine its appropriateness, supply, use, and follow-up. Quality of care is reflected in the ability to assess changes in people's clinical condition and adjust decisions during treatment (Reyes-García et al., 2025).

The Health Sector Program (Programa Sectorial de Salud) 2025–2030 sets objectives that can guide this work. For people without social security coverage who receive public-sector care and a prescription, it sets a target of 80% for prescriptions filled in full at the same place of care in 2030, up from a baseline of 61.55% in 2024. Reaching this target requires linking medication needs with purchasing, distribution, and stocks at care units. Evaluation becomes useful when it identifies which operation must change, who makes that change, and what results the intervention produces (Secretaría de Salud, 2025).

The book's analysis distinguishes three questions to guide these decisions. Capacity: what function can be performed, and at what scale? Alignment: how does that function relate to the needs of a population in a particular place and time? Connection: how do complementary functions come together during care? A pending test may call for additional equipment and personnel, accessible service hours, or communication of a result already produced. Identifying the difficulty makes it possible to choose a response and relate its cost to the intended benefit.

Institutions already develop exercises that can inform this preparation. IMSS separately projects revenue and medical expenditure for insured persons and pension recipients. At ISSSTE, between 2009 and 2025, the number of pension recipients grew by 93.8% and the number of workers by 25.7%. Relating these projections and changes in composition to the services required allows capacity and financing to be discussed within the same horizon of care (IMSS, 2025a; ISSSTE, 2026; author's calculations).

Four areas of work follow from this analysis: tracing clinical orders or recommendations through to completion and the subsequent decision; aligning capacity with needs across geographic areas; incorporating household payments, time, and caregiving into evaluation; and translating future needs into services, resources, and financing. Applying them allows reforms to be assessed by the care they make possible and the conditions under which people can use it. Preparing for population aging requires bringing investment and operations together, planning for continuity of care, and revisiting decisions as needs and outcomes change.



The social organization of health can be understood by relating the capacities society builds to those people are able to use. The ultimate criterion is a response that is appropriate to their needs, available in a timely manner, and sustainable for as long as required. Health outcomes, together with the resources and work that made them possible, allow us to evaluate what has been achieved and guide decisions to improve health in Mexico.

1. Introduction: From Need to Outcome

In 2024, heart disease caused 192,518 deaths in Mexico, and diabetes mellitus caused 112,577. The scale of these losses underscores the importance of preventing, detecting, and addressing the population's health problems. Population aging adds a long-term challenge: a growing share of people will need follow-up, treatment, and caregiving for years, alongside the response to communicable diseases, injuries, and other needs. Understanding how this response is organized is essential to guiding the resources and decisions that can improve health in Mexico (INEGI, 2025c; CONAPO, 2023b; Shamah-Levy et al., 2024).

A health need sets in motion activities that begin before a visit and may continue long afterward. Institutions allocate responsibilities and mobilize financing; providers organize personnel, facilities, and equipment; businesses produce and distribute goods; and households contribute money, time, and caregiving. When someone receives care, they draw on a combination of these capacities. What that care achieves depends on how the participants relate to one another, the conditions under which their services can be used, and the quality of the decisions made along the way.

This book examines these relationships through a central question: how does a society transform its population's health needs into health outcomes? We use the term social organization of health to describe the responsibilities, resources, capacities, and relationships through which this takes place. In Mexico, this organization brings together institutions established at different times, economic activities with different forms of specialization, and the decisions of people seeking care under unequal conditions. Our purpose is to explain how this whole operates and provide a map that locates each of its parts within the response to health needs.

To do so, we bring together two perspectives with a long tradition in health research. The first examines the functions through which a system is organized. In their proposal for structured pluralism, Londoño and Frenk (1997) distinguished financing, articulation, modulation, and service delivery. Murray and Frenk (2000) linked stewardship, financing, resource generation, and service delivery to performance. Subsequent frameworks developed by the World Health Organization and for health system assessment further explored the relationships among resources, functions, and health objectives (WHO, 2007; Papanicolas et al., 2022; OECD, 2024). This perspective helps identify which tasks are performed, who takes responsibility for them, and how their contributions are organized.

The second perspective follows the progression from need to care. Tanahashi (1978) examined successive conditions of coverage to identify the points at which service delivery is constrained. Using the concept of effective coverage, Shengelia et al. (2005) related need, access, utilization, and quality to the benefit of an intervention. Amouzou et al. (2019) and Marsh et al. (2020) extended the analysis of the stages that lead from contact with a service to care capable of producing the intended outcome. This tradition places people and the care they receive at the center of evaluation.

Our contribution is to bring both perspectives together with an analysis of the economy that supports care and the work performed by households. Medication production, distribution, the organization of establishments, and everyday caregiving thus become part of a single explanation. The evidence in the chapters that follow shows different ways of developing capacity, trajectories



that cross institutional boundaries, and unequal contributions of money and time to complete care. Examining these elements together helps explain the function each participant performs and the relationships that make it possible to address a need.

1.1 Two Trajectories That Must Meet

The analysis begins with the person. A health need may manifest itself through symptoms or be identified during a visit, a test, or a preventive activity. Once it is recognized, the person can consider whether to seek care. That search presents concrete alternatives: institutions with which the person has a connection, public and private providers, and services at different distances, with different hours, appointment schedules, and prices. Financial resources, time, and the ability to travel influence which of these alternatives the person can use.

Access describes the possibility of reaching and using a service; utilization records that a person received care. This distinction relates the characteristics of supply to what actually happens. A facility may be close to a person's home but offer the required service only at certain times. Another may have the service available but require a trip that the person needs help arranging. In both cases, the encounter depends on the relationship between the provider's availability and the circumstances of the person seeking care. The first trajectory can be summarized as follows:

Need → recognition → care seeking → access → utilization.

The second trajectory follows how society builds its response. The allocation of responsibilities guides the mobilization of resources and decisions about how to use them. Financing makes it possible to hire workers, secure facilities, acquire equipment and inputs, and maintain support services. These resources form capacity when they are combined to perform a function. A diagnostic unit, for example, needs equipment, trained personnel, maintenance, and clinical information to perform and interpret a test. This capacity becomes operational, produces goods or services, and makes them available in particular places and at particular times.

Responsibility → financing → resources → capacity → production → availability.

The two trajectories connect through access and utilization. The available response becomes one of the person's options, and an encounter with a provider allows care to begin. From that point on, a clinical decision may require new connections: having laboratory tests, seeing another professional, obtaining medications, or returning for a follow-up visit. Each clinical order or recommendation links a need to capacities that may be located in another facility. The organization of care must allow these contributions to be incorporated into the person's clinical management.

Medications illustrate this relationship clearly. The clinical trajectory leads to a prescription identifying the product to be used. The organization of production provides a good that has been manufactured or imported, purchased, distributed, and stored until it reaches a supply point. Obtaining the medication brings these two processes together. When treatment must be renewed, repeat deliveries need to be coordinated with the corresponding clinical assessments. Figure 7.1 develops this meeting between clinical decisions and the material supply chain in greater detail.

How long a need persists changes the way the response must be organized. An episode may be resolved through a brief intervention; a persistent illness requires visits, tests, medications, and



caregiving to remain available over an extended period. Continuity of care refers to the possibility of keeping these functions connected as the need evolves. Quality, in turn, describes the appropriateness, timeliness, and safety of decisions and interventions, as well as their coordination. Follow-up makes it possible to assess the person's progress and adjust treatment when appropriate.

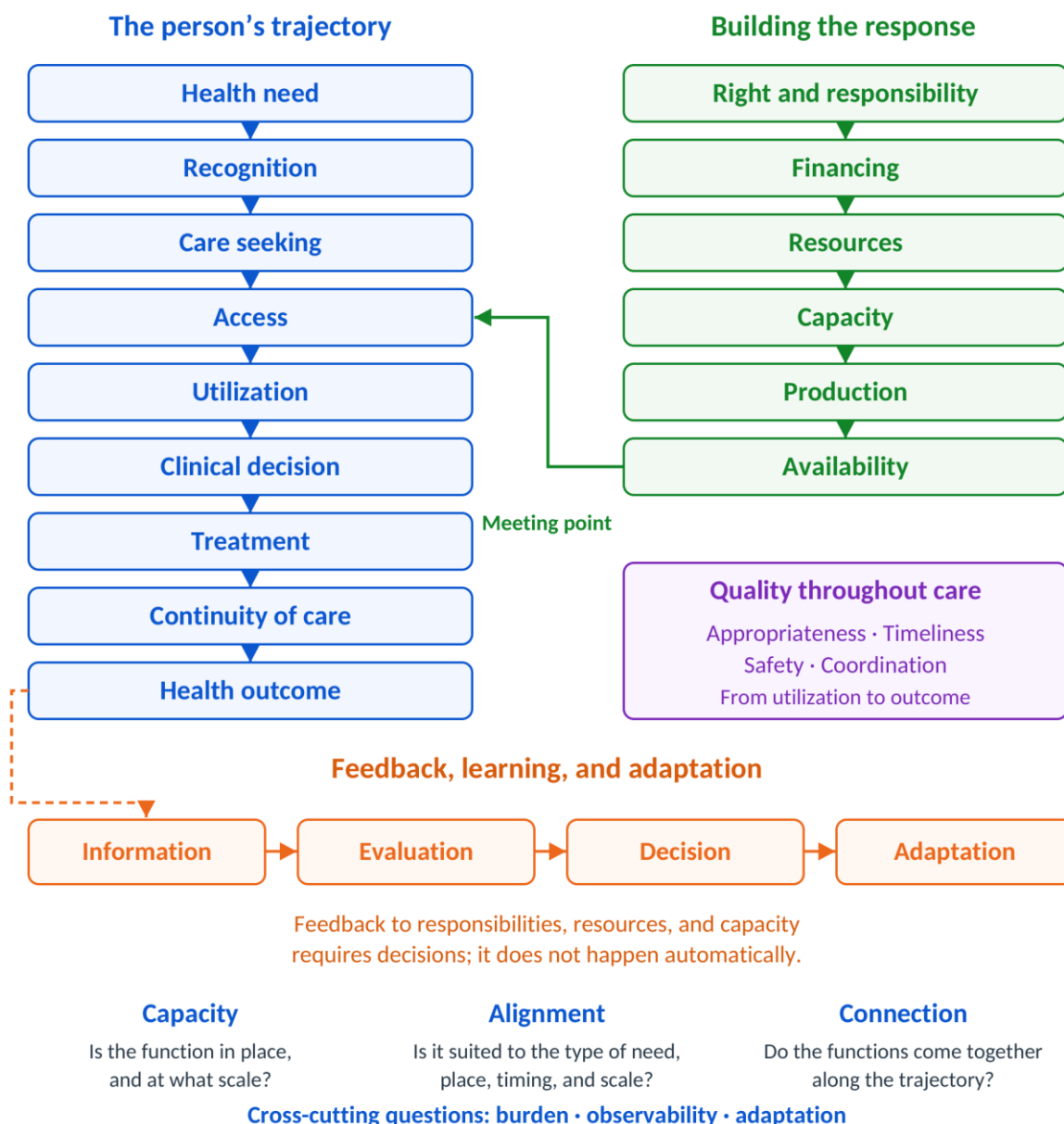
Outcomes reflect what happened during care, together with the person's initial condition and living circumstances. Their evaluation relates those circumstances to the decisions made and services received. Information about what happened can be used to evaluate care and guide changes in responsibilities, processes, and resources. It also helps prepare the response to future needs. Figure 1.1 brings together the two trajectories, their meeting during care, and the feedback from outcomes to evaluation and decisions. It follows the person's path, the development of the capacities they need, and the possibility of changing that organization in light of experience.

To examine how this whole operates, we distinguish capacity, alignment, and connection. Capacity describes which function can be performed and at what scale. Alignment relates that function to the type of need, the population, the geographic area, and the time at which it is required. Connection enables complementary capacities to contribute to the same course of care. These dimensions help locate the problem that needs to be resolved before deciding how to intervene.

Consider a pending diagnostic test. If the equipment or personnel are missing, the response requires more capacity. If the service can be provided but is too far away or the appointment comes too late, its availability needs to be reviewed in relation to the need. If the test has already been performed at another facility, its contribution depends on the result reaching the professional who will continue the person's care. The same clinical task can therefore call for decisions about investment, location, scheduling, or information sharing. The example shows how the three dimensions distinguish different problems and relate each to a specific response.

The analysis also considers who contributes the resources needed to sustain the trajectory, what information allows us to follow it, and how it can change in response to new needs or outcomes. The concept of burden brings together the demands for money, time, coordination, and caregiving; observability refers to the possibility of following what happened; and adaptation refers to the changes through which the organization adjusts its response. These questions accompany the examination of services and help assess their implications for the different participants.

Figure 1.1. From Needs to Outcomes: The Architecture of the Social Organization of Health



Note: The arrows organize the relationships examined in the analysis. Functions may be distributed across different institutions, businesses, professionals, households, and geographic areas. Each need calls for a particular combination of services, goods, and caregiving; persistent needs require these relationships to be renewed. Quality extends throughout care, and the evaluation of outcomes can guide its adaptation.

Source: Author's own work, based on the study's analytical framework.

1.2 Institutions, Markets, and Households

Mexico's response to health needs has developed through institutions with different populations of reference, financing rules, and service delivery networks. The Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) and the Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) organize part of that response through their social security schemes. Services for people without

social security coverage follow a different institutional trajectory. Alongside these arrangements are private health insurance, providers that charge directly for care, and the suppliers of goods and services used by the different networks. Chapters 2 and 3 examine how these responsibilities are distributed and which resources finance them.

The relationship between public and private participation becomes clearer when we distinguish their functions. An institution may finance care delivered in its own network while using medications produced by private businesses. A laboratory may perform tests for people who were seen at different institutions. A pharmacy may supply products prescribed by a social security physician or a private provider. The source of financing, the ownership of the facility, and the origin of the goods describe different aspects of the same course of care. Following these relationships helps explain how institutions and markets contribute to it.

The organization of production is particularly important in this approach. Visits, diagnosis, and hospitalization bring together resources at different scales. The manufacture of medications and devices may be concentrated in certain locations and supply other places through distribution networks. Economic analysis allows us to study how these activities develop, how much labor they bring together, which goods they produce, and how they are linked through trade. Their significance for health becomes clear when they are related to the services and products the population needs. Manufacturing, trade, and logistics thus become part of the explanation of care.

Households participate through decisions and contributions that extend throughout the trajectory. They recognize problems, choose where to seek care, arrange travel, purchase goods and services, and sustain caregiving tasks. When several providers are involved, households may also carry test results, prescriptions, and medical histories between them. The availability of money, time, and support influences whether these activities can be completed, especially when they must be repeated for months or years. The study examines these contributions alongside those made by institutions and professionals.

Households contribute resources whose scale depends on their economic position and on how care is organized. Chapter 3 shows that, in the spending and income reported by ENIGH, medications carry a greater relative burden among lower-income households. Chapter 7 adds caregiving work and differences in the time contributed by women and men. These contributions form part of the resources needed to sustain care, alongside professional services (INEGI, ENIGH 2024 and ENUT 2024; author's calculations).

Taken together, these relationships lead us to interpret this organization as plural, segmented, and distributed. Plurality describes the diversity of participants; segmentation describes the distinct arrangements for responsibilities, financing, and care; and distribution describes the location of complementary functions across organizations and geographic areas. Part of this distribution reflects specialization: some services need to be close to people, while others require expertise and resources to be brought together. How the whole operates depends on how these forms of organization relate to people's needs. The book's conclusions develop the implications of this interpretation for investment, management, and the evaluation of reforms.

1.3 Observing Change

The analysis focuses on personal health care, medications, and continuity, and examines the economic and caregiving functions that support them. Prevention and living conditions are included because of their relationship to needs and outcomes. To study these relationships, we combine sources that observe different parts of the trajectory. Projections from the National Population Council (Consejo Nacional de Población, CONAPO) provide the demographic context. The National Health and Nutrition Survey (Encuesta Nacional de Salud y Nutrición, ENSANUT) provides information on reported needs, care seeking, utilization, and decisions following a visit. Clinical analyses of its survey rounds allow us to examine diagnosis, treatment, and disease control. The National Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares, ENIGH) and the National Time Use Survey (Encuesta Nacional sobre Uso del Tiempo, ENUT) show financial contributions and caregiving work, respectively.

The development of the response is examined through health expenditure accounts, budget records, the Economic Censuses, the National Statistical Directory of Economic Units (Directorio Estadístico Nacional de Unidades Económicas, DENUE), and production and trade statistics. One contribution of the study is the reconstruction of thirteen groups of economic activities across census reference years from 1998 to 2023, allowing employment, value added, and forms of organization to be compared within a predominantly private and market-based set of activities. DENUE makes it possible to examine the territorial presence and functional architecture of establishments; the analysis does not equate that presence with effective coverage. KLEMS growth accounting makes it possible to study the contributions of capital, labor, and inputs to output growth.

Statistics on self-reported affiliation describe the ties people recognize with institutions, while ENSANUT shows where they received care during an episode. Institutional and regulatory documents specify functions, conditions for participation, and policy objectives. OECD comparisons provide reference points for spending, resource levels, and outcomes. Each source contributes to a question addressed in the book while retaining its own unit, period, and population of reference. Annexes A.1–A.10 bring together the sources, classification crosswalks, and calculation procedures used.

IMSS and ISSSTE records complement the surveys by describing the population covered, resources, activity, and institutional finances. The National Financial Inclusion Survey (Encuesta Nacional de Inclusión Financiera, ENIF) provides data on private insurance ownership, and the National Insurance and Surety Commission (Comisión Nacional de Seguros y Fianzas, CNSF) provides figures on insurance contracts. These sources allow us to follow the relationship between protection, financing, and service delivery under different arrangements. The populations covered by these sources are kept separate, and financial comparisons use the relevant benefit and accounting stage.

This combination allows us to explain the whole using observations produced separately. For example, industrial and trade statistics show how the pharmaceutical supply is formed; ENSANUT records whether people obtained what was prescribed; and ENIGH allows us to study the economic burden of medications on households. Relating these questions helps explain supply

and its financing. The result is an analytical and empirical synthesis that connects functions while preserving the meaning of each measure.

The sources assembled describe episodes and some transitions, but they do not follow the same people longitudinally across providers. An activity reported as not completed during the episode and a subsequent course of care for which no record is available are different observations. The first identifies a task that remained pending during the period; the second leaves open the possibility that it occurred elsewhere. In this book, trajectory denotes the conceptual path linking these decisions. Annex A.1 specifies the data that would make it observable: person, episode, clinical order or recommendation, date, place, and subsequent event (Shamah-Levy et al., 2024).

The findings are descriptive and comparative in scope. They allow us to identify changes, interpret the relationships among them, and derive criteria for organizing the response. Evaluating the effects of an intervention also requires establishing which part of an observed change can be attributed to it. This distinction becomes important in years when institutional reforms, the pandemic, and changes in households' economic circumstances coincided. The book develops the implications of the evidence and specifies, in each analysis, the additional checks needed to support its explanations.

1.4 The Question That Organizes the Book

The chapters that follow develop the relationships shown in Figure 1.1. Chapter 2, *Needs, Care Seeking, and Responsibility*, examines how the composition of needs changes, how needs are recognized and lead to care seeking, and how responsibility for responding is distributed. Chapter 3, *Who Finances Care and How Resources Are Allocated*, follows those responsibilities into financing channels, public allocations, household spending, and the sequence from purchasing to delivery.

Chapter 4, *From Resources to Capacity*, examines how labor, facilities, equipment, and inputs are combined, and the different ways in which services have expanded. Chapter 5, *Producing Goods and Services and Making Them Available*, relates this capacity to manufacturing, foreign trade, regulatory requirements, and distribution networks. Together, these chapters show how supply is built by combining services delivered close to people with goods produced and transported from elsewhere.

Chapter 6, *Availability, Access, and Utilization*, returns to the person's trajectory to examine the alternatives they encounter, the conditions for using them, and the provider they visit. Chapter 7, *From Care to Treatment*, follows clinical decisions through testing, obtaining medications, continuity of care, and caregiving at home. Chapter 8, *Quality, Outcomes, and Learning*, examines how care works, what changes it achieves in health, and how information can guide evaluation and the development of capacity for the future.

Chapter 9 brings together the findings to explain the characteristics of Mexico's organization of health and their implications. The argument running through the book is that needs and outcomes are linked by functions performed by different participants. Understanding that relationship allows us to ask which capacity should be developed, for which population, and how it should be combined with other capacities. The discussion therefore begins with the needs of Mexico's population: their scale, how they are changing, and the responsibilities involved in addressing them.

2. Needs, Care Seeking, and Responsibility

In 2024, Mexico recorded 192,518 deaths from heart disease and 112,577 from diabetes mellitus, equivalent to approximately 526 and 308 deaths per day, respectively. Within the first group, 15.2% were due to hypertensive diseases (INEGI, 2025c). The importance of these conditions extends to all those living with them who need diagnosis, treatment, medications, and follow-up over many years. As the population ages, more people may need several of these interventions at the same time, as well as support with everyday activities.

Organizing a response to these needs requires understanding their scale, their distribution across population groups, and the changes that can be anticipated. It also requires understanding how people recognize a problem and decide to seek care. Some diseases are identified through symptoms; others are detected during a visit, a test, or a preventive activity. The care observed results from this process and from the opportunities people have to reach a service.

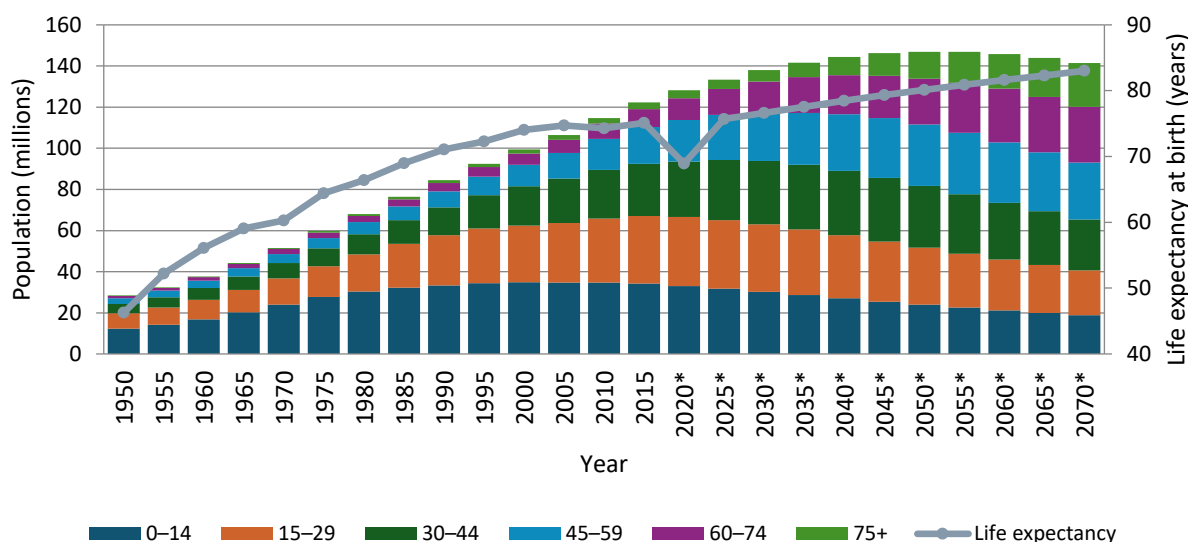
In this chapter, we examine the relationship between health needs, care seeking, and the responsibility to respond. Population projections and health surveys allow us to assess the scale of demographic change and its implications for health. Information on care seeking shows how people's assessment of a problem, time, trust, and available resources influence the process. Finally, the institutional arrangements help explain why people with similar needs may enter different care and financing arrangements.

2.1 The Composition of Needs Is Changing

For much of the twentieth century, the rapid growth of a predominantly young population shaped a substantial share of Mexico's health care needs. Declining fertility and improved survival changed that structure. Large birth cohorts are reaching ages at which chronic diseases are more common, while younger groups account for a smaller share of the population. Figure 2.1 shows how this composition has evolved since 1950 and its projected trajectory through 2070. According to CONAPO, the total population will peak around midcentury, while the older population will continue to grow through the remainder of the period considered (CONAPO, 2023b, 2024a).

According to these projections, the population aged 20 or older will increase from 91.7 million in 2026 to 115.6 million in 2070, a rise of 26.1%. Within this population, the group aged 60 or older will grow by 171.7%, from 17.8 to 48.4 million. Its share of the country's total population will rise from 13.2% to 34.2%, so that by 2070 approximately one in three people will be at least 60 years old (CONAPO, 2023b; author's calculations).

Figure 2.1. Mexico's Population by Age Group, 1950–2070



Note: Midyear population, in millions; life expectancy at birth, in years, on the right-hand axis. The period through 2019 corresponds to the demographic reconciliation, and 2020–2070 to CONAPO's projections. Asterisks in the chart labels identify projected years.

Source: Author's elaboration using CONAPO's *Conciliación Demográfica de México 1950–2019* and *Proyecciones de la población de México y de las entidades federativas 2020–2070*.

Age composition matters because the frequency of disease changes substantially over the life course. In ENSANUT Continua 2023, the proportion of people with a prior medical diagnosis of diabetes was 1.7% among adults aged 20 to 39, 13.5% among those aged 40 to 59, and 27.6% among those aged 60 or older. For hypertension, the proportions were 5.4%, 19.9%, and 40.0%, respectively. A larger share of people at older ages therefore raises the expected number of cases even when the frequency of each disease within each group is held constant (Shamah-Levy et al., 2024, Table 6.10.1).

To assess the scale of this effect, we apply the rates of prior diagnosis of diabetes and hypertension for the three age groups to CONAPO's projected population. Assuming these rates remain constant, the combined count of the two diseases is estimated to increase by 84.5%, from 25.5 million in 2026 to 47.0 million in 2070. This growth is considerably greater than that of the adult population and shows the importance of aging in anticipating health needs. Table 2.1 presents both trajectories as indices with a base of 100 in 2026. Annex A.7 documents the constant-rate demographic exercise for diabetes and hypertension.

The mechanism can be seen by comparing two scenarios. If the adult population grew as projected but retained its 2026 age composition, the combined count would reach 32.1 million in 2070. When the change in age composition is also included, it reaches 47.0 million. How this increase is allocated between population size and composition depends on the order of the decomposition. Averaging the two sequences assigns 62.0% to age composition and 38.0% to the size of the adult population. The sequential allocations place the contribution of composition between 54.8% and 69.1%; in both cases it accounts for more than half of the increase. Annex A.7 presents the formulas and the interaction that explains this difference (author's calculations).

Table 2.1. Growth in the Adult Population and in Diabetes and Hypertension Cases with Diagnosis Rates Held Constant

Indices with a base of 100 in 2026

Year	Population Aged 20 or Older	Sum of Diabetes and Hypertension Cases
2026	100.0	100.0
2030	105.7	110.3
2040	117.2	135.4
2050	124.4	157.3
2060	127.3	174.6
2070	126.1	184.5

Note: The rates of prior medical diagnosis observed in 2023 are held constant for the age groups 20–39, 40–59, and 60 or older. Each disease is counted once, so a person with both diagnoses contributes to both counts. This aggregate corresponds to the “person–condition counts” in Annex A.7, which documents the formulas, populations, and decomposition used in the exercise.

Source: Author’s elaboration using CONAPO (2023b) and Shamah-Levy et al. (2024), Table 6.10.1.

Table 2.1 shows that this process continues even when the number of adults begins to decline. Between 2060 and 2070, the adult population index falls from 127.3 to 126.1, while the case index rises from 174.6 to 184.5. This result matters for health planning: a population that stabilizes may require more care for persistent diseases because of changes in its age structure. Requirements for visits, medications, personnel, and financing will depend on how frequently and through which forms of care those cases are addressed, as well as on developments in prevention, diagnosis, and treatment.

Aging also changes the combination of services a single person needs. Using ENSANUT Continua 2023–2024, Manrique-Espinoza et al. (2025) estimate that 39.7% of people aged 60 or older have multimorbidity, meaning the coexistence of several diseases. A person living with two or more conditions may need visits with different professionals, several medications, and periodic tests. Follow-up must bring together the information produced through these contacts so that decisions about each disease form part of coordinated care.

Limitations on independent functioning add to these needs. ENSANUT 2023 estimated that 27.4% of people aged 60 or older needed help with at least one instrumental activity of daily living, such as shopping, using transportation, cooking, or taking medications. The proportion was 44.5% in rural localities and 22.9% in urban ones (Shamah-Levy et al., 2024, p. 151). These differences show that support needs also vary by place of residence. For someone who needs help getting around, attending a visit requires transportation and someone to accompany them; for someone who needs support with medications, continuity of care includes everyday caregiving tasks.

Pooled state-level estimates from ENSANUT Continua 2020–2024 show that the composition of these needs also varies across the country. Among adults, prior diagnosis of diabetes ranged from 8.7% in Quintana Roo to 16.2% in Campeche, and prior diagnosis of hypertension from 12.0% in Chiapas to 23.0% in Durango. Among people age 60 or older, depressive symptoms were estimated at between 22.4% in Tamaulipas and 51.2% in Chiapas. These are different problems and do not form a common index; together, they show that national aging overlaps with different state profiles of need (Shamah-Levy et al., 2025).

From this perspective, demographic change affects the duration, combination, and organization of care. Outpatient services, diagnosis, medications, rehabilitation, and caregiving must be sustained over long periods and coordinated around each person's needs. Household contributions are part of this response, with possibilities that differ according to income, available time, and support networks.

At the same time, Mexico continues to face needs for prevention and care in communicable diseases, maternal and reproductive health, child health, injuries, and mental health. Each requires its own combination of surveillance, care, and follow-up (Shamah-Levy et al., 2024). The growing presence of chronic diseases adds to this range of needs. The organization of health must prepare to serve an older population with greater needs for continuity while sustaining the functions directed at other groups and health problems.

2.2 When a Need Leads to Care Seeking

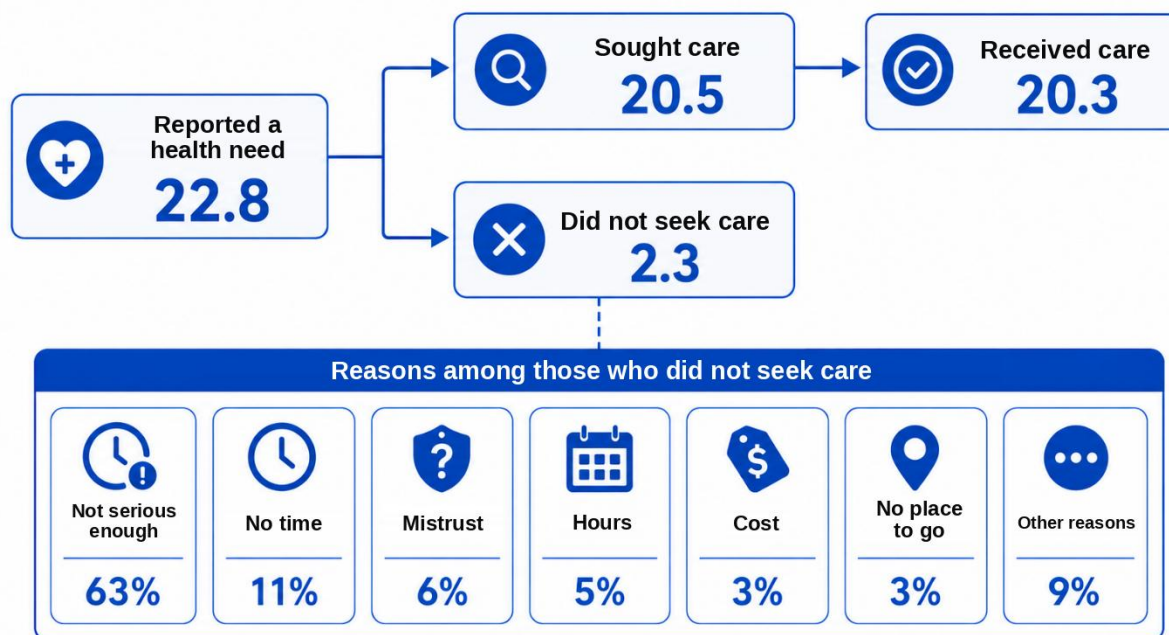
The scale of needs that reach services depends first on their recognition. Symptoms may lead someone to seek help, while other conditions are identified through measurements or tests. Hypertension illustrates this difference. In the ENSANUT 2023 subsample of adults aged 20 or older whose blood pressure was measured, total prevalence was 31.1%: 19.6% had a prior medical diagnosis, and 11.5% had readings consistent with hypertension without having previously received that diagnosis (Shamah-Levy et al., 2024, Table 9.2.1).

Detection makes people aware of problems that may require care and follow-up. Services therefore need to combine a response to requests for visits with preventive and diagnostic activities. Expanded detection may lead more people to seek care for conditions that already existed. Planning this response requires considering both those who use services and those living with needs that remain unrecognized.

Once a problem is recognized, care seeking depends on how the person assesses it and on the alternatives available to them. ENSANUT 2023 collected information on the health needs of 20,018 people through its household module. Of these, 22.8% reported a need during the three months preceding the interview, including illnesses, injuries, psychological distress, and preventive medical services. Among those reporting a need, 90% sought care and 89% received care from a health professional (Shamah-Levy et al., 2024, pp. 23–24).

Figure 2.2 expresses these proportions on a base of 100 people. Approximately 22.8 reported a need, 20.5 sought care, and 20.3 received it. Within the stages observed, the largest gap is between recognizing a need and beginning to seek care: 10% of those reporting a problem did not seek care.

Figure 2.2. From Perceived Need to Seeking and Receiving Care, Mexico, 2023



Note: The figure expresses the first stages of the cascade on a base of 100 people. The values of 20.5 who sought care and 20.3 who received it are approximate equivalents obtained by applying ENSANUT's published percentages of 90% and 89%, respectively, to the 22.8% who reported a need. Reasons are expressed as percentages of those who did not seek care. The original estimates account for the survey's complex design.

Source: Author's elaboration using Shamah-Levy et al. (2024), ENSANUT Continua 2023.

The reasons reported help explain this decision. Among those who reported a need but did not seek care, 63% considered the problem insufficiently serious. The person's assessment therefore plays an important role in the decision to use a service. This response describes their perception of the problem; the need for a clinical intervention also depends on its nature and progression. Health information and guidance can help people recognize when to seek care.

Other reasons relate directly to the conditions for obtaining care. Lack of time was cited by 11%; mistrust or unfriendly treatment by 6%; the absence of a service at the hours needed by 5%; cost or lack of money by 3%; and the absence of a place to receive care by 3% (Shamah-Levy et al., 2024, Table 1.2.1). These responses show why expanding care requires considering the organization of services alongside households' circumstances. Hours, location, and the way people are treated affect their ability to attend a visit, as do the resources needed to pay for it and the time required to get there.

