The American University in Cairo
School of Business

AUC School of Business
International Case Competition (ICC) 2023
Fifth Edition

The Strategic Vision and Leadership Behind Pharco, The Egyptian Pharmaceutical Giant

This case was written under the direction of El-Khazindar Business Research and Case Center (KCC). It is intended to be used for educational purposes rather than to illustrate either effective or ineffective handling of a management situation.

The case study is based on two interviews conducted with Pharco's CEO, Dr. Sherine Helmy (2017 & 2022).

The Strategic Vision and Leadership Behind Pharco, The Egyptian Pharmaceutical Giant

Dr. Sherine Helmy, CEO of Pharco Corporation, was at his company headquarters in New Cairo on January 30, 2023, when the US dollar exchange rate exceeded the EGP 30 mark. A series of devaluations that began in March 2022[1] had set the pound on a downward trend and its value had halved in less than a year[2]. "What déjà-vu!" he thought. In 1987, when his father founded the family pharmaceutical business, the dollar rate was EGP 0.80. Successive devaluations had led to a rise in production costs and hence, presumably, the cost of the final product. However, that had not been the case for Pharco. Dr. Helmy, Jr. remembered how his father, Dr. Hassan A. Helmy (see Exhibit 1), Founder and President of Pharco Corporation, had led the company through its early years with a single-minded focus on the Egyptian customer, refusing to raise the prices of various products despite successive devaluations. He had been at his father's side at the negotiation tables during acquisitions and was privy to how his father had combined all of his acquired knowledge to build a competitive pharmaceutical company with a solid foundation. Possessing good scientific knowledge and natural business acumen, Dr. Helmy, Sr. could spot the details that others missed, find business opportunities in seemingly barren areas, and challenge his aides and associates with his unique vision and aggressive expansion strategy. Dr. Helmy, Jr. embraced this vision and turned Pharco into a household name. However, he now faced some of the same issues that his father had faced years prior. His father's words rang in his ears: "If we were to raise our prices, what would the less fortunate do?" The underprivileged masses were Pharco's bottom line. With global political upheaval putting economies in turmoil and change becoming a constant factor in any business equation, would Pharco continue to be able to serve its bottom line?

Pharco: A Pharmaceutical Giant in the Egyptian Market

Pharco Pharmaceuticals is one of the largest Egyptian private pharmaceutical manufacturers in the Middle East. Established in 1984, the company has recently grown to become the fourth-largest manufacturer in Egypt (see Exhibit 2), accounting for approximately nine percent of the massive yet fragmented pharmaceutical market[3]. With a large scale of operations, the company caters to several different target segments within the market. While Pharco sells high-priced drugs in a bid to keep pace with the significant inflation in the current Egyptian market, it aims to mostly serve the less affluent segments of the market. Its large-scale operations are not limited to these multiple consumer segments but also extend to the business-to-business (B2B) level. It operates as a third-party manufacturer for other pharmaceutical companies in the same market. As a result, Pharco can increase its scale of operations while providing enhanced manufacturing processes to other companies that would otherwise not have access to such capabilities due to their high cost and unavailability in the region.

The success of Pharco is based on the four main pillars it offers to its clients: high-quality products/procedures, affordable pricing schemes, timeliness of delivery and production, and, finally, confidentiality and privacy of third-party manufacturing. While the first two pillars are geared mainly towards the business-to-consumer (B2C) sector, Pharco aims to provide high-quality products and

[1] https://www.reuters.com/business/finance/egypts-pound-sinks-further-against-dollar-refinitiv-2022-10-30/
[2] https://www.bloomberg.com/news/articles/2023-01-04/egypt-s-pound-heads-for-biggest-drop-since-october-devaluation
[3] https://pharmaboardroom.com/facts/egyptian-pharma-market-snapshot/

affordable pricing to all of its clients, whether final consumers or other manufacturers. According to Dr. Sherine Helmy, Pharco views its business as a sort of corporate social responsibility, which mandates its philosophy of "serving others." The equation works due to the large market that is driven predominantly by out-of-pocket expenditure. Most Egyptians do not have access to quality health insurance; thus, they self-medicate or turn to their local pharmacists to obtain the most affordable form of treatment available.

Pharco maintains such high sales and client relations by promising its corporate clients punctuality and the utmost confidentiality in terms of manufacturing procedures and operations. By harnessing this combination of client satisfaction deliverables, Pharco has been able to grow into the market leader it is today and boast a momentous value of subsidiaries that support the overall operations of the parent company.

Pharco Pharmaceuticals falls under the umbrella of Pharco Corporation. The parent company encompasses eight healthcare firms that develop, manufacture, market, distribute, and export generic and branded drugs under the Pharco name. In addition to creating subsidiaries, Pharco has acquired existing companies in the market to expand its scope (see Exhibit 3). With such high levels of integration and acquisition, the pharmaceutical market in Egypt is in a constant state of change, prompting further shifts in the dynamics of the industry. The company had already seen its share of changes through the acquisitions and consolidation of power under the Helmy family leadership over the course of 35 years. The family went from owning 20 percent of the company to approximately 97.5 percent in 2010. Since then, efficiency in terms of production and sales has skyrocketed and the family business has weathered the stock market hits experienced by publicly traded companies following the Arab Spring in 2011[4].

The Global Pharmaceutical Industry

The pharmaceutical industry is one of the largest in the world. In 2021, it was worth USD 1,075.97 billion, growing at a marginal rate of roughly 5.6 percent annually[5]. While the industry is highly lucrative, many factors affect the worldwide market according to a 2018 pharmaceutical report[6]. These can be categorized into disease prevalence, affordability, consumer attitudes, government policies, and a major supply-side factor pertaining to the availability of resources. The pharmaceutical industry depends heavily on innovation, and sustaining this is a constant challenge[7].

While these factors cause volatility in the market, the industry continues to grow due to its profitability and necessity, manifesting in all regions across the world. North America and Western Europe are the largest markets, accounting for approximately 56 percent of the global market. The Asia-Pacific region is nevertheless expected to overtake Western Europe as the second-largest region. Disregarding local laws, many global issues linked to the patenting and release of medication affect the international industry. In addition to the high research and development (R&D) costs, this creates sizable barriers to entry for smaller players. The latter usually focus on producing generic drugs (see Exhibit 4), which due to their affordability show superior sales in almost every market, except in certain large markets such as France (see Exhibit 5). While there are also many other barriers to entry, the industry is

[4] https://mpra.ub.uni-muenchen.de/54814/1/MPRA_paper_54814.pdf
[5] https://finance.yahoo.com/news/pharmaceutical-drugs-global-market-report-112800202.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAANdhe7PwyxILV8XKemzL7GRHQ2lorIa1E1HjF1ykk8iqR9QiSOVcuFYBhTIUNb8dFYQw48mfWm-lm2YA71V5ycaexF_jXvfdcYRTY_tp0lvy4sf7H15QdGPqJHjRQRaZyoIbn_AXTJBddC53nKCCSBRy8b8_sznMG8H4oixD7Mpp
[6] https://blog.marketresearch.com/the-growing-pharmaceuticals-market-expert-forecasts-and-analysis
[7] https://hbr.org/2017/03/this-pharma-company-stays-innovative-by-doing-two-things

enormous. The top 10 pharmaceutical companies account for roughly 30 percent of global sales. While already huge, most of these organizations engage in mergers and acquisitions to expand their operations and exposure. North America and Western Europe dominate the global pharmaceutical industry; however, the Middle East also plays a large and critical role.

