Pharmacy in Israel

Israel is a small country located at the juncture of 3 continents (Africa, Asia, and Europe). With a population of just over 8 million and an area of just over 22,000 km² in 2015, Israel had a population density of 373 persons/km² in 2015.1 The state is a democracy with a parliamentarily, multiparty system. The largest population groups are Jews (75%) and Arabs (21%).2 Israel’s fertility rate (3.1 children per woman) is the highest among the Organisation for Economic Co-operation and Development (OECD) member states.3 In 2016, the population’s estimated median age was 29.7 years.4 Israel has a modern market-based economy with a substantial high-technology sector.

Health status and healthcare. Health status in Israel is similar to that in other OECD countries, although the national expenditure on health as a percentage of gross domestic product (GDP), at 7.5%, is lower than the median in OECD countries overall (9.4%).5 As in many other countries, health status measures have improved in Israel in recent decades despite the fact that the share of GDP allocated to healthcare has remained stable. Gains have been achieved for all population subgroups, but disparities exist. With an estimated life expectancy at birth of 82.4 years, Israel is ranked 11th in the world in terms of life expectancy.6 In 2013, the leading cause of death in Israel was cancer, followed by heart disease.7

Israel has a national health insurance (NHI) system that provides for universal coverage. Every citizen or permanent resident of Israel is free to choose from among the 4 competing nonprofit health plans. The health plans must provide their members with access to a benefit package that is specified in the NHI law. The system is financed primarily via progressive taxation, and the government distributes NHI funds among the health plans according to a capitation formula that takes into account the number of members in the plan as well as their age mix, sex, and place of residence (i.e., central Israel versus the periphery). While public financing remains the primary source of health-system resources, the share of private insurers has been increasing in recent years.

Benefit package. The NHI provides access to a broad benefit package, or “health basket,” which includes but is not limited to physician visits, hospitalizations, medications, diagnostic procedures, in vitro fertilization treatments, dental care for children, and mental healthcare. Services and products covered under the health basket are recommended by a public committee composed of healthcare professionals, economists, ethicists, and members of the clergy, as well as representatives from the public, and are based on input and requests from healthcare organizations and from the public. The committee’s recommendations are evidence based and incorporate technical and social factors.8 In 2015, expenditures on pharmaceuticals and disposable medical supplies accounted for approximately 21% of total health plan expenditures.9

Regulation of pharmaceuticals and the profession of pharmacy. Regulation of pharmaceuticals, pharmacists, and pharmacies falls under the Israeli Pharmacists Ordinance and specific regulations and guidelines.10 The Pharmaceutical Division of the Ministry of Health is the body responsible for ensuring that all laws and regulations are followed. The division’s main task is to ensure that all pharmaceuticals on the Israeli market meet standards of safety, efficacy, and quality. The Pharmaceutical Division oversees the entire life cycle of medicinal products, from clinical trials to approval, distribution, and marketing. This is achieved via a robust evaluation and registration process, pharmacovigilance, and postmarketing surveillance, as well as rigorous monitoring of the medicine supply chain. Inspection of the pharmaceutical industry, warehouses, pharmacies, and other entities providing pharmaceutical services is performed via the division’s Good Manufacturing Practice Inspectorate Unit and 6 regional district pharmacists. Since 2013, particular efforts have been directed toward standardizing compounding conditions in pharmacies; thus, special procedures have been established for such activities.

Pharmacy education. There are 2 schools of pharmacy in Israel. The Hebrew University of Jerusalem’s school of pharmacy was established in 1953. The Bachelor of Science in Pharmacy curriculum consists of 7 semesters of study and a 6-month internship. During the internship period, an intern may perform all functions performed by pharmacists.
At Hebrew University, individuals who already possess a Bachelor of Science in Pharmacy degree may enroll in a postbaccalaureate doctoral program in clinical pharmacy (Pharm.D. program); approximately 12 students enroll in this program annually. The course of studies leading to the Pharm.D. degree extends over 3 years. During the first 2 years, students enroll in didactic courses in advanced toxicology of drugs, clinical teratology, economic evaluations in medicine, advanced pharmacotherapy, biostatistics, medical data analysis, communications, and clinical trials. During the third year of the program, students engage in clinical experiences. Additionally, throughout the second and third years, students work on a research thesis. Students also participate in a clinical seminar series throughout the 3 years of the program. The other Israeli school of pharmacy is at Ben-Gurion University of the Negev. The program, which was established in 2002, was designed to emphasize clinical practice in the community. Like Hebrew University, the school offers a 4-year course of studies, which includes a 6-month internship period, leading to a bachelor of science degree. A master’s degree program in community clinical pharmacy and regulatory management commenced in the fall of 2017.