Distinguishing need, demand, care seeking, and utilization allows us to relate these findings. Need refers to the health problem that requires a response. Demand expresses an orientation toward obtaining care; care seeking is the attempt to obtain it; and utilization records that a person received a good or service. This way of examining the process draws on the tradition of health services utilization models, which relate needs to people's characteristics and the resources available to them (Andersen, 1968, 1995).



The evidence reviewed identifies two tasks at the outset of care. One is to identify conditions that remain undiagnosed; the other is to make it easier for recognized needs to receive a response. The first highlights prevention and detection. The second directs attention to information, trust, service hours, location, and costs. Both are part of the responsibility for health and require an organization capable of acting before the clinical encounter and sustaining the care that begins.

2.3 From a General Right to Differentiated Responsibilities

Article 4 of the Constitution recognizes everyone's right to health protection and establishes the shared jurisdiction of the federal and state governments. The *Ley General de Salud* (General Health Law) sets out the distribution of powers and recognizes the provision of public health services, medications, and associated supplies free of charge to people without social security coverage. This framework assigns responsibilities for organizing, financing, regulating, and delivering services through institutions and levels of government that perform different functions (CPEUM, art. 4; *Ley General de Salud*, arts. 13 and 77 bis 1).

Social security organizes part of the response through schemes linked primarily to employment relationships, pension recipients, and family members entitled to benefits. The Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) and the Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) combine financing and service delivery, with their own rules for enrollment and access to benefits. A relationship with these institutions provides a route to care and establishes responsibilities toward the population protected by each scheme (*Ley del Seguro Social*, arts. 11–13 and 84; *Ley del ISSSTE*, arts. 1, 3, and 6).

Medical protection under social security extends to pension recipients and family members who meet the requirements of each scheme. At the IMSS, Sickness and Maternity Insurance (*Seguro de Enfermedades y Maternidad*, SEM) distinguishes coverage for insured persons from Medical Expenses for Pension Recipients (*Gastos Médicos para Pensionados*, GMP). At the ISSSTE, the 13.83 million people entitled to benefits in 2025 comprise 3.25 million workers, 1.41 million pension recipients, and 9.17 million family members. Responsibility for health is thus organized around a population broader than those in active employment (IMSS, 2025a; ISSSTE, 2026, Table 1.1).

At the IMSS, this protection is provided through an organization that combines insurance and service delivery. The SEM includes medical, surgical, pharmaceutical, and hospital care, together with preventive activities and cash benefits. Family medicine is the point of reference from which a need may lead to diagnostic services, specialty care, or hospitalization. The institution must organize both the resources for each service and the transitions between them, along with subsequent follow-up. This combination connects the rights described here with the financing examined in Chapter 3 and with the capacities and trajectories discussed in the following chapters (IMSS, 2025a, sections V.1 and IX.1).

Protection also depends on transitions in working life. Subject to the requirements of the applicable scheme, the IMSS pension for unemployment at age 60 or older (*cesantía en edad avanzada*) links pension benefits with medical care. Following the end of employment, entitlement to medical benefits also continues temporarily under the conditions established by law. As of June 2025, the institutional register identified 753,215 primary beneficiaries and

713,080 family members registered for care under this latter status. Distinguishing these situations makes it possible to track which protection remains when the employment relationship changes and which institution retains the responsibility to provide care (*Ley del Seguro Social*, arts. 109, 154–155; IMSS, 2025b, Table IX.1).

For people without social security coverage, the organization followed a different trajectory. The 2003 reform established the System of Social Protection in Health (Sistema de Protección Social en Salud), associated with Seguro Popular. The 2019 reform created the Institute of Health for Well-being (Instituto de Salud para el Bienestar, INSABI), effective in 2020. In 2022, the decentralized public body Servicios de Salud del Instituto Mexicano del Seguro Social para el Bienestar (IMSS-Bienestar) was created, and the 2023 reform provided for the transfer of resources and the steps required to dissolve INSABI. These changes altered responsibilities for financing, organizing, and coordinating services for this population (DOF, 2003, 2019, 2022, 2023).

The population of reference for the IMSS-Bienestar health services agency consists of people without affiliation to social security institutions. Its founding decree provided for service delivery in states with which it entered into coordination agreements for the transfer of services. This responsibility differs from that of the IMSS social security scheme. The coordination agreements specify the distribution of functions between the agency and state governments (DOF, 2022, arts. 1–2; *Ley General de Salud*, arts. 77 bis 5–6).

This evolution helps explain a feature of Mexico’s organization of health: the right to health protection is realized through institutional arrangements established at different times and serving populations defined under different rules. A similar need may receive a response through the IMSS, the ISSSTE, or services for people without social security coverage. Each involves specific financing mechanisms, networks of facilities, and procedures for obtaining care. The relationship between these responsibilities and available resources affects the ability to sustain diagnosis, treatment, and follow-up.

Collective responsibilities also extend to functions that address risks affecting the entire population. Epidemiological surveillance, prevention, and the regulation of goods and services require authorities, information, and coordination among institutions. These activities help identify health problems, organize responses, and establish conditions for service delivery and supply. Alongside them, public, social-sector, and private providers participate in individual care through different forms of organization (*Ley General de Salud*; Secretaría de Salud, 2025).

People move among these alternatives as they seek to address their needs. ENSANUT documents that people who report entitlement to benefits at one institution may use another provider during an episode of care. Chapter 6 examines these episodes and the conditions under which providers are chosen. Here, the focus is on what this means for the distribution of responsibilities: a person’s follow-up may bring together decisions and information produced by several providers, and continuity requires those contributions to be linkable.

Households also participate in organizing the response. They decide where to seek care, make payments, arrange transportation, accompany those receiving care, and provide caregiving. When a need persists, these tasks recur and must be coordinated with visits, tests, and the supply of medications. The distribution of functions among institutions, professionals, and households therefore influences who contributes the resources and work needed to sustain care.



The analysis in this chapter links changing needs to two organizational requirements. Aging and the coexistence of diseases make long-term follow-up and caregiving increasingly important. At the same time, gaps in diagnosis and the reasons for not seeking care highlight the importance of addressing how problems are recognized and the conditions for using services. The response must combine prevention, detection, and continuous care through identifiable responsibilities and resources aligned with the needs of each population.

How these responsibilities are financed determines how resources are mobilized and who decides how to use them. Contributions associated with social security, tax revenues, and household resources support different parts of care. The next chapter examines their scale, distribution, and the purchasing decisions through which they are translated into health services and goods.

3. Who Finances Care and How Resources Are Allocated

The comparison by financing scheme published in *Health at a Glance 2025* attributes approximately 52 out of every 100 pesos of current health expenditure in Mexico in 2022 to government and compulsory insurance schemes, 39 to household out-of-pocket payments, and 9 to voluntary schemes and other mechanisms. This distribution shows the importance of collective financing alongside the substantial amounts people must pay when they need care (OECD, 2025a, Figure 7.9).

This distribution helps place the roles of institutions and households in health financing. Some resources are pooled through taxes, social security contributions, and insurance premiums to cover needs that arise at different times among the people protected. Other resources are paid when someone needs a visit, a test, or a medication. How care is financed therefore determines how its cost is distributed and the extent to which a person must have money of their own to obtain it.

The previous chapter examined how responsibility for responding to health needs is distributed. Here we follow its financial expression: who contributes resources, where they are pooled, and who decides what to buy with them. We first describe financing channels and the reorganization of public allocations. We then examine household spending and differences in its economic importance by income. Finally, we delimit the operations that connect the budget with purchasing and delivery, and the information needed to track them.

3.1 Responsibilities Are Financed through Different Channels

General taxes finance services and collective functions by spreading their cost among taxpayers. Social security contributions pool resources for populations defined mainly through employment relationships, receipt of a pension, and family members' entitlement to benefits. Private health insurance pools premiums paid by households or employers and covers services under the terms of each contract. These mechanisms allow a person's care to be financed with resources contributed by a wider group before the episode in which they are needed.

Pooling resources in advance provides protection against the cost of illness. Someone who needs care at a particular time can draw on resources pooled among people facing different needs. The scope of that protection depends on the population included, the services covered, and the resources of the relevant scheme. In Mexico, these decisions are organized through different institutions and mechanisms, so the distribution of responsibilities described in Chapter 2 is also reflected in how money is raised and allocated.

Household out-of-pocket payment brings the need for care and its financing together at the same moment. To purchase a medication or attend a visit, a person must have the necessary resources. The price of the good or service, household income, and other expenses the household must meet all become relevant. A single care trajectory may combine both types of financing: an institution covers the visit, and the household later pays for a test or some of the medications. Table 3.1 shows how these functions are distributed across the main financing channels.

Table 3.1. Who Contributes, Where Resources Are Pooled, and Who Purchases in Mexico's Health Care Arrangements

Financing channel	Main source	Pooling of resources and risk	Allocation or purchasing	Relationship to service delivery
Social security	Contributions from workers, employers, and government; fiscal resources	Social security schemes and institutions	Institutional budgets, contracting, and payments	Financing and service delivery may coexist within the same organization
Public financing for people without social security coverage	Federal and state fiscal revenue	Budgets and intergovernmental and institutional arrangements	Federal and state governments and IMSS-Bienestar, depending on the function and arrangement	Purchasing and service delivery may be integrated or distributed
Voluntary private insurance	Premiums from households or employers	Insurer or plan	Contracts, payments to providers, or reimbursement	Providers contracted or selected under the plan
Household out-of-pocket payment	Household income and other resources	No resources pooled in advance for the episode	The household itself at the time of purchase	Direct purchases from providers, pharmacies, laboratories, and other suppliers

Note: The table identifies the predominant functions. Financing, pooling, purchasing, and service delivery may be integrated within one organization or distributed across several.

Source: Author's compilation based on the Constitución Política de los Estados Unidos Mexicanos, Ley General de Salud, Ley del Seguro Social, Ley del ISSSTE, and the legal framework applicable to IMSS-Bienestar.

Purchasing links these resources to decisions about goods and services. Institutions allocate budgets to their facilities, hire personnel, and purchase medications and supplies. Insurers pay providers or reimburse expenses covered by their contracts. Households purchase directly from physicians, hospitals, laboratories, and pharmacies. In each case, financing reaches organizations that combine labor, facilities, and supplies to produce the health response. A medication purchased by a public institution, for example, may come from a domestic or foreign private company.

With private health insurance, the contract determines what share of the cost the insurer covers and what share remains payable by the person. Protection depends on the sum insured, deductible, coinsurance, exclusions, waiting periods, and conditions for accessing hospitals and professionals. Two policies with similar limits can leave different out-of-pocket costs for the same need. Evaluation must relate the premium to the services covered, direct payment or reimbursement, and the resources the household must contribute in order to use care.

This financing channel mobilizes substantial resources. In 2025, the Medical Expenses (Gastos Médicos) insurance line reported by the National Insurance and Surety Commission (Comisión Nacional de Seguros y Fianzas, CNSF) recorded 174.5 billion pesos in written premiums and 125.6 billion pesos in claims costs; the Health (Salud) insurance line recorded 5.5 and 3.9 billion pesos, respectively. Premiums describe the contracts written, while claims costs describe the obligations recognized under the corresponding statistical definition. Insurance arrangements also involve reserves, acquisition, administration, and other financial components. Their contribution to

health takes shape through the payments made and the conditions under which insured persons receive care (CNSF, 2026, FES 27 file; author's calculations).

In social security, financial analysis needs to identify the benefit being financed. In 2024, IMSS recorded a positive institutional accounting result of 16,320 million pesos, while SEM reported revenue of 504,101 million pesos, expenditure of 614,480 million pesos, and an accounting deficit of 110,379 million pesos. Expenditure under this insurance scheme includes care and other costs, among them 151,793 million pesos in imputed pension and retirement costs. This comparison shows why the institute's aggregate result and the position of its medical insurance scheme must each be examined in terms of their own accounting composition (IMSS, 2025a, Tables II.1 and V.12).

Financing medical care for pension recipients constitutes a specific relationship within SEM. Contributions for GMP equal 1.5% of the contribution base salary: 1.05% comes from the employer, 0.375% from the worker, and 0.075% from the federal government. This mechanism links resources associated with employment to care during retirement. Medical expenditure and the pension that supports a person's income correspond to different benefits, even though both form part of their social protection (IMSS, 2025a, Table V.11).

ISSSTE also has responsibilities of different kinds. In 2025, it reported expenditure of 522.8 billion pesos; the budget item for pension and retirement payments accounted for 378.3 billion pesos, or 72.4% of the total, and the medication item for 18.2 billion pesos. The broader pension and retirement category also includes the *sumas aseguradas* item and other cash benefits, bringing the total to 382.1 billion pesos. Separating these categories makes it possible to relate resources to the obligations they fulfill before comparing the institutions' health financing (ISSSTE, 2026, Table 13.2; author's calculations).

The scale of available resources provides another perspective on this response. In the statistical data used in *Health at a Glance 2025*, Mexico's health expenditure is equivalent to 5.9% of GDP, compared with an OECD average of 9.3%. Per capita, it reaches 1,588 dollars adjusted for purchasing power parity, compared with 5,967 dollars across member countries (OECD, 2025b). These benchmarks place Mexico at a lower level of spending both relative to the size of its economy and per person. The indicators retain the periods and units used in the publication, as documented in Annexes A.3 and A.10.

To examine public resources, we use two complementary perspectives from the Ministry of Finance and Public Credit (Secretaría de Hacienda y Crédito Público, SHCP). The expenditure series on a cash basis makes it possible to trace the evolution of the Health function and its share of actual federal expenditure. The 2026 Federal Expenditure Budget (Presupuesto de Egresos de la Federación, PEF) shows how approved allocations are distributed across functions, institutions, and uses. Each perspective retains its budgetary stage: the first records payments, and the second records authorizations for the fiscal year (SHCP, 2026a, 2026b).

In 2025, expenditure on a cash basis under the Health function of the federal public sector covered by the budget totaled 951.2 billion pesos, equivalent to 9.91% of its net expenditure on the same basis. In 2020, it had totaled 644.8 billion pesos, with a share of 10.76%. After adjusting both amounts using the overall National Consumer Price Index (Índice Nacional de Precios al Consumidor, INPC), the increase over this period was 12.8%. Health received more resources than

at the beginning of the period, while overall federal expenditure grew faster (SHCP, 2026a; INEGI, INPC; author's calculations).

The annual evolution reveals differences within the period. Between 2024 and 2025, health expenditure on a cash basis rose from 924.9 to 951.2 billion pesos: a nominal increase of 2.8% and a real change of –0.9%. Table 3.2 presents the full series from 2020 to 2025. For the organization of health care, these amounts establish the financial resources used; how they translate into visits, tests, or treatments also depends on input prices and on how those inputs are combined to deliver services.

Distinguishing authorization from payment connects the initial decision to what happened during the fiscal year. Budget adjustments and execution may change each institution's resources and their distribution across activities. Evaluating an allocation therefore requires following it through to the operations it finances and the services it helps sustain. Annex A.3 documents the codes, units, and calculations used to construct the comparison.

Table 3.2. Health-Function Expenditure on a Cash Basis and Its Share of Federal Net Expenditure, 2020–2025

Year	Health expenditure, cash basis (billions of pesos)	Net expenditure, cash basis (billions of pesos)	Health / net expenditure
2020	644.8	5,995.0	10.76%
2021	684.5	6,735.8	10.16%
2022	785.3	7,554.1	10.40%
2023	802.1	8,121.9	9.88%
2024	924.9	9,164.2	10.09%
2025	951.2	9,596.6	9.91%

Note: Pesos at current prices; January–December sum for each year. Scope: the federal public sector covered by the budget. The Health function uses code XOA0417, and net expenditure on a cash basis uses XAC. Ratios are calculated from unrounded values; adjustments to real terms use the annual average of the overall INPC. See Annex A.3.

Source: Author's calculations using SHCP (2026a), Estadísticas Oportunas de Finanzas Públicas; INEGI, INPC.

The 2026 PEF allocates 965.7 billion pesos to the Health function, or 13.61% of approved programmable expenditure. IMSS accounts for 57.6% of that total; IMSS-Bienestar, 17.3%; the Health component of Ramo 33, 8.5%; ISSSTE, 8.4%; and Ramo 12, 5.9%. Table 3.3 shows this distribution. These allocations place the responsibilities described in Chapter 2 within the channels through which facilities receive financing (SHCP, 2026b; author's calculations).

Table 3.3. Institutional Distribution of the Health Function in the 2026 PEF

Spending entity or Health-function component	Approved 2026 (millions of pesos)	Share
IMSS	556,342.6	57.61%
IMSS-Bienestar, Ramo 56	167,306.6	17.33%
Ramo 33, Health component	82,365.9	8.53%
ISSSTE	81,525.8	8.44%
Ramo 12: Health	57,364.9	5.94%
Ramo 19: Social Security Contributions	10,292.5	1.07%
National Defense	6,926.2	0.72%
Navy	3,538.4	0.37%
Official total	965,662.8	100.00%

Note: Approved allocations from the consolidated budget breakdown. The sum of the rounded amounts differs from the official total by 0.1 million pesos. The Health component of Ramo 33 corresponds to the amount in this classification; the gross FASSA budget is presented in Annex A.3. Consolidation applies the adjustments identified by Hacienda.

Source: Author's calculations using SHCP (2026b), Volume I, analysis of programmable expenditure functions by budget heading or entity, p. 3.

The economic classification shows the combination of resources expected to be financed. Within the Health function of the 2026 PEF, current expenditure totals 903.8 billion pesos; pension and retirement payments classified under this function, 9.5 billion pesos; and investment expenditure, 52.3 billion pesos. Within current expenditure, direct personnel expenditure and personnel expenditure financed through earmarked federal transfers together total 525.8 billion pesos. For facilities to operate, this workforce needs supplies, maintenance, and premises, provided through decisions that must be coordinated (SHCP, 2026b, functional-economic analysis; author's calculations).

Allocations are also distributed across health care functions. Provision of Personal Health Services accounts for 91.1% of the total; Health System Stewardship, 3.6%; Community Health Services, 1.9%; Social Protection in Health, 1.8%; and Generation of Resources for Health, 1.7%. These categories describe how activities are recorded in the budget. Their relationship to prevention, care, and follow-up must be examined through the content of the programs and the services delivered (SHCP, 2026b; author's calculations).

3.2 Household Spending and Its Importance across Income Groups

Households participate widely in health financing. In 2024, ENIGH estimated that 24.87 million households, or 64.1% of the total, incurred some monetary health expenditure. Average quarterly spending was approximately 1,605 pesos per household, including households reporting zero expenditure. In total, the health care spending aggregate reached approximately 62.3 billion pesos per quarter. These figures make it possible to examine spending reported by households and its distribution across economic groups (INEGI, ENIGH 2024; author's calculations).

Annualizing the quarterly aggregate yields reported spending of about 249.2 billion pesos. For the same year, Mexico's Health Sector Satellite Account estimates household outlays of 800.7 billion pesos. The contrast shows a difference in magnitude that requires concepts and procedures to be harmonized before it can be attributed to underreporting. Here, ENIGH is used to examine reported outlays and their relationship to income; the Satellite Account provides an annual

reference within the national accounts framework. Annex A.3 documents the comparison (INEGI, 2025e, 2025f).

Medications were the largest component, accounting for 31.3% of health spending, followed by medical services at 29.3% and hospital care at 13.3%. The survey aggregate also includes medical insurance premiums and other health goods and services. Medications deserve particular attention because of their share of spending and how often they may be needed: during prolonged treatment, purchases must be repeated for the prescribed period and accompanied by clinical follow-up. Their cost can therefore become a recurring demand on household finances.

The importance of health spending has changed over the years observed. As a proportion of average monetary expenditure, it fell from 2.70% in 2016 to 2.62% in 2018, rose to 4.23% in 2020, and stood at 3.37% in both 2022 and 2024. The share of households with some health expenditure also increased, from 55.0% in 2016 to 68.0% in 2020, before reaching 64.1% in 2024. The peak in 2020 coincided with the pandemic and a decline in average household monetary expenditure. The share devoted to health fell in the next two surveys, although it remained above the levels observed in 2016 and 2018.

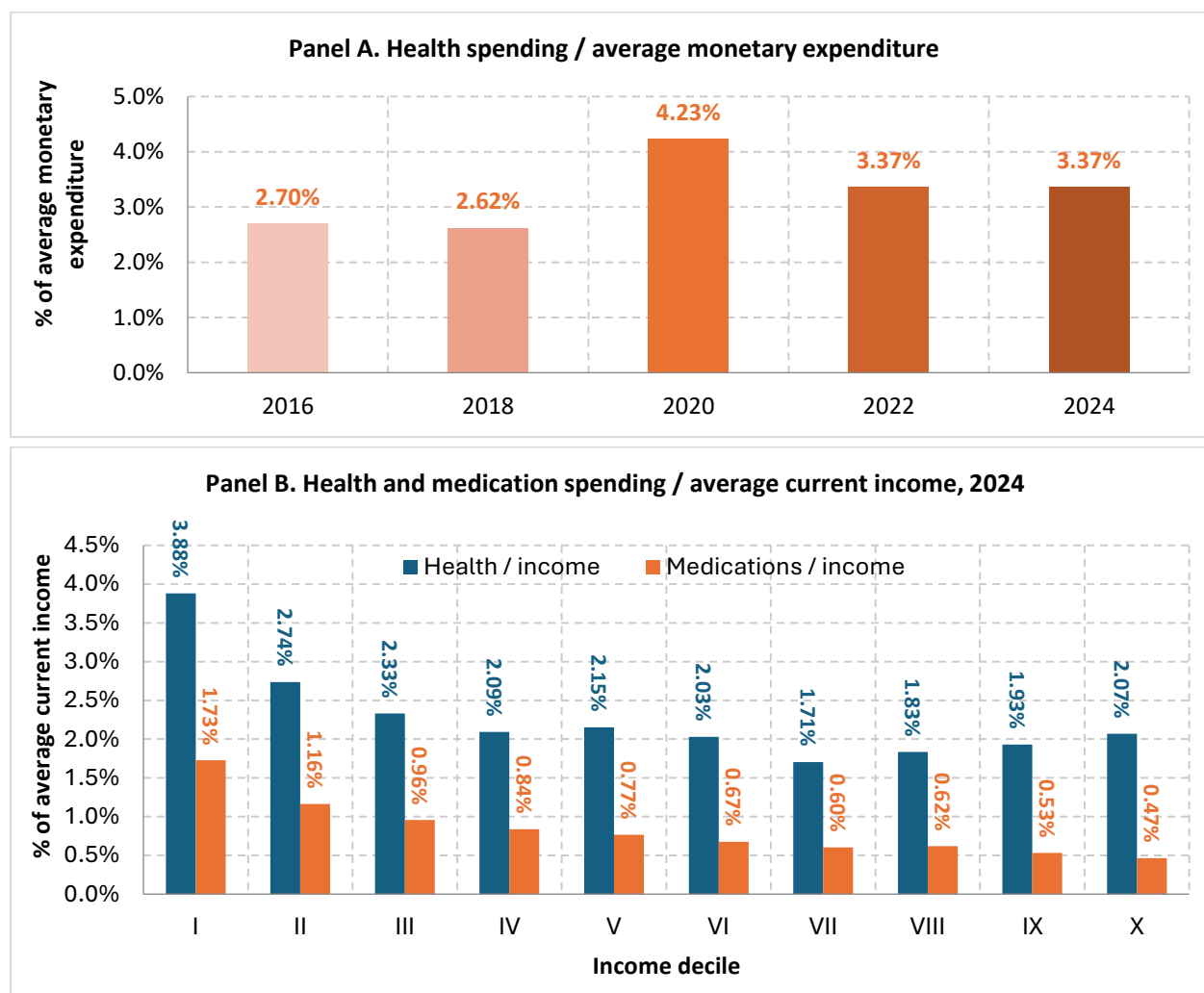
Economic position introduces substantial differences in the amounts spent. In 2024, average quarterly health spending was 652 pesos in the first income decile and 4,888 pesos in the tenth, approximately seven and a half times as much. For medications, the amounts were 290 and 1,099 pesos, respectively. These values show how much the average household in each group finances. To assess the importance of that spending within household finances, it must be related to the resources available.

In the spending and income reported by ENIGH, comparing health spending with average current income in the same decile yields a ratio of 3.88% in the first decile and 2.07% in the tenth. For medications, the ratios were 1.73% and 0.47%, respectively: the relative burden in the first decile was approximately 3.7 times that in the tenth. Higher-income households thus spent more pesos, while medication outlays represented a considerably larger share of the current resources of the lowest-income group. Panel B of Figure 3.1 presents this comparison for all ten deciles.

The composition of expenditure complements this picture. Relative to average monetary expenditure, health accounted for 3.84% in the first decile and 4.14% in the tenth, with a minimum of 2.70% in the seventh. For medications, the proportions were 1.71% and 0.93% at the two ends of the distribution. The difference between the results reflects what each comparison measures: relative to income, the question is how spending relates to current resources; relative to monetary expenditure, it is how much was spent on health within the purchases made. For medications, both approaches show a greater relative burden in the first decile.

This difference has a direct implication for affordability. For a purchase at the same price, a lower-income household must devote a larger fraction of its resources. When the payment recurs, as it may for medications used continuously, the household must sustain it alongside food, housing, transportation, and other needs. The importance of collective financing also lies in its ability to cover these costs throughout treatment and reduce the need to have money available each time the supply must be renewed.

Figure 3.1. Household Health Spending: Trends and Economic Position, ENIGH 2016–2024



Note: Panel A relates average health spending to average monetary expenditure in each year. Panel B relates health and medication spending to average current income in each decile in 2024. Averages include all households in each group, including those reporting zero expenditure. The figures are ratios of averages; see Annex A.3.

Source: Author's calculations using ENIGH 2016, 2018, 2020, 2022, and 2024, INEGI.

ENIGH identifies the outlay and its relationship to the household's economic position. Chapters 6 and 7 examine, separately, clinical decisions, providers used, and the medications reported as obtained in ENSANUT episodes. Both sources place the household within health financing, although they do not link each purchase at the individual level to a prescription or a place of care.

The findings in this section show widespread household participation and an unequal burden of medication spending relative to income. Financing and supply decisions therefore have a distributional dimension: which services and medications are covered, for how long, and what payments a person must make to complete their care. This relationship becomes more important as the need for follow-up and prolonged treatment grows.

3.3 Purchasing and Delivery within the Financing Circuit

Purchasing converts a financial allocation into obligations concerning products, presentations, quantities, prices, and delivery conditions. The supplier must fulfill those obligations, and the institution must organize receipt, storage, and distribution to points of care. Availability for a prescription depends on this entire sequence, not only on the amount contracted.

Accounting records make it possible to track the progress of these decisions. The approved budget authorizes the initial allocation, and the revised budget incorporates subsequent adjustments. Committed expenditure records formalized obligations, for example through a contract; accrued expenditure recognizes the payment obligation arising when goods or services are received and accepted. Expenditure ordered for payment corresponds to approval and issuance of the payment-order document or its equivalent, while paid expenditure records settlement of the obligation. Each entry identifies a stage in the financial transaction (CONAC, 2009).

The contract identifies the supplier's commitment; receipt records what was delivered, where, and when; inventory records stocks on hand; and dispensing records what the person received. Delivery to a central warehouse still requires distribution to care units. The documents linking these operations must correspond to the same product, period, and destination. Chapter 7 presents IMSS and ISSSTE records of supply and contracted services within the scope of each source.

Supplier selection adds the need to verify rights, authorizations, and capacity to fulfill the requested volume and deadline. Section 5.4 distinguishes these conditions. Price must be interpreted together with presentation, quality, and supply obligations, because contracts of similar value may finance different goods or services.

This edition does not integrate a linked database of tenders, awards, receipts, and dispensing. The section therefore identifies the operations and information needed to evaluate a purchase, without estimating savings from consolidated procurement or attributing observed supply to a procurement modality. Budget and pharmaceutical records are analyzed within their respective domains.

Through these decisions, financing supports workers, facilities, equipment, medications, and support services. Their combination determines which functions health care facilities can perform and for how long they can sustain them. The next chapter examines this transformation of resources into health care capacity.

4. From Resources to Capacity

Mexico has a lower supply of health care resources than the average across OECD countries. *Health at a Glance 2025* reports 2.7 practicing physicians per thousand people, compared with an OECD average of 3.9; 3.0 nursing professionals, compared with 9.2; and 1.0 hospital bed, compared with 4.2. The combined number of computed tomography, magnetic resonance imaging, and positron emission tomography units is 10 per million people, compared with 51 in the OECD. These figures provide a reference for the scale of resources Mexico uses to organize its response to health needs (OECD, 2025b).

The care these resources can provide depends on how they are combined. In a hospital, beds require personnel across shifts, medications, equipment, and support services. Performing an imaging test requires equipment, operators, maintenance, and clinical information. The capacity to deliver care arises from this combination and from the organization that keeps it functioning. The financing and purchasing decisions examined in the previous chapter must therefore be related to the tasks that facilities need to perform.

This chapter examines how capacity is formed from three complementary perspectives: the relationship among the resources needed to provide a service, the ways establishments and employment expand, and the contribution of productive factors to the growth of health services. IMSS reports and the ISSSTE yearbook show how resources and services are organized in public networks. Census evidence shows different paths in the private and market-based groups for inpatient care, diagnostics, and outpatient care, while growth accounting relates the addition of resources to output. Together, these perspectives help explain the material foundation on which care is organized in Mexico.

4.1 Capacity Is Built through Complementary Resources

In inpatient care, medical, nursing, technical, administrative, and support personnel perform tasks that must be coordinated throughout each patient's stay. The ability to admit and care for a person depends on these skills being available alongside the necessary facilities and supplies. Adding beds increases the scope for hospitalization when the resources needed to use them are also provided. If staffing or support services fall short of what the expansion requires, those components constrain care.

Health care labor is especially important in this relationship. General practitioners and specialists, nursing professionals, laboratory technicians, and rehabilitation personnel contribute different knowledge and functions. A team's capacity depends on its composition, the distribution of tasks, and the time during which it can provide services. Organizing care therefore requires identifying which professionals are needed for each function and how their work relates to that of other participants.

Technology expands what these teams can do. A computed tomography scanner enables tests that require operators, maintenance, energy, and working protocols, as well as professionals who interpret the images. Adding it to a facility entails organizing all these components. The test result must then reach the person who will make the clinical decision, connecting diagnostic capacity with the person's care. The equipment and the information it produces are part of a process that brings together technical and clinical tasks.



In this book, capacity means the ability to perform a health-related function through an operational combination of resources. This definition links inventories of personnel, facilities, and equipment to the activities that can be carried out. It also guides investment: identifying the function to be expanded makes it possible to determine which additional resources are needed, which already exist, and what conditions must be maintained for them to operate together. Financing an acquisition thus goes hand in hand with financing personnel, maintenance, and supplies throughout its use.

These complementarities can be organized within a facility or through relationships among several providers. A hospital may bring multiple services together on its premises; an outpatient facility may rely on a laboratory or imaging service in another organization. This diversity opens up different ways to expand care: increasing the number of service delivery points, adding resources within each facility, or strengthening relationships among services provided separately. The Economic Censuses capture part of this transformation through changes in establishments and persons employed.

IMSS provides a central example of this public organization. At the end of 2024, the inventory for its regular social security scheme recorded 1,850 medical and support units: 1,544 at the first level of care, 252 at the second, 36 at the third, and 18 supporting medical care. The third-level units comprise 25 High-Specialty Medical Units (Unidades Médicas de Alta Especialidad, UMAE) and 11 complementary units. The inventory keeps the IMSS-Bienestar Program separate. This distribution combines an extensive first-contact network with facilities that concentrate specialized services and expertise (IMSS, 2025a, Chapter IX, Table IX.1).

The division into levels reflects a working relationship among these units. In family medicine, each person is assigned a health professional, a consultation room, and a shift for basic care. Second-level hospitals bring together specialty visits, inpatient care, emergency care, and surgical procedures, while UMAE address more complex problems. To respond to a need that requires several of these services, the network must coordinate the initial assessment, tests, referral, and subsequent care. The institute's scale makes it especially important for clinical information to accompany this trajectory (IMSS, 2025a, Section IX.1).

Professional training is another function that sustains this capacity. In 2025, 7,427 medical residents completed IMSS training in 79 medical and dental specialties offered at 384 sites. The report records 25,726 residents in training when new entrants for the 2025–2026 cycle are included. The network thus helps prepare the professionals its services will need through an activity that draws on clinical experience, supervision, and teaching facilities. Planning requires relating the specialties in which professionals are trained to the positions, equipment, and locations where they are needed (IMSS, 2025b, section on the hiring and training of medical personnel).

ISSSTE presents another configuration of public resources. Its 2025 yearbook records 1,121 medical units: 969 classified exclusively at the first level of care, 135 at the second, and 17 at the third. It reports 6,354 consultation rooms, 8,058 inpatient beds (*camas censables*), 25,500 medical personnel, and 29,697 nursing personnel. The bed inventory includes operational and nonoperational beds, and the medical personnel total includes training categories and other duties. These inventories locate the institution's resources; determining what care they can

sustain requires knowing how they come together and operate within each unit (ISSSTE, 2026, Tables 15.1–15.6).

Both networks combine functions within their facilities and through relationships with other providers. IMSS records comprehensive medical services for laboratory testing, hemodialysis, and other procedures, while ISSSTE distinguishes in-house and contracted-out activity for certain tests and treatments. Service delivery requires coordinating the clinical order or recommendation, the corresponding service, and the return of information to the team responsible for follow-up. Chapter 7 examines these connections using the units of measurement and categories of each source (IMSS, 2025a, Table II.4; ISSSTE, 2026, Tables 19.1 and 20.1).

4.2 Services Expand through Different Combinations of Density and Scale

To examine the expansion of services, we use the harmonized panel of census aggregates constructed from the Economic Censuses conducted from 1999 to 2024, whose economic reference years run from 1998 to 2023. The comparison focuses on three groups: private inpatient care, clinical diagnostics, and outpatient medical care. Density is the number of establishments per million people; workforce scale is the average number of persons employed per establishment. Together, they distinguish changes in the presence of units relative to population from changes in the amount of labor brought together within them (INEGI, Economic Censuses; author’s calculations).