The Pharmaceutical Industry in Egypt

As of 2017, Egypt was the largest producer and consumer of pharmaceuticals in the Middle East (see Exhibit 6). It was the second-largest market, after Saudi Arabia, with a value of approximately EGP 35.6 billion. Yet despite these positive aspects, the Egyptian industry has also been beset by its own problems due to the recent economic challenges facing the country. Rapid currency devaluation, subsidy cuts, and new implementations of value added tax have created high inflationary pressures on the pharmaceutical industry and many other linked sectors across the nation. The combination of these external factors has left the pharmaceutical industry at risk and also extremely vulnerable due to an outdated state-imposed pricing mechanism implemented when the Egyptian pound–dollar exchange rate was fixed[8]. Aside from these economic challenges, the industry faces additional technical issues stemming from poor maintenance and regulation.

Internal Challenges Facing the Industry

Three main factors hamper the industry from reaching its optimal potential. First, the presence of undesirable pricing schemes. The pharmaceutical industry in Egypt has been highly regulated since the 1950s to provide affordable access to medication for the less affluent classes, which account for a substantial proportion of urban society. The industry's governing bodies enforce a pricing mechanism that establishes a markup regulation and profit control pricing scheme based on production costs[9]. Several amendments have been made since the 1950s to address this pricing strategy. In 2009, the government insisted on establishing an External Reference Pricing system in which the prices of medications in 36 foreign countries were used to guide Egyptian pricing strategies. Following this amendment, a new decree was released in 2012 that gave companies some control and enabled the redistribution of profit margins to different beneficiaries. However, even with these adjustments, the system remained unsustainable. In 2014, over 1,200 drugs were sold below their manufacturing cost.

The industry was hopeful in May 2016 after lobbying attempts persuaded the government to allow a 20 percent increase in the prices of medicines costing less than EGP 30, although the hope faded almost immediately following the devaluation of the Egyptian currency in November of the same year. This deflated hope, coupled with a high reliance on imports and increased manufacturing costs, left Egypt with a drug shortage and insufficient medication in the market to sustain the significantly growing population. In early 2017 the Ministry of Health permitted a 30–50 percent increase in the price of 3,010 different drugs. However, this continues to be criticized as a short-term solution to an ongoing problem as no stringent amendments to the pricing policy have actually been implemented.

The second challenge facing pharmaceutical companies relates to delayed government approval for new drug licensing. According to the Central Administration of Pharmaceutical Affairs (CAPA), a branch of the Egyptian Drug Authority (EDA), it should take 105 days to register new products in the market. However, experts claim that this time frame is heavily exaggerated and, in reality, it takes around two to three years to register new medicines. The shortest drug registration time recorded in Egypt was approximately six months, almost 70 days longer than the suggested time frame. Moreover, different drugs require varying approval procedures. Thus, drug companies experience an array of

[8] https://www.ngage-consulting.com/downloads/Pharmaceutical_PDF_Final_Version_K_and_A.pdf

[9] https://oxfordbusinessgroup.com/analysis/pushing-reform-local-pharmaceuticals-industry-under-strain-due-currency-depreciation-and-price-caps

delays based on the drug type and availability, adding a discriminatory market environment to the list of challenges facing the industry. Studies conducted in the United States have shown these regulatory delays to be a primary threat to innovative drug makers.

Threats to the Egyptian Pharmaceutical Industry

The volatile nature of the Egyptian pharmaceutical industry is exacerbated by its overreliance on imported raw materials. Egyptian pharmaceuticals import roughly 90 percent of their active pharmaceutical ingredients (APIs) from India, China, and other countries. This has prompted the Ministry of Trade to encourage the industry to look into alternative methods of manufacturing and add incentives to increase exports.

Looking back at the technical issues facing the industry, severe government intervention was implemented to help mitigate the flaws in the pharmaceutical sector. In 2020, the Egyptian government established the EDA to provide an independent regulatory body, similar to that of the Food and Drug Administration (FDA) in the United States.

However, while these technical challenges had significant implications for the market and the pharmaceutical companies operating within it, they have not prevented growth in the industry, which relies heavily on the growing population, an increase in the generic drugs sector,[10] and a rise in healthcare awareness. Egypt remains a highly attractive market with its pharmaceutical industry exhibiting a risk/reward index of 44.3 percent, the fourth most attractive market in the entire African continent, in comparison to an average benchmark of 40.4 percent.[11] Consequently, the Egyptian market is highly competitive, playing host to over 120 companies. Only a handful of those companies, however, fewer than 10, are multinationals with their own local production facilities.

Since the onset of the COVID-19 pandemic, the localization of pharmaceutical manufacturing has become a top priority for the Egyptian government. In April 2021, Gypto Pharma, Egypt's medicine city, was inaugurated as a hub for medical production and exports. The EDA has encouraged the establishment of new facilities that source raw materials, such as Pharco B International for Chemicals (PBIC), while also supporting joint ventures with multinationals to transfer technology and intellectual property[12].

Pharco in Focus

The Founder

Dr. Hassan Abbas Helmy graduated with a degree in Pharmacy from the Faculty of Pharmacy, Alexandria University in 1953. Pharco's success as a conglomerate can be attributed mainly to the hard work of its founding entrepreneur at such an early age. The newly graduated pharmacist already had his hands full working almost 20 hours a day. In the morning, Dr. Helmy worked as a teaching assistant in the Department of Pharmacy. Later, he would rush to his shift as an assistant at a nearby hospital. After finishing at the hospital, he would continue his work at a research office specializing in French medicine, only to finish his day operating the night shift at a local pharmacy. It was this hardworking attitude that enabled him to build one of the largest multinational pharmaceutical companies in Egypt.

[10] This factor is highly significant due to the composition of Egypt's sales structure for pharmaceutical drugs. For a clarified breakdown see Exhibit 2.
[11] https://www.ngage-consulting.com/downloads/Pharmaceutical_PDF_Final_Version_K_and_A.pdf
[12] https://www.thepharmaletter.com/article/localization-of-pharmaceutical-manufacturing-in-egypt-after-the-outbreak-of-covid-19-part-one

Unfortunately, Dr. Helmy, Sr.'s father passed away while he was still young. Thus, he was tasked with the responsibility of supporting his mother and younger siblings. With such a heavy weight on his shoulders, the doctor rented a pharmacy with his college friend, Dr. Wadeed Iskandar. After years of hard work, the two doctors had made enough money and a name for themselves to purchase their own pharmacy in the neighborhood of Glym in Alexandria. There, they began to prepare and sell their own licensed medicines. However, the venture coincided with the start of the strict nationalization policy of President Gamal Abdel Nasser, Egypt's second president. This would result in the appropriation of numerous small establishments, including the pharmacy that Dr. Helmy, Sr. had founded[13].