Pharmacists. Individuals wishing to practice pharmacy in Israel must be Israeli citizens, complete their professional studies at a recognized academic institution in Israel, be awarded a degree, and complete the internship period. Graduates of overseas programs who practiced abroad as licensed pharmacists for a period of at least 2 years may practice in Israel under the supervision of a licensed pharmacist for a period of 2 years and then be granted a license to practice pharmacy. Graduates of overseas programs who do not meet these requirements must complete 6 months of internship and pass a government-issued licensing examination. The examination may be taken in Hebrew, Arabic, English, or Russian. Currently, there are no continuing-education requirements for maintaining a license to practice pharmacy in Israel.

Since the early 2000s, there has been an increase in the number of Israelis who study pharmacy abroad and return to practice in Israel; many are Israeli Arabs who study pharmacy in neighboring Arab countries, particularly Jordan. Among pharmacists under 65 years of age, 52% were educated in Israel. At the end of 2014, Israel had approximately 8,000 licensed pharmacists, most (59%) of whom were women; 58% of the pharmacists were under the age of 45. In 2014, there were approximately 1,000 people per pharmacist in Israel, a ratio that is similar to the average for EU15 countries (the 15 member countries of the European Union prior to May 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom). Pharmacy in Israel has traditionally been a product-oriented profession. Although the 1996 Patient Rights Law defined pharmacists as providers, it is only in recent years that the focus has been shifting toward patient-centered care activities. Aligned with that are new regulations that expand the pharmacist’s scope of practice. In 2014, the Labor, Welfare, and Health Committee of the Knesset (Israel’s parliament and legislative body) approved a new regulation that allows for certification of qualified pharmacists (those with at least 5 years of experience who have completed 60 credits of required coursework and passed an examination) to renew a variety of prescription medications, with certain restrictions applied. This certification remains in effect for a period of 5 years, after which the pharmacist is required to undergo a recertification process. The aims of the regulation were to ease physicians’ workload, reduce medication errors and waste, reduce nonadherence, and improve patient adherence, with the potential for achieving cost savings. The main exceptions to this pharmacist-renewal regulation are medications that have addictive properties and those prescribed in specialized settings such as human immunodeficiency virus treatment centers.

Until 2016 pharmacists were only permitted to dispense medications pursuant to a written or electronic prescription. As of 2016, pharmacists are authorized to dispense noncontrolled medications in emergency situations pursuant to a telephone authorization from the prescriber provided that a written or electronic prescription is received within 72 hours. Pharmacists’ provision of other services that are provided by pharmacists in other countries, such as influenza vaccination, was recently approved by the Ministry of Health but has not yet been implemented in Israel.

Generally, pharmacists who possess a Pharm.D. degree practice in hospitals or medical centers, where they are based on patient care units. These pharmacists play an integral role in interprofessional teams, working with other medical professionals to provide clinical services to patients. Because specialized training (e.g., pharmacy residency programs) is not yet offered in Israel, most doctors of pharmacy are generalists in terms of the services they provide. Some pharmacists with a Pharm.D. degree are employed by health plans and provide medication therapy management services in the community setting. The more traditional dispensing and drug distribution activities are generally performed by pharmacists who possess a bachelor of science degree.

Assistant pharmacists. Registration to practice as an assistant pharmacist may be granted to anyone who, prior to 1979, underwent at
least 3 years of supervised training in a pharmacy and passed a required examination. Such registration may also be issued to individuals authorized to practice as pharmacist assistants (or technicians) abroad. This authorization must be reviewed and approved by the Ministry of Health’s Pharmacy Department. Currently there are no educational programs leading to assistant pharmacist or technician licensure or certification in Israel. The scope of practice of an assistant pharmacist is not defined by law; however, all work performed must be under the supervision of a registered pharmacist.

Pharmacies. There are approximately 1,900 community pharmacies in Israel; 40% are operated by health plans (usually within health plan–owned clinics) or by hospitals, 45% are privately owned (“independent”) pharmacies, and 15% are part of large-chain pharmacies. All 4 of the country’s health plans have agreements with independent pharmacies for dispensing of medications to their members. Over the years, the number of small independent pharmacies has declined while the number of pharmacies owned by chains has increased. Currently, the landscape appears to have stabilized.