Table 4.1. Establishment Density and Workforce Scale in Three Groups of Health Services, 1998–2023

Indicator	Private inpatient care	Clinical diagnostics	Outpatient medical care
Establishments per million people, 1998	33.7	67.0	485.0
Establishments per million people, 2023	23.6	138.3	567.4
Change in density	–30.0%	+106.4%	+17.0%
Persons employed per establishment, 1998	19.33	3.12	1.71
Persons employed per establishment, 2023	55.44	4.81	2.32
Change in workforce scale	+186.8%	+54.4%	+35.5%
Observed pattern	Lower density and larger workforces	Higher density and larger workforces	Dense network of small units

Note: Density = establishments / population × 1,000,000; workforce scale = total persons employed / establishments. Changes are calculated before rounding. The comparison uses the study’s harmonized census groups, covering private, market-based activities; differences in the coverage of outpatient care across classifications are retained. The population figures in the historical matrix are preserved: 96,799,183 people in 1998 and 131,135,337 in 2023. Crosswalks and procedures are documented in Annexes A.2 and A.3.

Source: Author’s calculations using INEGI, Economic Censuses 1999, 2004, 2009, 2014, 2019, and 2024, and the CONAPO population figures incorporated into the panel.

Private inpatient care shows the sharpest increase in workforce scale. Between 1998 and 2023, the number of establishments in the comparable group fell from 3,258 to 3,090, a decrease of 5.2%, while employment rose from 62,984 to 171,320 persons, an increase of 172.0%. As a result, average employment per establishment increased from 19.33 to 55.44 persons. The main transformation was to bring together much more labor within each unit in the observed hospital group (INEGI, Economic Censuses; author’s calculations).

The 30.0% decline in hospital density can be understood by also considering the increase in the population used in the panel, from 96.8 to 131.1 million people. The national indicator divides a moderately smaller number of establishments by a population that is 35.5% larger. At the same time, hospital employment grew considerably. This combination shows why the number of units and their workforce scale must be examined together to understand the transformation of resources.

Clinical diagnostics followed a different trajectory. Establishments increased from 67.0 to 138.3 per million people, a rise of 106.4%, while average employment per establishment rose from 3.12 to 4.81 persons, an increase of 54.4%. Expansion combined a greater presence of units relative to population with more labor within each one. In this group, both margins of growth moved in the same direction.

Private outpatient medical care covered by the panel began with a much denser network of small units. Between 1998 and 2023, its establishments increased from 485.0 to 567.4 per million people, while average employment rose from 1.71 to 2.32 persons per unit. The increases were 17.0% and 35.5%, respectively. At the end of the period, outpatient care remained organized around numerous points of care with small workforces, in contrast to the larger workforces brought together within hospital establishments.

These differences matter for how services relate to one another. A visit may lead to a diagnostic test or hospital care provided at another facility. The expansion of outpatient facilities, laboratories, and hospitals becomes meaningful for health care when their functions can be used together. From this perspective, each form of organization entails different tasks: coordinating work within larger units, linking test results to clinical decisions, and linking outpatient facilities to the services needed to complete care.

The table uses the national population to calculate densities for the private and market-based groups in the panel. Within that scope, the central finding is the diversity of expansion patterns: greater hospital scale, simultaneous increases in density and scale in diagnostics, and the persistence of small outpatient units. These national densities do not establish how resources are distributed across territories or describe public networks. Section 5.6 distinguishes the territorial functions that an analysis of access would need to relate.

4.3 Output Growth and the Contribution of Resources

The increase in establishments and employment raises a further question: how does the expansion of resources relate to output growth? INEGI's KLEMS growth accounting examines this relationship by separating the contributions of capital, labor, energy, materials, and services. The difference between output growth and the weighted contributions of these factors corresponds to total factor productivity (TFP). This approach considers the resources used together and distinguishes their contribution from changes in overall productivity (INEGI, 2026b).

Between 1991 and 2024, output in sector 62, Health Care and Social Assistance, grew at an average annual rate of 1.82%. The combined contributions of the factors reached 2.27 percentage points, with an average TFP contribution of -0.45 points. The subsectors of outpatient medical and related services and hospitals show the same pattern: output increased, while the contributions of capital, labor, and inputs exceeded that growth. Table 4.2 presents the results for the three aggregates (INEGI, 2026b; author's calculations).

Table 4.2. Output and Contributions to Growth in Health Services, 1991–2024

Annual averages

KLEMS activity	Output growth (%)	Factor contribution (pp)	TFP contribution (pp)
62. Health Care and Social Assistance	1.82	2.27	–0.45
621. Outpatient Medical and Related Services	1.91	2.42	–0.51
622. Hospitals	1.96	2.35	–0.39

Note: Arithmetic means of 34 annual rates or contributions. Output is measured in volume terms; factors = capital, labor, energy, materials, and services; TFP = output growth minus factor contributions. Subsectors 621 and 622 are included in sector 62, and their coverage differs from that of the census groups in Table 4.1. pp: percentage points. Methodology is documented in Annex A.4.

Source: Author's calculations using INEGI (2026b), *Productividad Total de los Factores*, KLEMS model, 2018 base year, 1991–2024 series, with revised figures for 2024.

In this accounting framework, long-term growth was sustained by the contribution of productive resources. The negative average TFP contribution indicates that output growth fell short of the sum of the factors' weighted contributions. The result characterizes the economic expansion of these services as one supported by resources and highlights the importance of examining how they are used together. Understanding its causes requires considering how production is organized and the characteristics of the services provided.

For the private and market-based groups compared, the Economic Censuses also make it possible to observe census gross value added (CGVA) per person employed. Between 1998 and 2023, this indicator increased by 24.2% in private inpatient care, 43.7% in clinical diagnostics, and 28.6% in outpatient care, after values were adjusted to 2023 pesos using the implicit deflator for total GDP. The result shows an increase in value added per person within the three census groups compared (INEGI, Economic Censuses and quarterly GDP; author's calculations).

The relationship between the two findings becomes clear when we consider the resources included in each measure. CGVA per person employed relates value added to labor, whereas KLEMS considers the contributions of several productive factors. To illustrate the mechanism, a worker with more equipment may help generate greater value added, while part of that increase reflects the additional capital used. The ratio per person can rise under these conditions without an increase in overall productivity. The measures used also differ in coverage and period between the census groups and the national accounts aggregates.

Evaluating care adds other dimensions to this economic analysis. Understanding what a combination of resources achieves requires observing the services provided, the complexity of cases, quality, and outcomes. Adjusting CGVA with a general deflator preserves an economic measure that is comparable under that price rule; evaluating care requires relating it to clinical and operational information. This relationship makes it possible to examine together how much is used, what is produced, and what benefit the population receives.

The implication for planning is that expanding resources and improving their use are related decisions. The KLEMS evidence places factors of production at the center of observed growth, while the Censuses show the different ways labor and establishments have been organized. Deciding where to invest, hire, or reorganize requires identifying the function to be strengthened and the components that determine its operation. Chapter 8 returns to evaluating this response through quality and outcomes.

4.4 From Capacity to Available Services

Health care capacity takes concrete form when it makes a service available at a particular place and time. For someone who needs a test, what matters is where and when it can be performed and how its result becomes part of their care. For someone who needs hospitalization, what matters is whether the hospital can bring together the personnel, facilities, and supplies needed throughout their stay. Availability thus links the organization of resources to the conditions under which their services can be used.

IMSS activity shows the operational result of this combination. In 2024, it recorded 96.1 million family medicine visits, 23.8 million specialty visits, and 18.0 million emergency visits. The hospitalization table reports 2.28 million discharges from inpatient beds. Each volume brings together different tasks and requires a particular combination of personnel, equipment, and inputs: outpatient follow-up requires regular encounters, whereas hospitalization requires sustaining several services throughout a stay. The relationship between these two forms of care depends on referral, scheduling, and the information needed to continue care management (IMSS, 2025a, Tables V.1 and V.2).

The differences in scale and density examined in this chapter help explain that relationship. In the private component observed, outpatient care, diagnostics, and inpatient care are organized through networks of different reach and size. Some care is completed by combining services located in different facilities. Network design therefore needs to consider both the functions brought together within each unit and the relationships through which tests, referrals, and follow-up are carried out. Coordination allows resources distributed across organizations to contribute to the same course of care.

Within this organization, capacity, alignment, and connection help identify specific decisions. Capacity refers to the function that resources make possible and the scale at which it can be performed. Alignment relates that function to the type of need, the geographic area, and the time when it is required. Connection brings together complementary contributions along a person's care trajectory. Expanding a service may require more personnel or equipment; bringing it closer to a population may require changes in location or hours; and completing care may depend on a better relationship among providers.

The findings suggest an implication for the organization of health in Mexico. Differences from the OECD provide a reference for the scale of several resources; IMSS and ISSSTE records show how those resources come together in public networks; census evidence describes different ways of organizing establishments and labor; and KLEMS documents the importance of factors of production in growth. Planning must consider these dimensions together to decide which functions to expand, with what combination of resources, and through which relationships among units. In light of the long-term needs described in Chapter 2, sustaining that combination throughout follow-up, treatment, and caregiving becomes especially important.

The capacity that has been built provides the basis for producing health-related goods and services. Putting it to use requires organizing production and, for goods, the operations that move them from manufacturing or importation to facilities and people. The next chapter examines how this availability is built through production, regulation, and distribution.

5. Producing Goods and Services and Making Them Available

Medical care in Mexico rests on a productive organization that brings together services provided close to people and goods manufactured within the country and abroad. A visit requires an encounter with a professional; a diagnostic test requires specialized labor and technology; and inpatient care requires several services to operate together. The medications and devices used in these processes may have been produced elsewhere and passed through a chain of importation, purchasing, storage, and distribution. Understanding how the supply of health care goods and services is built requires following these activities to the establishments where their products and services can be used.

The Mexican evidence shows important changes in this organization. Manufacturing of equipment, instruments, and optical products gained a larger share of the economic activities studied; imports accounted for a growing share of pharmaceutical supply; and wholesalers became more important in pharmacies' commercial relationships. These changes alter the combination of industrial and commercial capacities that supports care and place health care providers within a broader network of suppliers.

The previous chapter examined how resources are combined to form health care capacity. Here we follow their relationship with the production and availability of goods and services. We first present the differences between producing care and manufacturing goods that can be transported. We then examine changes in manufacturing, foreign trade, regulatory conditions, and distribution networks. The geographic analysis brings these dimensions together to explain how activities operating at different scales contribute to the response to the same health need.

5.1 Services and Goods Become Available in Different Ways

In many health services, production takes place while care is being provided. A visit brings a professional and a patient together; surgery requires personnel, facilities, equipment, and inputs to be available throughout the procedure. The location and organization of the establishment therefore shape where and when the service can be provided. In diagnostics, a test is also produced through a combination of resources in a particular location, although its result can be stored and transmitted to another professional to inform a clinical decision.

These characteristics help explain the forms of expansion described in Chapter 4. Medical offices provide numerous points of contact through units with small workforces. Diagnostic services combine a network of establishments with specialized resources, while hospitals bring together larger teams and complementary services. Each configuration addresses different tasks and needs to connect with the others when a person's care requires tests, referrals, or procedures performed at another establishment.

Health care goods allow production and use to be separated in time and space. A medication can be manufactured before the prescription that will lead to its use is written. It can be stored and transported to different destinations. A prosthesis or device can be produced in one state and used in another. This makes it possible to supply broad markets from particular production

centers, but requires organizing the preservation and movement of goods to their points of use. Logistics is part of the capacity needed to respond to demand for health care.

Table 5.1 summarizes how these functions connect with the user. For services, the organization brings together resources that must operate around the person; for goods, it organizes the product's journey and the conditions of delivery. Care combines both processes: an establishment uses industrial goods while also drawing on information or services produced by another unit.

Table 5.1. Productive Functions and Ways of Bringing Goods and Services to the User

Function	Relationship between production and use	Organization of the link with the user
Outpatient visits	The clinical encounter takes place during care.	Points of care, personnel, and schedules that make contact possible.
Diagnostics	The test is performed using resources in a particular location; its result can be stored and transmitted.	Performance of the test and communication of its results to inform care.
Inpatient care	Several services operate together during the person's stay.	Travel or referral and coordinated use of equipment and inputs.
Medications	Manufacturing and use can be separated in time and space.	Production or importation, preservation, distribution, and dispensing.
Devices and equipment	Specialized goods can move between geographic areas.	Supply and, depending on the product, installation, maintenance, and technical support.
Pharmacies	Sale or dispensing brings the product to the user.	Retail network, inventory replenishment, and preservation of supplies.

Note: representation of the main functions; a single organization may combine several of them.

Source: author's elaboration based on the evidence in Chapters 4 and 5.

This organization broadens the economic dimension of care. The ability to respond to a need depends on clinical work and on industrial, commercial, and logistical activities that may be located in different firms and geographic areas. An analysis of supply must consider how these activities develop and how their products relate to the services the population uses.

5.2 Pharmaceutical and Equipment Manufacturing Followed Different Paths

The panel constructed from the Economic Censuses brings together thirteen groups of activities related to private service delivery, manufacturing, and health care distribution. In 2023, these activities generated 549.4 billion pesos at current prices in census gross value added (CGVA) and employed 1,462,385 people, compared with 472,510 in 1998. Within this expansion, the relative importance of manufacturing activities changed. The comparison allows us to examine part of the economic transformation of health care within the scope of the study's historically harmonized groups (INEGI, Economic Censuses 1999–2024; author's calculations).

Pharmaceutical manufacturing accounted for 45.9% of the panel's CGVA in 1998 and 15.2% in 2023. By contrast, the aggregate for equipment, instruments, and optical products increased from 3.7% to 19.5%. The shift is also visible in employment: the pharmaceutical share declined from 10.8% to 6.1%, while that of equipment, instruments, and optical products rose from 5.3% to

16.6%. The latter group also increased its share of the panel's gross fixed capital formation from 5.0% to 29.5%. Table 5.2 presents these dimensions of the change.

Table 5.2. Employment and Composition of the Thirteen-Group Census Panel, 1998 and 2023

Measure	1998	2023
Total persons employed in the panel, persons	472,510	1,462,385
Persons employed in pharmaceuticals, persons	51,083	88,829
Pharmaceutical manufacturing / panel CGVA (%)	45.9	15.2
Equipment, instruments, and optical products / panel CGVA (%)	3.7	19.5
Pharmaceutical manufacturing / persons employed in the panel (%)	10.8	6.1
Equipment, instruments, and optical products / persons employed in the panel (%)	5.3	16.6
Equipment, instruments, and optical products / panel GFCF (%)	5.0	29.5

Note: each share uses the total for the same variable and year across the thirteen groups. Pharmaceutical manufacturing combines groups G06 and G07. The historical crosswalks are partial: the chemical group at the beginning of the period is mixed, and the aggregate for equipment, instruments, and optical products includes non-health uses. CGVA: census gross value added; GFCF: gross fixed capital formation. See Annex A.2.

Source: author's elaboration using INEGI, Economic Censuses 1999 and 2024, with economic reference years 1998 and 2023; harmonized panel.

Employment trends clarify the meaning of the pharmaceutical industry's declining share. The number of persons employed rose from 51,083 to 88,829, an increase of 73.9%. The panel as a whole grew faster, so the pharmaceutical industry accounted for a smaller share at the end of the period even though it employed more people. This result places its evolution within an expanding economic organization in which other activities gained greater weight.

The National Pharmaceutical Industry Survey (Encuesta Nacional de la Industria Farmacéutica, ENIFARM) offers a complementary perspective on the division of labor. For the category of medicines for human use, it estimated an annual average of 111,953 persons employed in 2022 in manufacturing and wholesale trade. Production accounted for 28.7% of personnel; logistics and warehousing, 11.1%; quality assurance or control, 7.5%; regulatory affairs, 1.7%; and research and technological development, 0.8%. These selected functions show the variety of tasks that support the manufacture and circulation of medicines (INEGI, ENIFARM 2023, results published in 2024).

This division of labor matters because producing a medication requires bringing together capacities that operate at different stages. Industrial processing is accompanied by quality control, regulatory documentation, storage, and distribution. Productive development therefore encompasses both manufacturing facilities and the knowledge and organization needed to place products in supply channels. Regulatory and logistical functions are part of that industrial capacity.

The pattern of participation in trade also differs across product categories. In ENIFARM, international sales represented 3.1% of sales of medicines for human use and 9.9% of medical device sales in 2022, within a universe that excludes establishments engaged exclusively in maquila production. These shares describe the commercial orientation of the firms covered by the survey. To understand how the pharmaceutical supply that remains in Mexico is formed, the next step is to relate production to exports and imports.

5.3 Domestic Production, Foreign Trade, and Pharmaceutical Supply

The supply of medicines in Mexico combines products manufactured domestically with imported goods. Part of domestic production is exported, while imports bring in products made in other economies. To gauge this relationship, we construct an approximation of apparent national consumption (ANC) using the identity $ANC = (P - X) + M$, where P is production, X exports, and M imports. The exercise combines pharmaceutical industry 3254 from the Monthly Manufacturing Industry Survey (Encuesta Mensual de la Industria Manufacturera, EMIM) with products in Chapter 30 of the Tariff Schedule of the General Import and Export Duties Law (Tarifa de la Ley de los Impuestos Generales de Importación y de Exportación, TIGIE). The residual $P - X$ approximates the production component net of exports in this aggregate.

Between 2018 and 2025, imports increased from 89.4 to 192.6 billion pesos at current prices, a rise of 115.5%. Over the same period, the residual of production minus exports rose from 108.8 to 138.9 billion pesos, an increase of 27.8%. As a result, the import share of ANC rose from 45.1% to 58.1%, while the share corresponding to $P - X$ fell from 54.9% to 41.9%. The change reflects the faster growth in the value of imports within the constructed measure of apparent supply (INEGI, EMIM; Banco de México; author's calculations).

Table 5.3. Production, Trade, and Composition of Pharmaceutical ANC, 2018–2025

P, X, M, and ANC in billions of pesos at current prices; shares in percentages.

Year	Production (P)	Exports (X)	Imports (M)	ANC	(P – X) / ANC	M / ANC
2018	138.4	29.6	89.4	198.1	54.9	45.1
2019	138.9	29.4	92.6	202.1	54.2	45.8
2020	147.0	31.3	107.6	223.3	51.8	48.2
2021	147.9	36.5	121.9	233.3	47.8	52.2
2022	165.7	43.8	125.8	247.7	49.2	50.8
2023	187.5	41.4	136.8	282.8	51.6	48.4
2024	176.6	50.3	161.1	287.4	43.9	56.1
2025	188.6	49.6	192.6	331.5	41.9	58.1

Note: $ANC = P - X + M$. Industrial production and customs-based trade statistics have different coverage and valuation rules; the calculation retains possible re-exports and does not incorporate changes in inventories. It is an accounting approximation of supply, distinct from observed final consumption and the domestic content of each product. Trade flows are converted to pesos using the monthly average FIX exchange rate before aggregation. Differences in sums are due to rounding. See Annex A.5.

Source: author's elaboration using INEGI, EMIM, 2018 series, industry 3254; Banco de México, Chapter 30 foreign trade and FIX exchange rate.

Production increased from 138.4 to 188.6 billion pesos at current prices, a rise of 36.3%, while exports grew by 67.6%. Overall, ANC rose from 198.1 to 331.5 billion pesos, an increase of 67.3%. The path was uneven: imports exceeded half of the aggregate in 2021 and 2022, fell to 48.4% in 2023, and increased again in the following two years. Between 2023 and 2025, production grew by 0.6% in nominal terms, following a decline in 2024, while imports increased by 40.8%. The recent expansion in the value of apparent supply was therefore concentrated in its imported component.

Comparing levels also requires considering the increase in prices. Expressing the flows in pesos with the purchasing power of the 2018 annual average, using the overall INPC, yields ANC growth of 19.4% between 2018 and 2025. Under this adjustment, imports increased by 53.7% and exports by 19.6%, while production declined by 2.8% and the residual $P - X$ fell by 8.9%. The value of domestic manufacturing grew more slowly than the general price level, in contrast to imports, which still increased after the adjustment. This monetary comparison gauges changes relative to general purchasing power; measuring pharmaceutical quantities would require prices and composition specific to each flow.

The January–May 2026 data record production of 80.5 billion pesos at current prices, exports of 17.2 billion pesos, and imports of 83.2 billion pesos. ANC for those five months was 146.4 billion pesos, with $P - X$ accounting for 43.2% and imports for 56.8%. The partial period retains a majority import share and is presented separately from the full years.

Production in Mexico also uses imported inputs. In the Input–Output Tables, these accounted for 37.5% of intermediate consumption in the pharmaceutical industry in 2008, 39.8% in 2013, and 39.1% in 2018. Close to four of every ten pesos in the industry’s input bill corresponded to inputs sourced directly from abroad. Domestic manufacturing therefore participates in a network of domestic and international suppliers. This measure describes the immediate origin of inputs; total embodied import content also includes foreign components incorporated by domestic suppliers (INEGI, Input–Output Tables; author’s calculations).

Continuity of supply depends on how this combination is organized. For a product with few alternative suppliers, a long replenishment lead time can make inventories and alternative sources of supply especially important. For other products, a diversified network may offer more options for responding. Analysis of trade shares establishes the weight of each component; an assessment of security of supply must relate it to supplier concentration, substitutability, inventories, replenishment lead times, and the product’s clinical importance. This is the link between the industrial and commercial structure and the ability to sustain treatment.

5.4 Patents, Regulatory Authorizations, and Technical Regulations in the Organization of Supply

Decisions to produce, import, and supply health care goods take place within a framework that protects inventions and establishes conditions for products and establishments. Patents confer temporary rights whose scope is defined by the claims as granted. Regulatory authorization (registro sanitario) authorizes a medication under the required conditions of quality, safety, and efficacy. Mexican Official Standards (Normas Oficiales Mexicanas, NOMs) establish mandatory technical requirements for products, processes, facilities, and activities. Each instrument shapes a part of the organization of supply (Ley Federal de Protección a la Propiedad Industrial, arts. 53–55; Ley General de Salud, arts. 222 and 376; Ley de Infraestructura de la Calidad).

As background, COFECE (2017) examined obstacles between patent expiration and the entry of generic medicines. That study helps distinguish the end of legal protection from the authorization and commercialization of an alternative. It is used here with its original date and scope, not as an updated diagnosis of pharmaceutical competition. This section organizes the checks required for each product without presenting a new census of patents or regulatory authorizations.

The product-level examination links the granted claims, the holder or authorized party, and the period of protection to the medicine proposed for supply. A patent may concern the active ingredient, a formulation, or a use. Its existence does not by itself establish commercial exclusivity for every presentation or for all therapeutic alternatives (COFECE, 2017; Ley Federal de Protección a la Propiedad Industrial).

A regulatory authorization, in turn, has an administrative history of grants, amendments, extensions, changes of holder, and cancellations. The authorized product is identified by strength, dosage form, route of administration, and, where applicable, indication. The authorization holder, manufacturer, and distributor may be different companies. For a purchase, that identity must be complemented with evidence of capacity to supply the required volume, territory, and timeframe (Ley General de Salud; Reglamento de Insumos para la Salud).

Health regulation covers a broader part of the social organization of health. Hygiene conditions for food and beverages, labeling, and advertising affect exposures and the information people use to make consumption decisions. Requirements for hospitals, medical offices, laboratories, hemodialysis units, and radiological diagnostic services establish conditions for organizing service delivery. The provisions applicable to pharmacies concern storage, preservation, and dispensing. Table 5.4 brings these functions together within the documentary framework examined in the study.

Meeting these requirements calls for material and professional capacities. Testing and measurement require laboratories, calibrated equipment, specialized personnel, and assessment procedures. Manufacturing and service delivery require maintenance, documentation, and information systems that make it possible to verify their conditions. The Quality Infrastructure Law (Ley de Infraestructura de la Calidad) organizes these activities around protection objectives and principles intended to avoid unnecessary technical barriers; its implementing regulations explicitly include the quality, safety, performance, and reliability of health care products and services (Ley de Infraestructura de la Calidad, arts. 1, 5, and 10; Reglamento, art. 7).

Technical requirements also have economic consequences: they require testing, documentation, and assessment services whose cost and availability affect entry. The analytical criterion is to compare each requirement and its alternatives in terms of the protection they provide and the resources required for compliance. The book describes this mechanism; it does not estimate a general effect of regulation on prices, competition, or supply.

Table 5.4. Functions of Health Regulatory Requirements in the Organization of Supply

Function	Illustrative areas	Relationship with supply
Prevent exposures and inform	Food, alcoholic and nonalcoholic beverages, labeling, and advertising.	Production conditions and information for consumption decisions.
Evaluate products and research	Research involving human participants, interchangeability, biocomparability, and biotechnology medicines.	Evidence to evaluate products and their uses.
Support manufacturing and surveillance	Medicines, active pharmaceutical ingredients, and devices; stability, labeling, pharmacovigilance, and medical device vigilance.	Process quality and monitoring of risks as products circulate.
Organize safe service delivery	Hospitals, medical offices, hemodialysis, radiological diagnostics, laboratories, clinical records, and infections.	Resources, responsibilities, and care procedures.
Preserve and dispense	Pharmacies and establishments that sell and supply products.	Storage, preservation, control, and delivery of supplies.
Control environmental risks	Water for human use and consumption, and biological-infectious waste.	Sanitary conditions and management of shared risks.

Note: functional selection of NOMs, regulations, and provisions of the Pharmacopeia of the United Mexican States (Farmacopea de los Estados Unidos Mexicanos, FEUM), each with its own nature and scope of application. Annex A.8 identifies the instruments as of the documentary cutoff of September 28, 2026, and the qualifications concerning amendments and transitional provisions.

Source: Author's elaboration using the instruments identified in Annex A.8.

5.5 Distribution Links Production to Supply Points

Manufactured or imported products reach institutions and pharmacies through commercial relationships and logistical operations. Wholesale trade brings together purchasing, storage, and distribution, while pharmacies provide points of sale or dispensing to users. Replenishment is organized between them to keep products in the places where they are needed. This function connects industrial scale with the response to needs spread across numerous establishments and people.

The Economic Censuses show an increase in the importance of the wholesale channel between 2018 and 2023. The share of pharmaceutical wholesalers' sales directed to other wholesalers rose from 49.9% to 74.2%, an increase of 24.3 percentage points. Among pharmacies without convenience stores, purchases from wholesalers increased from 55.4% to 87.0% of the total, a rise of 31.6 percentage points. Transactions among wholesalers therefore gained importance, and pharmacies sourced a greater share of their purchases through that channel (INEGI, Economic Censuses 2019 and 2024; author's calculations).

At the retail end, 95.8% of sales by pharmacies without convenience stores and 99.4% of sales by pharmacies with convenience stores were directed to final consumers in 2023. These establishments remained focused on the final commercial stage, while wholesalers became more important in their supply. The pharmacy is therefore the visible point of a supply organization that begins before the person's purchase and brings together transactions among firms.

These results give wholesale relationships an important place in understanding pharmaceutical circulation. The observed changes concern the monetary distribution of sales and purchases

across types of customer and supplier. To relate them to prices, margins, or delivery times, the analysis must follow transactions for specific products. A chain may organize preservation, storage, and transport functions across several firms; its contribution to supply depends on how those tasks are coordinated through delivery.

Table 5.5. Commercial Relationships of Wholesalers and Pharmacies

Observed relationship	Period	Share (%)	Calculation base
Sales by pharmaceutical wholesalers to other wholesalers	2018 → 2023	49.9 → 74.2	Total sales reported by pharmaceutical wholesalers.
Purchases by pharmacies without convenience stores from wholesalers	2018 → 2023	55.4 → 87.0	Total purchases reported by pharmacies without convenience stores.
Sales by pharmacies without convenience stores to final consumers	2023	95.8	Total sales reported by pharmacies without convenience stores.
Sales by pharmacies with convenience stores to final consumers	2023	99.4	Total sales reported by pharmacies with convenience stores.

Note: monetary shares within the responding universe of each tabulation; SCIAN classes 433110, 464111, and 464112. The percentages describe relationships by channel. Transactions between links in the chain correspond to successive stages and are kept separate from final sales. See Annex A.5.

Source: author's elaboration using INEGI, Economic Censuses 2019 and 2024, customer and supplier tabulations.

In institutional networks, purchases must also be linked to delivery at warehouses, distribution to units, and dispensing. Chapter 3 examined the financial and contractual sequence; here the focus is its material organization. Continuity of supply requires inventories to be replenished at points of care and information about required and available products to accompany those operations. Chapter 7 examines the result from the perspective of people who receive a prescription and seek to obtain their medications.

5.6 Health Care Supply Has Overlapping Geographies

Services, manufacturing, and trade operate at different geographic scales. Visits require points of contact close to the population; hospitals bring together complementary resources; manufacturing can supply markets from industrial centers; and wholesale trade organizes storage and transport to institutions and retail establishments. Pharmacies extend the chain toward the user. The geography of supply results from the overlap of these functions and the relationships that enable people, goods, and information to move among them.

DENUE makes it possible to observe how this physical presence is distributed across twenty releases between February 2015 and May 2026. The territorial analysis uses P2, which combines subsectors 621, 622, and 623: outpatient care and related services, hospitals, and residential social assistance facilities. The total rises from 166,893 to 244,784 recorded establishments and from 136.4 to 182.1 per 100,000 population. However, 77.3% of the net increase coincides with the census-based directory renewals of 2019 and 2024. Within comparable regimes, the stock grew by 1.8% between February 2015 and April 2019, 1.3% between November 2019 and May 2024, and 5.2% between November 2024 and May 2026; presence per capita declined in the first two windows and increased by 3.6% in the last (INEGI, DENUE; CONAPO, 2024b; author's calculations).

The municipal distribution shows that wider territorial reach coexists with substantial concentration. Table 5.6 classifies the 2,478 municipalities and territorial districts in the panel according to absolute scale, presence relative to population, and density by area. The typology describes observed configurations; it does not rank performance or substitute for a measure of clinical capacity.

Table 5.6. Municipal Configuration of the Territorial Presence of P2 Establishments, May 2026

Configuration	Municipalities	Share of P2	Share of population
Large dense node	394	78.4%	67.6%
High relative presence	220	7.8%	6.2%
Dispersed territorial supply	145	0.8%	1.0%
Low relative presence	300	0.6%	3.0%
Intermediate configuration	1,410	12.4%	22.2%
No P2 presence	9	0.0%	0.0%
Total	2,478	100.0%	100.0%

Note: P2 comprises SCIAN subsectors 621, 622, and 623. The typology uses the number of establishments, their presence per 100,000 population, and their density per 100 km². T0-T5 are descriptive categories and do not constitute a performance index. Municipal rates keep three recently created municipalities separate because their demographic denominators have not yet been reconciled.

Source: Author's elaboration using INEGI, DENU; INEGI (2023), Marco Geoestadístico, December 2023; and CONAPO (2024b), municipal projections 1990-2040.

The 394 large dense nodes concentrated 78.4% of P2 and 67.6% of the population. At the other extreme, 300 municipalities classified as having low relative presence contained 0.61% of establishments and 3.04% of the population; nine recorded no P2 establishments. This distribution identifies where physical presence is low relative to population and area and where the network is concentrated, without turning establishment counts into a measure of effective access.

The geography of the chain confirms that functions are not located in the same way. In May 2026, 1,464 municipalities recorded P2 activities and health-related retail trade within the study perimeter, but no production or wholesale trade; 248 recorded P2, retail, and wholesale trade, but no production; 248 had P2 without the other three layers; and 352 simultaneously had production, wholesale trade, retail trade, and P2. Between 2015 and 2026, 475 municipalities gained functional layers and 194 lost layers. Care delivery and the last mile have a wider reach than production and wholesale trade, so supply depends on relationships across territories (INEGI, DENU; author's calculations).

This expansion occurs on a territorially persistent structure. Between 2015 and 2026, census tracts (AGEB) with P2 increased by 24.1% and blocks with recorded presence by 38.8%, while 98.4% of establishment identifiers followed a contiguous registration history and only 0.20% of repeated identifiers changed municipality between the endpoints. Supply expands mainly by adding presence to a stable geography. The next chapter examines how this distribution relates to the needs, care seeking, and care observed in the population.

6. Availability, Access, and Utilization

In Mexico, people entitled to benefits from the same institution turn to different providers to address a health need. ENSANUT Continua 2023 records that, among people entitled to IMSS benefits who received care for the reported need, 35.3% used private services or pharmacy-adjacent clinics. Among those who reported no entitlement to benefits, these two options accounted for 60.8% of care. These results show the importance of private providers in the paths followed both by people linked to social security and by those seeking care outside it (Shamah-Levy et al., 2024; author's calculations).

To understand these paths, we need to relate institutional responsibilities to the conditions under which a person can use services. Affiliation establishes a link with an institution; location, opening hours, cost, and the availability of the required service shape the alternatives the person can reach. The care received results from the encounter between that supply and the circumstances in which each person seeks to address their need.

The previous chapter examined production and the networks through which goods and services are brought closer to their users. Here we follow that process from people's perspective. We examine the conditions of access, changes in institutional links, and the places where care is received. We then analyze the role of pharmacy-adjacent clinics and the relationship between an encounter with a provider and the actions that allow care to continue.

6.1 Care Options Depend on Geography, Time, and Resources

The services a person can use are bounded by location and by how those services operate. A nearby facility may offer visits at times that conflict with the person's activities; another may perform the test they need but require a longer trip. The rules governing access to an institution and the payments required also shape this relationship. The availability of a service therefore needs to be examined alongside the personal and institutional conditions that allow it to be used.

ENSANUT 2023 shows how these conditions appear in reported decisions. Among people who received care and gave a first reason for choosing the facility, 32% mentioned affiliation and 24% proximity. Availability of the required service accounted for 7%; low or no cost, 6%; the possibility of attending without scheduling an appointment, 5%; and extended hours, 5%. Institutional links and proximity were the most frequently cited reasons, within a set that also includes appointment arrangements and the financial conditions of care (Shamah-Levy et al., 2024, Table 2.1.1).

The relative importance of these reasons differs between urban and rural localities. Affiliation was cited by 35% of respondents in urban localities and 21% in rural ones. By contrast, low or no cost accounted for 5% and 12%, respectively, and extended hours for 3% and 10%. Proximity remained important in both settings: 25% in urban areas and 23% in rural areas. These differences describe the reasons given by people who obtained care and show that options are assessed under different geographic and institutional conditions.

Pooling ENSANUT Continua 2020-2024 makes it possible to observe these differences across all 32 states with representative estimates and their confidence intervals. Nationally, 22.1% of the population reported a health need in the previous three months; within that group, 86.9% sought care and 85.8% received it. Across states, the proportion receiving care ranged from 71.3% in

Chiapas (95% CI: 67.4-74.9) to 93.4% in Zacatecas (91.6-94.8). The proportion reporting a need ranged from 15.6% in Baja California to 27.6% in Mexico City (Shamah-Levy et al., 2025).