Undeterred by disappointment, however, Dr. Helmy continued his medical studies, earning his diploma in 1958. On a student exchange, he visited the German subsidiary of RP Scherer, which was one of the strongest medical manufacturers in the world at the time[14]. The company had invented and commercialized soft gelatin capsules using the rotary die process[15]. On his visit, he was able to witness and learn the technology of soft gelatin capsule production (see Exhibit 7), which would later earn Pharco its competitive edge in the Egyptian market. To elaborate, 95 percent of pharmaceutical manufacturers around the world have a department dedicated to tablets; however, of those, 55 percent do not manufacture soft gelatin capsules. This is because they require approximately 30 parameter changes compared to tablets[16]. As a result, they are normally outsourced. With his strategic eye, Dr. Helmy, Sr. capitalized on this and brought the knowledge back to the local market. Dr. Helmy established Pharco Pharmaceuticals in the early 1980s[17].

A Second Generation that Grows

Following in his father's footsteps, Dr. Sherine Helmy joined the Faculty of Pharmacy at the University of Alexandria in 1976. Graduating with top marks in 1981, the young pharmacist became one of the biggest critical elements in the building of Pharco. Starting as a project manager in the company in 1984, it was Dr. Sherine's vision to build the company up to exemplary standards. He consulted with colleagues and experts regarding the best machinery and equipment to acquire. Only two years after his graduation, Dr. Sherine worked with Terco, a Spanish design firm specializing in the design and construction of pharmaceutical companies. Looking back, that infrastructure and machinery have lasted for 30 years, operating on a daily basis without fail. The heavy initial investment to install the high-quality machines was more than recovered given the amounts saved on maintenance and replacement bills. This reflected the strategy of high quality and cost awareness that Pharco implemented, at both the corporate and operational levels, to maintain efficiency and effectiveness.

Dr. Sherine's involvement and enthusiasm for Pharco transcended the years and he soon found himself leading his own division of the company in 1989. Eventually, in 1995, he assumed the role of General Manager of Pharco from his father to continue the family legacy. He undertook all of these responsibilities while also pursuing his MBA and DBA in 1996 and 2012, respectively.

As a novel general manager, Dr. Sherine displayed the same enthusiasm and expertise at the corporate level. He made a point of studying the market intensively to better serve the firm's target segments. During his tenure, Pharco implemented several simple innovations to the medications it produced, which went a long way with customers. The innovations included powder sachets after noting that certain tablets would often dry out in the humid weather. Another example was enterically coating a rheumatism medication to ensure it would disintegrate in the intestine as opposed to the stomach in a

[13] https://merip.org/1982/07/egypts-transition-under-nasser/
[14] https://www.company-histories.com/RP-SCHERER-Company-History.html
[15] https://detroithistorical.org/learn/encyclopedia-of-detroit/scherer-robert-pauli
[16] https://www.pharmpress.com/files/docs/Chap%2011.pdf
[17] For a complete timeline see: https://pharco.org/history.html

bid to avoid gastritis-related side effects. Dr. Sherine also introduced a human outlook—whatever was good for their customers was good for his family. Dr. Helmy, Jr has a mantra: "I wouldn't feed the market what I wouldn't feed my children." This means that the medications Pharco offers to the public must be of top quality at reasonable prices.

Innovation coupled with a high regard for quality helped Pharco gain an edge over its competitors. Alongside his fastidiousness, the general manager had a hands-on work ethic, which resulted in the extreme motivation of his subordinates. He attended multiple training programs conducted by RP Scherer all over the world, for three months at a time, to improve his knowledge of the industry and the field. RP Scherer also offered dutiful insights into technology transfer and proper documentation, which eventually became one of Pharco's greatest operational advantages. This ultimately led to the creation of RP Scherer Egypt, a joint venture between the two companies through which Pharco obtained more technology licensed from RP Scherer in 1993. These were critical elements in the company growth and ensured it kept all of its systems intact even when in the throes of rapid expansion.

Leadership style and a proper work culture were further important elements in Pharco's success. Dr. Sherine made effort not only to understand the market but also to maintain a leadership style that involved understanding his subordinates. Across all levels of management, from project manager to division manager, to general manager, Dr. Sherine ensured that he understood the operations of his subordinates to be able to manage them better and understand the systems for which he was responsible, despite not being an engineer himself.

These efforts also extended beyond the technical into the cultural and emotional factors affecting his workforce. "We need to look for the root causes," says Dr. Sherine, "Once you get to the root cause, you stop treating the symptoms and begin to find solutions to the actual problems." During his tenure, Dr. Sherine realized that his employee turnover rate was staggeringly high in comparison to international benchmarks. Following a high initial investment by Pharco to hire, train, and maintain the most competent of employees, they would leave due to cultural pressures to get married and settle down. Therefore, in 1993, Dr. Sherine ordered the construction of living quarters for his employees, complete with housing settlements, nurseries, schools, graveyards, and all basic living requirements to better serve his subordinates and ensure their loyalty. Thus, he achieved a cost-effective strategy whereby a high initial investment saved the company significant future expenditure in terms of turnover and retention costs. Moreover, Dr. Sherine attempted to standardize corporate strategies across all departments and levels of Pharco to create a smoother and more efficient operation.

The combination of such effective leadership styles with proper entrepreneurial vision ensured that Pharco grew significantly following its early years of incorporation, and it continues to expect higher growth in the near future. Despite being a large multinational company, Pharco Pharmaceuticals does not operate solely for profit. In reality, it has incurred significant losses by selling certain medicines at prices below production costs in order to provide proper medication for the lower socioeconomic classes, who would otherwise have no access to these expensive medications. Therefore, one of Pharco's main competitive advantages is the ability to produce large quantities and reduce manufacturing costs to their optimal point through economies of scale, which was the stimulus for the firm's acquisition endeavors in the early 2000s.