In hospitals, pharmaceutical services mainly consist of pharmaceutical preparation and compounding, cytotoxic products preparation, inventory management, and provision of clinical services at patient wards. Pharmacists are also involved in hospital committees (e.g., pharmacy and therapeutics committees, institutional review boards, infection-control committees). Medications are mostly kept as stock at patient care units, although unit dose dispensing is available at some hospitals. Efforts to expand the utilization of clinical pharmacists within healthcare teams, both in hospitals and in community settings, are currently underway. However, these efforts have encountered some resistance, since some administrators view payment for pharmacists’ services as an unjustified added expense.

In recent years there has been significant advancement in the area of computerization in pharmacies. Prescriptions for noncontrolled substances are increasingly being sent electronically to pharmacies. Furthermore, the Ministry of Health has been advocating for the adoption of electronic prescribing of narcotics in an effort to reduce pharmacy-related crime and abuse of such medications.

Professional associations. A union of independent pharmacy owners (most of whom are pharmacists) has been in existence for approximately 100 years and in its current format (the community pharmacies branch of the Pharmaceutical Association of Israel) since the 1980s. The association represents approximately 600 members and is a member of the International Pharmaceutical Federation. The Pharmaceutical Society of Israel was established in 1997 and currently represents over 2,000 pharmacists from all practice settings. The society’s aim is to promote and advance the profession and the role of the pharmacist in Israeli society.

Pharmaceuticals. The Israeli pharmaceutical sector is the largest and most established of the Israeli life science industries. The sector includes 76 companies, with 22% involved in drug discovery and 17% in drug delivery. These companies include several that are listed on the New York Stock Exchange, most notably Teva Pharmaceutical Industries, Ltd., the world’s leading generics manufacturer; others include both Israeli and international companies. Most of the drugs manufactured in Israel are intended for export. In 2009, imported drugs accounted for 83% of the drugs for human consumption dispensed in Israel, while domestically manufactured drugs accounted for 17% of the drugs dispensed.

The patient’s share of the price for pharmaceuticals (copayment) is generally 15% of the purchase price, with a minimum copayment that currently equates to approximately $3.50 per medication dispensed. A quarterly ceiling amount is applied for the chronically ill. Likewise, no- or reduced-contribution rules are applied to the elderly with low income and to Holocaust survivors.

The Ministry of Health establishes maximum prices for all pharmaceuticals approved for sale; this is done using a reference pricing method by which the maximum price is set according to the average of prices for the item in Belgium, Hungary, Spain, and France or the price in Netherlands, whichever is lower. When a comparable drug is not available in those reference countries, the maximal price is set according to the average price of the drug in Britain and Germany. These reference prices serve as ceilings only and are relevant primarily in the case of private purchases by individuals. All the health plans negotiate substantial discounts with manufacturers and importers. Various efforts to promote the use of generic medications and of the lowest-cost pharmaceuticals are underway. By law, generics may be substituted by the health plans for brand-name medications whenever that practice is clinically appropriate.

Direct-to-consumer advertising of prescription medications is prohibited in Israel; however, advertisement of nonprescription pharmaceuticals is allowed with the approval of the Ministry of Health’s Pharmacy Department. The Ministry of Health recently established procedures regarding disease awareness campaigns. These programs are designed to empower consumers with information about the availability of new treatments in a manner that focuses on a particular disease and does not promote a particular commercial product. A searchable Ministry of Health website provides detailed information on registered drugs in Israel.
Dispensed medications are accompanied by consumer-oriented leaflets, which are published in multiple languages. Leaflets for healthcare providers are available in English. Recently the Pharmaceutical Division launched a software application aimed at promoting rational and safe use of nonprescription (“general sales list”) products. This app allows the patient to conduct a search by trade name or symptoms experienced or by scanning a package barcode for product information.

**Closing notes.** Israel has an advanced health system that offers progressive services to its citizens, including oversight of pharmaceuticals to ensure a supply chain of medications that are safe, effective, and of high quality. The pharmacy profession in Israel has changed considerably over the last decade, shifting from a product-oriented profession to a more patient-centered profession. This change, which is aligned with similar changes observed in other OECD countries and in the United States, is supported by preemptive legislative activities. Expansion of clinical services and greater integration of technology into the delivery of pharmaceutical care are likely to be important challenges faced by the profession in the upcoming years.


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