Differences also extend to institutional links. The population without entitlement to benefits was estimated at 29.3% in Coahuila and 74.6% in Chiapas; among those who reported a need, care received from public services ranged from 32.8% in Michoacán to 58.3% in Durango. Table 6.1 summarizes the observed range. The extremes do not form a ranking of states: they show that need, entitlement, and care vary simultaneously and should be read together with the geography of supply examined in Chapter 5. This estimate of entitlement to benefits is not directly comparable with affiliation status in the 2025 Intercensal Survey presented in the next section, because the periods, questions, populations, and institutional categories differ.

Table 6.1. State-Level Range in Entitlement, Need, and Care, ENSANUT Continua 2020-2024

Indicator	National	Lowest state estimate	Highest state estimate
Population without entitlement to benefits	54.1% (53.3-55.0)	Coahuila: 29.3% (26.5-32.2)	Chiapas: 74.6% (70.1-78.6)
Reported a health need	22.1% (21.7-22.5)	Baja California: 15.6% (14.5-16.9)	Mexico City: 27.6% (25.5-29.9)
Sought care	86.9% (86.3-87.5)	Chiapas: 72.5% (68.6-76.1)	Zacatecas: 93.6% (91.8-95.0)
Received care	85.8% (85.2-86.4)	Chiapas: 71.3% (67.4-74.9)	Zacatecas: 93.4% (91.6-94.8)
Received care from public services	42.4% (41.5-43.4)	Michoacán: 32.8% (28.3-37.6)	Durango: 58.3% (54.5-62.1)

Note: 95% confidence intervals are shown in parentheses. For care seeking, care received, and public-sector care, the denominator is the population reporting a health need in the previous three months. Estimates combine the available 2020-2024 survey rounds according to the source methodology.

Source: Shamah-Levy et al. (2025), Resultados estatales de la Encuesta Nacional de Salud y Nutrición Continua 2020-2024.

The IMSS has introduced organizational arrangements that address these conditions. Its Informe de Labores 2024–2025 reports 400 Extended-Hours Medical Units (Unidades Médicas de Tiempo Completo) providing services on Saturdays and Sundays through 1,613 consultation rooms. The report links this arrangement to care for people who have difficulty attending during the week because of their work schedules or because they need someone to accompany them. Extending the days of service relates the labor available in the facilities to people’s time: it can make a visit more accessible without changing the facility’s location. Its contribution needs to be examined through completed appointments, waiting times, and the continuity of care it supports (IMSS, 2025b, section on Unidades Médicas de Tiempo Completo).

Access also takes people’s time. Among valid observations in ENSANUT 2023, travel from home to the health facility took an average of 32.3 minutes, the wait before the visit was 50.4 minutes, and the visit lasted 28.2 minutes. Average travel time reached 38.9 minutes in rural localities, compared with 30.0 in urban ones. Each average corresponds to the responses available for that activity. Obtaining care therefore requires setting aside time for travel and waiting, in addition to the time spent in the clinical encounter (Shamah-Levy et al., 2024, Table 2.1.4).

How often a service is needed changes the importance of these demands. A trip that can be arranged once for specialized care takes on a different weight when it must be repeated for follow-up visits or to obtain medications for ongoing use. When the person needs someone to accompany them, the journey also takes someone else’s time. In the context of aging and the prolonged needs examined in Chapter 2, the location and regularity of services affect the ability to sustain care.

Payments and time can combine differently across options. A collectively financed service may require more travel or waiting than a nearby option paid for out of pocket. In comparing the two, the household considers its financial resources, its activities, and how soon care is needed. The analysis of spending in Chapter 3 and the location of supply in Chapter 5 come together in this decision: access expresses the possibility of using a specific service given a person's circumstances. This relationship helps explain why care may be distributed among several providers even among people with the same affiliation.

6.2 Affiliation and Where Care Is Received

Links with health institutions have changed in scale and composition over recent decades. Tabulations from the National Employment and Social Security Survey (Encuesta Nacional de Empleo y Seguridad Social, ENESS) recorded 40.6 million people entitled to benefits in 2000, equivalent to 41.6% of the population covered by that observation, and 45.9 million in 2004, or 44.0%. In 2013, the population classified as affiliated reached 91.5 million, or 77.2%, and included people who reported a link with Seguro Popular. Table 6.2 brings together these earlier observations and the later ones for 2020 and 2025, retaining the definition used by each source (INEGI, 2005, 2014, 2021, 2026a).

Table 6.2. Self-Reported Entitlement to Benefits and Affiliation in Mexico, Selected Observations

Year and source	People (millions)	Percentage of the reference population	Population covered and classification
2000 ENESS 2004	40.6	41.6	Estimated total population; entitlement to benefits. Institution based on the first response considered.
2004 ENESS 2004	45.9	44.0	Estimated total population; entitlement to benefits. Institution based on the first response considered.
2013 ENESS 2013	91.5	77.2	Estimated total population; affiliation, including Seguro Popular. First institution reported.
2020 Census	92.6	73.5	Enumerated resident population; self-reported affiliation. More than one institution may be reported.
2025 Intercensal Survey	94.6	72.5	Residents of occupied private dwellings; self-reported affiliation or access. More than one institution may be reported.

Note: The observations differ in the populations covered, questions asked, and institutions and programs included. They describe the links reported in each survey or census and are presented as separate historical observations. The figure for 2000 comes from the comparison published in ENESS 2004. Denominators and classification rules are documented in Annex A.6.

Source: Compiled for this study from INEGI (2005), ENESS 2004, Table 2.1, p. 15; INEGI (2014), ENESS 2013, Table 2.1, p. 19; Censo de Población y Vivienda 2020; and INEGI (2026a), Encuesta Intercensal 2025.

The composition of these links helps explain their expansion. In 2000 and 2004, the IMSS accounted for 31.5 and 34.2 million people entitled to benefits, respectively. In the 2013 observation, the classification by institution recorded 40.0 million at the IMSS and 41.1 million under Seguro Popular, a category that included Seguro Médico para una Nueva Generación. A substantial part of the affiliation recorded that year thus corresponded to the protection arrangement for people without social security coverage. Including this arrangement expanded

the population identifying a link with public services through a mechanism different from employment-related schemes.

In the tabulations from the 2025 Intercensal Survey (Encuesta Intercensal) incorporated into this study, 94.6 million people reported affiliation with health services, or 72.5% of the 130.4 million residents of occupied private dwellings. Another 35.5 million, or 27.3%, were classified as unaffiliated. Affiliation encompasses links with social security institutions, other public institutions, and private insurance. The IMSS was the most frequently reported institutional reference, with 51.1 million people, followed by the category of public health centers, hospitals, and institutes, with 23.1 million. ISSSTE or a state-level ISSSTE institution accounted for 8.0 million, and the IMSS Bienestar category for 4.9 million (INEGI, 2026a; study calculations reported in Annex A.6).

Table 6.3. Self-Reported Affiliation with Selected Public Institutions in Mexico, 2025

Reported institution or category	People (millions)	Percentage of affiliated people	Percentage of the reference population
IMSS	51.1	54.1	39.2
ISSSTE or state-level ISSSTE	8.0	8.5	6.1
Pemex, Defense, or Navy	1.1	1.2	0.9
IMSS Bienestar ¹	4.9	5.2	3.8
Public health center, hospital, or health institute	23.1	24.4	17.7

Note: Reference date: October 15, 2025. Selected public institutions are shown; the categories allow multiple affiliations. Counts are estimated by applying the published percentages to 94,573,536 affiliated people and a population of 130,393,389 residents of occupied private dwellings. Affiliation status was unspecified for 0.2%. See Annex A.6.

¹ Includes IMSS-PROSPERA. The category identifies survey responses, whereas the population that IMSS-Bienestar can potentially serve is defined by its institutional framework.

Source: Compiled for this study from INEGI (2026a), Encuesta Intercensal 2025, tabulations of affiliation status and institution; recorded update of September 22, 2026. See Annex A.6.

The same source reveals an additional form of connection with services. Among people classified as unaffiliated, 18.3 million stated that they could access a public institution if they needed care. Combining them with the affiliated population brings the expanded indicator to 112.9 million, or 86.6% of the population covered by the observation. The difference shows that some people identify a possibility of public care without describing their relationship as affiliation. Both responses help us understand how people relate to the organization of health: the institution they identify as a reference and the route they believe they could use.

Administrative records provide a more detailed view of the population protected by each institution. As of June 2025, the IMSS reported 62.8 million people registered for care and estimated an additional 15.1 million family members not registered for care, for a potential total of 77.9 million. The table includes multiple links and an estimated component; it also identifies 5,903,937 pension recipients and keeps the population of the IMSS-Bienestar Program separate. The administrative figure describes the links recognized by the institute, whereas the survey records what people report (IMSS, 2025b, Table IX.1).

The ISSSTE distinguishes three populations in its 2025 statistical yearbook: 13.83 million people entitled to benefits, an affiliated population (población afiliada) of 9.35 million, and 4.54 million service users. The last category is constructed from records of visits, discharges, and surgeries that are cleaned within each state. The differences among these categories reflect distinct

definitions and procedures: protection establishes the possibility of receiving benefits, while service use during a year also depends on the needs that arise. Table 6.4 brings these measures together with private insurance ownership (ISSSTE, 2026, Table 1.2).

Table 6.4. Measures of Administrative Coverage and Private Health Insurance

Source and period	Measure	Value	Population covered and scope
IMSS, June 2025	Population registered for care	62.8 million	Administrative register; retains the links included by the source.
IMSS, June 2025	Family members not registered for care	15.1 million	Additional estimate, not a register of unique individuals.
ISSSTE, 2025	People entitled to benefits	13.83 million	Population eligible to receive institutional benefits.
ISSSTE, 2025	Affiliated population	9.35 million	Administrative category defined in Table 1.2.
ISSSTE, 2025	Service users	4.54 million	Records of visits, discharges, and surgeries; records cleaned within each state.
ENIF, 2024	Medical expense insurance	7.5%	People ages 18 to 70; weighted, self-reported insurance ownership.

Note: Each row retains its source's definition and date. Administrative links and private insurance ownership may overlap; the rows are not added together to calculate national coverage. Insurance certificates are a separate unit, distinct from people.

Source: IMSS (2025b), Table IX.1; ISSSTE (2026), Table 1.2; INEGI (2025d), ENIF 2024; author's calculations documented in A.6.

Private health insurance provides another link to care. The study's calculations using ENIF 2024 indicate that 7.5% of people ages 18 to 70 reported having medical expense insurance, approximately 6.48 million people within that age group. The insurance question refers to products distinct from the social security schemes identified in the questionnaire. A person may retain both forms of protection and choose between them according to the need and the conditions of care (INEGI, 2025d; author's calculations).

Examining the relationship between coverage and provider also requires following who finances the episode. A private visit may be paid for through an insurance policy or directly from household resources; someone entitled to benefits from a public institution may use either option. Administrative statistics, insurance ownership, and the place where care was received describe different parts of that path. Reading them together helps identify the responsibilities and resources that are actually mobilized.

The place where care is received shows how this relationship takes shape during an episode. ENSANUT 2023 shows that, among people entitled to IMSS benefits who received care for the reported need, 58.3% used the institute itself, 22.7% private services, and 12.6% pharmacy-adjacent clinics (CAF). Among people entitled to ISSSTE benefits who received care, 56.7% used that institution, 27.0% private services, and 8.5% CAF. In both groups, the institution where people were entitled to receive care provided more than half of the care observed, alongside substantial use of private providers (Shamah-Levy et al., 2024, Figure 1.2.9, p. 30).

Table 6.5. Entitlement to Benefits and Observed Place of Care in Mexico, 2023

Reported status	Care at IMSS, ISSSTE, or SSA ¹	Private services ²	CAF	Other providers
Entitled to IMSS benefits	IMSS: 58.3%	22.7%	12.6%	6.4%
Entitled to ISSSTE benefits	ISSSTE: 56.7%	27.0%	8.5%	7.8%
No entitlement to benefits	SSA: 34.7%	35.2%	25.6%	4.5%

Note: Percentages refer to people who received care for the reported need within each entitlement category; n = 4,327 in the original figure. Labels follow Figure 1.2.9 of ENSANUT. “Other providers” is the residual after the three preceding columns; for ISSSTE it includes 5.6% who received care at SSA facilities. The proportions refer to the 2023 episode and cover a different population from the affiliation tables. See Annex A.6.

¹ IMSS for people entitled to its benefits, ISSSTE for those entitled to its benefits, and Ministry of Health facilities for people who reported no entitlement to benefits. ² The private services category is presented separately from CAF.

Source: Author’s calculations using Shamah-Levy et al. (2024), ENSANUT Continua 2023, Figure 1.2.9, p. 30.

Among people who reported no entitlement to benefits, 34.7% received care at Ministry of Health facilities, 35.2% from private services, and 25.6% at CAF. The last two groups accounted for 60.8% of observed care. This distribution places the private sector as an important part of the response used by that population and shows that public and private care contribute, with different weights, in all three groups examined.

The reported reasons help explain why people used a different option. Among people who received care somewhere other than the institution where they were entitled to benefits or Ministry of Health services, and who gave a first reason, 75% mentioned reasons classified by the survey as access-related and 24% as quality-related. The most frequent responses were excessive distance, 24%; an appointment too far in the future, 20%; no service during the hours needed, 9%; and lack of the required service, 8%. Within the quality group, dissatisfaction with care or unfriendly treatment stood out, at 10%. This last classification reflects people’s experiences and assessments of the service (Shamah-Levy et al., 2024, Table 2.1.2).

The survey also asked what conditions would need to be met for people to use services at the institution where they were entitled to benefits or at Ministry of Health facilities. Among respondents, 28% mentioned getting an appointment soon, 23% having a closer facility, and 12% finding the service available during the hours needed. These responses again place proximity and timeliness at the center of the relationship with public services. For the organization of care, they direct attention to appointment systems, opening hours, and location, alongside the clinical capacities each facility offers (Shamah-Levy et al., 2024, Table 2.1.3).

The significance of these findings lies in the way institutional links and the conditions of care operate together. Institutions organize responsibilities and financing for defined populations; people seek a response they can use when they need it. When they turn to another provider, care crosses that institutional divide and may involve payments, clinical decisions, and information generated outside their institutional network. Understanding utilization requires following both dimensions: the responsibility to provide care and the path through which the person obtained it.

6.3 Pharmacy-Adjacent Clinics Bring Visits and Medication Supply Closer Together

Pharmacy-adjacent clinics have an important place among the providers used in Mexico. In the household module of ENSANUT 2023, they accounted for 19% of reported places of care; in the utilization subsample, which collects more detailed information from people who received care, their share was 18%. Both results place them at around one-fifth of the care observed in their respective populations (Shamah-Levy et al., 2024, pp. 25 and 44).

Their organizational feature is the placement of an outpatient clinic next to a pharmaceutical retail outlet. Chapter 5 showed that pharmacies connect distribution channels with the final consumer. Locating a clinic there brings the clinical activity that may generate a prescription close to the supply of medications. Visits and medication supply are close together in space, whereas along other paths people must travel between establishments to complete both activities.

Table 6.5 shows that this form of service delivery is used by people with different institutional links. CAF provided care to people entitled to IMSS and ISSSTE benefits and, among the three groups examined, had their largest share among those without entitlement to benefits, at 25.6%. Their relevance to the study comes from their presence across these groups: they combine proximity to the pharmaceutical retail network with an outpatient care option used by people from different institutional channels.

Relating this configuration to treatment requires knowing what is prescribed, where medications are obtained, and how care continues. The utilization data identify a visit to a CAF; they do not establish that a purchase occurred at the adjacent pharmacy or that the two establishments share ownership. Their proximity identifies a way of organizing the encounter between clinical services and commerce. Understanding how it operates as a whole requires following prescribing, purchasing, and follow-up. These connections form part of the analysis in Chapter 7.

6.4 From an Encounter with a Provider to Continuity of Care

Utilization identifies the moment when a person receives a health care good or service. That encounter may lead to different actions: a test order, a referral, a prescription, or a follow-up visit. The response to the need depends on how these actions are carried out and on the relationships among the participants. Care that requires diagnosis and treatment brings clinical decisions together with services and supplies that may be located in several organizations.

As an example of this combination, a person may attend a private visit, undergo tests at a commercial laboratory, and obtain medications for a chronic condition at a social security institution. Each establishment contributes part of the response. For the test to contribute to treatment, its result must inform the next clinical decision; for the prescribed treatment to be sustained, medications must be obtained and their supply renewed. This example illustrates why a person's path is a broader unit of analysis than the place where a visit occurred.

The household helps make these connections through travel, time, accompaniment, and payments. An institutionally financed visit may require someone to accompany the person or set aside part of their day to attend. If another service is needed afterward, the household must arrange a new encounter with its own location and scheduling conditions. Continuity of care



includes these tasks alongside providers' responsibilities. Their importance increases when needs require follow-up over months or years.

The analysis in this chapter reveals an organization in which institutions are important points of reference, while care is distributed across public and private alternatives. Proximity, appointments, opening hours, cost, and how people are treated appear among their stated reasons for choosing where to receive care. CAF illustrate a particular way of bringing visits and pharmaceutical retail together, within a supply of services used by populations with different entitlements to benefits. These relationships help explain how available capacities meet needs and why using them may require household resources and coordination.

The implication for the organization of health is that institutional responsibility must be accompanied by conditions that allow care to begin and be sustained. The location and operation of services shape the first encounter; coordination among providers and the supply of goods shape subsequent actions. The next chapter follows this path from clinical decisions to testing, obtaining medications, and continuity of treatment.

7. From Care to Treatment

The visit is the point at which information about a health need is translated into decisions about how to address it. The clinician may order tests, refer the person to another service, prescribe medications, or determine that no further intervention is needed. When tests are ordered or treatment is recommended, a trajectory begins that may involve additional visits, other facilities, and tasks carried out at home. The response to the health need depends on those activities being completed and on their results informing subsequent decisions.

In Mexico, some of these steps remain incomplete after the encounter with the clinician. ENSANUT Continua 2023 shows that 23.3% of people for whom tests were ordered had none of them performed. Among those who received a medication prescription, 10.7% obtained some of the medications and 4.5% obtained none. These results show the importance of organizing activities after the visit, when the person must find the tests and medications prescribed (Shamah-Levy et al., 2024, Table 2.1.6).

The previous chapter examined the conditions for reaching a provider and the places where people receive care. Here we follow what happens after clinical decisions: having tests performed, obtaining medications, and organizing treatment for as long as it is needed. This trajectory brings together evidence on services and supply with the everyday work of people and their caregivers.

7.1 A Clinical Decision Can Lead to New Connections

Tests or examinations were ordered for 36.8% of the people who received care and were included in the ENSANUT 2023 utilization module. Among those for whom tests were ordered, 71.6% had all of them performed, 5.1% had some performed, and 23.3% had none performed. The order thus created a new need to use services that nearly a quarter of this group had not yet addressed during the reported episode. This gap between what was ordered and what was done identifies a specific point at which the organization of diagnostic services can shape the continuation of care (Shamah-Levy et al., 2024).

Where the tests were performed shows how this task is distributed. Among those who had tests performed, 50.7% went to the same site where they had received care; 9.3%, to another facility of the same institution; 33.5%, to a private laboratory; and 6.5%, to a laboratory of another institution. About half went somewhere other than the site of the visit. Their trajectories combined initial care and a diagnostic service provided at different facilities.

This distribution helps explain the importance of the connection between the visit and diagnosis. When a test is performed at another facility, the person needs to arrange that second encounter and then ensure that the result reaches the professional who will continue their care. The value of the test for treatment depends on that connection: the information produced must help confirm a diagnosis, select an intervention, or adjust care management. In this way, the expansion of laboratories and imaging services examined in Chapter 4 is linked to providers' capacity to use the information those services generate.

The 23.3% who reported having none of the tests performed identify a step that remains incomplete. Explaining what prevented it requires information about the circumstances of the episode, such as service availability, cost, the appointment date, or the person's decisions. The

table used records whether and where tests were performed, without breaking down those reasons. The implication for follow-up is concrete: linking the order to its completion and to the use of the result makes it possible to identify where organizational action is needed.

A referral to another professional or facility opens a similar sequence. The referral needs to become an appointment, the person must receive care at the destination, and what is resolved there must inform follow-up. The sources assembled illustrate these relationships, although referral outcomes are not observed consistently for the same person. The analysis preserves the distinction between a step reported as incomplete and a trajectory whose subsequent course is unknown. In both cases, the responsibility to provide care needs to include the connections with services that complete the response.

Within the IMSS network, the connection may take place between units of the same institution. Its organization by level of care places family medicine as the reference point for basic care and brings more specialized services together in hospitals and High-Specialty Medical Units (UMAE). A decision requiring another level must lead to care at the corresponding unit, and what is resolved there must inform follow-up. This trajectory shows why an extensive institutional network needs to schedule referrals and share clinical information across its components (IMSS, 2025a, Section IX.1).

Care delivery also draws on contracted comprehensive medical services (*servicios médicos integrales*). For 2024, the IMSS reported 7,717 million pesos for off-site hemodialysis and 906 million for on-site hemodialysis, expressed in the report in 2025 pesos. The table also includes laboratory services, digitization and imaging, anesthesia, and other services. The categories on-site (*intramuros*) and off-site (*extramuros*) distinguish where contracted services are provided, so coordination with providers can take place both within and outside institutional facilities. Clinical responsibility must accompany contracting, performance of the procedure, and the person's follow-up (IMSS, 2025a, Table II.4).

At the ISSSTE, activity records make it possible to measure the share of services contracted out. In 2025, 26.0% of its magnetic resonance imaging tests, 24.9% of its radiotherapy sessions, and 11.6% of its hemodialysis sessions were provided through contracted-out services. The share varies by function, as Table 7.1 shows. The institution combines its own resources with external services to complete care, so it must coordinate the referral, the services performed, and the person's follow-up (ISSSTE, 2026, Tables 19.1 and 20.1; author's calculations).

Table 7.1. ISSSTE In-House and Contracted-Out Services, 2025

Service and unit	In-house	Contracted-out	Total	Contracted-out / total
Magnetic resonance imaging, tests	52,280	18,363	70,643	26.0%
Radiotherapy, sessions	37,722	12,532	50,254	24.9%
Hemodialysis, sessions	604,215	79,580	683,795	11.6%

Note: The source's category of contracted-out services is retained. Values count tests or sessions rather than unique people; the percentage is calculated over the total for the same service. The tables do not identify the ownership of each provider or the clinical outcomes of contracting.

Source: ISSSTE (2026), Table 19.1, row 22, and Table 20.1, rows 23 and 14; author's calculations.

7.2 A Prescription Meets a Supply Chain

Medications allow us to follow another connection between clinical decisions and the resources used in care. In ENSANUT Continua 2023, 91.0% of people who received care were given a prescription. Among those who received one, 84.8% obtained all of the medications, 10.7% obtained some, and 4.5% obtained none. In total, 15.2% reported obtaining only some or none of their medications. Most obtained everything prescribed, while about fifteen out of every hundred people with a prescription still had at least some medications to obtain (Shamah-Levy et al., 2024; author's calculations).

Among those who obtained medications, 73.1% obtained them at the same site where they received care, 1.1% at another site of the same institution, and 25.8% at a private pharmacy. About a quarter therefore turned to the commercial pharmacy network to obtain their medications. Table 7.2 brings together the findings on tests and medications and shows how both test orders and prescriptions may lead to facilities other than the one where care began.

Table 7.2. Tests Ordered and Performed and Medications Prescribed and Obtained, Mexico, 2023

Observed situation	Tests or examinations	Medications
Ordered or prescribed among people who received care	36.8%	91.0%
Tests performed or medications obtained among those with an order or prescription		
All	71.6%	84.8%
Some	5.1%	10.7%
None	23.3%	4.5%
Location among those who had tests performed or obtained medications		
Same site where care was received	50.7%	73.1%
Another site of the same institution	9.3%	1.1%
Private laboratory or pharmacy	33.5%	25.8%
Laboratory of another institution	6.5%	Not applicable

Note: Published estimates from the ENSANUT Continua 2023 utilization module. Each block uses the group specified in its heading. Having tests performed and obtaining medications describe the reported episode; the percentages refer to populations that may overlap. Definitions and reference populations are documented in Annex A.9.

Source: Shamah-Levy et al. (2024), ENSANUT Continua 2023. Resultados Nacionales, Table 2.1.6, p. 49.

Obtaining medications is the point at which two processes developed throughout the book meet. Care produces a prescription identifying the medication to be used. Production and distribution provide a medication that has been manufactured or imported, purchased, transported, and stored up to the supply point. This meeting requires the product to be available where and when the person needs it. Figure 7.1 represents that relationship between the clinical trajectory and the material supply chain.

This relationship places difficulties in obtaining medications within the organization of health. A lack of stock calls for a supply response; a price beyond the person's resources poses a financing problem; and the need to go elsewhere adds travel and coordination. These are possible mechanisms whose importance must be established in each case. The choice of medication may



also be shaped by what the clinician knows to be available; this possibility remains a hypothesis in the study and needs to be examined alongside the appropriateness of the prescription.

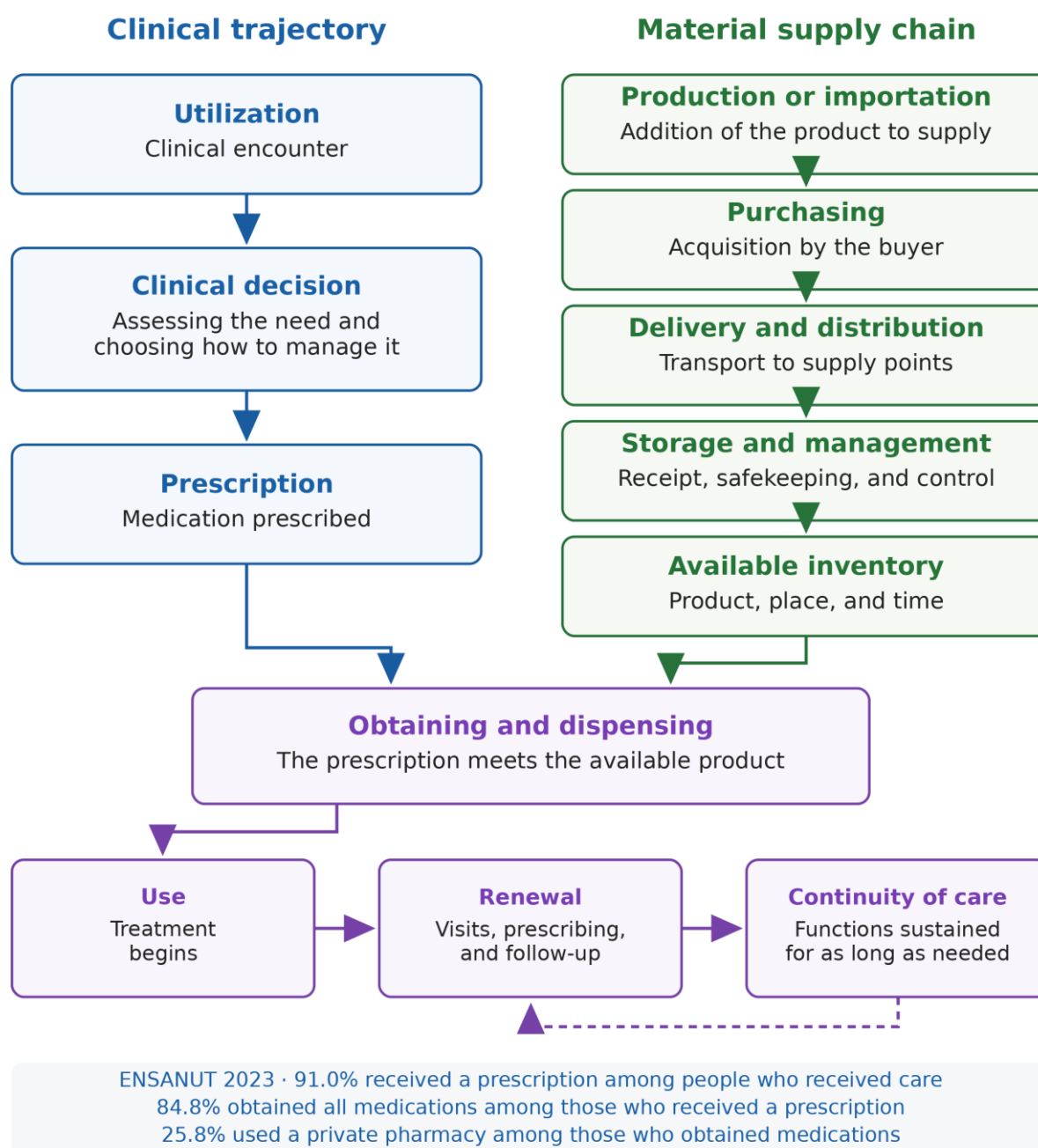
The figure of 84.8% refers to people who obtained every medication on their prescription through the places they reported. Obtaining medications at a private pharmacy identifies a supply point, whereas determining how the cost is distributed among the household, institutions, and other financing arrangements requires payment information. This distinction links Chapters 3 and 5 to observed care: the source of the money, the site of the visit, and the facility supplying the medication may involve different participants.

The IMSS monitors supply through its prescription supply index (Índice Nacional de Atención de Recetas). For 2024, it reported 214.5 million prescriptions issued and a value of 97.8% for the share recorded as supplied. This measure brings together the administrative records the institute uses to monitor the response of its pharmacy network. Its scale shows the importance of maintaining stocks and replenishment at numerous points, according to the products prescribed and how often they are needed again (IMSS, 2025a, Section V.2.2 and Figure V.3).

The report describes transfers between units, direct deliveries from suppliers to units and warehouses, and monitoring through supply committees. These operations link purchasing to the location of medications: they make it possible to organize movements within the network and track product codes requiring replenishment. To examine their contribution to treatment, the administrative record must link the prescription to the products supplied and the time of delivery. ENSANUT adds the person's perspective on what they obtained during the episode through the places where they sought it (IMSS, 2025a, Section V.2.2; Shamah-Levy et al., 2024).

At the ISSSTE, pharmacy services reported 37.0 million prescriptions filled and 150.8 million medications supplied in 2025. The record measures the scale of deliveries that require receipt, storage, and replenishment throughout the network. Together with the IMSS measure, it shows two ways of observing supply through administrative records. Assessing whether prescriptions are filled completely and on time requires tracking their components and dates within each institution and relating them to the clinical orders or recommendations the person needs to follow (ISSSTE, 2026, Table 21.1).

Figure 7.1. When a Clinical Decision Meets a Material Supply Chain



Note: An expanded view of the clinical decision–treatment–continuity segment of Figure 1.1. The arrows represent possible analytical relationships. The percentages refer, respectively, to people who received care, people with a prescription, and people who obtained medications. The diagram includes subsequent tasks of use and follow-up as part of the argument, rather than as a longitudinal trajectory measured by the survey.

Source: Author’s illustration using Shamah-Levy et al. (2024), ENSANUT Continua 2023, Table 2.1.6, p. 49; conceptual representation developed in the study.



Obtaining the medication makes it possible to move from prescription to use. In a brief episode, that supply may cover the prescribed period. For a persistent need, supply must be renewed and coordinated with further assessments. From this point onward, the organization of treatment explicitly incorporates time: services and goods need to become available again whenever they are required.

7.3 Sustaining Treatment Requires Follow-Up and Renewal

An initial supply of medications may cover days or weeks, whereas a chronic illness may require years of care. During that time, visits, tests, prescriptions, and dispensing recur, and the person's needs may change. In this book, continuity of care describes the ability to keep these functions connected for as long as needed to complete care or sustain appropriate treatment. Organizing that continuity combines the repetition of some tasks with the adaptation of others to changes in the person's clinical condition.

The composition of IMSS visits places a substantial part of its work around persistent needs. In 2024, the categories of heart disease and diabetes accounted for 21.4 and 19.1 million family medicine visits, respectively, or 42% of the total according to the published classification. These figures count encounters throughout the year. Organizing the response requires knowing what follow-up each person needs, how it relates to tests and medications, and when care management should be adjusted. The weight of these diseases makes regular services and assessment of changes in the person's clinical condition central tasks for the network (IMSS, 2025a, Table V.1).

ISSSTE outpatient care reveals another dimension of repeated encounters. In 2025, 15.95 million of its 24.29 million visits were follow-up visits, or 65.7% of the total. This composition shows the importance of scheduling later appointments and preserving information between visits. Repeated visits create opportunities to continue care; establishing whether a person was able to sustain it requires following their sequence of services and decisions (ISSSTE, 2026, Table 18.1; author's calculations).

For example, a person receives medications for a specified period and instructions to return with the results of a test. To continue treatment, they need to have the test performed, obtain another visit, and have the medications required by the next prescription. When these activities take place at different units, their dates and the information produced need to be connected. Continuity is built through this coordination among clinical follow-up, supply, and the person's ability to reach each service.

Information accompanies this process. Medical histories, test results, and treatment decisions allow the professional providing subsequent care to know what happened previously. When several providers are involved, sharing this information promptly helps their contributions become part of the same course of care. Information sharing needs to be linked to responsibility for follow-up and to the resources needed to act on the findings: professionals, tests, medications, and means of reaching services.

Changes in treatment need to be interpreted within this clinical and organizational relationship. An interruption may reflect a lack of supply, difficulty paying, a failure to renew treatment, adverse effects, or the person's decision. It may also be part of an adjustment ordered by the clinician. Knowing the reason distinguishes situations in which a connection needs to be restored

from those in which care should take a different course. Continuity means sustaining the appropriate functions as the need evolves, rather than keeping the initial prescription unchanged. The ENSANUT results presented in this chapter describe tests performed and medications obtained during an episode. Continuity adds the question of what happens next: when another assessment is needed, how supply is renewed, and who maintains follow-up. The unit of interest for organizing prolonged care is therefore the person's trajectory and the sequence of decisions they need. This perspective links the access examined in Chapter 6 to the regularity of services and coordination among participants.

Continuity also needs to take changes in protection into account. Retirement, termination of employment, or the end of a group policy may change the services and payment mechanisms available. The continuation of benefit entitlement and the medical coverage of pension recipients described in Chapter 2 identify which protection remains in effect; organizing treatment requires linking that protection to the next visit and renewed supply. Information about these rights has practical value when it helps maintain care during the transition.

The demographic change described in Chapter 2 makes this time dimension particularly important. Coexisting diseases and functional limitations may require treatment, rehabilitation, and everyday support at the same time. Organizing the response means anticipating visits and supplies over time and considering who helps carry out tasks between professional encounters. Some of this work takes place at home.

7.4 Households Help Sustain Continuity of Care

After leaving a visit or the hospital, the person and those accompanying them take on tasks that put clinical instructions into everyday practice. The household organizes schedules, travel, and new appointments; it may help the person take medications, observe changes in health status, and assist with activities the person has difficulty performing. This work is linked to professional care and contributes time and caregiving during the intervals when care takes place outside facilities.