In 2002, Pharco acquired El 'Amriya, European Egyptian Pharmaceutical Industries (EEPI), and Techno Pharma, all of whom were huge players in the pharmaceutical industry in Egypt. While the move reduced competition in the market and enabled Pharco to expand its own name, the management chose to retain the identities of the acquired companies. The idea was to preserve brand loyalty, expand and differentiate the company's sources of income. Only the back-end operations of R&D and manufacturing were integrated in order to establish and boost economies of scale. In addition to its

large-scale acquisitions, Pharco had an expansion plan that helped to grow the company efficiently and effectively. Four main pillars fueled this growth:

1. *Compliance with Good Manufacturing Practices (GMPs):* Pharco was the first company in Egypt to separate the manufacturing of penicillin products from non-penicillin products. While this may have impeded economies of scale, it was much safer and complied with international GMP requirements, thus creating good international and local relations for the company.
2. *Building RP Scherer Egypt:* The establishment of this subsidiary, which was initially jointly owned until Pharco assumed total control, was one of the most critical transactions in the firm's expansion. What began as a joint venture enabled Pharco to obtain technology and know-how that had previously been unavailable anywhere in the region, thus giving Pharco a competitive edge in the production of soft gelatin capsules.
3. *Coopetition:* The leadership at Pharco believes in both serving its customers and working with the competition. The market was severely affected in the wake of the political turmoil in Egypt in 2011. Banks were closed as a result of safety precautions and economic failure, while imports faltered due to heavy security lockdowns and political issues. This posed a problem due to the heavy reliance on imports and low manufacturing capabilities of the industry, coupled with an inability to make payments. Many pharmaceutical companies struggled due to their inability to operate in such a hostile environment; however, Pharco not only flourished but was able to help the market. Due to its favorable standing with banks and suppliers, Pharco was able to work under flexible letters of guarantee. As a result of its principles, values, and ethical actions, Pharco could sustain loans and supplies that other companies were unable to access. However, instead of seizing this as an opportunity to eliminate the competition, Pharco began producing for its rivals, facilitating the industry's emergence from the turmoil in post-revolution Egypt. The move helped both the market and as result, enabled Pharco to expand its own scale of operations to once again leverage economies of scale.
4. *International Expansion:* The final point in Pharco's growth strategy was to venture beyond national borders to grow the firm's presence worldwide. Pharco thus began expanding into new markets all across the world. In 1996, it acquired Pharco Impex in Romania, which then acted as the central point of sales for all transactions in Europe. The sales division of this branch was run by Dr. Sherine's twin brother, Dr. Yashar Helmy. In 2006, the company also acquired a 30 percent stake in Batterjee, a Saudi Arabian pharmaceutical firm. Despite experiencing some initial issues regarding the integration of its Gulf counterpart, with the proper training and documentation, Pharco grew and learned a lot from its investment. While it may sound counterintuitive given the state of the Lebanese economy, Pharco plans to enter the Levantine market through ITICO Pharma.

According to Dr. Sherine Helmy, his father is a man of few words and even fewer compliments. However, he commended his son on his unique vision of detecting untapped business opportunities and remaining a step ahead of the market. For example, Pharco had already entered the biologicals market before the COVID-19 pandemic. However, it did not follow the COVID-19 vaccine craze and instead focused on other diseases such as polio, meningitis, hepatitis B, AIDS, and malaria. "When the masses chase money, we focus on keeping people alive," says Dr. Sherine. The greater the competition in the biologicals segment, the lower the pricing will become, which will be a win for the end consumer.

The Third Generation in Line

Dr. Sherine Helmy explained that the succession from the first to the second generation was amicable and smooth. Each person within the family trinity was aware of their abilities and what they could or could not handle. As a firm adherent of Sufism, Dr. Sherine Helmy based his doctoral thesis on the impact of Islamic values on conflict management in Egyptian businesses. In 2011, he stood firm in the

face of 4000-plus striking workers[18]. Dr. Yashar Helmy, aware of his brother's leadership abilities and hands-on experience, approved of his assumption of executive duties at Pharco Corporation while he took the lead of the Romanian subsidiary, Pharco Impex 93 SLR.

Dr. Sherine has five children, four of whom are pharmacists, with one daughter who studied finance. His brother, Dr. Yashar, has three children, including one pharmacist. All members of the family hold positions within the company, in sections including sales and marketing, operations and supply chain, quality, research and chemical production, export, and design. His nephew manages the football team that was founded in 2010. "They each follow their passion," explains Dr. Sherine. While Dr. Helmy, Sr. ran a one-man show, Dr. Sherine and Dr. Yashar believe in empowering the third generation and including them within the family business while observing their performance. However, similar to his father, Dr. Sherine believes in treating the next generation equally. All members receive the same salary from the company. "We do not want them comparing themselves to each other, we are not competing," explains Dr. Sherine. He believes that when the time comes, the third generation will make the right choice in picking the individual who will lead the family business, as was the case between him and Dr. Yashar.

As demonstrated, Pharco's expansion has not been as systematic and aggressive as most companies in the pharmaceutical industry; however, it has been equally effective. By expending effort in building its brand name and establishing upright cultural practices, Pharco was able to grow its operations substantially. Pharco expanded its production capacity through acquisitions or the creation of new factories and maximized this productive capacity to grow in scale through subcontracted production for competing companies.

Pharco's Fight Against Hepatitis C

Hepatitis C has long been considered endemic in Egypt. A 2015 study reported that Egypt had the highest disease prevalence rate in the world; an estimated 10 percent of the population was infected with hepatitis C[19]. The disease was a burden on the country's fragile healthcare system and economy. It was a devastating diagnosis that would incapacitate individuals and place a huge financial strain on families and communities. Left untreated, the chronic disease could lead to scarring of the liver (cirrhosis), cancer, and death (see Exhibit 8).

Hepatitis C is a viral infection that affects the liver and often has mild initial symptoms; more commonly, however, it results in serious, long-term, chronic infections. Over 58 million people suffer from chronic hepatitis C, with 1.5 million new infections every year[20]. Discovered only relatively recently, in 1989, the first line of treatment for hepatitis C was initially through interferons, substances that increase the body's immune response against the virus. In 2013, Gilead Pharmaceuticals announced the development of sofosbuvir, a direct-acting antiviral (DAA) agent treatment regimen that targeted the virus and completely eradicated it from the patient's body with minimal side effects. This brought hope for many sufferers of the disease; however, the treatment regimen came at the steep price of USD 160,000 (the average Egyptian earned an annual salary of USD 4,800 in 2013[21]).

With his keen eye for detecting untapped business opportunities and a savviness for creating the ideal support ecosystem, Dr. Sherine Helmy set his sights on bringing hepatitis C treatment to Egypt at an affordable price. Since sofosbuvir had only recently been patented, generic alternatives would not be available for another 20 years (during which time 14 million people would die). Pharco took the bold

[18] https://www.youm7.com/story/2011/9/20/495937/إغلاق-فاركو-للأدوية-بعد-إضراب-عمال-الشركة
[19] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5439968/#b1-hmer-9-017
[20] https://www.who.int/news-room/fact-sheets/detail/hepatitis-c
[21] https://english.ahram.org.eg/NewsContent/3/12/102394/Business/Economy/Search.aspx?Text=%20workers

decision to invest EGP 500 million into research to develop a cheaper alternative that would be accessible to the masses who could not afford the expensive treatment presently available. The R&D attempts were highly successful. In less than a year Pharco was able to produce a new treatment for the virus at a fraction of its initial cost and reduced the price of production from roughly USD 100,000 to only USD 100.

The critical success factor in finding a cheaper hepatitis C treatment was working together with the right stakeholders. Dr. Sherine teamed up with the Drugs for Neglected Diseases *initiative* (DND*i*), the government of Malaysia, and several Geneva-based NGOs to develop a drug that could effectively combat the types of virus prevalent in Egypt as well as in Asian countries such as Malaysia and Thailand[22]. The next step involved identifying the right molecule that could offer higher treatment rates. Presidio, a US-based biotechnology company, had developed ravidasvir, a drug that showed initial positive results but had not undergone large-scale testing on affected populations. This is where Malaysia came in. It had a relatively high rate of hepatitis C infection, a good healthcare system, and first-rate scientists, coupled with the political will to tackle the disease. It was the ideal testing environment.

Pharco acquired 61 percent of the common shares of Presidio and 58 percent of its preferred shares. Large-scale clinical trials for ravidasvir were carried out in Malaysia and Egypt with 97 and 96 percent cure rates, respectively. The drug is manufactured in Pharco's Borg El Arab API facility (PBIC). It is also registered in China, Brazil, and Argentina. Thus, Pharco transformed from a generics company into a pharmaceutical company with its own patent pool that produces its own brands targeting medium- and lower-income developing countries.

The following step in creating the right ecosystem was to generate market demand. Hepatitis C is often labeled the "silent killer." Since the initial symptoms of infection are mild to negligible, thousands of infected individuals do not know they are sick. In poor countries, people do not have the financial motivation to get tested. Pharco went big with global health communication campaigns featuring international football players such as Lionel Messi and Dani Alves to raise awareness of the potentially deadly disease in the global south (see Exhibit 9). Locally, they teamed up with the Egyptian Ministry of Health to launch the Get Tested, Put Your Mind at Ease campaign. Over 70 million individuals were screened, with 4 million patients identified and cured nationwide[23]. Local stars such as Ahmed Hossam (more popularly known as Mido) and Mohamed Hamaki were active program ambassadors.

The Future of Pharco

Pharco is one of the largest pharmaceutical companies operating in the Middle East and North Africa (MENA) region. Over two successive generations, working in emerging markets, Pharco has transformed itself to become globally competitive, responding to institutional transitions and the resulting ecosystem changes in its home market over recent decades. Dr. Sherine has much to consider to ensure that the company's growth is sustainable and in line with its core values as he deals with ever-shifting challenges.

With a proven track record of successful endeavors, both past and present, Pharco's future may appear bright. However, this is not achievable without overcoming the challenges facing both the family and the company. While the third generation's starting point may be a strong one, the main question remains: how can the company sustain growth in light of the global economic as well as medical challenges that prevail? Can Pharco maintain its corporate culture and core values of providing

[22] https://dndi.org/viewpoints/2021/the-story-of-a-political-drug-against-hepatitis-c/
[23] https://pharco.org/hepatitis-C.html

affordable medical solutions to needy individuals in light of the recent currency devaluations? What is the most appropriate strategy for this growth given the government's continuous intervention in the regulation of drug pricing? What are some of the aspects that the Helmy brothers need to think about as they consider succession planning?

Exhibits

Exhibit 1: The Helmy Family

The Patriarch: Dr. Hassan Abbas Helmy

Hassan Abbas Helmy, Egyptian, born March 27, 1933, married with two sons.

Education:
Faculty of Pharmacy, Alexandria University
Diploma of Industrial Pharmacy, 1958
Diploma of Hospital Pharmacy, 1957
BSc in Pharmacy and Pharmaceutical Chemistry, 1953

Notable Positions:

- Chairman of Pharco Pharmaceuticals Corporation
- Chairman of Pharco Impex Company for Pharmaceuticals, Bucharest, Romania
- Member of the Board of Directors of Mubarak City for Scientific Research and Technological Applications
- Board Member of the National Research Institute, Cairo
- Vice-President of the Board of Alexandria University Science Park
- Board Member of the Faculty of Pharmacy, Alexandria University
- Chairman of Alexandria Pharmacists Association
- Board Member of the Chamber of Commerce, Alexandria
- District Governor Nominee (Rotary International) for years 2006–2007, district 2450

Source: http://www.bibalex.org/bioalex2004conf/speakers/SpeakersData/HELMY_HassanAbbas.htm

The First Generation:

Dr. Sherine Hassan Abbas Helmy

Dr. Sherine Abbas Helmy has 35 years of professional experience in the pharmaceutical industry. Over the years, he has been appointed vice CEO of Pharco Corporation, vice CEO of Batterjee Pharmaceuticals, KSA, and as a board member of Pharco Impex, Romania.

Helmy graduated in 1981 with a Bachelor of Science degree from the Faculty of Pharmacy, Alexandria University. He then obtained an MBA from the Arab Academy for Science and Technology (AAST) and Central Michigan University in 1999. In 2013 he received his Doctorate of Business Administration degree from AAST.

Helmy is part of many organizations and institutions that contribute to the development of the pharmaceutical industry and the economic growth of Egypt. He is a member of various boards: the National Authority for Quality Assurance and Accreditation of Education (NAQAAE), Alexandria

University, and Cairo University's Faculty of Pharmacy. He is also a member of the Egyptian Accreditation Council (EGAC), the Scientific Research Committee of Alexandria University, the Committee of Management Sciences, the Egyptian Supreme Council of Culture, and a founding member of North Coast University.

Source: https://zewailcity.edu.eg/main/content.php?lang=en&alias=sherine_helmy

Dr. Yashar Hassan Abbas Helmy

Yashar Abbas Helmy is President of the International Coordination Council of the European and Romanian Pan Arab Cultural Center, Lord of the Manor of Glamorgan, and the Lord of the Manor of Holme, in the county of Nottingham. He is also an art collector, CEO and Board Member of Pharco Trading Egypt, and CEO of Pharco Impex'93 SRL.

Source: http://www.ccerpa.ro/the-president-of-the-superior-council-of-international-coordination/?lang=en