The 2024 National Time Use Survey (Encuesta Nacional sobre Uso del Tiempo, ENUT) measures part of that contribution. Among people ages 12 and older who provided unpaid care to household members with a chronic or temporary illness or a disability, women devoted an average of 12.8 hours per week and men 7.5. These figures include emotional care and exclude supervisory care. When time spent remaining attentive to another person while doing a simultaneous activity is included, the averages rise to 23.8 and 13.1 hours, respectively (INEGI, 2025a, Figures 30 and 31).

Table 7.3. Time Spent Providing Unpaid Care to Household Members with an Illness or Disability, 2024

Average weekly hours among those who provided this care

Caregiving measure	Women	Men
Includes emotional care; excludes supervisory care	12.8	7.5
Includes emotional and supervisory care	23.8	13.1

Note: People ages 12 and older who provided care to household members with a chronic or temporary illness or a disability. Supervisory care consists of remaining attentive while doing another activity. The second measure includes this time; the two rows are presented as alternative measures.

Source: INEGI (2025a), ENUT 2024, results report 29/25, Figures 30 and 31, p. 36; INEGI (2025b), press release 121/25, p. 5.

The difference between women and men shows that time devoted to caregiving is also unevenly distributed. Among those who participated in these activities, women devoted an average of 5.3 additional hours per week when supervisory care is excluded and 10.7 when it is included. Sustaining care thus draws on caregivers' resources and depends on how tasks are shared within the household. Recognizing this contribution brings those who make everyday follow-up possible into the organization of health (INEGI, 2025a; author's calculations).

Time complements the financial contribution analyzed in Section 3.2. Purchasing medications or services draws on income and other economic resources; accompanying, organizing, and caring draw on labor. A prolonged need may require both contributions repeatedly. An analysis of continuity must therefore consider which tasks the household assumes, who performs them, and what support is available to sustain them.

The connection with the household is also part of IMSS hospital care. For the GeriatrIMSS program, the 2024–2025 report describes specialized nursing interventions directed toward early mobilization, discharge preparation, and education for older people and their caregivers. These tasks place the transition home within professional work: they prepare the activities that will continue outside the hospital and caregivers' participation. Monitoring these activities makes it possible to examine what support the person needs after discharge and how they can return to services when another assessment is required (IMSS, 2025b, Section II.3.8).

Professional care at home offers a way to coordinate these functions. In 2015, the IMSS described its Home Care for Patients with Chronic Illness program (Atención Domiciliaria del Enfermo Crónico, ADEC), aimed at selected patients who could continue treatment at home with support from their families and the health care team. Before discharge, their relatives or caregivers were trained; afterward, medical and nursing personnel made home visits. When needed, the team could arrange tests and referrals to outpatient or emergency care. This earlier example shows how clinical and family responsibilities can be organized around care that takes place partly outside the hospital (IMSS, 2015).

In this arrangement, medical and nursing care retains its professional character at home, while the household provides companionship and everyday support. Organizing this care requires specifying each participant's tasks, the training available, and how to return to services when another assessment is needed. Caregiving close at hand and professional capacity complement each other through follow-up. This distinction recognizes family work while preserving providers' responsibilities for health care.



This chapter shows how a clinical decision mobilizes an organization extending to other services, the supply chain, and the household. The evidence identifies tests not yet performed, medications only partly obtained, and the involvement of different facilities in completing clinical orders or recommendations. It also measures the time devoted to caregiving outside care facilities. For prolonged needs, these activities must be coordinated and repeated for as long as required.

The implication for the social organization of health is that care must sustain the relationship among what is ordered or recommended, the resources to carry it out, and the person's follow-up. Visits, tests, medications, and caregiving take on meaning within that trajectory. Chapter 8 examines what the response achieves: the appropriateness of decisions, the quality of their implementation, and the outcomes for the population.

8. Quality, Outcomes, and Learning

In Mexico, a high proportion of people with diagnosed diabetes receive pharmacological treatment, while a considerably smaller share achieves disease control. Analysis of ENSANUT Continua 2021-2024 estimates that 90.9% of adults with a prior diagnosis reported treatment and that, in the biochemical subsample, 33.0% had glycemic control. This contrast raises a central question for understanding how health care is organized: how to ensure that the resources mobilized, services used, and treatments received translate into better health (Reyes-García et al., 2025).

The preceding chapters examined the activities needed to address a health need: mobilizing financing, developing capacity, producing and distributing goods, facilitating access, and sustaining treatment. The contribution of these activities also depends on the decisions made and the conditions under which they are carried out. The appropriateness of a prescription, the timing of a test, and the coordination of follow-up all affect what care ultimately achieves. Quality therefore runs throughout the trajectory we have reconstructed.

Outcomes make it possible to evaluate how care works and guide changes in its organization. A measure of clinical control may lead to a review of patient follow-up; a difference in mortality, to an examination of the timeliness of care; and a demographic projection, to preparation for the services the population will need. This chapter develops the relationship among quality, outcomes, and learning. It first examines how care is delivered and what outcomes show for chronic diseases and acute episodes. It then considers how this information can inform decisions and the development of future capacity.

8.1 Quality Is Built throughout Care

Quality encompasses the characteristics of the decisions and interventions used to address a need. Four dimensions are particularly relevant to this book's analysis: appropriateness, timeliness, safety, and coordination. Appropriateness relates the intervention to the problem it seeks to address. Timeliness considers when the intervention takes place and its potential to produce the expected benefit. Safety concerns the prevention of harm associated with care itself. Coordination allows information and decisions from different participants to contribute to the same response.

These dimensions help explain why the same volume of services can produce different outcomes. A test contributes to diagnosis when it addresses a relevant clinical question, is performed at the right time, and its result reaches the clinician who will continue the person's care. The quality of this process encompasses both the technical performance of the test and its relationship to earlier and subsequent decisions. When several facilities are involved, the organization of care must sustain that relationship across their different responsibilities.

Long-term treatment illustrates the difference between continuity and quality. A person may attend visits regularly and receive medications for months, while changes in their condition call for a review of the prescription, additional tests, or a change in follow-up. Continuity keeps these opportunities for care available; quality lies in how they are used to respond as the need changes. The two dimensions complement each other: regular contact makes it possible to assess progress, and clinical assessment guides what should continue or change.

People's experiences provide information about another aspect of how care works. How people are treated, communication, trust, and perceived timeliness provide insight into the experience of care. In Chapter 6, we saw that these perceptions appear among the reasons for choosing a provider or turning to a different one. Their analysis complements clinical evaluation, which examines the appropriateness of the diagnosis, the interventions performed, and changes in health. Bringing both perspectives together helps explain people's relationship with services as well as the content of the care they receive.

The OECD health system performance assessment framework places people's needs and preferences at the center of the analysis and distinguishes access to services from the characteristics of their quality. Quality includes the safety and effectiveness of care grounded in evidence-based practices. For our study, this perspective connects the capacities described in the preceding chapters with how they are used and with the changes in health achieved by the population (OECD, 2024).

8.2 Treatment and Control of Chronic Diseases

Chronic diseases provide a way to examine the relationship between sustained care and outcomes. In the study by Reyes-García et al. (2025), based on ENSANUT Continua 2021–2024, 90.9% of adults ages 20 and older with a prior diagnosis of diabetes reported pharmacological treatment, and 77.4% reported regular use. Glycemic control, defined in that analysis as a glycated hemoglobin concentration below 7%, was estimated at 33.0%. Pharmacological treatment was widespread among people with a diagnosis, while the proportion with control was close to one-third.

The health questionnaire identifies whether a person takes medications and how regularly. The study defines regular use as reported treatment that was not interrupted more than once a week during the preceding six months. The biochemical measurement provides information about control at the time of the survey. The indicators thus describe the presence of treatment, a characteristic of its use, and a physiological outcome, using the corresponding samples for each component (Reyes-García et al., 2025).

The significance of this contrast lies in the fact that a substantial share of the population with a diagnosis is already receiving treatment. Improving outcomes requires examining what happens during that care: how the intervention is selected, whether medications can be obtained and used regularly, how progress is monitored, and when management is adjusted. The authors specifically emphasize the importance of clinical follow-up, continuity of treatment, and equitable access to services in improving control. Care must be organized so that information about changes in a person's condition prompts a clinical response during treatment.

Hypertension reveals needs for care at different stages. Using ENSANUT 2021–2024, Campos-Nonato et al. (2025) estimate an overall prevalence of 29.1% among adults ages 20 and older. Among those with hypertension, 62.9% had a prior diagnosis. Separately, among those receiving pharmacological treatment, 60.1% had controlled blood pressure, defined as systolic pressure below 140 and diastolic pressure below 90 millimeters of mercury. These results identify the importance of both detecting the disease and improving control among people already receiving treatment.

The organizational response depends on where each person stands. For someone living with hypertension without knowing it, detection is the first connection to care. For someone already diagnosed and receiving medications, the appropriateness of treatment, the regularity of supply, and the assessment of outcomes become more important. This distinction connects the preventive activities discussed in Chapter 2 with access and continuity in Chapters 6 and 7. Within the population, the same disease entails different needs for recognition, entry into services, and follow-up.

Control may also be related to disease severity, diet, the ability to follow clinical orders or recommendations, and other living conditions. National estimates establish the scale of the problem; explaining the contribution of these mechanisms requires relating them to the care process. The implication we draw is that treatment coverage must be accompanied by an organization capable of monitoring changes in people's health and responding to them. For persistent illnesses, this capacity for assessment and adjustment is part of the service that must be sustained.

8.3 Clinical Outcomes and Population Health

Outcomes can be examined at different scales. Control of a chronic disease is related to long-term treatment; survival after an emergency, to a shorter sequence of recognition, transport, and care; and population mortality brings together what has happened across numerous care trajectories. This distinction matters because each indicator directs evaluation toward a particular set of processes and responsibilities.

For acute episodes, international comparisons show substantial differences for Mexico. Health at a Glance 2025 reports 22.6 deaths within 30 days of admission for acute myocardial infarction per 100 admissions, compared with an OECD average of 6.5. For ischemic stroke, the figures are 17.0 and 7.7, respectively. The indicators cover people ages 45 and older and, in the comparison used here, count deaths in the hospital of admission, with age and sex standardization (OECD, 2025a, 2025b).

IMSS hospital records show why the composition of care must accompany this reading. In 2024, pregnancy, childbirth, and the puerperium accounted for 17.8% of discharges from inpatient beds and 7.2% of patient-days; kidney failure accounted for 4.9% of discharges and 6.8% of patient-days. Each group has a different share of episodes and time spent in the hospital. Interpreting bed utilization or comparing outcomes across hospitals requires considering these differences, together with age, severity, and conditions at admission (IMSS, 2025a, Table V.2).

The ISSSTE provides information on the age composition of episodes: 135,390 of its 358,930 hospital discharges in 2025 involved people ages 65 and older, or 37.7% of the total. This finding complements the IMSS description by diagnosis and identifies another characteristic that should inform evaluation. Both sources count hospital discharges in their respective years; adjusting outcomes requires relating those characteristics to the clinical processes and outcomes of each episode (ISSSTE, 2026, Table 26.2; author's calculations).

Explaining these outcomes requires following a sequence in which timing and the capacity to respond are especially important. Recognition of symptoms leads to seeking help; transport makes it possible to reach a facility; and assessment determines which intervention is needed and where it can be performed. The severity of the person's condition on arrival at the hospital and

transfers between facilities also affect the outcome. The comparison therefore directs the analysis toward the organization of acute care as a whole, from the beginning of the episode to hospital treatment.

At the population level, treatable mortality covers causes of premature death that can be addressed primarily through timely and effective care after a disease has developed. Preventable mortality covers causes that can be addressed primarily through prevention and public health. Under the OECD and Eurostat definitions, both consider deaths before age 75 and are expressed as age-standardized rates. For Mexico, the 2022 data used in this study report treatable mortality of 175 per 100,000 population, compared with 77 in the OECD comparison, and preventable mortality of 243, compared with 145 (OECD, 2025a, 2025b).

This distinction identifies two dimensions of the response to health needs. Timely care seeks to change the course of a disease through diagnosis, treatment, and follow-up. Prevention also acts on the conditions and exposures that contribute to its onset. The observed rates incorporate disease frequency and how these responses have worked over time. Their analysis thus brings together the population's living conditions and the preventive and care activities through which society responds to health needs.

Life expectancy provides a broader summary of the pattern of mortality. The OECD's 2025 edition reports 75.5 years for Mexico, 5.6 years below its average. This outcome incorporates the economic, social, and environmental conditions in which the population lives, together with prevention and care. Its importance for well-being is fundamental; understanding what might change it calls for examining causes of death, the groups affected, and opportunities to intervene in their care trajectories (OECD, 2025a, 2025b).

Table 8.1. Health Outcomes and the Processes They Help Examine

Outcome	Selected finding	Relationship to the organization of health
Glycemic control in diagnosed diabetes	33.0% with control in ENSANUT 2021–2024.	Relationship among treatment, supply, use, follow-up, and changes in clinical condition.
30-day mortality following myocardial infarction and ischemic stroke	Mexico: 22.6 and 17.0 per 100 admissions; OECD: 6.5 and 7.7.	Recognition of the episode, transport, severity at admission, diagnosis, and hospital care.
Treatable and preventable mortality	Mexico: 175 and 243 per 100,000 population; OECD: 77 and 145.	Disease frequency, prevention, detection, and timely care at the population level.
Life expectancy at birth	Mexico: 75.5 years, 5.6 below the OECD average.	Mortality patterns related to living conditions, risks, and the response to health needs.

Note: The indicators retain their respective populations and periods. Glycemic control is estimated in the biochemical subsample of adults with a prior diagnosis of diabetes. The myocardial infarction and stroke rates are standardized by age and sex for people ages 45 and older and record deaths in the hospital of admission. Treatable and preventable mortality consider deaths before age 75 and are age-standardized. The international comparisons reproduce the OECD's 2025 edition; dates and definitions are documented in Annex A.10.

Source: Author's compilation using Reyes-García et al. (2025) and OECD (2025a, 2025b).

Reading these outcomes together identifies opportunities for improvement at different stages. Detection brings people who are unaware of their disease into contact with services; follow-up allows treatment to be reviewed; acute care requires a timely response; and prevention helps change the risks the population faces. Evaluation is more useful when it relates an observed outcome to the processes that may influence it and to the decisions each participant is responsible for making. This is the starting point for institutional learning.

8.4 From Information to Institutional Learning

Mexico has sources of information on health needs, service utilization, and a range of clinical and population outcomes. ENSANUT Continua has expanded this capacity through annual surveys and the pooling of survey rounds to produce state-level estimates. The 2020–2024 results bring together information from more than fifty thousand households and make it possible to examine geographic differences in health, nutrition, and access. This information provides a basis for relating national problems to the circumstances of specific populations and places (Shamah-Levy et al., 2025).

The Health Sector Program (Programa Sectorial de Salud) 2025–2030 shows how some of these measurements inform explicit objectives. For people without social security coverage who receive public-sector care and a prescription, it establishes a 2024 baseline of 61.55% for prescriptions filled in full at the same place of care and a target of 80% in 2030. In another area, it sets the objective of reducing the probability of dying between ages 30 and 70 from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases, from a baseline of 15.05% in 2023 to 13.50% in 2030. Table 8.2 presents both commitments (Secretaría de Salud, 2025).

Table 8.2. Selected Baselines and Targets in the Health Sector Program 2025–2030

Indicator	Population or process covered	Baseline	2030 target
Prescriptions filled in full at the same place of care	People without social security coverage who had a health problem in the preceding three months, received public-sector care, and were given a prescription.	61.55% in 2024	80.00%
Probability of dying between ages 30 and 70 from four groups of chronic diseases	Cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases.	15.05% in 2023	13.50%

Note: The table presents the program’s formal baselines and targets. The prescription-filling indicator refers to obtaining all prescribed medications at the same public facility and to the population specified in its indicator documentation. The 84.8% figure for obtaining all prescribed medications in ENSANUT 2023, presented in Chapter 7, refers to a different population and includes different places where medications were obtained.

Source: Secretaría de Salud (2025), Programa Sectorial de Salud 2025–2030, indicators 3.1 and 2.1.

The prescription-filling indicator illustrates the relationship between measurement and decisions. Its evolution provides information about the capacity of public services to supply all prescribed medications at the place of care. Acting on that result requires understanding how prescriptions relate to stocks and replenishment. An evaluation can identify whether the problem is concentrated in particular products or facilities and examine its relationship to purchasing, distribution, and inventory management. The figure becomes operationally useful when it is linked to the tasks that make supply possible.

To illustrate the reasoning, if an evaluation finds that certain medications reach a warehouse but their distribution to facilities is delayed, the decision to improve performance can focus on that operation. It will be necessary to establish who will change it, what resources are needed, and how the timeliness of delivery changes. Subsequent monitoring will show whether the response corrected the problem identified. This example develops the book's criterion: institutional learning occurs when the analysis of information informs a decision, and adaptation is expressed in the resulting change in processes, rules, resources, or capacities.

The mortality target encompasses a broader set of actions. Its evolution may be related to prevention, detection, timely care, and treatment of persistent diseases. To guide decisions, monitoring the indicator must be complemented by information on those components. The difference in scale between the two targets is important: prescription filling at a facility makes it possible to examine a specific relationship between care and supply; mortality from chronic diseases reflects the cumulative contribution of numerous functions.

The IMSS offers an example of how operational information can guide reorganization. In its 2024–2025 activities report, the 2·30·100 strategy links targets for surgery and visits to scheduling, team formation, and the use of afternoon shifts and weekends. Its approach directs attention to the operating conditions of existing resources. Evaluating this response requires observing the care delivered, its timing, case complexity, and quality, together with the additional personnel and supplies used. Institutional planning thus constitutes a hypothesis for improvement whose results must be tested during implementation (IMSS, 2025b, Chapter I).

This use of evidence also makes it possible to evaluate institutional changes. A reorganization should be examined in terms of the problem it seeks to solve, how it changes responsibilities, and what subsequently happens to care. The relationship among problem diagnosis, decision, and implementation makes it possible to review the response adopted; evaluating its effects establishes how much it contributed to subsequent outcomes. Learning accumulates when that experience remains available to inform later decisions.

8.5 Adaptation Requires Responding and Anticipating

Adaptation in the organization of health encompasses both the response to observed problems and preparation for future needs. Training professionals, building infrastructure, and organizing networks take time. As the composition of the population changes, present decisions influence the capacity that will be available to serve it years later. Anticipation connects those lead times to demographic and epidemiological change.

The exercise in Chapter 2 shows the importance of this preparation. Between 2026 and 2070, the population ages 20 and older increases by 26.1%, while the combined count of diabetes and hypertension cases rises by 84.5% under the assumption that age-specific rates of prior diagnosis are held constant. The difference is explained by the growing share of age groups in which these diseases are more frequent. The result draws attention to a mix of needs in which follow-up, medications, and caregiving over extended periods become more important.

Translating this change into capacity decisions requires developing the relationship among population, needs, and services. Starting from projected needs by age and geographic area, it is necessary to establish what care is to be offered, how frequently, and through which modes of delivery. Those service volumes make it possible to estimate the combinations of personnel,

facilities, equipment, supplies, and caregiving time required. Their costs and the financing sources that could sustain them can then be examined. Preparation for future health needs consists of building this relationship with explicit, revisable assumptions.

The forms of organization studied in this book matter for that exercise. Follow-up visits may require proximity and regularity; certain procedures require specialized resources to be brought together; medications require distribution and replenishment; and people with functional limitations may need support outside facilities. Each function uses a different combination of scale, location, and labor. Planning must consider these differences when deciding what to expand and how to connect services.

The Health Sector Program incorporates elements of this anticipation. Strategy 1.3 calls for aligning infrastructure and equipment with demographic and epidemiological needs, reducing gaps in care, and improving accessibility. Strategy 3.1 proposes integrating the planning of medication demand with purchasing and distribution, including delivery to facilities. The program thus connects resource development with identified needs and with functions that must be coordinated (Secretaría de Salud, 2025).

The Health Sector Program presents these components as objectives and lines of action whose implementation depends on approved resources. The quantitative links among future needs, services, location, and financing can be developed alongside the forward-looking exercises already conducted by institutions. This relationship makes it possible to examine both which capacities should be expanded and how to sustain their operation.

The IMSS report projects SEM revenue and expenditure for 2025–2054, distinguishing coverage for insured persons from Medical Expenses for Pension Recipients. In the GMP baseline scenario for 2025, it estimates revenue of 80,928 million pesos and expenditure of 143,683 million, expressed in 2025 pesos. These are financial projections from the report, distinct from year-end results. Their usefulness for health planning increases when they are related to the services the population will need, available capacity, and decisions on prevention and follow-up (IMSS, 2025a, Table V.19).

Relating this financial projection to the IMSS network makes it possible to formulate concrete decisions. The weight of persistent diseases in family medicine and the role of specialized and hospital services identify needs for personnel, tests, and supply that must be sustained over time. Training specialists has its own lead times, while extending operating hours requires complete teams to be available during the new shifts. Preparation must link these decisions to the population covered and the resources projected to finance its care (IMSS, 2025a, Chapters V and IX; IMSS, 2025b).

The ISSSTE series shows a change relevant to this preparation. Between 2009 and 2025, registered workers increased from 2.58 to 3.25 million, or 25.7%, while pension recipients increased from 0.73 to 1.41 million, or 93.8%. The ratio declined from 3.54 to 2.29 workers per pension recipient. Interpreting the implications for health requires relating this composition to needs, services used, and the revenue that finances them. Changes in the population covered make it important to sustain follow-up and treatment as contributions associated with the active workforce evolve (ISSSTE, 2026, Table 1.1; author's calculations).



The sustainability of an expansion also depends on its operating requirements. Adding facilities or equipment entails planning for personnel, maintenance, and supplies throughout their useful lives. Organizing continuous care requires financing recurring activities and the relationships between facilities that allow them to be completed. Forward-looking analysis must therefore bring together the initial investment and recurring resources, as well as the contributions expected from institutions, businesses, and households.

Evaluation allows this preparation to be revised as circumstances change. Disease frequency, available technologies, costs, and modes of care delivery may change the services required and how they are produced. Observing outcomes helps revise assumptions and adjust decisions. In this way, experience with care and anticipation of future needs form part of the same process of adaptation.

This chapter completes our account of the relationship between needs and the response to them. Quality makes it possible to examine how capacities and decisions operate during care; outcomes show what happens to health; and learning incorporates that experience into the organization. The Mexican evidence identifies substantial differences in disease control and mortality, alongside measurement capacities and objectives for improvement. Its usefulness for changing the organization of health depends on relating those outcomes to processes that can be acted upon and to resources that can sustain the changes.

The conclusions now bring together what we have learned throughout the book: how a plural, segmented, and distributed organization mobilizes its capacities to address health needs in Mexico, which relationships make it possible to complete the response, and what this structure implies for decisions by public institutions, businesses, professionals, and households.

9. Conclusion: A Distributed Architecture Whose Operation Depends on Its Connections

In Mexico, addressing a health need brings together decisions and resources from public institutions, professionals, businesses, and households. Institutions organize responsibilities and financing; providers combine labor, facilities, and equipment; producers and distributors supply goods; and people contribute money, time, and caregiving. The response a person receives depends on how these activities relate to one another along the care trajectory, from recognizing a problem to treatment and its outcomes.

The analysis developed in this book allows us to characterize this organization as plural, segmented, and distributed. It is plural because of the diversity of participants and forms of service delivery. It is segmented because the populations served, sources of financing, and rules governing care are organized through different institutional channels. It is distributed because the functions a person needs may be located in several establishments, businesses, and households. Each characteristic helps explain an aspect of how the organization works: who participates, under what responsibilities, and how their contributions come together.

Specialization explains part of this distribution. Visits require proximity; certain procedures require bringing together resources and specialized knowledge; and manufacturing can supply numerous points of use from a production center. The organizational challenge is to make these forms of production compatible with people's needs. Each participant's contribution takes on meaning within the set of activities that makes prevention, care, and caregiving possible. The conclusions that follow bring together the study's main findings and develop their implications for organizing this response.

9.1 Capacity, Alignment, and Connection Guide Different Responses

Differences in resource levels relative to the OECD, together with the expansion of establishments and employment, show the importance of the scale of resources in the response to health needs. Their organization raises a further question: what functions can be performed with them, for which population, and through what relationships with other services? Diagnostic equipment requires operators, maintenance, and the capacity to interpret results; a hospital needs to combine personnel, facilities, and supplies across shifts. Capacity is built by bringing these resources together in an operation that can be sustained (Chapter 4).

Within the private and market-based groups in the panel, census evidence shows different ways of expanding this resource base. Between 1998 and 2023, average employment per private inpatient care establishment rose from 19.33 to 55.44 persons. In clinical diagnostics, density increased from 67.0 to 138.3 establishments per million people, and employment per unit also increased. Outpatient care retained a much denser network of small establishments. Within the comparable groups in the panel, these findings describe an expansion that combines greater workforce scale, wider service presence, and specialization of functions (INEGI, Economic Censuses; author's calculations, Chapter 4).

Evidence from IMSS and ISSSTE describes two major public networks. IMSS organizes a network of 1,850 medical and support units under its regular social security scheme, ranging from family

medicine to highly specialized care. Its activity shows the scale of visits, emergency care, and hospitalization, as well as the weight of diseases requiring long-term follow-up. ISSSTE adds a configuration of 1,121 units and records that distinguish in-house and contracted-out services. In both networks, the responsibility to provide care is carried out through resources that must be coordinated within and across establishments, as well as with contracted providers (IMSS, 2025a; ISSSTE, 2026; Chapters 4 and 7).

To relate this structure to care, we distinguish capacity, alignment, and connection. Capacity expresses which function can be performed and at what scale. Alignment relates that function to the type of need, the population, the geographic area, and the time when it is required. Connection enables complementary services and resources to contribute to the same course of care. These dimensions identify different decisions: developing a function, aligning its availability with needs, or improving relationships among participants.

Territorial evidence provides a direct check on alignment. In May 2026, the 394 municipalities classified as large dense nodes concentrated 78.4% of P2 establishments compared with 67.6% of the population; 300 municipalities with low relative presence contained 0.61% of P2 and 3.04% of the population. At the same time, ENSANUT Continua 2020-2024 shows that care received among those reporting a need ranges from 71.3% to 93.4% across states. The two sources observe different units and periods, but together they show that alignment cannot be inferred from a national inventory: it depends on how functions are distributed relative to populations whose needs and institutional links also differ (INEGI, DENU; Shamah-Levy et al., 2025; Chapters 5 and 6).

A diagnostic test illustrates the usefulness of this distinction. When the necessary equipment or personnel are missing, expanding the response requires adding those resources. When a service exists but its location or hours make it difficult to use, the decision must address how it relates to the population's circumstances. When the test is performed at another establishment, its result needs to reach the professional who will continue care. In all three cases, the aim is to complete the diagnosis, but the problem and the response lie in different parts of the organization.

This yields an implication for investment and management: the need to be addressed should guide the combination of resources and the relationships to be strengthened. Expanding capacity and making better use of it are parts of the same decision. The KLEMS growth accounting examined in Chapter 4 places the addition of productive factors at the center of growth in services; analyzing how those services work requires relating that expansion to the activities performed, their quality, and their outcomes. Planning can thus link financing to the health functions it is expected to sustain.

9.2 Episodes Bring Together Providers and Household Resources

The ENSANUT episodes examined in Chapter 6 show that affiliation and the provider used do not necessarily coincide. Private services and pharmacy-adjacent clinics serve both people who report entitlement to benefits and those who do not. An institutional link establishes a responsibility for protection, while the observed choice incorporates other care alternatives (Shamah-Levy et al., 2024).

The reasons people give help explain this distribution. Among those who went somewhere other than the institution where they were entitled to receive care or the Ministry of Health's services, distance and an appointment scheduled too far in the future were the most frequently reported primary reasons, at 24% and 20%, respectively. Proximity, service availability, hours, cost, and how people are treated also feature in the decisions reported. Each person assesses the alternatives in light of the specific need and the resources available to address it (Shamah-Levy et al., 2024; Chapter 6).

The IMSS's organization of service hours illustrates a response to these circumstances. Opening consultation rooms on Saturdays and Sundays aims to make care easier to obtain for people whose work commitments or need for someone to accompany them limit weekday attendance. The example links a decision about teams and shifts to the person's ability to attend. Examining its outcome requires tracking the timeliness of appointments and subsequent care, as well as the number of visits completed (IMSS, 2025b; Chapter 6).

Combining providers can allow care to continue. A person may have a test performed outside the unit where the visit took place or obtain medications from a private pharmacy. Along that trajectory, someone must arrange transportation, transmit information, and finance the services or goods required. Where each activity is completed and how those tasks are distributed are part of the explanation of access. It is therefore important to know both what care was obtained and what contributions made it possible.

ENIGH shows the economic dimension of this participation. In the spending and income reported, higher-income households spend more pesos on medications, but the payment carries a greater relative burden in the first decile. A recurring purchase must be sustained alongside the household's other needs. Financial protection matters because it reduces dependence on having money available each time treatment must be renewed (INEGI, ENIGH 2024; Chapter 3).

Insurance helps clarify this distribution of responsibilities. Social security schemes extend medical protection to pension recipients and family members, while private contracts specify the share of costs covered and the share that remains payable by the person. One such link is medical expense insurance, which 7.5% of adults ages 18 to 70 reported having in ENIF 2024. The actual care trajectory depends on which protection can be used and how it is maintained when a person changes jobs, retires, or renews a contract (INEGI, 2025d; IMSS, 2025a, 2025b; ISSSTE, 2026; author's calculations).

Caregiving adds another contribution. ENUT 2024 records that, among those who provided unpaid care to household members with a chronic or temporary illness or a disability, women devoted an average of 12.8 hours per week and men 7.5, including emotional care and excluding supervisory care. These tasks support care outside establishments, and their distribution creates differences in the time caregivers contribute. Financing purchases and performing caregiving work represent two distinct resources that households mobilize to sustain the response (INEGI, 2025a; Chapter 7).

This evidence broadens the criterion for evaluating how health care is organized. What matters is that a person completes care and can do so under conditions that are sustainable both for that person and for their caregivers. A change in services may make one step easier while requiring additional travel, payments, or coordination. Examining these changes together makes it possible

to assess their distributional effects and identify the support the household needs, while preserving professionals' clinical responsibilities and institutions' obligations.

9.3 The Material Foundations That Sustain Care

One contribution of this study is to place production and distribution within the care trajectory. Care uses medications, devices, equipment, and support services whose preparation begins before the clinical encounter and may take place far from the person who needs them. Decisions about investment, manufacturing, imports, and purchasing influence which goods are available; logistics and storage preserve them and bring them closer to their points of use. These material foundations of health care are part of society's capacity to respond to health needs.

Mexico's structure has changed over the period studied. Within the historically harmonized groups of the census panel, manufacturing of equipment, instruments, and optics gained weight, while pharmaceutical manufacturing's relative share declined. The latter increased its employment from 51,083 persons in 1998 to 88,829 in 2023, a rise of 73.9%, within a broader group of activities that expanded more rapidly. The finding describes a productive base in transformation, with different trajectories among activities that contribute to the supply of health-related goods and services (INEGI, Economic Censuses; Chapter 5).

Foreign trade and distribution show other changes. In the approximation to apparent national consumption of pharmaceutical products developed in Chapter 5, the import share rose from 45.1% in 2018 to 58.1% in 2025. Meanwhile, the share of purchases that pharmacies without convenience stores made from wholesalers increased from 55.4% to 87.0% between 2018 and 2023. These figures show the importance of international and wholesale relationships in the supply reaching points of care and sale (INEGI; Banco de México; author's calculations).

Security of supply depends on how this network is organized. A product's clinical importance, alternative suppliers, replenishment lead times, and inventories provide a basis for assessing the capacity to respond to a disruption. Domestic production, imports, and distribution must be examined in light of these conditions. Strengthening supply means developing industrial and logistical capacities that can keep the required products available, with the quality and timeliness needed for care (Chapter 5).

Regulation is also part of this organization. Product development and supply options depend on the scope of industrial property rights, regulatory authorizations, and applicable technical requirements. Compliance requires knowledge, testing, documentation, and assessment capacity. The analysis in Chapter 5 relates these functions to health protection and to the conditions under which suppliers participate. Production, quality assessment, and the circulation of goods need to develop in complementary ways.

Medications show where these material foundations meet care: a prescription identifies a product, and a supply chain makes it available for the person to obtain. In ENSANUT 2023, 84.8% of people with a prescription obtained all the medications, 10.7% some, and 4.5% none. In this case, productive and commercial operations lead to the possibility of carrying out a clinical order or recommendation. When treatment must continue, purchasing, replenishment, and follow-up need to be coordinated again. Productive development policy, procurement decisions, and service organization therefore share the challenge of sustaining supply over time (Shamah-Levy et al., 2024; Chapter 7).

9.4 Observing Episodes and Transitions to Learn from Outcomes

The book combines sources on needs, utilization, payments, caregiving, establishments, production, financing, and outcomes. Their different units and periods make it possible to examine complementary functions, but not to reconstruct longitudinal follow-up of the same people. Continuity is addressed through partial evidence - subsequent encounters, obtaining and using medications, follow-up, and control - each with its own denominator. These measures are not combined into a single continuity index.

The distinction between a pending task and an unknown subsequent course of care guides follow-up. Within the reported episode, it may be known that a person did not complete tests that were ordered; when the link between a referral and the destination provider is missing, whether care was received may be unknown. In the first case, the task is to address a pending activity; in the second, it is to recover the information link before attributing nonfulfillment. Annex A.1 identifies the minimum data needed to distinguish the two situations (Shamah-Levy et al., 2024; Chapter 7).

Clinical outcomes make this follow-up particularly important. Among adults with diagnosed diabetes, 90.9% reported pharmacological treatment, while glycemic control was estimated at 33.0% in the ENSANUT 2021–2024 subsample with biochemical measurements. This contrast directs attention to what happens during treatment: its appropriateness, the regularity of supply and use, living conditions, and assessment of changes in clinical condition. The responsibility for organizing care includes being able to track those changes and adjust the response (Reyes-García et al., 2025).

This gives information a concrete function: allowing outcomes to feed back into decisions. An identified delay may prompt a review of appointments; an incomplete delivery, a reorganization of replenishment; and an unsatisfactory clinical outcome, an examination of care management and follow-up. Learning occurs when that evaluation changes a decision, and adaptation is expressed in the changes to resources, processes, or responsibilities that are carried out. Evaluating how those changes work then builds experience for subsequent decisions.