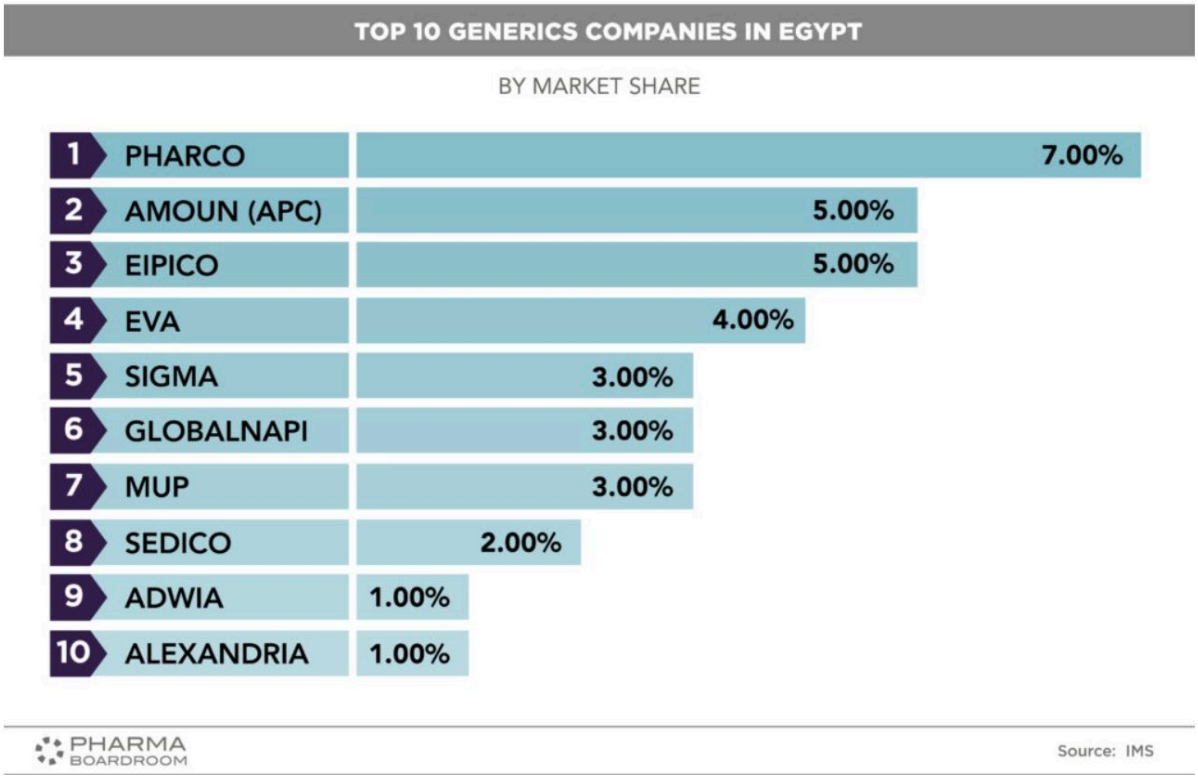
The Second Generation

- Seif Yashar Hassan Abbas Helmy
- Marwan Sherine Hassan Abbas Helmy
- Ezz Eldin Yashar Hassan Abbas Helmy
- Mohamed Sherine Hassan Abbas Helmy
- Yassin Sherine Hassan Abbas Helmy
- Engy Yashar Hassan Abbas Helmy
- Sara Sherine Hassan Abbas Helmy
- Salma Sherine Hassan Abbas Helmy

Source: Pharco

Exhibit 2: Pharco's Ranking

Measure : Units (Thousands)	RANKING/UNIT					Q 1-22			Q 2-22			Q 3-22			Q 4-22			YTD /12/2022		
	Q 1	Q 2	Q 3	Q 4	YTD	Units	% V	% PPG	Units	% V	% PPG	Units	% V	% PPG	Units	% V	% PPG	Units	% V	% PPG
TOTAL MARKET	**0**	**0**	**0**	**0**	**0**	**967,231.4**	**100**	**3.1**	**937,791.4**	**100**	**-0.9**	**1,021,747**	**100.0**	**1.1**	**1,066,451**	**100.0**	**-4.3**	**3,993,220.1**	**100**	**-0.4**
PHARCO*	**1**	**1**	**1**	**1**	**1**	**85,465.4**	**8.8**	**9.0**	**87,702.2**	**9.4**	**1.2**	**89,162.3**	**8.7**	**-3.1**	**98,288.3**	**9.2**	**-11.3**	**360,618.2**	**9.0**	**-2.0**
EIPICO/ACDIMA	2	2	2	2	2	71,311.1	7.4	32.5	68,032.6	7.3	9.6	75,451	7.4	6.0	77,609	7.3	-4.7	292,404.6	7.3	8.9
GLAXOSMITHKLINE*	3	3	3	3	3	54,686.9	5.7	22.1	54,080.7	5.8	5.7	54,952	5.4	6.0	67,994	6.4	-2.0	231,713.0	5.8	6.7
AMOUN PHARM.CO.*	4	4	4	4	4	52,761.5	5.5	12.5	51,812.0	5.5	18.9	47,661	4.7	-8.7	51,269	4.8	-0.6	203,503.8	5.1	4.8
SANOFI	5	5	6	5	5	40,515.5	4.2	12.8	33,750.0	3.6	-6.7	36,543	3.6	-11.0	38,374	3.6	-12.6	149,182.9	3.7	-5.0
MUP/ACDIMA	6	6	5	6	6	29,361.4	3.0	-7.0	30,540.9	3.3	-17.3	44,399	4.3	18.6	37,382	3.5	-18.8	141,683.5	3.5	-6.8
NOVARTIS	7	7	7	8	7	28,485.5	2.9	5.0	29,436.0	3.1	5.5	33,483	3.3	6.6	28,987	2.7	-11.1	120,391.9	3.0	1.1
HIKMA PLC*	8	8	9	7	8	24,116.1	2.5	3.9	22,591.6	2.4	12.9	24,500	2.4	20.8	32,234	3.0	24.6	103,441.0	2.6	15.7
CID*	10	9	8	9	9	18,957.4	2.0	-29.0	21,211.1	2.3	-10.0	25,018	2.4	3.7	22,471	2.1	-7.4	87,657.6	2.2	-11.1
GLOBAL NAPI*	11	11	10	11	10	18,543.4	1.9	-6.1	20,850.2	2.2	0.7	20,827	2.0	0.0	20,802	2.0	7.4	81,022.2	2.0	0.5
PHARAONIA PH.*	9	10	11	13	11	21,336.0	2.2	-13.2	21,019.0	2.2	-15.9	19,869	1.9	-36.0	18,483	1.7	-32.1	80,706.8	2.0	-25.2
MARCYRL*	12	13	12	15	12	18,388.7	1.9	20.3	15,062.7	1.6	-10.9	19,052	1.9	8.0	17,235	1.6	-8.7	69,738.4	1.7	1.5
EGYPTIAN GROUP*	16	15	13	10	13	14,926.8	1.5	-5.4	14,481.3	1.5	17.2	16,853	1.6	-0.1	21,346	2.0	31.7	67,607.5	1.7	10.5
SEDICO/ACDIMA	13	12	14	14	14	16,757.3	1.7	-14.2	16,551.9	1.8	-4.4	16,606	1.6	-3.7	17,326	1.6	-12.9	67,241.4	1.7	-9.1
NILE*	17	16	18	12	15	14,667.0	1.5	18.1	13,673.2	1.5	38.2	13,315	1.3	-2.8	20,239	1.9	45.3	61,893.9	1.5	23.9
KAHIRA*	14	14	15	23	16	16,001.3	1.7	-8.9	14,761.5	1.6	-6.9	16,407	1.6	-0.3	12,415	1.2	-31.8	59,584.7	1.5	-12.5
APEX PHARMA*	19	18	21	16	17	13,446.7	1.4	-3.7	13,598.1	1.5	16.3	12,799	1.3	-17.7	16,990	1.6	-3.7	56,833.5	1.4	-3.4
RAMEDA*	15	17	17	22	18	15,448.4	1.6	-0.3	13,667.9	1.5	-22.8	13,962	1.4	-8.7	13,333	1.3	-25.7	56,411.3	1.4	-15.1
EVA PHARMA*	18	19	20	21	19	13,902.2	1.4	6.3	13,145.1	1.4	-3.6	13,196	1.3	-5.2	14,145	1.3	-11.1	54,388.7	1.4	-3.8
ABBOTT*	20	22	19	18	20	12,508.6	1.3	50.5	12,308.6	1.3	7.2	13,226	1.3	-8.7	15,515	1.5	6.7	53,557.6	1.3	9.7



Source: https://pharmaboardroom.com/facts/egyptian-pharma-market-snapshot/

Exhibit 3: Pharco Companies

PHARCO PHARMACEUTICALS

Pharco Pharmaceuticals was the founder of the corporation, established in 1984, and was the second private Egyptian shareholding pharmaceutical company.

AMRIYA PHARMACEUTICALS

Amriya Pharmaceuticals, established in 1984, became the third private Egyptian shareholding pharmaceutical company. Amriya Pharmaceutical Industries was acquired by Pharco Corporation in 2002, and is located in Amriya, Alexandria, Egypt.

EUROPEAN EGYPTIAN PHARMACEUTICALS (EEPI)

EEPI is a private Egyptian shareholding pharmaceutical company based in Alexandria, Egypt. It was founded in 1998 and commenced production in 2002. EEPI was acquired by Pharco Corporation in 2002 and is located in Amriya, Alexandria, Egypt.

SAFE PHARMA

Safe Pharma was the first Egyptian company to specialize in the formulation and manufacture of soft gelatin capsules. It commenced production in 1993 under the name of RP Scherer Egypt, which was a partnership between Pharco Corporation and RP Scherer. Safe Pharma is located in New Borg El Arab City, Alexandria, Egypt.

TECHNO PHARMACEUTICALS

Techno Pharma has two separate plants dedicated to the production of hormones and effervescent hard gelatin capsules. Techno Pharco was acquired by Pharco in 2002. Techno Pharma Egypt is located in New Borg El Arab City, Alexandria, Egypt.

PHARCO B INTERNATIONAL

Pharco B International, founded in 2008, is a group of four separate plants dedicated to the production of antibiotics and parenterals.

PHARCO IMPEX 93 SRL

Pharco Impex has served as the import, marketing, and distribution branch of Pharco Corporation in Romania since 1993. Pharco Impex is located in Bucharest, Romania.

ABOU KIR TRADING

Abou Kir Trading is a private Egyptian shareholding company responsible for the distribution of pharmaceuticals, dietary products, and medical devices for Pharco Corporation throughout Egypt. The company was acquired by Pharco in 2002.

Source: https://pharco.org/companies.html

Exhibit 4: Generic Drugs

What are generic drugs?

A generic drug is a medication designed to match an already marketed brand-name drug in dosage form, safety, strength, route of administration, quality, performance characteristics, and intended use. These similarities help to demonstrate bioequivalence, which means that a generic medicine works in the same way and provides the same clinical benefit as the brand-name medicine. In other words, a generic medicine can be taken as an equal substitute for its brand-name counterpart.

Why does a generic drug look different from a branded drug?

Trademark laws in the United States allow generic drugs to look exactly like other drugs already on the market. While a generic and brand-name medicine will share the same active ingredient, other characteristics, such as colors and flavorings, which do not affect the performance, safety, or effectiveness of the generic medicine, may be different.

Why do generic medicines often cost less than brand-name medicines?

Generic drugs are approved only after a rigorous review by the FDA and following a set period during which the branded product has had exclusivity in the market. This is because new drugs, like other new products, are usually protected by patents that prohibit others from making and selling copies of them.

Generic drugs tend to cost less than their brand-name counterparts because generic drug applicants do not have to repeat the animal and clinical (human) studies that were required of the brand-name medicines to demonstrate safety and effectiveness. This abbreviated pathway is why the application is called an "*abbreviated* new drug application."

The reduction in upfront research costs means that, although generic medicines have the same therapeutic effect as their branded counterparts, they are typically sold at substantial discounts, an estimated 80 to 85% less, compared to the price of the brand-name medicine. According to the IMS Health Institute, generic drugs saved the US healthcare system nearly USD 2.2 trillion between 2009 and 2019.

Source of excerpts: https://www.fda.gov/drugs/frequently-asked-questions-popular-topics/generic-drugs-questions-answers

Exhibit 5: Generic versus Branded Drugs by Country

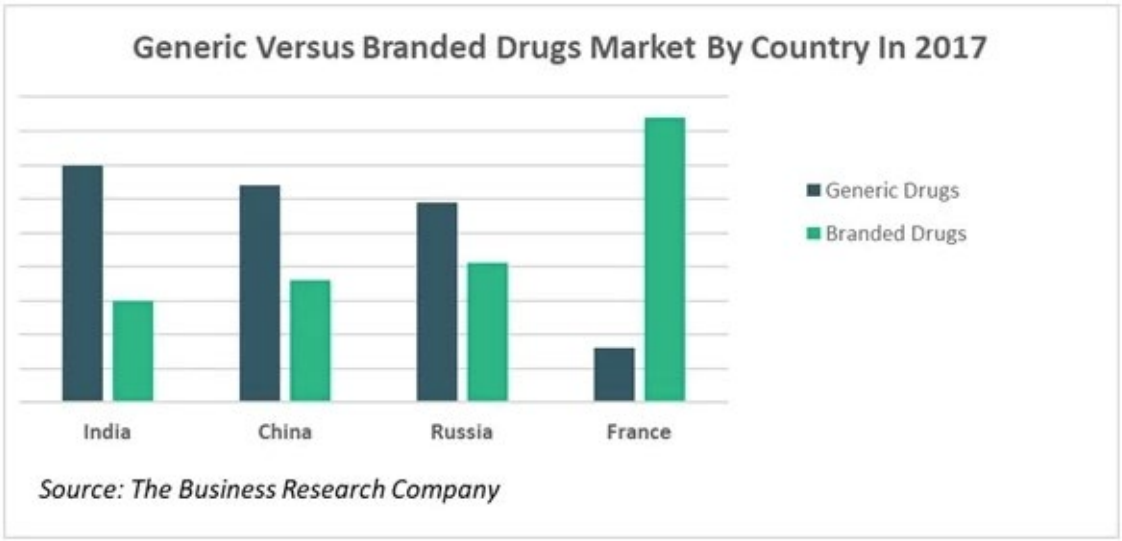
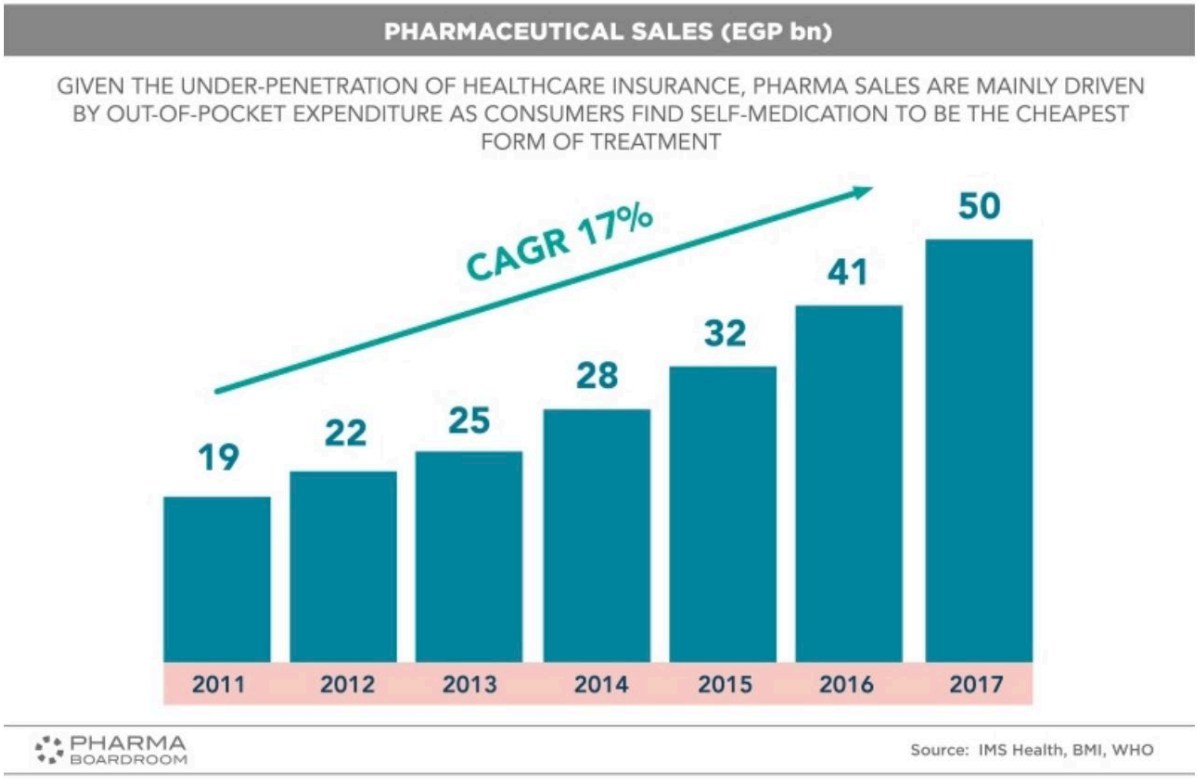