The health targets and planning instruments examined in Chapter 8 provide reference points for this work. Their usefulness increases when each objective is linked to the activities that can affect it, those responsible for carrying them out, and the available resources. In a distributed organization, sharing information should facilitate coordination of services and correction of difficulties. This is the link between producing data and using them to improve care.

9.5 Evaluating Reforms by the Care They Make Possible

The preceding conclusions offer a criterion for examining a budget increase, an institutional reorganization, or a new form of service delivery. The starting point is the need to be addressed and the function to be strengthened. From there, the question is how service availability, relationships among providers, and the contributions required of households change. An administrative arrangement takes on meaning through its consequences for how care works.

Table 9.1 organizes two levels of questions. Capacity, alignment, and connection describe how the response is built and articulated. Burden, observability, and adaptation examine the demands it places on households, the information needed to evaluate it, and the changes produced by

learning. The three additional criteria do not replace the dimensions of the framework; they guide evaluation and modification of how it operates.

Table 9.1. Criteria for Evaluating Changes in the Social Organization of Health

Dimension	Evaluation question	Aspects to be linked
Capacity	What function does the change create, preserve, expand, or modify, and at what scale?	Personnel, facilities, equipment, inputs, and hours needed to operate.
Alignment	How does it respond to a population's need in a specific geographic area and at a specific time?	Type and frequency of needs, available services, and conditions of access.
Connection	What links among decisions, services, and supply can be completed through the change?	Test order and test; referral and care at the destination; prescription, delivery, and renewal.
Burden	Who contributes the resources needed to sustain care?	Institutional financing, household payments, time, coordination, and caregiving.
Observability	How will the implementation and outcomes of the change be known?	Records of activities and dates linked to the person's follow-up.
Adaptation	How will the response be adjusted as needs and outcomes change?	Evaluation, decisions, changes made, and review of capacities and financing.

Note: Analytical criteria for assessing interventions. A change may improve some dimensions and require trade-offs in others; the balance depends on the need addressed and the outcomes. The table guides evaluation without constituting an index or a ranking of institutions.

Source: Author's elaboration based on the framework and findings of Chapters 2–8.

For example, bringing specialized services together in one unit may make it easier to combine equipment and professionals while increasing travel for certain populations. Evaluation must consider both consequences and the organization of referrals. Likewise, a medication purchase should be assessed in terms of its economic conditions and the deliveries it can sustain at points of care. These examples show why decisions about scale, location, and contracting require examining their effects on the full care trajectory.

The four lines of work can be stated as verifiable questions. For follow-up: what proportion of clinical orders or recommendations was completed within the clinically intended timeframe and reached the subsequent decision? The provider issuing the order, the service carrying it out, and the person responsible for follow-up need a common record of person, episode, date, and result. A pending task or a broken information link can then be located in a specific operation.

For alignment: which function is missing for the population served, and what combination of personnel, equipment, hours, and inputs does it require? Those responsible for facilities, networks, and financing need to distinguish among adding capacity, changing its availability, and connecting a service that already exists. Comparison requires a defined population, need, and period; aggregate inventories do not resolve that decision on their own.

For household burden: what payments, travel, coordination, and caregiving are required to complete the same episode? For future preparation: what recurring services and resources will the proposed investment finance, and for which population? The first question brings the household into the evaluation; the second links expected needs, training, facilities, supplies, and

financing sources. In both cases, responsible parties and follow-up information must be identified.

These lines of work follow from the relationships studied and must be specified according to the needs and responsibilities in each setting. Their evaluation brings together implementation, quality, outcomes, and conditions of access. The organization can thus learn which changes facilitate care and what adjustments it needs to make to extend their benefits.

9.6 The Final Criterion: Responding to Present and Future Needs

Demographic change reinforces these requirements. In the exercise in Chapter 2, the combined count of diabetes and hypertension grows faster than the adult population even when age-specific prior-diagnosis rates are held constant. The result holds under both orders of decomposition: the change in age structure accounts for more than half of the increase. Preparation must therefore address care that is more prolonged and complex, even as the population stabilizes (CONAPO, 2023b; Shamah-Levy et al., 2024; Annex A.7).

Preparing the response requires considering the duration and combination of services as well as their volume. Persistent needs require follow-up, regular supply, and caregiving; coexisting conditions require coordinating decisions that may involve several professionals. At the same time, prevention and care for maternal and child health, communicable diseases, injuries, and mental health remain necessary. The future composition of needs guides which functions should be developed, where, and with what resources.

Anticipation makes it possible to relate the time needed for training, investment, and organization to this transformation. Capacity expanded today requires financing to operate and be renewed; a network providing continuity of care needs to sustain visits, tests, and supplies. Evaluation of outcomes allows those projections to be revised as diseases, technologies, and forms of care change. Preparation and learning are thus complementary functions of the organization of health.

Financing must accompany this preparation. Chapter 3 shows a real increase in federal expenditure paid under the Health function between 2020 and 2025, together with a decline in its share of net expenditure. Approved allocations and the projections of public insurance schemes assign different resources and responsibilities. The planning link is among expected needs, services, operations, and financing sources, with evaluations that guide adjustments (SHCP, 2026a, 2026b; IMSS, 2025a).

The book's central argument is that needs and outcomes are linked through a social organization that mobilizes different kinds of capacity. Understanding it requires following both people's trajectories and the development of the response: responsibilities, financing, labor, production, distribution, care, and caregiving. How it works becomes clearer when we can identify what each participant contributes, how they relate to the others, and what conditions allow that combination to be sustained.

The final criterion is that people find an appropriate response to their needs, can use it when they require it, and have the means to sustain it for as long as necessary. Health outcomes, together with the resources and work that made them possible, express what this organization achieves. This relationship among needs, capacities, and outcomes provides a basis for decisions to improve health in Mexico.

Methodological Annexes

Sources, Coverage, and Rules for Comparison

The annexes document the calculations underlying the book's findings. They identify the unit observed, the period, the denominator, and the calculation rule for each comparison. Published estimates are distinguished from the author's calculations and from proposals for tracking care.

Official codes for series, variables, and classifications are retained when they identify a measurement. Years refer to the phenomenon observed unless publication, update, or access is explicitly indicated. The glossary defines the concepts used.

A.1 Sources and Observation Design

Table A.1.1 Sources and Units of Observation

Source and reference	Unit and use	Comparison rule
Economic Censuses 1999-2024	Groups of activities; economic reference years 1998-2023. Economic units, TPE, CGVA, and GFCF.	Partial panel of thirteen groups; does not reconstruct the entire public network. A.2-A.3.
DENUE 2015-2026	Establishments, territorial densities, and functional architecture; twenty releases, 2015-2026.	Separate directory regimes; physical presence is not equivalent to clinical capacity or individual access. A.6.
TFP-KLEMS, base year 2018	Output and factor growth rates and contributions, revised 1991-2024 series.	Sector 62 and subsectors 621 and 622 separately. A.4.
ENIFARM 2023	Business product categories, employment, and sales for 2022.	Universe distinct from census TPE and EMIM. A.4.
EMIM, foreign trade, and FIX	SCIAN 3254 output and Chapter 30 trade; January 2018-May 2026.	Approximate ANC; eight complete years and a separate partial period. A.5.
INEGI GDP and INPC	Indices for adjusting monetary values from different periods.	GDP deflator for Censuses; overall INPC for the budget and ANC. A.3 and A.5.
Input-Output Tables	Intermediate consumption in industry 3254, 2008, 2013, and 2018.	Immediate origin of inputs; denominator distinct from ANC. A.5.
ENESS; 2020 Census; 2025 Intercensal Survey	People with entitlement to benefits, affiliation, or self-reported access according to each survey.	Historical cross-sections and different categories; multiple responses in 2020 and 2025. A.6.
ENSANUT Continua 2023	Reported need, care seeking, care received, and decisions.	Each module and transition retains its denominator. A.6 and A.9.
Pooled ENSANUT and 2025 articles	State estimates for 2020-2024 with confidence intervals and coefficients of variation; clinical and care indicators.	Each indicator retains its period and denominator; state estimates are not assigned to municipalities. A.6 and A.10.
ENIGH 2016-2024	Households, average quarterly income and expenditure.	Ratios of averages for the same group. Includes households with zero expenditure. A.3.

Source and reference	Unit and use	Comparison rule
ENUT 2024	People age 12 or older and time spent on unpaid caregiving.	Averages among those who performed the activity; distinguish supervisory care. A.9.
CNSF and ENIF 2024	Insurance lines for 2025 and insurance ownership among people ages 18 to 70.	Keep people, policies, and certificates separate; contractual protection and utilization. A.3 and A.6.
IMSS and ISSSTE	Administrative populations, networks by level, training, services, supply, institutional accounts, and projections.	Each source retains its date, benefit, and accounting basis. A.3, A.4, A.6, A.9, and A.10.
SHCP and CSSSM	Federal expenditure paid in 2020-2025 and PEF 2026; economic health account, separately.	Different recording stages and universes. SHCP: XOA0417, XAC, and PEF Volume I. A.3.
CONAPO	Historical and projected populations; structure by age and year.	Retain the version and groups for each exercise. A.3, A.6, and A.7.
OECD, 2025 edition	Expenditure, resources, and outcomes published for Mexico and comparators.	Each indicator retains its year; Mexico's composition by financing scheme refers to 2022. A.3 and A.10.
Regulatory instruments and case files	Identified rights, authorizations, requirements, and transactions.	Retain product, act, date, and documentary scope. A.8.
Health Sector Program 2025-2030	Baselines, targets, and provisions of the published program.	Targets are not achieved results; the reading is limited to that instrument. A.10.

Source: Author's elaboration using the publications, series, and records identified in the references and in these annexes.

Aggregates, Episodes, and Trajectories

The design combines cross-sections and aggregates that observe different units. The census panel harmonizes groups of economic activities, and DENUÉ allows comparisons of geographic presence; neither, on its own, provides complete tracking of individuals or individual establishments. The health, income, and time-use surveys retain their own universes and denominators. Their proportions are not multiplied, nor are their magnitudes added together, to simulate a trajectory for the same individuals. The study does not use a longitudinal database tracking the same individuals.

The data collection year does not replace the economic reference year. The 1999, 2004, 2009, 2014, 2019, and 2024 Censuses are used for the 1998, 2003, 2008, 2013, 2018, and 2023 reference years. Materials from 1989 and 1994 provide historical background and bridges between classifications; they are not automatically added to the thirteen-group panel. ENIFARM 2023 describes 2022; ENUT 2024 is cited through results published in 2025.

The tracking proposal in Chapter 9 takes as its unit a clinical order, recommendation, or decision linked to a person, an episode, and a date. The subsequent event must correspond to that same unit: completion of a test, care at the referral destination, delivery of the prescribed products, renewal, or a subsequent clinical decision. Linking it to capacity and inventory requires a match

in location and period. Linking aggregates by municipality or institution does not reconstruct an individual trajectory.

For each link, distinguish at least the following: an event documented as completed; an event reported as not completed within the observed period; an unknown subsequent course of care; and a clinically indicated modification of the initial decision, when that information is available. Record the date and reason when available. An absent record is not converted into a zero or a failure to fulfill an obligation. These criteria guide a subsequent observation design; they do not describe a longitudinal database already constructed.

Survey comparisons retain the design and denominators of each publication. When only point estimates are reproduced, comparisons are read as descriptive. Confidence intervals and tests require the corresponding published estimates or a recalculation that respects strata, clusters, and weights; they are not inferred from the total sample size. This edition does not add intervals calculated as though the sample had been selected by simple random sampling.

A.2 Construction and Limitations of the Census Panel

The panel brings together thirteen groups harmonized by economic function. The crosswalk between the CMAP classification at the 1998 endpoint and subsequent SCIAN codes is conceptual and partial. A sum of codes indicates aggregation within a group, without establishing product-by-product equivalence. The reference codes must be read alongside the coverage available in each cross-section.

Table A.2.1 Crosswalks for the Thirteen Census Groups

Group	CMAP 1998	Reference SCIAN codes	Main limitation
G01 Outpatient care	923112	621111 + 621113 + 621115	Partial; variable coverage.
G02 Dentistry	923113	621211	Close correspondence.
G03 Diagnosis	923114	621511	Close correspondence.
G04 Ancillary services	923115	621610 + 621910 + 621991	Major change in scope.
G05 Private hospitalization	923111	622111 + 622211 + 622311	Aggregation of specialties.
G06 Pharmaceutical products	352100	325412	Broad coverage; not only human use.
G07 Chemicals related to active pharmaceutical ingredients	351216	325411	Mixed initial class.
G08 Equipment and instruments	385001	334519 + 339111 + 339112	Includes non-health uses.
G09 Optical manufacturing	385005	339113	Partial correspondence.
G10 Related wholesale trade	612012	433110 + 434222	Mixed trade aggregate.
G11 Pharmacies and related retail trade	623011	464111 + 464112 + 464113	Historical coverage includes perfumery.

G12 Optical retail trade	623077	464121	Close correspondence.
G13 Orthopedic goods	623080	464122	Close correspondence.

Source: author's elaboration using the Economic Censuses and the harmonized panel for the 1998–2023 reference years.

Pharmaceutical manufacturing combines G06 + G07; the broad aggregate for equipment, instruments, and optical products combines G08 + G09. The CGVA, employment, and investment shares in Table 5.2 use the total for the thirteen groups for the same variable in 1998 and 2023. They are not shares of health sector GDP or of the entire pharmaceutical market. Table 4.1 compares G01, G03, and G05; the last retains its private hospital coverage.

In the harmonized pharmaceutical groups, G06 records 47,145 and 84,916 persons employed, and G07 records 3,938 and 3,913, in 1998 and 2023, respectively. The sums are 51,083 and 88,829, a change of 73.8915%. Excluding G07, whose initial class is mixed, employment in G06 increases by 80.1167%. Employment growth remains under this exclusion. This check is limited to persons employed and does not by itself establish the robustness of value-added shares.

For 2008, groups G06 through G13 remain without data in the panel. These missing values are not zeros and do not permit calculation of a comparable composition for the thirteen groups. Nor are they filled using broader subindustries that may overlap. The 1998 and 2023 shares do not depend on that incomplete cross-section. Economic unit counts for G06 through G09 are also missing in 1998; the other available variables do not justify imputing them.

The harmonization retains specific breaks: outpatient care combines classes that are not identical across all censuses; ancillary services change in scope; class 351216 mixes chemical production; equipment and instruments include uses that are not exclusively health-related; and historical trade categories may include perfumery or other products. When a class cannot be observed, such as 621115 in the tabulations used for 2003, that limitation is retained. The panel compares aggregates of activities without necessarily following the same establishments.

A.3 Monetary Values, the Budget, and Household Spending

Census Comparisons

CGVA denotes census gross value added; TPE, total persons employed; and economic units are identified by UE in the source files. Census CGVA has a different universe from GDP and value added in the national accounts. Density is calculated as economic units/population $\times$ 1,000,000, using CONAPO's (2023b) national population for the same year. Employment scale is TPE/economic units. Apparent labor productivity is price-adjusted CGVA divided by TPE. Ratios are calculated using unrounded values; percentage changes are $100 \times (\text{final value}/\text{initial value} - 1)$.

Shares divide each group's value by the total for the same variable, year, and coverage. GFCF retains the published signs, including negative values; it is not converted into a stock or a measure of clinical adequacy. Ratios with an unavailable denominator remain noncalculable.

The census adjustment uses INEGI's implicit deflator for total GDP, base year 2018, updated on August 24, 2026. Let $D(t)$ be the annual index and $V(t)$ a monetary value in consistent units:

$$D(t) = 100 \times \text{GDP at current prices}(t) / \text{GDP at 2018 prices}(t)$$

$$V \text{ at 2023 prices}(t) = V(t) \times D(2023) / D(t)$$

Monetary units are standardized before applying the ratio of the annual implicit price index for GDP, including the thousands of pesos used for 1998. The following factors document the adjustment used.

Table A.3.1 Factors for Adjusting Census Values to 2023 Pesos

Economic reference year	D(2023) / D(t)
1998	4.1261131259
2003	2.7593013257
2008	2.0133511113
2013	1.6313864749
2018	1.2732630868
2023	1.0000000000

Source: INEGI, quarterly GDP, base year 2018, annual implicit price index for total GDP; updated August 24, 2026.

This common adjustment removes a general change in prices. It does not construct specific deflators for outpatient care, diagnosis, or hospitalization; adjusted CGVA per person is therefore interpreted as apparent productivity under that rule, rather than as clinical volume or health care efficiency. The common factor cancels when group shares are calculated within the same year and coverage.

National census densities retain the populations included in the historical matrix: 96,799,183 inhabitants in 1998 and 131,135,337 in 2023. That denominator is not replaced with a different demographic revision without recalculating the entire comparison. The TPE/economic units ratio describes employment per unit; its change does not identify mergers or business concentration.

Household Health Spending

ENIGH provides the basic tabulations of the new series for 2016, 2018, 2020, 2022, and 2024: Table 4.2 for expenditure and Table 2.1 for income. Quarterly averages are used for all households in each group, including those reporting zero expenditure. Deciles are ranked by current income.

Burden ratios are calculated as one hundred times average health spending divided by average monetary expenditure or average current income. The same rule applies to medications. A component's share divides its expenditure by the health spending aggregate for the same period and universe. The proportion of households with expenditure divides the households reporting positive expenditure by all households in the group.

Ratios of averages are not averages of individual ratios. Figure 3.1 compares proportions within each year; it does not show real growth in nominal amounts across years. The health spending aggregate includes medical insurance premiums and is not entirely equivalent to out-of-pocket spending. The figures do not identify which purchase substituted for public provision, nor do they measure catastrophic spending or impoverishment without additional household-level information and definitions.

Federal Expenditure Paid, Approved Allocations, and Purchasing Operations

Chapter 3 uses expenditure paid under the Health function of the federal public sector covered by the budget (Sector Público Federal Presupuestario) to study changes in resources between 2020 and 2025, and the PEF 2026 to examine approved allocations by spending entity. These measures are presented separately from the national accounts of current health expenditure and

from household outlays. State government expenditure financed with own resources requires an additional compilation beyond the federal series.

To express expenditure paid in year t in 2025 pesos, its amount at current prices is multiplied by the ratio of the annual average general INPC for 2025 to that for year t . The same price adjustment used in the study is retained. The real change compares those adjusted amounts; shares are calculated within each fiscal year using values at current prices. The adjustment represents purchasing power relative to the general price level, not the volume of health services.

The comparison uses the Ministry of Finance's Estadísticas Oportunas de Finanzas Públicas. The selected codes are XOA0417 (Health function), XAC (net expenditure paid), and XAC10 (programmable expenditure), with original units in thousands of pesos, a Paid recording basis, monthly frequency, and coverage of the federal public sector covered by the budget. The twelve flows from January through December are summed for each code and year; the result is divided by one thousand to express it in millions of pesos. Monthly flows are not mixed with balances, nor is institutions' total expenditure added to the already aggregated function.

The expenditure recording stages follow the CONAC definitions specified in 3.3. Linking them to supply requires documents for the same transaction, product, date, and destination. Accounting totals do not, on their own, identify stocks in each facility or dispensing to each person.

Shares are calculated as one hundred times expenditure paid under Health divided by net expenditure paid in the same year. For 2025, the values before rounding are 951,152.80397 million pesos for Health and 9,596,555.711 million for net expenditure. The extract used extends through August 2026; those eight months are kept separate from complete fiscal years.

The PEF 2026 is taken from the official analytical tables in Volume I, published in January 2026: economic breakdown by function, subfunctions, and distribution by budget heading or entity. The total for the Health function is 965,662.8 million pesos, and that for programmable expenditure is 7,094,708.8 million. Hacienda's consolidation is retained; it deducts contributions to the ISSSTE and subsidies, transfers, and fiscal support to entities under direct budgetary control and state-owned enterprises. Rounded rows by spending entity may differ from the total by 0.1 million.

Table A.3.2. Expenditure Paid under the Health Function and Price Adjustment, 2020–2025

Year	Billions of pesos at current prices	INPC factor: 2025 / year	Billions of 2025 pesos
2020	644.8	1.308221	843.5
2021	684.5	1.237800	847.3
2022	785.3	1.147213	901.0
2023	802.1	1.087117	872.0
2024	924.9	1.038096	960.1
2025	951.2	1.000000	951.2

Source: author's elaboration using SHCP (2026a), code XOA0417, and INEGI, annual average general INPC. Sums and changes are calculated before rounding. The factors are retained from the adjustment documented in the study.

Expenditure paid under the Health function increases by 12.7627% in real terms between 2020 and 2025 and decreases by 0.9307% between 2024 and 2025. Its shares of net expenditure on a cash basis are 10.7551%, 10.0921%, and 9.9114% for 2020, 2024, and 2025, respectively. These comparisons use compatible recording bases; gross sums of rows from different spending entities are not used as denominators.

The total budget of a budget heading and its Health function component have different coverage. In 2026, Ramo 12 has 66,825.756831 million pesos and classifies 58,955.740472 million under Health before the Volume I adjustments. The remainder corresponds to Government Policy Coordination, Social Protection, and Science, Technology, and Innovation. Volume I records 57,364.9 million as the heading's consolidated health component. Hacienda's published total is retained without assigning the difference between the two presentations to particular budget items.

Table A.3.3. Sources and Coverage of Budget Measures

Measure	Official source	Use in the book
Federal expenditure paid	SHCP, Estadísticas Oportunas de Finanzas Públicas; XOA0417, XAC, and XAC10. Monthly paid flows, 2020-2025.	Time series and share of net expenditure.
Annual allocation by spending entity	SHCP, PEF 2026, Volume I, Tables i12 and i14-i17. Millions of pesos.	Approved distribution of the Health function.
FASSA budget	SHCP, PEF 2026, Ramo 33, summary by fund and state and functional analytical table.	84,635.885593 million gross for the fund; 82,365.9 million in the health component of the consolidated analytical table.
ISSSTE institutional expenditure	ISSSTE, Anuario 2025, Table 13.2; Hacienda, institutional budget execution.	Distinguish item 45201 from category 4500; do not equate the institute's total expenditure with medical expenditure.

Source: SHCP (2026a, 2026b) and ISSSTE (2026). Each classification retains its own coverage and expenditure recording stage.

In the ISSSTE, budget item 45201 totals 378,289.575394 million pesos in 2025; adding 299.923935 million under item 45901 and 3,540.090748 million under item 45902 yields expenditure category 4500: 382,129.590077 million. Hacienda records 382,129.590 million in its monthly aggregate for pensions and retirement benefits. The difference of 77 pesos is compatible with the precision of publication. The yearbook's institutional budget of 522,827.240504 million and Hacienda's 522,827.240 million differ by 504 pesos. The item accounts for 72.4% of the total, and the broader category for 73.1%.

Financing Schemes and Private Health Insurance

The composition of current health expenditure at the beginning of Chapter 3 reproduces Figure 7.9 in OECD (2025a). For Mexico, the figure identifies 2022 and publishes rounded percentages: 24% in government schemes, 28% in compulsory insurance, 7% in voluntary insurance, 39% in out-of-pocket spending, and approximately 2% in other schemes. The grouping presented is 52%, 39%, and 9%, respectively. The country-specific date is retained, and this distribution is not converted to pesos using federal expenditure from another fiscal year.

Premiums and claims costs come from the CNSF's FES 27 statistical information for 2025. Medical Expenses records 174,506.120819 million pesos in premiums and 125,613.422337 million in claims costs; Health records 5,510.5 and 3,897.8 million, at the precision used in the text. Policies and certificates remain contractual units, distinct from unique individuals. Premiums are not added to health expenditure in the health accounts or to the ENIGH aggregate, which already includes medical insurance premiums.

The IMSS financial comparison uses Tables II.1, V.11, and V.12 of the Informe 2024–2025 (IMSS, 2025a). The overall result and that of the SEM are accounting results and include benefits and employment-related obligations. The accounting deficit of 110,379 million pesos is not identified as exclusively clinical expenditure or as an immediate cash shortfall. The GMP projection is documented separately in A.10.

Comparison with the Health Accounts

For 2024, the ENIGH results report records 38,830,230 households and average quarterly spending on health care of 1,605 pesos. Multiplying these rounded figures approximates the 62.3 billion pesos used in Chapter 3. Multiplying that quarterly aggregate by four produces an annual equivalent of 249.2 billion pesos; it does not reconstruct outlays actually observed over twelve months for each household. Mexico's Health Sector Satellite Account estimates household outlays of 800,733 million pesos in 2024, separately from the imputed value of unpaid work (INEGI, 2025e, 2025f).

Table A.3.4. Comparison of the Magnitudes of Household Health Spending, 2024

Billions of pesos at current prices, except for the ratio

Measure	Magnitude	Scope
ENIGH: quarterly aggregate	≈62.3	Reported monetary spending; includes medical insurance premiums.
ENIGH: annual equivalent	≈249.2	Quarterly aggregate multiplied by four.
Satellite Account: household outlays	800.7	Annual estimate; excludes the value of unpaid work.
Satellite Account minus annualized ENIGH	≈551.5	Difference between aggregates not yet harmonized.
Annualized ENIGH / Satellite Account	≈31.1%	Ratio of magnitudes; not a verified capture rate.

Note: Calculations use the rounded ENIGH aggregate of 62.3 billion pesos and the Satellite Account figure of 800.733 billion pesos. Annualization is an approximation. The Satellite Account figures correspond to the preliminary 2024 publication. The comparison does not use federal expenditure as a denominator or convert OECD percentages from other years into pesos.

Source: INEGI (2025e), Cuenta Satélite del Sector Salud de México 2024, p. 6; INEGI (2025f), ENIGH 2024, Tables 1 and 12; author's calculations.

The difference requires disaggregating the coverage of goods and services, treatment of insurance, reference periods, valuation, and estimation procedures. With the available aggregates, no portion of the gap can be assigned to each cause, nor can the survey be corrected with a uniform factor. The 39% out-of-pocket share from the OECD used in the book refers to 2022 and to financing schemes; it is kept separate from this 2024 comparison.

The decile ratios describe spending and income reported in ENIGH. Their sensitivity depends on possible differential measurement errors in both components and on the classification of households by income. As an arithmetic illustration, holding the original deciles fixed, the ratio of medication burdens between deciles I and X is $1.73 / 0.47 = 3.68$. If only spending in decile X required a multiplicative correction 1.5 times as large as in decile I, the ratio would be 2.45; if only its income required that relative correction, it would be 5.52. These are scenarios, not estimates of bias. The aggregate gap in health spending does not identify these factors by decile or component.

A.4 Output, Labor, and KLEMS Accounting

Table 4.2 presents arithmetic means of 34 annual growth rates or contributions from 1991 to 2024, base year 2018, with 2024 marked as revised. The calculations use sector 62, subsector 621, and subsector 622 separately. Output is expressed as a percentage growth rate in volume; factor

and TFP contributions are expressed in percentage points. No compound annual rate is calculated, nor is the sector added to its subsectors.

The combined contribution sums total capital services, total labor services, energy, materials, and services. ICT and non-ICT capital components are not added again to their total. TFP is the difference between the output growth rate and the sum of contributions. The means are calculated from the annual rows, excluding the published average row. These national accounts aggregates are not equivalent to the harmonized private census groups. Their magnitudes do not identify quality, case complexity, or health care efficiency.

The level series retain their published units: monetary output, consumption, and value added; hours worked in thousands; and jobs. One person may hold more than one job. The service sector results do not require forcing level identities with the pharmaceutical industry.

Census TPE, national accounts jobs, ENIFARM personnel, and EMIM monthly employment belong to different universes. ENIFARM's 111,953 persons employed are the annual average for 2022 in the medicines-for-human-use product category: manufacturing and wholesale trade, including personnel both directly employed by the firm and not directly employed by it. Shares by work function are calculated over that universe; the functions selected in 5.2 do not cover all employment.

ENIFARM's international-sales shares also refer to 2022 and exclude establishments engaged exclusively in maquila production. The monthly employment comparison uses production workers and technicians in EMIM industry 3254 over 95 months, from January 2018 through November 2025, rather than total persons employed. These universes are kept separate, and neither automatically serves as the denominator of the other.

Sources: INEGI (2026b), Total Factor Productivity, KLEMS model, sector 62 and subsectors 621 and 622, annual observations 1991-2024; INEGI (2024), ENIFARM 2023; and EMIM, industry 3254.

Public Resources of the IMSS and ISSSTE

For IMSS, the Informe al Ejecutivo Federal y al Congreso de la Unión 2024-2025 (IMSS, 2025a), Chapter IX, is used. Table IX.1, p. 209 (p. 217 of the digital edition), records the December 2024 inventory of the regular social security scheme: 1,544 first-level units + 252 second-level + 36 third-level + 18 support units = 1,850. The 36 third-level units include 25 UMAE and 11 complementary units. The source keeps the IMSS-Bienestar Program separate. The categories are retained as an institutional inventory and are not equated with private census classes or categories in the ISSSTE catalog.

The description of functions by level comes from Section IX.1, p. 208 (PDF p. 216). Training is documented in IMSS (2025b), the section on recruitment and training of medical personnel, p. 7 (p. 14 of the digital edition): 7,427 graduates from 79 specialties at 384 sites during 2025; 25,726 residents in training after admissions for the 2025-2026 cycle. Residents and graduates are training measures distinct from the inventory of practicing physicians and are not added to ISSSTE personnel or OECD resource figures.

The description of capacity uses the ISSSTE's Anuario Estadístico 2025, Tables 15.1 and 15.1.1 (facilities), 15.2 (consulting rooms), 15.3 (beds), and 15.6 (personnel). The catalog contains 1,121 distinct budget codes; 1,092 records have a complete CLUES code, and 29 report it as pending. The count matches the summary table. Inpatient beds (camas censables) include operational and nonoperational beds; medical personnel include trainees and personnel performing tasks other than direct care. These records are kept separate from the OECD's definitions of practicing professionals and from the private establishments in the census panel. In the ISSSTE catalog,

Consultorio de Atención Familiar is a different designation from the pharmacy-adjacent clinics discussed in the book.

A.5 ANC and Production and Distribution Relationships

Apparent national consumption of pharmaceutical products is approximated by $ANC = P - X + M$. P is the value of output for SCIAN industry 3254 in the Monthly Manufacturing Industry Survey (Encuesta Mensual de la Industria Manufacturera, EMIM), 2018 series; X and M are exports and imports under Chapter 30 of the TIGIE in Banco de México's Foreign Trade Cube, for all regions. The chapter total is used without adding its headings or subheadings again. The reconstruction covers 101 months: January 2018 through May 2026.

Units are standardized before aggregation. Output published in thousands of pesos is divided by one thousand to express it in millions. Each monthly trade flow in dollars is multiplied by the monthly average of daily observations of the FIX exchange rate by determination date and divided by one million. Annual values are the sum of the twelve months after conversion; this calculation is not replaced by multiplying the annual flow in dollars by an annual exchange rate. Results in the tables are expressed in billions of pesos.

Table 5.3 presents eight complete years, 2018–2025. The 2026 period sums January–May and is reported separately, without annualization. Shares are calculated from unrounded values: one hundred times $(P - X)/ANC$ and one hundred times M/ANC . They sum to 100% by accounting identity. Domestic production net of exports is a residual of these aggregates; it does not identify the origin of each individual product retained in Mexico.

The establishment coverage of SCIAN 3254 does not match exactly the product coverage of Chapter 30. Currency conversion also does not harmonize industrial and customs valuations. Possible reexports and the absence of changes in inventories limit the interpretation of the $P - X$ residual. The exercise therefore approximates apparent domestic supply; it does not measure observed final consumption, available inventory, actual supply, or an exact share of dependence or domestic content.

To compare purchasing power, the average of the twelve monthly general INPC indices is calculated for each year. The common factor is the 2018 average divided by the average for the corresponding year. Each annual nominal value is multiplied by that factor. This convention uses the 2018 average as the purchasing-power reference without changing the index's published base. Table A.5.1 allows the comparison to be reproduced; the calculations retain all available precision.

Table A.5.1 ANC and Components Adjusted Using the General INPC, 2018 to 2025

Billions of pesos at the purchasing power of the 2018 average; the factor is unitless.

Year	INPC factor	P	X	M	P – X	ANC
2018	1.000000	138.4	29.6	89.4	108.8	198.1
2019	0.964916	134.0	28.4	89.4	105.7	195.0
2020	0.933216	137.2	29.2	100.4	108.0	208.4
2021	0.882982	130.6	32.2	107.6	98.4	206.0
2022	0.818361	135.6	35.9	103.0	99.8	202.7
2023	0.775493	145.4	32.1	106.1	113.3	219.3
2024	0.740523	130.8	37.3	119.3	93.5	212.9
2025	0.713348	134.5	35.4	137.4	99.1	236.5

Note: the published factor is rounded to six decimal places. The identity $P - X + M = ANC$ holds before rounding. P: output; X: exports; M: imports. These are not physical volume indices. The partial 2026 period is excluded from this annual comparison.

Source: Author's elaboration using INEGI, EMIM, SCIAN industry 3254, monthly value of output; Banco de México, foreign trade under Chapter 30 of the TIGIE and the FIX exchange rate; and INEGI, overall INPC, annual averages. Units and operations are described in this annex.

Applying the same factor to P, X, and M preserves the identity, and the factor cancels in the composition ratios. The adjustment expresses comparable monetary magnitudes relative to the general price level; it does not isolate quantities, quality, or changes in the pharmaceutical product mix. The medication component of the INPC records consumer prices and is not adopted as a common deflator for output, exports, and imports, which correspond to different valuation stages. Measuring volume would require indices appropriate to each flow and an explicit treatment of these differences. This exercise is independent of the general GDP deflator used for the census comparisons in A.3.

The Input-Output Tables provide a different measure: imported intermediate consumption of industry 3254 divided by its total intermediate consumption, multiplied by one hundred. It is calculated separately for 2008, 2013, and 2018. This ratio describes the immediate origin of the industry's inputs, not a product's accumulated imported content. Its denominator differs from ANC; the percentages are not added to M/ANC.

The channels in Table 5.5 come from census tabulations on customers and suppliers for 2018 and 2023. For 433110, sales to wholesalers are divided by total reported sales; for 464111, purchases from wholesalers are divided by total reported purchases. Ratios for sales to final consumers are calculated separately for 464111 and 464112. They are percentages of monetary amounts within the respondent universe, not percentages of establishments or prescriptions. Flows at successive links are not added together to estimate a final market.

The pharmaceutical trade balance for 2020 is retained as background: exports of 1,453.8 million dollars and imports of 4,993.5 million, with a deficit of 3,539.7 million. The annual output and trade series provides the temporal context for that observation. A comparable balance for devices is not constructed by adding overlapping chapters, headings, and subheadings or mixed-use products; such a comparison would require explicit trade coverage without double counting.