Exhibit 6: Growth of the Pharmaceutical Market in Egypt

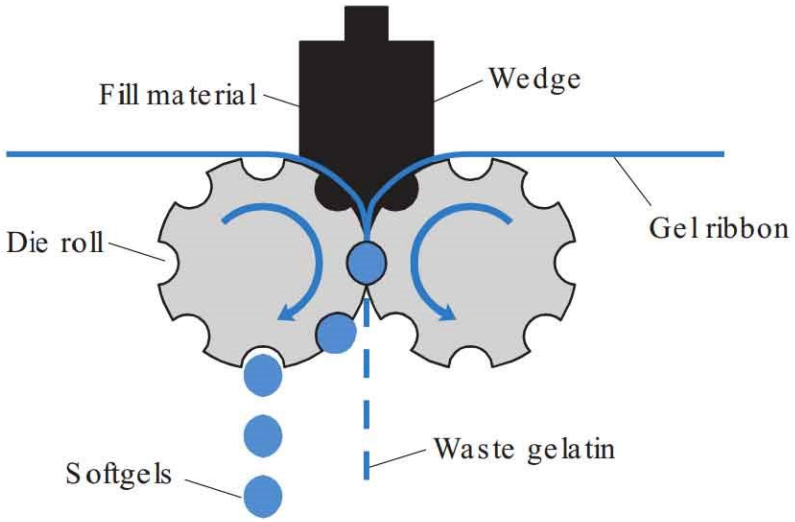


Source: https://pharmaboardroom.com/facts/egyptian-pharma-market-snapshot/

Exhibit 7: Rotary Die Process

Most soft gelatin capsules are made using the rotary die process, a method developed and perfected in 1933 by Robert P. Scherer. This virtually eliminated all of the problems associated with the plating process and produced soft gelatin capsules with improved uniformity and high standards of accuracy.

In the process, two plasticized gelatin ribbons (prepared in the rotary die machine) are continuously and simultaneously fed with the liquid, semiliquid, or paste fill material between the rollers of the rotary die mechanism. The forced injection of this material between the two ribbons causes the gelatin to swell into the left- and right-hand die pockets that govern the size and shape of the softgels as they converge. As the die rolls rotate, the convergence of the matching die pockets hermetically seals and cuts out the filled capsules.



Softgel formation mechanism (rotary die mechanism)

Source: https://www.pharmapproach.com/manufacture-of-soft-gelatin-capsules/#google_vignette

Exhibit 8: Hepatitis C

Hepatitis C virus (HCV) causes both acute and chronic infection. Acute HCV infections are usually asymptomatic and most do not lead to a life-threatening disease. Around 30% (15–45%) of infected persons spontaneously clear the virus within six months of infection without any treatment.

The remaining 70% (55–85%) of persons will develop chronic HCV infection. Among those, the risk of cirrhosis ranges from 15% to 30% within 20 years.

Geographical distribution

HCV occurs in all WHO regions. The highest burden of disease is in the Eastern Mediterranean Region and European Region, with 12 million people chronically infected in each region. An estimated 10 million people are chronically infected in the South-East Asia Region and the Western Pacific Region, respectively. Nine million people are chronically infected in the African Region and five million in the Region of the Americas.

Treatment

New infection with HCV does not always require treatment, as the immune response will clear the infection in some people. However, treatment is required when HCV infection becomes chronic. The goal of hepatitis C treatment is to cure the disease.

WHO recommends therapy with pangenotypic DAAs for all adults, adolescents, and children down to three years of age with chronic hepatitis C infection. DAAs can cure most individuals with HCV infection, and the treatment duration is short (usually 12 to 24 weeks), depending on the absence or presence of cirrhosis. In 2022, WHO included new recommendations for the treatment of adolescents and children using the same pangenotypic treatments directed at adults.

Pangenotypic DAAs remain expensive in many high- and upper-middle-income countries. However, prices have dropped dramatically in many countries (primarily low-income and lower-middle-income countries) due to the introduction of generic versions of these medicines. The most widely used and low-cost pangenotypic DAA regimen is sofosbuvir and daclatasvir. In many low- and middle-income countries, a curative treatment course is available for less than USD 50.

Access to HCV treatment is improving but remains too limited. Of the 58 million persons living with HCV infection globally in 2019, an estimated 21% (15.2 million) knew their diagnosis, and of those diagnosed with chronic HCV infection, around 62% (9.4 million persons) had been treated with DAAs by the end of 2019.

Source: https://www.who.int/news-room/fact-sheets/detail/hepatitis-c

Exhibit 9: Global Campaigns to Raise Awareness of Hepatitis C

Source: Pharco