A.6 Geography, Affiliation, and Episodes of Care

Territorial Presence and Functional Architecture

The DENUÉ territorial analysis uses twenty releases between February 2015 and May 2026. Aggregate P2 comprises subsectors 621, 622, and 623: outpatient care and related services, hospitals, and residential social assistance facilities. Normalization uses midyear municipal populations from CONAPO's 1990-2040 projections and area from the December 2023 Geostatistical Framework. The April-to-November 2019 and May-to-November 2024 transitions are treated as census-based directory renewals rather than ordinary growth. Three recently created municipalities remain in the panel without individual municipal rates while their demographic denominators are unresolved. Table A.6.1 summarizes the three comparable windows (INEGI, DENUÉ; INEGI, 2023; CONAPO, 2024b).

Table A.6.1. P2 Territorial Presence within the Three Comparable DENUÉ Regimes

Regime	Window	P2: start → end	Change in P2	P2 per 100,000: start → end	Relative change
R1	Feb. 2015-Apr. 2019	166,893 → 169,893	+1.8%	136.4 → 133.5	-2.1%
R2	Nov. 2019-May 2024	195,406 → 197,903	+1.3%	153.6 → 149.6	-2.6%
R3	Nov. 2024-May 2026	232,591 → 244,784	+5.2%	175.8 → 182.1	+3.6%

Note: Changes are calculated only within each regime. The 2019 and 2024 census-based directory renewals are kept separate. P2 does not measure clinical capacity, operating hours, quality, or utilization.

Source: Author's elaboration using INEGI, DENUÉ; CONAPO (2024b); INEGI (2023).

The municipal typology used in Table 5.6 is based on observable rules, not a synthetic index. T0 identifies no recorded P2 presence; T1 combines absolute scale and spatial density in the upper quartile; T2 identifies high presence relative to population with at least median scale; T3 combines presence that is not low relative to population with low spatial density; T4 places both presence relative to population and spatial density below the first quartile; and T5 groups the remaining configurations. The functional architecture overlays four separate layers - production, wholesale trade, retail trade, and P2 - and records their coexistence within municipalities without inferring transactions among establishments or territorial self-sufficiency.

Needs and Care by State

The state-level results from ENSANUT Continua combine the 2020-2024 survey rounds using adjusted weights and complex survey analysis. The publication presents 145 indicators and reports the estimate, 95% confidence interval, and coefficient of variation for each state. Available years differ by indicator. For the care cascade, the population reporting a health need is the denominator for care seeking, care received, and public-sector care. State estimates are not assigned to municipalities and are not interpreted as longitudinal follow-up of the same people (Shamah-Levy et al., 2025).

Table A.6.2. State Territorial Profiles: Recorded Presence, Entitlement, Need, and Care

State	P2 per 100,000 (2026)	Population in T0/T4 (%)	Without entitlement (%)	Need (%)	Received care % (95% CI)	Public-sector care (%)
National	182.1	3.1	54.1	22.1	85.8 (85.2-86.4)	42.4
Aguascalientes	234.8	0.0	33.7	25.3	89.2 (87.3-90.9)	53.4
Baja California	211.5	0.0	36.5	15.6	85.5 (79.9-89.7)	45.0
Baja California Sur	186.9	0.0	38.0	16.0	89.5 (86.8-91.7)	51.8
Campeche	179.5	8.5	61.2	22.8	82.6 (80.5-84.5)	43.1
Coahuila de Zaragoza	164.6	1.2	29.3	18.9	90.7 (87.4-93.1)	53.4
Colima	230.7	0.0	35.1	20.8	88.0 (84.7-90.7)	48.4
Chiapas	117.6	13.0	74.6	25.5	71.3 (67.4-74.9)	39.2
Chihuahua	170.4	7.6	36.4	18.5	89.2 (85.9-91.8)	53.5

State	P2 per 100,000 (2026)	Population in T0/T4 (%)	Without entitlement (%)	Need (%)	Received care % (95% CI)	Public-sector care (%)
Mexico City	219.6	0.0	44.4	27.6	88.2 (86.3-89.9)	45.1
Durango	154.4	8.1	43.8	21.6	92.0 (90.8-93.2)	58.3
Guanajuato	192.6	0.1	58.5	19.2	87.8 (86.2-89.3)	45.3
Guerrero	140.3	14.9	70.9	18.2	80.8 (77.1-84.0)	36.7
Hidalgo	185.6	2.5	69.5	23.6	86.3 (82.6-89.3)	42.8
Jalisco	178.7	1.1	46.7	17.4	85.0 (80.1-88.9)	42.1
State of Mexico	156.4	0.2	56.5	23.9	87.9 (86.1-89.5)	39.3
Michoacán de Ocampo	254.4	1.2	64.7	22.6	85.5 (82.1-88.3)	32.8
Morelos	200.9	0.0	59.7	25.7	85.2 (82.3-87.7)	42.6
Nayarit	209.4	11.3	52.1	23.4	81.5 (74.3-87.1)	45.3
Nuevo León	169.2	0.4	34.6	20.5	92.2 (90.4-93.7)	49.0
Oaxaca	201.0	12.4	71.7	25.3	79.8 (75.2-83.8)	35.8
Puebla	195.2	1.8	74.4	21.6	84.3 (80.6-87.3)	36.5
Querétaro	205.9	1.4	52.1	20.9	89.8 (86.8-92.2)	43.6
Quintana Roo	97.5	7.8	53.7	22.5	86.8 (83.1-89.7)	38.1
San Luis Potosí	184.1	7.0	49.1	18.9	90.3 (88.2-92.1)	48.6
Sinaloa	227.6	0.8	41.7	20.5	84.7 (81.4-87.6)	42.7
Sonora	196.8	1.7	36.0	17.5	86.4 (82.9-89.3)	56.8
Tabasco	148.2	0.0	64.9	27.0	83.4 (80.1-86.1)	40.4
Tamaulipas	180.8	2.1	47.6	20.8	91.2 (89.5-92.6)	39.2
Tlaxcala	204.2	0.0	66.8	21.3	84.0 (79.6-87.6)	47.1
Veracruz de Ignacio de la Llave	158.8	3.6	63.9	25.6	81.2 (78.7-83.5)	38.3
Yucatán	222.0	3.7	49.4	23.8	84.0 (81.3-86.4)	37.8
Zacatecas	217.2	7.1	63.5	18.7	93.4 (91.6-94.8)	54.3

Note: P2 corresponds to DENU subsectors 621-623 in May 2026. T0/T4 groups municipalities with no P2 presence or low relative presence under the study's typology. ENSANUT columns are pooled estimates for 2020-2024; care received and public-sector care use the population reporting a need as their denominator. Dates and units remain separate: the table describes territorial profiles and does not estimate causal effects between supply and care.

Source: Author's elaboration using INEGI, DENU; CONAPO (2024b); INEGI (2023); and Shamah-Levy et al. (2025).

Historical Affiliation and Institutional Categories

The evidence on affiliation in Chapter 6 comes from ENESS 2004 and 2013, the 2020 Population and Housing Census, and the 2025 Intercensal Survey. It describes entitlement to benefits, affiliation, or self-reported access according to the question and classification in each survey. It differs from administrative registers of current entitlements. Utilization comes from ENSANUT Continua 2023 and refers to people who received care for the observed need. These universes are neither linked at the individual level nor multiplied together.

Table 6.2 presents five separate cross-sections. ENESS 2004, Table 2.1, p. 15, reports 40,561,582 people with entitlement to benefits out of 97,583,280 inhabitants in 2000, and 45,872,886 out of 104,320,237 in 2004. ENESS 2013, Table 2.1, p. 19, records 91,540,602 affiliated people out of 118,563,412 inhabitants. The 2020 Census records 92,582,812 affiliated people out of 126,014,024 inhabitants. The 2025 Intercensal Survey estimates 94,573,536 affiliated people out of 130,393,389 residents in occupied private dwellings. Proportions are calculated within each cross-section and rounded to one decimal place.

The ENESS tabulations assign each person to one institution according to the first response considered. In 2004, the order of the response options is used; in 2013, the note refers to the institution mentioned first. The 2013 Seguro Popular category includes Seguro Médico para una Nueva Generación. The 2020 and 2025 tabulations allow multiple affiliations. Institutions and programs, questions, and universes change; the five cross-sections are therefore not spliced into a homogeneous series of effective coverage or interpreted as cohorts followed longitudinally.

Table 6.3 uses national tabulations from the 2025 Intercensal Survey on affiliation with health services and affiliation by institution, United Mexican States row. The first records a total population of 130,393,389; affiliation, 72.529395%; no affiliation, 27.261077%; unspecified, 0.209528%; and affiliation or acknowledgment of access to public services, 86.574302%. The second publishes 94,573,536 affiliated people and their institutional percentages. Both refer to October 15, 2025, and were updated on September 22, 2026.

For each institution j , the count is obtained as $94,573,536 \times \text{institutional percentage } j / 100$. Its share of the total population is that count divided by 130,393,389 and multiplied by 100. All published precision is retained, with rounding at the end. Categories may overlap and are not added together as unique individuals. IMSS Bienestar includes IMSS-PROSPERA; its self-reported count is not equivalent to the population potentially eligible to receive care through that system.

The 2025 affiliated category includes self-reported affiliation or access to the institutions considered by the source. The expanded indicator adds people who report no affiliation but acknowledge potential access to a public institution. It is calculated as $130,393,389 \times 86.574302 / 100 = \text{approximately } 112,887,166$ people. The difference from the 94,573,536 affiliated people is 18,313,630. That acknowledgment is not interpreted as care received, timely availability, or financial protection.

Administrative Coverage and Private Health Insurance

Table 6.4 retains the IMSS, ISSSTE, and ENIF universes. For the IMSS, Table IX.1 of the Informe de Labores 2024–2025 is used, with a reference date of June 2025. The 62.8 million people registered for care and the estimated 15.1 million family members not registered for care form a potential total of 77.9 million with multiple institutional links. The 5,903,937 pension recipients and the records of continued benefit entitlement are retained: 753,215 primary beneficiaries and 713,080 family members registered for care. The IMSS-Bienestar population is not added to this table.

In Table 1.2 of its Anuario Estadístico 2025, ISSSTE reports the universes of people entitled to benefits (13,829,708), affiliated people (9,345,629), and service users (4,537,501). The service-user population is compiled from records of visits, discharges, and surgeries cleaned within each state. Table 1.1 breaks entitlement down into 3,245,052 workers, 1,414,077 pension recipients, 8,281,957 family members of workers, and 888,622 family members of pension recipients. Counts of pension payment issuances are kept outside this comparison of people.

The medical expense insurance estimate uses the official ENIF 2024 variable $p8_5_2$ for people ages 18 to 70. Observations are weighted using the individual expansion factor: 6,483,880 people with that insurance out of a universe of 86,621,605, or 7.4852919%, presented as 7.5%. The valid sample contains 12,379 observations and 973 positive cases. The design-based interval runs from 6.7% to 8.3%. Source: INEGI (2025d); author's calculations.

Coverage categories may overlap. Survey figures, administrative records, and CNSF certificates are not added together as people protected. Table 6.3 shows an explicit selection of public institutions; the residual aggregate “Other institutions” is not used to estimate private insurance.

Utilization, Reasons, and Times

Table 6.5 uses the labels in Figure 1.2.9 of ENSANUT Continua 2023, p. 30, which reports a total sample size of $n = 4,327$. Each row corresponds to people who received care within an entitlement category. Three categories of interest are presented, without attempting to cover the entire

institutional distribution. Private services are shown separately from CAF, following the provider breakdown. The grouped column for IMSS, ISSSTE, and SSA does not imply legal equivalence among the categories.

The original figure is given precedence over the wording on p. 29, which reports 60%, 57%, and 34% for the three selected institutions. The figure's values are 58.3%, 56.7%, and 34.7%. Residuals are calculated as 100 minus the three main columns: 6.4%, 7.8%, and 4.5%. For ISSSTE, "other" includes 5.6% who received care in SSA. These are residuals of rounded published percentages, not estimates recalculated from microdata. The 2025 institutional counts are not multiplied by these 2023 utilization proportions.

ENSANUT Table 2.1.1, p. 45, presents the first reason for choosing the place of care among 2,146 observations. Table 2.1.2, p. 46, presents the first reason for not receiving care at the institution of entitlement or at SSA among 1,012 observations. The source's access and quality categories are reproduced; the latter captures self-reported reasons, not a clinical audit. The urban–rural contrasts in the text are descriptive; statistical significance is not assigned to each individual percentage.

Table 2.1.4, p. 48, uses 2,128 observations for travel, 2,107 for waiting, and 2,080 for the visit. The source restricts times to less than 500 minutes. The published averages are 32.3, 50.4, and 28.2 minutes, respectively. Travel is from the home to the facility: it is not doubled to impute a return trip, nor are averages from different samples added together. These minutes are also not monetized without additional information.

The share of CAF is documented separately in the household module (19%; p. 25) and in the subsample of service users (18%; p. 44). They are not averaged or interpreted as a change over time, and they do not demonstrate the purchase of medications at the adjacent pharmacy. The presence of a provider in one episode does not reconstruct the entire care trajectory.

The need cascade in 2.2 retains the denominator from the ENSANUT 2023 household module: 22.8% reported a need in the previous three months; within that group, 90% sought care and 89% received it. The 89% is not interpreted as a proportion of the 90%. Percentages for reasons for not seeking care refer to the group that did not seek care; they are not applied to the entire population. Source: Shamah-Levy et al. (2024), pp. 23–24 and 29.

A.7 Constant-Rate Demographic Exercise

The constant-rate demographic exercise for diabetes and hypertension combines CONAPO's projected national midyear population, both sexes, with rates of prior medical diagnosis of diabetes and hypertension from ENSANUT Continua 2023. Three groups are aggregated: ages 20-39, 40-59, and 60 or older. Rates are held constant throughout the horizon; changes in the exercise arise exclusively from the size of the adult population and its composition across those groups. The foundations of the series are described in CONAPO (2023a, 2024a); the demographic databases correspond to CONAPO (2023b).

Table A.7.1. Rates of Prior Medical Diagnosis Used in the Exercise

Age group	Diabetes	Hypertension
20–39	1.7%	5.4%
40–59	13.5%	19.9%
Age 60 or older	27.6%	40.0%

Source: Shamah-Levy et al. (2024), ENSANUT Continua 2023, Table 6.10.1, p. 144. Proportions are used in the formulas: for example, 1.7% is equivalent to 0.017.

Let $N(g,t)$ be the population of group g in year t ; $d(g)$, the rate of prior diagnosis of diabetes; and $h(g)$, the rate for hypertension. The combined count $C(t)$ and its index, identified as IND025 and with 2026 = 100, are calculated as follows:

$$C(t) = \sum_g N(g,t) \times [d(g) + h(g)]$$

$$IND025(t) = 100 \times \frac{C(t)}{C(2026)}$$

$C(t)$ is expressed in person–condition counts. A person with both diagnoses contributes twice, once to each condition. The number of unique individuals with disease is not estimated. The exercise retains self-reported prior diagnoses; it does not incorporate hypertension detected through measurement in the survey or use the survey’s 31.1% total prevalence as a parameter.

To separate population size and composition, $N(t)$ is the population age 20 or older and $R(t) = C(t) / N(t)$ is the combined rate weighted by its age structure. Rates within each group remain constant; $R(t)$ changes because of the composition across groups. With $\Delta N = N(t) - N(2026)$ and $\Delta R = R(t) - R(2026)$, the total increase can be written as:

$$C(t) - C(2026) = R(2026) \times \Delta N + N(2026) \times \Delta R + \Delta N \times \Delta R$$

The first term corresponds to the change in population size at the initial aggregate rate; the second, to the change in composition at the initial population; and the third, to their interaction. When population size changes first and composition second, the interaction is assigned to composition. Reversing the order assigns it to population size. In each sequence, the two effects sum to the same total increase.

The main decomposition averages the two sequences and divides the interaction equally. The symmetric effects are $[R(2026) + R(t)] \times \Delta N / 2$ for population size and $[N(2026) + N(t)] \times \Delta R / 2$ for composition. Each effect's share is obtained by dividing it by $C(t) - C(2026)$. This convention does not privilege either order and preserves the total; it is an accounting attribution under the assumptions of the exercise.

Table A.7.2 Populations and Results at the Endpoints of the Exercise

Variable	2026	2070
Population ages 20–39	42,726,434	30,993,005
Population ages 40–59	31,171,046	36,287,034
Population age 60 or older	17,799,010	48,361,363
Total adult population	91,696,490	115,641,402
Person–condition counts for both diseases	25,476,836.938	47,012,654.099
IND025	100.000000	184.530969

Source: author’s elaboration using CONAPO 2023b, Proyecciones 2020–2070, and the rates in Table A.7.1. Decimal values in the person–condition counts result from applying rates to populations and do not represent observed counts.

Table A.7.3. Decomposition of the Increase in Person-Condition Counts, 2026-2070

Millions of person-condition counts and percentage of the total increase

Convention	Size of the adult population	Age composition
Size first; composition second	6.653 (30.89%)	14.883 (69.11%)
Composition first; size second	9.735 (45.20%)	11.801 (54.80%)
Average of both sequences	8.194 (38.05%)	13.342 (61.95%)

Note: The total increase is 21.536 million person-condition counts. The interaction is 3.082 million, 14.31% of the increase, and is already included in the effects shown in each row. It must not be added again. Percentages are calculated before rounding. The range across orders expresses sensitivity to the decomposition convention, not a confidence interval.

Source: Author's calculations using the populations in Table A.7.2 and the rates in Table A.7.1.

The indices in Table 2.1 are calculated before rounding: $N(t) / N(2026) \times 100$ for the adult population and $C(t) / C(2026) \times 100$ for IND025. Between 2026 and 2070, they increase by 26.113226% and 84.530969%, respectively. The chapter's table presents one decimal place.

Figure 2.1 uses the age groups 0–14, 15–29, 30–44, 45–59, 60–74, and 75 or older from the demographic series, which differ from the groups used to calculate the index. IND025 is therefore not obtained by interpolating its bars. The groups 60–74 and 75 or older are aggregated directly for the opening context: 17,799,010 people out of 134,407,258 in 2026 (13.242596%) and 48,361,363 out of 141,440,479 in 2070 (34.192024%).

The scope is demographic and conditional. Changes in diagnosis rates, incidence, total prevalence, mortality, severity, utilization, treatment, or spending are not projected. The breakdown into three groups also does not distinguish compositional changes within each group. The result allows the pressure of aging to be examined with rates held constant; translating it into resource requirements calls for additional assumptions and evidence.

A.8 Rights, Authorizations, and Health Regulatory Requirements

The analysis distinguishes each instrument's function and the unit to which it applies. Patents are examined by right, claims, holder or authorized party, and period. Regulatory authorizations are linked to products and presentations, retaining the history of their administrative acts. Requirements for operating establishments are identified according to activity, type of input, and applicable regime. Supply capacity requires additional evidence on the product, supplier, volume, and delivery period.

Table A.8.1 expands the areas covered in Section 5.4 and identifies instruments and functions with a documentary cutoff of September 28, 2026. Its purpose is descriptive; it does not certify compliance in a transaction. Application requires consulting each instrument's purpose, scope, amendments, and transitional provisions. The codes link to official texts or information sheets.

The comparison of requirements considers their protection objective, entry conditions, compliance costs, and technological alternatives. Equivalence of protection and effects on prices, competition, or supply require specific evidence for each instrument. This section presents criteria for examination without extrapolating general findings to national health regulation.

The unit used to verify a purchase links the act, product presentation, and date to the right invoked and the authorized party. Assessing an alternative also requires evidence of authorization and capacity for the requested volume, geographic area, and delivery period. The analysis of the

instruments retains their legal and health functions and relates them to the material capacity for supply described in Chapters 3 and 5.

Table A.8.1 Illustrative Instruments by Area and Health Function

Area	Illustrative instruments	Health function
Food and nonalcoholic beverages	NOM-251-SSA1-2009; NOM-051-SCFI/SSA1-2010	Hygiene in food and beverage processing; commercial and health information on prepackaged product labels.
Alcoholic beverages	NOM-142-SSA1/SCFI-2014	Health specifications and health and commercial labeling requirements.
Advertising of products and services	Reglamento de la Ley General de Salud en Materia de Publicidad	Conditions and restrictions on advertising messages, along with the applicable permits or notices.
Drug research and evaluation	NOM-012-SSA3-2012; NOM-177-SSA1-2013; NOM-257-SSA1-2014	Criteria for research involving human participants; interchangeability tests and biocomparability studies; specific requirements for biotechnological medicines.
Manufacturing, information, and surveillance of medications	NOM-059-SSA1-2015; NOM-164-SSA1-2015; NOM-073-SSA1-2015; NOM-072-SSA1-2012; NOM-220-SSA1-2016	Good manufacturing practices for medications and active pharmaceutical ingredients; stability, labeling, and pharmacovigilance.
Pharmacies and supply establishments	Reglamento de Insumos para la Salud; FEUM and Supplement 7.0 for sales and supply establishments; notice of availability of the print edition (COFEPRIS, 2026)	Storage, preservation, control, and dispensing conditions, according to the activity and type of input.
Hospitals and outpatient care	NOM-016-SSA3-2012; NOM-005-SSA3-2018; Reglamento de atención médica	Minimum infrastructure and equipment for hospitals, specialist consulting offices, and outpatient facilities; organization and operating responsibilities.
Hemodialysis	NOM-003-SSA3-2010	Requirements for hemodialysis practice and the organization of the resources needed to provide it.
X-ray diagnosis and occupational protection	NOM-229-SSA1-2002; NOM-012-STPS-2012	Requirements for X-ray diagnostic facilities and equipment; radiation protection and occupational safety where sources of ionizing radiation are handled.
Clinical laboratories	NOM-007-SSA3-2011	Organization and operation of establishments that perform clinical laboratory tests.

Area	Illustrative instruments	Health function
Clinical documentation and infection prevention	NOM-004-SSA3-2012; NOM-045-SSA2-2005	Compilation of the clinical record; epidemiological surveillance, prevention, and control of nosocomial infections.
Medical devices	NOM-241-SSA1-2025; NOM-240-SSA1-2012	Good manufacturing practices and medical device vigilance.
Water and waste	NOM-127-SSA1-2021; NOM-087-SEMARNAT-SSA1-2002	Water quality limits for human use and consumption; classification and handling of hazardous biological-infectious waste.

Note: illustrative selection, not an exhaustive inventory. Regulations and the FEUM differ in nature from NOMs. For hemodialysis, NOM-003-SSA3-2010 is distinguished from PROY-NOM-018-SSA-2024 on dialysis therapies: publication of a draft does not, by itself, replace a standard. The codes identify base texts, subject to their amendments and temporal applicability.

Source: Official texts and information sheets from the Secretaría de Economía's Catálogo Mexicano de Normas, documentary cutoff September 28, 2026.

A.9 Tests, Medications, and Caregiving

Decisions after a Visit

The percentages come from Table 2.1.6, p. 49, of the report by Shamah-Levy et al. (2024). The source uses the survey's complex design. Its published estimates are reproduced; the microdata have not been reanalyzed. Obtaining medications and completing tests refer to the episode observed in the utilization module.

Table A.9.1 Universes for Tests and Medications in ENSANUT 2023

Measure	Denominator	Published result
Tests ordered	People who received care in the module	36.8%
Tests completed	People for whom tests were ordered	All 71.6%; some 5.1%; none 23.3%
Location of testing	People who completed tests	Same location 50.7%; another location of the same institution 9.3%; private laboratory 33.5%; another institution 6.5%
Medications prescribed	People who received care in the module	91.0%
Medications obtained	People with a prescription	All 84.8%; some 10.7%; none 4.5%
Location where medications were obtained	People who obtained medications	Same location 73.1%; another location of the same institution 1.1%; private pharmacy 25.8%

Source: Shamah-Levy et al. (2024), Table 2.1.6, p. 49. Published estimates for the utilization module.

The 15.2% who obtained some or none of their medications is the sum of two rounded categories with the same denominator. It is not added to the 23.3% who completed no tests: the universes differ, and some people may be present in both. Nor are the percentages for prescriptions, obtaining medications, and location chained together to calculate national coverage or a longitudinal trajectory.

The table does not, on its own, identify causes, the appropriateness of the clinical order or recommendation, payment, subsequent use, or clinical outcomes. The possibility that availability may have influenced the prescription is raised as a hypothesis, not as an ENSANUT finding. The absence of linked records for a referral also does not mean that the referral failed.

Unpaid Caregiving

The hours refer to people age 12 or older who provided unpaid care to household members with a chronic or temporary illness or a disability. Figures 30 and 31 of the ENUT report, p. 36, include emotional care. The first excludes supervisory care and the second includes it. Press release 121/25, p. 5, defines supervisory care as remaining attentive to someone's care needs while doing another activity. The two measures are not added together or interpreted as hours for the entire population, nor are they automatically converted into lost workdays.

Weekly averages for women and men who provided this care are 12.8 and 7.5 hours when supervisory care is excluded, and 23.8 and 13.1 when it is included. Differences by sex are descriptive of the published universe. Caregiving time is not added to ENSANUT travel, waiting, or visit times, or to ENIGH expenditure, as though it came from the same people or episodes.

Professional home-based care is distinguished from unpaid caregiving. IMSS press release 020/2015 is used in 7.4 as an organizational precedent for coordination with family members, not as an evaluation of outcomes or an estimate of current coverage. Source: INEGI (2025a), ENUT 2024, report 29/25, Figures 30–31, p. 36; INEGI (2025b), press release 121/25, p. 5; IMSS (2015), press release 020/2015.

Medical Activity and Supply in the IMSS and ISSSTE

IMSS (2025a), Table V.1, pp. 109–110 (PDF 117–118), reports a calendar year for 2024: 96.1 million family medicine visits, 23.8 million specialty visits, and 18.0 million emergency visits. The heart disease and diabetes categories account for 21.4 and 19.1 million family medicine visits and 42% according to the published share. These are counts of visits, not people with a disease or complete individual trajectories. Table V.2, p. 111 (PDF 119), records 2,280 thousand discharges from inpatient beds. This period is retained for the annual description of activity; Table V.1 itself notes that earlier years used a statistical year.

The Informe de Labores 2024–2025 presents other periods and operational series, including 25.9 million specialty visits for 2024 in Figure I.3. For that volume, the book uses Table V.1 in IMSS (2025a), with 23.8 million, without splicing the two series. For hours of operation, it uses the record in IMSS (2025b), p. 7 (PDF 14), of 400 Extended-Hours Medical Units (Unidades Médicas de Tiempo Completo) and 1,613 consulting rooms providing services on Saturdays and Sundays. This is reproduced as an operation reported in that edition; it is not annualized, and no estimated causal effect on access is attributed to the arrangement.

Table II.4 of IMSS (2025a), p. 45 (PDF 53), records expenditure on comprehensive medical services in millions of 2025 pesos. The 2024 column reports 906 million for on-site hemodialysis and 7,717 million for off-site hemodialysis. The note uses a December-to-December inflation projection of 3.50% from the preliminary economic policy guidelines for 2026. That valuation from the report is retained, distinct from the annual INPC used in A.3. On-site (intramuros) and off-site (extramuros) are categories of contracted services; they are not interpreted as in-house

production versus contracting out, nor are their amounts compared with ISSSTE session percentages.

Figure V.3 and Section V.2.2 of IMSS (2025a), pp. 111–112 (PDF 119–120), publish 214.5 million prescriptions issued and 97.8% of prescriptions recorded as supplied for 2024. The report's administrative indicator is reproduced without converting it into a percentage of people whose prescriptions were filled completely or on time, or comparing it as the same rate with ENSANUT's 84.8%. Stock transfers, direct deliveries, and supply committees come from the same section. The book does not estimate a number of people without medications from the complement of that percentage.

Section II.3.8 of IMSS (2025b), pp. 54–55 (PDF 59–60), describes nursing work in GeriatrIMSS involving early mobilization, discharge planning, and education for older people and their caregivers. It is used to explain the hospital-to-home transition without attributing to these activities a clinical effect that this use of the evidence does not evaluate.

The figures in Table 7.1 come from Tables 19.1 (row 22, magnetic resonance imaging) and 20.1 (rows 23 and 14, radiotherapy and hemodialysis) of the Anuario 2025. In each row, in-house + contracted-out = total is verified, and one hundred times contracted-out/total is calculated. The unit is a test or session, depending on the service. Contracting out identifies the reported arrangement and does not establish the provider's ownership or the quality of service delivery.

Table 18.1 provides outpatient and follow-up visits; their ratio is 65.7%. Table 21.1 records 37.0 million prescriptions filled and 150.8 million medications supplied. These are volumes of operations; measuring complete and timely filling requires prescriptions issued, their contents, and their dates. The yearbook's notes on facility reporting coverage call for interpreting the figures as reported activity.

A.10 Clinical Outcomes, Comparisons, and Targets

Treatment and Clinical Control

Reyes-García et al. (2025), Table II, p. 629: adults age 20 or older with a prior diagnosis of diabetes; pharmacological treatment 90.9%, regular use 77.4%, and glycemic control 33.0%. The first two estimates use the health questionnaire ($n = 5,586$); the third uses the biochemical dataset ($n = 1,133$). Control is defined as $HbA1c < 7\%$. Regular use requires reported treatment and no interruption more than once a week in the previous six months. The combined 2021–2024 surveys do not constitute longitudinal tracking of individuals.

Campos-Nonato et al. (2025), results and Table I, pp. 636–637: adults age 20 or older, ENSANUT 2021–2024. Total hypertension prevalence is 29.1%; 62.9% of those with hypertension have a prior diagnosis; 60.1% of those receiving pharmacological treatment have controlled blood pressure. Control requires systolic pressure < 140 and diastolic pressure < 90 mmHg. Published denominators are retained; these figures are not combined with a cascade from another period.

The state results report for ENSANUT Continua 2020–2024 combines five rounds and uses adjusted weights and the complex design to obtain state-level estimates. Pooling the rounds expands the observation base without tracking the same individuals. The period of that report does not replace the 2021–2024 period of the clinical articles (Shamah-Levy et al. 2025).

OECD Comparisons and Dates

The comparisons come from Health at a Glance 2025 (OECD 2025a) and its Mexico country note (OECD 2025b). Acute mortality uses unlinked data: deaths within 30 days in the hospital of admission per 100 admissions, people age 45 or older, and age and sex standardization. They do not fully include deaths after transfer or outside the hospital. Treatable and preventable mortality use OECD/Eurostat definitions, deaths before age 75, and age standardization. Differences from the average do not identify institutional effects.

Table A.10.1 Dates and Units of the Comparative Results

Indicator	Mexico / OECD	Reference period and scope
Myocardial infarction, 30-day mortality	22.6 / 6.5 per 100 admissions	Mexico: 2023 in the MORTAMII series used. Values reproduce the comparison published in the 2025 edition.
Ischemic stroke, 30-day mortality	17.0 / 7.7 per 100 admissions	Mexico: 2023 in Figure 6.27 of Health at a Glance 2025. The published value of 17.0 and average of 7.7 are retained; unlinked data.
Treatable / preventable mortality	175 / 77; 243 / 145 per 100,000	Mexico: 2022, TRTM and PREVM series used. Comparators reproduce the 2025 edition.
Life expectancy at birth	75.5 years; gap of 5.6	The LFEXP series used places 75.5 in 2024. The published comparison is retained without assigning it to a common annual cross-section.

Source: OECD (2025a), chapters on quality and outcomes, including Figure 6.27; OECD (2025b), Mexico country note. The official identifiers MORTAMII, TRTM, PREVM, and LFEXP refer, respectively, to myocardial-infarction mortality, treatable mortality, preventable mortality, and life expectancy. Each result retains its date and unit; Table 8.1 brings together published comparisons, not a new time series or performance index.

The expenditure and resource comparisons in Chapters 3 and 4 likewise retain the 2025 edition and the units in the country note. PPP-adjusted dollars per capita are neither pesos nor dollars at the current exchange rate; physicians, nursing personnel, and beds are expressed per thousand inhabitants, and the selected imaging equipment per million. These indicators are not added together or interpreted as an estimate of operational capacity available for a particular need.

Baselines, Targets, and the Scope of Planning

Secretaría de Salud (2025), Programa Sectorial de Salud 2025-2030, DOF, September 4. Indicator 3.1, pp. 39-40 of the digital edition: baseline 61.55% in 2024 and target 80% in 2030. The specification covers people without social security coverage who had a health problem in the previous three months, received public-sector care, and were given a prescription; the numerator requires complete filling at the same site. Its source is ENSANUT 2024. Indicator 2.1, pp. 36-37, sets a baseline of 15.05% in 2023 and a target of 13.50% in 2030 for the probability of dying between ages 30 and 70 from four groups of chronic diseases. The formal baselines and targets are cited without presenting them as progress already achieved.

Provisions on infrastructure and demographic needs are found in Strategy 1.3, p. 22; those on demand, purchasing, distribution, and the last mile in Strategy 3.1, p. 26; and the requirement that activities be subject to approved resources in Section 2, p. 1. The observation that the instrument does not contain a joint estimate of population, services, resources, and financing is a reading of its content. It is not an exhaustive inventory of institutional or territorial planning.

The 61.55% for complete prescription filling at the same place of care uses the specific universe of Indicator 3.1 of the Sectoral Program. The 84.8% from ENSANUT 2023 in A.9 refers to people

who received care and a prescription and allows different locations for obtaining medications. They are not compared as a change over time in the same coverage measure. The 2030 targets remain program commitments, separate from observed results.

Learning requires documenting how a measurement or evaluation informed a subsequent decision; adaptation requires documenting what changed in rules, processes, resources, or capacities. Forward-looking calibration relates future needs to services, location, costs, and financing. These criteria guide the proposal in Chapter 9 and are neither evaluated effects nor an expenditure projection derived from the demographic exercise on diabetes and hypertension.

Hospital Case Composition and Institutional Projections

Table V.2 in IMSS (2025a), p. 111 (PDF 119), describes the 2024 distribution of discharges from inpatient beds and patient-days by groups in the Lista Mexicana de Enfermedades. Pregnancy, childbirth, and the puerperium account for 405 thousand discharges (17.8%) and 762 thousand patient-days (7.2%); kidney failure accounts for 111 thousand discharges (4.9%) and 724 thousand patient-days (6.8%). The published shares are reproduced. The differences describe the composition of episodes and the use of hospital days; they are not a risk adjustment of mortality or a comparison of quality across institutions.

Table 26.2 of the Anuario ISSSTE 2025 reports 358,930 hospital discharges. The sum of the groups age 65 or older is 135,390: 37.7204% of the total. Discharges, not unique individuals, are counted; this composition describes episodes and does not, on its own, adjust outcomes for clinical risk. Table 1.1 allows workers and pension recipients to be compared between 2009 and 2025: increases of 25.7% and 93.8%, respectively, and ratios of 3.54 and 2.29 workers per pension recipient.

The projection in IMSS (2025a), Table V.19, refers to SEM-GMP for 2025–2054. The 80,928 million in revenue and 143,683 million in expenditure in the first year correspond to the baseline scenario, at 2025 prices, not to observed expenditure at fiscal year-end. The report's definitions and assumptions are retained. This institutional precedent complements the reading of the Sectoral Program and places financial forecasting in relation to service organization; the book does not present a new actuarial valuation.

The 2·30·100 strategy is documented in Chapter I of IMSS (2025b), particularly Section I.2, pp. 16–17 (PDF 22–23). It is used as an example of operational assessment, targets, and reorganization. The institution's potential productivity exercises are not incorporated into the book as verified results or as substitutes for an evaluation using comparable resources, complexity, and quality.

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Sources are identified by product, edition, and period. This section brings together the references from the chapters and annexes. OCDE and OECD designate the same organization; references to the Mexico country note refer to Health at a Glance 2025: Mexico.

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Abbreviations and Acronyms

This list brings together the acronyms, abbreviations, and codes used in the text and its methodological documentation. Historical names are retained when identifying institutions, programs, and documents from the corresponding period.

English renderings of Mexican institutional and legal names are descriptive. The original Spanish names and source identifiers are retained alongside their English equivalents.

ADEC. Home Care for Patients with Chronic Illness (Atención Domiciliaria del Enfermo Crónico).

ANC. Apparent National Consumption (CNA in Spanish). In this book, ANC is used for the pharmaceutical reconstruction.

CAF. Pharmacy-adjacent clinics (Consultorios adyacentes a farmacias).

CGVA. Census Gross Value Added (VACB in Spanish).

CMAF. Mexican Classification of Activities and Products (Clasificación Mexicana de Actividades y Productos).

CNSF. National Insurance and Surety Commission (Comisión Nacional de Seguros y Fianzas).

COFECE. Federal Economic Competition Commission (Comisión Federal de Competencia Económica). The historical name is retained when citing its 2017 study.

COFEPRIS. Federal Commission for Protection against Health Risks (Comisión Federal para la Protección contra Riesgos Sanitarios).

CONAC. National Council for Accounting Harmonization (Consejo Nacional de Armonización Contable).

CONAPO. National Population Council (Consejo Nacional de Población).

CPEUM. Political Constitution of the United Mexican States (Constitución Política de los Estados Unidos Mexicanos).

CSSSM. Mexico's Health Sector Satellite Account (Cuenta Satélite del Sector Salud de México).

DENUE. National Statistical Directory of Economic Units (Directorio Estadístico Nacional de Unidades Económicas).

DOF. Official Gazette of the Federation (Diario Oficial de la Federación).

Economic units. Economic units (UE in Spanish sources).

EMIM. Monthly Manufacturing Industry Survey (Encuesta Mensual de la Industria Manufacturera).

ENESS. National Employment and Social Security Survey (Encuesta Nacional de Empleo y Seguridad Social).

ENIF. National Financial Inclusion Survey (Encuesta Nacional de Inclusión Financiera).

ENIFARM. National Pharmaceutical Industry Survey (Encuesta Nacional de la Industria Farmacéutica).

ENIGH. National Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares).

ENSANUT. National Health and Nutrition Survey (Encuesta Nacional de Salud y Nutrición). The name of each edition is retained, including ENSANUT Continua.



- ENUT.** National Time Use Survey (Encuesta Nacional sobre Uso del Tiempo).
- FASSA.** Health Services Contributions Fund (Fondo de Aportaciones para los Servicios de Salud).
- FES.** CNSF statistical file used for insurance-line breakdowns.
- FEUM.** Pharmacopeia of the United Mexican States (Farmacopea de los Estados Unidos Mexicanos).
- FIX.** Banco de México FIX exchange rate. The exchange rate determined by Banco de México for settling U.S. dollar-denominated obligations payable in Mexico. The study uses its monthly average to convert trade flows into pesos.
- GDP.** Gross Domestic Product (PIB in Spanish).
- GFCF.** Gross Fixed Capital Formation (FBCF in Spanish).
- GMP.** Medical Expenses for Pension Recipients (Gastos Médicos para Pensionados). A coverage component of the IMSS Sickness and Maternity Insurance scheme (SEM).
- GVA.** Gross Value Added (VAB in Spanish).
- HbA1c.** Glycated hemoglobin. A biochemical indicator used to assess diabetes control.
- ICT.** Information and Communication Technologies (TIC in Spanish).
- IMPI.** Mexican Institute of Industrial Property (Instituto Mexicano de la Propiedad Industrial).
- IMSS.** Mexican Social Security Institute (Instituto Mexicano del Seguro Social).
- IMSS-Bienestar.** IMSS-Bienestar health services agency (Servicios de Salud del Instituto Mexicano del Seguro Social para el Bienestar). A decentralized public body. Categories reported in surveys retain the scope of each source.
- IMSS-PROSPERA.** IMSS-PROSPERA program. The historical name of the IMSS program is retained when it forms part of a source's affiliation category.
- IND025.** Technical identifier for the index of diabetes and hypertension person-condition counts with constant age-specific prior-diagnosis rates and projected population; 2026 = 100. See A.7.
- INEGI.** National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía).
- INPC.** National Consumer Price Index (Índice Nacional de Precios al Consumidor).
- INSABI.** Institute of Health for Well-being (Instituto de Salud para el Bienestar).
- ISSSTE.** Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado).
- KLEMS.** Capital (K), labor (L), energy (E), materials (M), and services (S). The factors used in growth accounting.
- LFPI.** Federal Law on the Protection of Industrial Property (Ley Federal de Protección a la Propiedad Industrial).
- LIC.** Quality Infrastructure Law (Ley de Infraestructura de la Calidad).
- MIP.** Input–output table (Matriz de Insumo-Producto); the plural refers to input–output tables.
- NOM.** Mexican Official Standard (Norma Oficial Mexicana); plural, Mexican Official Standards (Normas Oficiales Mexicanas).



OECD. Organisation for Economic Co-operation and Development (OCDE in Spanish). OECD is retained in references published in English.

OPD. Decentralized public body (Organismo público descentralizado).

PEF. Federal Expenditure Budget (Presupuesto de Egresos de la Federación).

PLATIICA. Integrated Technological Platform for Quality Infrastructure (Plataforma Tecnológica Integral de Infraestructura de la Calidad).

pp. Percentage points. Used in tables and comparisons. In bibliographic citations, “pp.” denotes pages.

PPP. Purchasing Power Parity (PPA in Spanish).

SIAN. North American Industry Classification System, Mexican version (Sistema de Clasificación Industrial de América del Norte).

SEM. Sickness and Maternity Insurance (Seguro de Enfermedades y Maternidad) of IMSS. SEM-GMP identifies its Medical Expenses for Pension Recipients coverage.

SHCP. Ministry of Finance and Public Credit (Secretaría de Hacienda y Crédito Público).

SSA. Ministry of Health (Secretaría de Salud). In ENSANUT, SSA identifies the provider category used by the source.

Stroke. Stroke (ACV in Spanish).

TFP. Total Factor Productivity (PTF in Spanish). TFP-KLEMS identifies the INEGI series used in this study.

TIGIE. Tariff Schedule of the General Import and Export Duties Law (Tarifa de la Ley de los Impuestos Generales de Importación y de Exportación).

TPE. Total Persons Employed (POT in Spanish).

UMAE. High-Specialty Medical Unit (Unidad Médica de Alta Especialidad del IMSS).

UMF. Family Medicine Unit (Unidad de Medicina Familiar del IMSS).

UMTC. Extended-Hours Medical Units (Unidades Médicas de Tiempo Completo del IMSS).

USD. U.S. dollars.

WHO. World Health Organization (OMS in Spanish).

Glossary

These definitions specify how the concepts are used in this book. The chapters develop their application, and the methodological annexes document the populations and activities covered, calculations, and comparison rules.

Access. The ability to reach and use a needed service or good, given a person's location, available time, financial resources, and institutional circumstances. Access links a specific need to an option the person can use.

Accounting stages of expenditure. The stages of budgetary recording: approved (aprobado), the initial allocation; revised (modificado), the allocation after adjustments; committed (comprometido), obligations formally entered into; accrued (devengado), a recognized payment obligation; ordered for payment (ejercicio), issuance of a certified payment order or equivalent document; and paid (pagado), settlement of the obligation through disbursement. These records alone do not establish dispensing or final utilization. See CONAC (2009), sections VI–XII.

Adaptation. A verifiable change in rules, processes, resources, or capacity that can be documented as linked to a decision. It may respond to an evaluation or anticipated needs. Determining whether it led to an improvement requires examining its effects.

Alignment. The fit between a capacity and the need it must address, taking into account the type of service, geographic area, timing, and scale. Sufficient aggregate capacity can coexist with an inadequate combination for a particular person or situation.

Apparent labor productivity. The ratio of census gross value added (CGVA), adjusted using the overall GDP deflator, to persons employed within the harmonized census groups. It describes an economic amount per person employed under that price-adjustment rule; it does not measure clinical performance, quality, or the volume of specific services.

Apparent national consumption (ANC). An accounting approximation of domestic supply, calculated as production minus exports plus imports: $ANC = (P - X) + M$. The pharmaceutical reconstruction combines industrial and trade data with different scopes, without adjusting for inventories. It does not directly measure final consumption, local availability, or domestic content.

Burden of the care trajectory. The money, time, coordination, and caregiving that participants contribute to obtain and sustain care. The analysis identifies who makes these contributions and under what conditions. Completing a function may impose different burdens depending on the options available to each household.

Forward-looking calibration. The quantitative translation of population and health-need scenarios into services, personnel, infrastructure, location, costs, and financing. It requires assumptions about epidemiology, access, technology, and organization. The demographic exercise on diabetes and hypertension provides an input for this task without carrying out the full translation.

Care step reported as not completed. An action following a clinical order or recommendation that a person reports not having completed within the observed period, such as undergoing a test that was ordered. It identifies a reported event; it does not, by itself, establish the cause, clinical appropriateness, or health consequence.



Care trajectory. The course through which a need may be recognized, prompt care-seeking, and receive a response requiring decisions, services, goods, and caregiving. It allows for returns, interruptions, and changes of provider. The concept guides the analysis; it does not presuppose that the study has constructed a longitudinal panel of individuals.

Care-seeking. The act of trying to obtain care in response to a recognized need. Surveys observe it through people's responses within specified periods. Care-seeking may occur without subsequent utilization.

Census gross value added (CGVA). The value that an economic activity adds to production, calculated as total gross output minus intermediate consumption within the census coverage. It retains the coverage and valuation rules of the Economic Censuses; the panel total is not equivalent to health sector GDP.

Coinsurance. The percentage of covered expenses arising from an insured event that the insured person must pay. The contract establishes the calculation basis, caps, and conditions, which may vary with the hospital network used. See Section 3.1.

Conformity assessment. A technical process for verifying compliance with requirements applicable to a product, process, or service. It may include testing, inspections, and certification, depending on the relevant procedure. It is distinct from evaluating a requirement's effects on health or competition. See Ley de Infraestructura de la Calidad, Article 4, subsection XVI.

Connection. A link through which complementary functions come together along a care trajectory: for example, a test is performed after it is ordered, and its result is available for the next clinical decision. Whether that connection occurs is examined by event, place, and time.

Continuity of care. The maintenance of necessary functions and their connections for as long as care or treatment requires. It may involve further visits, deliveries, tests, and clinical adjustments. Obtaining an item for the first time or having an isolated contact does not establish continuity.

Contracting out of services. An arrangement in which an institution supplements its own provision with services delivered by other providers. The book retains the ISSSTE classification and counts tests or sessions; the source used does not establish the ownership of each provider. See Section 7.1.

Deductible. The amount payable by the insured person that is applied to covered expenses under the contract terms. Its effect must be considered together with coinsurance, coverage limits, and eligible expense items. See Section 3.1.

Demand for care. The expression of a need directed toward obtaining care. The study uses "care-seeking" when the source specifically observes the attempt to obtain it. A need may exist before it is recognized and is not always expressed as demand.

Distributed organization. An arrangement in which the functions needed to address a health need are located in different organizations and geographic areas. It may bring together specialties and complementary capacities. Its plurality does not, by itself, establish a lack of coordination; connections must be examined along each care trajectory.

Entitlement to benefits. The status of a person entitled to an institution's benefits under its rules. When the information comes from a survey, the book retains its self-reported nature and the source's classification; it does not present it as administrative verification of current entitlement.



Evaluation. The systematic examination of information to assess the operation, outcomes, or explanations of a process or intervention. A descriptive comparison can help formulate evaluation questions; identifying causal effects requires a research design and evidence suited to that attribution.

Financing. Mechanisms for mobilizing and pooling monetary resources and sharing the financial risk associated with health needs. These include collective arrangements and household payments. The analysis distinguishes who contributes, where resources are pooled, and who decides how they are used.

Forward-looking calibration. The quantitative translation of population and health-need scenarios into services, personnel, infrastructure, location, costs, and financing. It requires assumptions about epidemiology, access, technology, and organization. The IND025 demographic exercise provides an input for this task without carrying out the full translation.

Harmonized panel of census aggregates. A comparison of thirteen groups of economic activities using crosswalks between classifications and census rounds. It retains partial coverage and documented breaks. It tracks activity aggregates without implying that the same establishments are observed in every year.

Health need. A health condition or circumstance that may require prevention, detection, health care, rehabilitation, or caregiving. It may be recognized by the person or detected through an assessment. Epidemiological needs, reported needs, and care-seeking differ in scope.

Health outcome. An observed health result for an individual or population. It may relate to a recent episode or summarize long-term processes. Its interpretation considers care and personal, social, and environmental conditions; the indicator alone does not establish causation.

Household health spending. The aggregate of health expenditures recorded in ENIGH, including health insurance premiums. The book compares its averages with income or monetary expenditure for the same group. These ratios do not represent the share spent by each household or measure catastrophic spending.

Household out-of-pocket payment. A payment made from a household's own resources when acquiring a health good or service. It is distinct from a premium paid in advance for insurance and from expenditure financed by an institution. Observing a private purchase does not, by itself, identify why that payment was made.

Information. Records, measurements, and other evidence that make it possible to understand needs, resources, processes, or outcomes. To trace a care trajectory, records must be linkable to the same person, clinical order or recommendation, episode, and date; combining aggregates from different sources does not reconstruct that sequence.

Institutional learning. The documented use of information or evaluation in a subsequent decision. Publishing an indicator or a target provides information; identifying learning requires tracing how that information informed the decision. Adaptation makes the resulting changes observable.

Institutional responsibility. An actor's obligation or authority to finance, organize, regulate, or perform specified functions. It identifies who is expected to act under the applicable arrangement. It is distinct from verifying capacity, access, and fulfillment of obligations in a particular transaction or episode.

Job. The unit used in national accounts to record a work relationship under their statistical rules. A person may hold more than one job. Jobs, persons employed, and hours worked are different measures, each with its own coverage.



Mexican Official Standard. A mandatory technical regulation issued by the competent authority to establish requirements for goods, products, processes, or services and protect public-interest objectives. Its application depends on the regulated subject, scope, and the rules governing when the instrument applies. See Ley de Infraestructura de la Calidad, Article 4.

Observability. The ability to reconstruct events and connections using information from the sources employed. It is assessed in relation to the unit of observation, period, and link being traced. Knowing about an episode does not imply having a person's complete care trajectory.

Obtaining all prescribed medications. The situation reported by a person who obtained every medication on the prescription examined. In ENSANUT, it is calculated among people who received care and a prescription, allowing for different places of acquisition. It does not establish who paid, subsequent use, continuity, or nationwide supply.

Operational availability. A condition in which a specific good or service can be offered at a particular location and time. It requires the complementary resources needed to operate. A registered establishment or installed equipment alone does not establish this availability.

Patent. A time-limited right over an invention, with a scope defined by its claims. When analyzing a purchase, the patent must be linked to the product or use, the authorized party, and the date. Its existence alone does not establish exclusivity of supply for the transaction examined.

Person-condition counts. The counting unit used in the IND025 exercise, which adds together the people associated with each condition analyzed. A person with diabetes and hypertension contributes to both counts. The aggregate does not represent unique individuals or directly estimate visits, treatments, or spending.

Potential supply. The set of goods and services that can be made available for care. For medications, it depends on production, imports, exports, inventories, and supply arrangements. Determining whether a person can use them requires examining local availability and access conditions.

Person-condition counts. The counting unit used in the demographic exercise on diabetes and hypertension, which adds the people associated with each condition analyzed. A person with diabetes and hypertension contributes to both counts. The aggregate does not represent unique individuals or directly estimate visits, treatments, or spending.

Price adjustment of monetary values. The conversion of amounts from different periods to a common price basis. The study uses the overall GDP deflator for census comparisons and Mexico's overall National Consumer Price Index (INPC) for the budget and apparent national consumption (ANC). These adjustments are not volume indexes of clinical services or pharmaceutical products.

Private health insurance. Financial protection established through a contract under which an insurer assumes specified risks in exchange for a premium. The scope of services, coverage limits, and payments required of the insured person depend on the policy terms. See Section 3.1.

Production. The generation of a good or service through the organized use of resources. Some services are produced during the encounter with the person; goods may be manufactured earlier and far from where they are used. Producing a good domestically does not determine where it will be consumed.

Quality of care. The degree to which decisions and actions appropriately address a health need. The book examines appropriateness, timeliness, safety, and coordination. Receiving care or maintaining a sequence of contacts does not, by itself, establish quality or clinical benefit.



Recorded presence. The recorded existence of an establishment, resource, or supply point. This makes it possible to locate it and describe its distribution. Establishing which function it can perform requires information on personnel, equipment, hours, inventories, and other operational complements.

Regulatory authorization. Authorization of a product under the applicable health requirements. The analysis retains the product, its presentation, the authorization holder, and the sequence of administrative acts. The existence or amendment of an authorization does not, by itself, establish actual marketing, an additional supplier, or delivery capacity.

Resource. A human, physical, technological, material, informational, or organizational element that may contribute to a function. It becomes part of a capacity when it can operate in combination with the other necessary elements.

Right to health protection. The right that guides public obligations and arrangements for protecting health. Its legal recognition is distinct from affiliation with an institution and from care actually received. Chapter 2 examines how responsibilities are allocated to give effect to this right.

Self-reported affiliation. A connection with, or access to, a health institution or coverage arrangement that a person reports in response to the question used by each source. It may include social security, other public institutions, or private insurance. Its scope depends on the survey, which may allow multiple responses.

Social organization of health. The set of responsibilities, resources, capacities, and relationships through which a society responds to its population's health needs. It includes clinical care, the functions that make it possible, and the contributions of institutions, professionals, businesses, and households.

Total factor productivity. The growth-accounting residual after accounting for the measured contributions of capital, labor, energy, materials, and services. It is interpreted within the aggregate and KLEMS method used. Its sign alone does not identify health care efficiency or a cause of clinical outcomes.

Total persons employed (TPE). People who worked for an economic unit during the reference period under its direction and control, whether or not they had a contractual relationship with it. The census measure (TPE) retains that population scope; it is not automatically combined into a single series with job counts or personnel figures from other surveys.

Treatment. An intervention or set of interventions intended to modify, control, or manage a health condition. A clinical decision may call for treatment; carrying it out requires the corresponding actions and resources. Prescription, acquisition, sustained use, and outcome are distinct aspects.

Unknown subsequent course of care. A situation in which the available information does not establish what happened following an event, clinical order, or recommendation. The absence of a record is treated as unknown, rather than as an action not performed or a failure of care.

Unpaid caregiving. Unpaid work to support people with an illness or disability, such as accompanying them, organizing routines, and helping with daily activities. It may sustain treatment between visits. It is distinct from professional care, even when both take place in the home.

Utilization. The observed receipt of care or use of a service by a person. It records that contact occurred within the population and period covered by the source. Establishing whether the need was addressed, continuity was maintained, or a health benefit was achieved requires additional information.

Key Figures

The figures collected in this section trace some of the main changes examined in the book. They come from different sources, periods, populations and activities, and denominators; they should not be added together or interpreted as components of a common index. Their purpose is to provide a concise sense of scale for how needs, financing, resources, capacities, care, and outcomes connect within the social organization of health in Mexico.

Needs

1. 26.1% versus 84.5% - Aging and Future Health Needs

Between 2026 and 2070, the population age 20 or older will increase by 26.1%, while the combined volume of diabetes and hypertension person-condition counts will increase by 84.5%, holding age-specific prior-diagnosis rates constant. The symmetric decomposition assigns approximately 62% of the increase to age composition; sequential allocations range from 54.8% to 69.1%, depending on the order. The interaction is included in those effects. The exercise does not estimate unique individuals or project utilization or spending (Annex A.7).

Source: CONAPO, Proyecciones 2020-2070; Shamah-Levy et al. 2024; author's calculations.

2. 22.8% / 90% / 89% - From Need to Care

In ENSANUT Continua 2023, 22.8% of the population reported a health need during the previous three months. Among those reporting a need, 90% sought care and 89% received it. Among reported needs, 41% corresponded to acute events, 22% to chronic diseases, and 11% to preventive services.

Source: Shamah-Levy et al. 2024.

3. 39.7% / 27.4% - Multimorbidity and Dependence

Among people age 60 or older, 39.7% had multimorbidity in the analysis of ENSANUT Continua 2023-2024. Separately, ENSANUT 2023 estimated that 27.4% had dependence in at least one instrumental activity of daily living. Coexisting diseases and functional dependence describe different dimensions.

Source: Manrique-Espinoza et al. 2025; Shamah-Levy et al. 2024.

Financing

4. 5.9% of GDP / USD 1,588 per capita - Scale of Health Spending

The comparison published by the OECD in 2025 places Mexico's total health spending at 5.9% of GDP and USD 1,588 per capita adjusted for purchasing power parity. The OECD averages are 9.3% and USD 5,967, respectively. These are reference points for scale, not automatic spending targets.

Source: OECD 2025a, Health at a Glance.

5. 951.2 Billion Pesos / 9.91% - Federal Health Expenditure Paid

In 2025, the Health function of the federal public sector covered by the budget recorded 951.2 billion pesos paid, or 9.91% of net expenditure paid. Between 2020 and 2025 it increased by 12.8% after adjustment using the overall INPC; the initial share was 10.76%. Between 2024 and 2025 the real change was -0.9%.

Source: SHCP (2026a), codes XOA0417 and XAC; INEGI, INPC; author's calculations.

6. 965.7 Billion Pesos - Health Function in the 2026 PEF

The approved budget allocates 57.6% to IMSS, 17.3% to IMSS-Bienestar, 8.5% to the health component of Ramo 33, 8.4% to ISSSTE, and 5.9% to Ramo 12. It represents 13.61% of approved programmable expenditure. Amounts retain Hacienda's consolidated classification.

Source: SHCP (2026b), Volume I, functional analytical tables by spending entity; author's calculations.

7. 3.88% versus 2.07% - Household Health Spending and Income

In the spending and income reported by ENIGH in 2024, health spending was equivalent to 3.88% of average current income in decile I and 2.07% in decile X. Medications represented 1.73% and 0.47%, respectively. These are ratios of average spending to average income within each decile; they are not estimates of catastrophic spending or percentages spent by each household.

Source: INEGI, ENIGH 2024; author's calculations.

Resources, Organization, and Productivity

8. National Resources and the IMSS Network - Resource Levels and Organization

Mexico records 2.7 physicians, 3.0 nursing professionals, and 1.0 bed per 1,000 population, compared with OECD averages of 3.9, 9.2, and 4.2. It also has a combined 10 computed tomography, magnetic resonance imaging, and positron emission tomography units per million people, compared with 51. Under its regular social security scheme, IMSS reported 1,850 medical and support units in 2024: 1,544 first-level, 252 second-level, 36 third-level, and 18 support units. The organization of these units links resource levels to the functions each network can provide.

Source: OECD 2025a, health resource indicators; IMSS 2025a, Table IX.1. Each source retains its own universe and year; see Chapter 4 and A.4.

9. 244,784 Establishments / 394 Nodes / 300 Municipalities with Low Presence - Geography of Supply

In May 2026, DENUE aggregate P2 - outpatient care and related services, hospitals, and residential social assistance facilities - contained 244,784 recorded establishments. The 394 large dense nodes concentrated 78.4% of P2 and 67.6% of the population; 300 municipalities with low relative presence contained 0.61% of P2 and 3.04% of the population. The typology describes territorial presence, not effective access (INEGI, DENUE; CONAPO, 2024b; author's calculations).

10. +24.2% / +43.7% / +28.6% - CGVA per Person Employed

Between 1998 and 2023, CGVA per person employed increased by 24.2% in private inpatient care, 43.7% in diagnostics, and 28.6% in outpatient care, after adjustment to 2023 pesos using the implicit deflator for total GDP. This adjustment removes a general change in prices; it does not measure the specific physical volume or quality of services.

Source: INEGI, Economic Censuses and National Accounts System; author's calculations.

11. 1.82% / 2.27 pp / -0.45 pp - Growth and Productivity

Between 1991 and 2024, output growth in sector 62 averaged 1.82% per year; factor contributions totaled 2.27 percentage points and TFP contributed -0.45 points. These are arithmetic means of 34 annual observations. The TFP contribution was also negative in outpatient services, -0.51 points, and hospitals, -0.39. TFP does not measure health care efficiency.

Source: INEGI, TFP-KLEMS, base year 2018; author's calculations.

Production, Employment, Distribution, and Insurance

12. 549.4 Billion Pesos — CGVA of the Census Panel in 2023

In the panel of thirteen groups, pharmaceutical manufacturing's share of CGVA fell from 45.9% in 1998 to 15.2% in 2023; the share of equipment, instruments, and optics increased from 3.7% to 19.5%. The latter aggregate also increased its share of the panel's gross fixed capital formation from 5.0% to 29.5%. Its coverage is broader than that of medical devices used strictly for health care.

Source: INEGI, Censos Económicos 1999 and 2024; harmonized panel and author's calculations. CGVA amount at current prices in 2023.

13. 51,083 → 88,829 Persons — Pharmaceutical Employment

Between 1998 and 2023, persons employed in the panel's pharmaceutical groups increased by 73.9%. Their share of panel employment declined from 10.8% to 6.1% because other activities grew more rapidly. The thirteen groups as a whole increased from 472,510 to 1,462,385 persons employed.

Source: INEGI, Censos Económicos 1999 and 2024; groups G06 and G07 in the harmonized panel; author's calculations.

14. +13.0 Percentage Points — Import Share of Pharmaceutical ANC

Between 2018 and 2025, imports rose from 45.1% to 58.1% of apparent national consumption. The share of domestic production net of exports declined from 54.9% to 41.9%. These are value shares at current prices, calculated using $ANC = P - X + M$.

Source: INEGI, EMIM, industry group 3254; Banco de México, Chapter 30 TIGIE trade and monthly FIX; author's calculations. Approximate reconstruction because of differences between industrial and trade coverage.

15. 49.9% → 74.2% / 55.4% → 87.0% — Distribution Linkages

Between 2018 and 2023, the share of pharmaceutical wholesalers' sales to other wholesalers increased from 49.9% to 74.2%. The share of purchases by pharmacies without convenience stores sourced from wholesalers rose from 55.4% to 87.0%. In 2023, sales to final consumers accounted for 95.8% of sales at pharmacies without convenience stores and 99.4% at pharmacies with convenience stores.

Source: INEGI, Censos Económicos 2019 and 2024, customer and supplier tables; author's calculations.

16. 7.5% — Private Medical Expense Insurance

In ENIF 2024, 7.5% of people age 18 to 70 reported having medical expense insurance, approximately 6.48 million people. This insurance can coexist with entitlement to public benefits. In 2025, the CNSF's Medical Expenses insurance line recorded 174.5 billion pesos in written premiums. Insured persons and contractual amounts describe different dimensions.

Source: INEGI (2025d), ENIF 2024; CNSF (2026), FES 27; author's calculations.

Affiliation, Access, and Utilization

17. 94.6 Million / 72.5% — Affiliation with Health Services

In 2025, 94.6 million people reported affiliation with health services: 72.5% of the population in occupied private dwellings. Including those who did not report affiliation but recognized potential access to a public institution should they need care raised the share to 86.6%. Major affiliations included 51.1 million with the IMSS and 8.0 million with the ISSSTE or a state ISSSTE; multiple affiliations are possible.

Source: INEGI, Encuesta Intercensal 2025, entitlement tables updated in September 2026; author's calculations.

18. 58.3% / 22.7% / 12.6% — Affiliation and Provider Used

Among people reporting entitlement to IMSS benefits who received care for the need observed in ENSANUT 2023, 58.3% used the IMSS, 22.7% private services, and 12.6% pharmacy-adjacent clinics. Among those reporting entitlement to ISSSTE benefits who received care, 56.7% used the ISSSTE and 27.0% private services. Among people who received care and reported no entitlement to benefits, 34.7% used SSA services, 35.2% private services, and 25.6% pharmacy-adjacent clinics.

Source: Shamah-Levy et al. 2024, Figure 1.2.9, p. 30. Denominator: people who received care in each category.

19. 32.3 / 50.4 / 28.2 Minutes — Time Required for Care

Among people who received care in ENSANUT 2023, travel took an average of 32.3 minutes, waiting before receiving care 50.4 minutes, and the visit 28.2 minutes. Each average corresponds to a separate dimension and the observations available for it; they should not be added together as a single measure of access.

Source: Shamah-Levy et al. 2024, table on travel, waiting, and care times.

20. 91.0% / 84.8% — From Prescription to Obtaining Medications

Medications were prescribed to 91.0% of people who received care. Among those given a prescription, 84.8% obtained all the medications, 10.7% some, and 4.5% none. Among those who obtained medications, 73.1% obtained them at the same site where they received care, 1.1% at another site of the same institution, and 25.8% at a private pharmacy. The 84.8% figure is not a national medication supply rate.

Source: Shamah-Levy et al. 2024, ENSANUT Continua 2023.

Caregiving, Continuity, and Outcomes

21. 12.8 versus 7.5 Hours per Week — Caregiving Work in Households

Among those providing unpaid care to household members with a chronic or temporary illness or a disability, women devoted an average of 12.8 hours per week and men 7.5, excluding supervisory care. Including time spent remaining attentive while carrying out another activity raised the averages to 23.8 and 13.1 hours.

Source: INEGI, ENUT 2024.

22. 90.9% / 77.4% / 33.0% — Diabetes Treatment, Regular Use, and Control

Among adults with a prior diagnosis of diabetes in ENSANUT Continua 2021–2024, 90.9% reported pharmacological treatment and 77.4% regular medication use; in the biochemical subsample, 33.0% had glycemic control. These indicators describe different aspects of the treatment trajectory; their differences alone do not identify the causes of inadequate control.

Source: Reyes-García et al. 2025, Table II, p. 629.

23. 22.6 versus 6.5 / 17.0 versus 7.7 — 30-Day In-Hospital Mortality

Per 100 admissions for acute myocardial infarction, 30-day mortality was 22.6 in Mexico and 6.5 on average in the OECD. For ischemic stroke, the figures were 17.0 and 7.7. The rates are age- and sex-standardized for people age 45 or older; they count only deaths in the hospital of admission. Mexico: 2023.

Source: OECD (2025a, 2025b), unlinked data.

24. 175 versus 77 / 243 versus 145 — Treatable and Preventable Mortality

Treatable mortality was 175 per 100,000 inhabitants in Mexico, compared with 77 in the OECD; preventable mortality was 243, compared with 145. These measures cover deaths before age 75 and are age-standardized. They use 2022 data for Mexico. They guide research on care and prevention without automatically attributing the differences to an institution.

Source: OECD 2025a.

25. 75.5 Years / 5.6 Years Less — Life Expectancy

The comparison published by the OECD in 2025 places Mexico's life expectancy at 75.5 years, 5.6 years below the organization's average. This outcome summarizes health, economic, social, and environmental conditions; explaining it requires considering both care and the processes that shape health needs.

Source: OECD 2025a, Health at a Glance.



About Bank & Finance Consulting Group

Bank & Finance Consulting Group is an independent research and advisory firm dedicated to analyzing the institutions, markets, and policies that shape how societies mobilize, allocate, and manage resources to achieve economic and social objectives.

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Bank & Finance combines empirical research, economic analysis, and direct experience in leading and advising institutions. Its approach begins with a simple premise: understanding a system requires examining not only the resources it has, but also the institutions that organize them, the incentives that guide their use, the capacities that enable their transformation, and the outcomes they ultimately produce.

The research on the organization of health in Mexico, of which this book is a part, extends that perspective to a fundamental area of social well-being. It examines how public and private institutions, financing, labor, infrastructure, production, and markets interact to transform the population's health needs into care and health outcomes.

The ideas developed in this book reflect the same commitment that guides the work of Bank & Finance: clarity over sophisticated language, evidence over assertion, structure over slogans, and judgment over the illusion of certainty.

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About the Author

Alberto Ortiz Bolaños is an economist specializing in economic policy, public finance, and financial systems. For more than two decades, his work has focused on understanding and strengthening the institutions that organize economic activity, manage risks, and transform resources and decisions into social outcomes.

He holds a PhD in Economics and a master's degree in Political Economy from Boston University, and a bachelor's degree in Economics from CIDE. He is currently Managing Director of Bank & Finance Consulting Group.

From 2018 to 2021, he served as Director General of the Instituto del Fondo Nacional para el Consumo de los Trabajadores (FONACOT), where he led a process of institutional transformation and strengthening that expanded access to credit, reduced its cost for workers, and strengthened the institute's financial and operational capacity. During the COVID-19 pandemic, he also led the implementation of emergency support programs for workers.

He previously held academic and research roles at the Centro de Estudios Monetarios Latinoamericanos (CEMLA), Harvard University, Oberlin College, and EGADE Business School. He has published research in monetary and financial economics in international academic journals and has authored and edited books on monetary policy, financial stability, and macrofinancial linkages.

He has worked as a consultant and adviser to governments, financial institutions, and international organizations, including United Nations entities—ESCAP, UNDP, and ECLAC—the Inter-American Development Bank (IDB), and the governments of Australia, Cambodia, Mexico, and South Africa. He has also spoken at forums hosted by central banks, international organizations, and universities.

His research on health in Mexico brings this interest in institutions and their outcomes to a fundamental question: how a society transforms its health needs into institutions, resources, capacities, care, and, ultimately, health outcomes. From this perspective, he studies health not only as a collection of medical services, but as a social and economic system in which households, workers, providers, businesses, and governments interact.

His current research empirically reconstructs the evolution of that system using economic, budgetary, demographic, institutional, and health sources. Its purpose is to understand how health is organized in Mexico, how that organization has changed, and what this means for the country's capacity to respond to its population's present and future needs.