

## ORIGINAL ARTICLE

# Can Drug Price Controls Help Patients Get a Better Deal? A SWOT Analysis

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## ABSTRACT

**Introduction:** Due to the increasing rate of drug prices and overall healthcare inflation, stakeholders from the pharmaceutical industry and non-governmental organisations (NGOs) are voicing their concerns about the possible reciprocal effects in the long run. Drug price controls (DPCs) regulation is crucial to ensure affordability and indirectly reduce congestion in public healthcare facilities. This study aims to identify the SWOT analysis of the DPCs in Malaysia and how it will impact the drug supply chain. **Methods:** The study adopted a subjective environmental scanning method and a SWOT analysis tool to examine the Malaysian pharmaceutical DPCs in the healthcare supply chain (HSC) ecosystem through both intrinsic and extrinsic perspectives. **Results:** The immediate effect of DPCs would be beneficial, especially to the patients and the government. Balancing the right amount of control and liberalization of the market is seen to be the biggest factor contributing to the policy's effect on the drug supply chain. The main concern would be the long-term effect as mixed results are coming from a group of countries that had implemented a similar policy. **Conclusion:** Notwithstanding the qualitative methodology of the paper, the findings could provide a better understanding of the price of drugs in Malaysia's HSC and serve as a foundation for future studies. This paper proposes a new way to diversify the DPCs economy by entering the HSC chain industry.

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## INTRODUCTION

The Malaysian government had raised concern about the increasing cost of healthcare back in August 2018 as the rate of inflation in the annual net for medical expenses is climbing steadily from 2016 (11.5%) to 2019 (13.6%). It is estimated that in 2021 the medical trend rates would be upward direction (1). From a different perspective, the regional averages were at 10%, making Malaysia one of the countries with the highest healthcare inflation rate in Asia. One of the central aspects that came under scrutiny was the price of drugs (Figure 1), thus, the Ministry of Health (MOH) has been pushing price-referencing and price control policies to be implemented in the country (2). Additionally, (1) argues that the increasing inflation rate on healthcare should not be seen as the unaffordability of drugs in a country. The expenses for out-of-own-pocket (OOP) healthcare for Malaysian is considered moderate compared to other similar economic strength countries in the Asia Pacific region. Figure 2 shows that in a matured type of drug, the

price in Malaysia is still lower than most of the countries listed, including countries with a dichotomous system which is similar to Malaysia (3). Thus, the notion of discerning between affordability and increment in price should be seen as two separate problems and should be tackled differently.

Malaysia's pharmaceutical industry has contributed more than MYR6 billion to the country's gross domestic product (GDP). By 2024, the industry might contribute another MYR10 billion (5). However, it has encountered numerous challenges that have hampered its development trajectory in recent years. Many global developments have had a substantial impact on the export business, making the situation more volatile. The

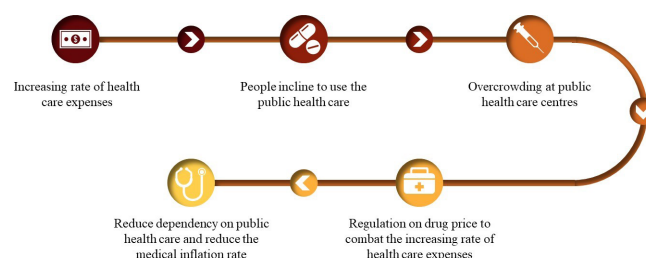
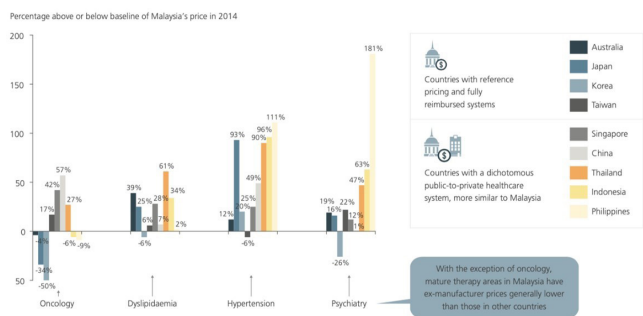


Figure 1: Decision flow on DPCs in Malaysia (Source: 4)



**Figure 2: Drug price differential of other countries vs Malaysia (Source: 5).** Note: Includes prescription products from all channels, including private and public sectors.

healthcare supply chain (HSC) ecosystem, in particular, has proven tough due to continually fluctuating requirements for short product lifecycles, industry convergence, and changing realities on the ground. In the pharmaceutical industry, the supply chain ecosystem could help the company utilise capital and services more efficiently, maximise income, adapt quickly to consumer demand, and increase shareholder value (6). Policymakers, pharmaceutical manufacturers, doctors, pharmacists, and consumers are among the Malaysian pharmaceutical stakeholders. Different stakeholders may have different concerns and opinions about generic drugs, as well as varying levels of understanding about them.

The presence of a strong, local, generic pharmaceutical industry, together with assistance from several healthcare stakeholders, can aid in the reduction of pharmaceutical expenses. Uncontrolled drug pricing in Malaysia's private health sector is one of the significant concerns, which may result in excessive drug prices and have an impact on employee medicine use. Furthermore, the extent of employer reimbursement for prescription pricing remains uncertain. (7). Thus, it is critical to plan the pricing control and drug reimbursement policies. Another issue that stakeholders face is medicine price transparency. (8). Therefore, MOH emphasised that DPCs are the utmost approach for requiring drug companies to reveal their drug development expenses, allowing the government to establish a "fair and reasonable price" for specific medicines.

Furthermore, the growth of the Malaysian pharmaceutical industry has always been hampered by a strong lobby of branded pharmaceutical manufacturers against generic pharmaceuticals. This situation gives the impression that generic pharmaceuticals are inferior to branded pharmaceuticals (9). Hence, the MOH and local generic businesses must take more proactive and comprehensive actions to promote the use of generic drugs. Furthermore, the MOH should encourage equal access to essential medicines, assure the availability of safe, effective, and affordable essential medicines of high quality, and promote quality drug use by healthcare providers and consumers (10).

In view of the above scenario, on April 12, 2019, the Malaysian cabinet authorised price control measures under the Price Control and Anti-Profiteering Act 2018, which is administered by the Ministry of Domestic Trade and Consumer Affairs and is set into force on June 6, 2018. Additionally, On May 9, 2019, MOH announced more details regarding the policy where Malaysia shall use External Reference Pricing (ERP), which is a method that priced a drug based on the average or lowest price sold in a group of other similar countries (11). Additionally, price control shall be applied at wholesale and retail levels and the average of the three lowest prices amongst the reference countries shall be used to set the ceiling price of a drug in Malaysia (12). Nevertheless, there are still a few other crucial questions that are not being addressed during the announcement, such as the countries that will Malaysia be referring to benchmark its drug price, class or type of drugs that going to be involved in the price control and the frequency of revision on the drug price to factor in volatile effects like inflation into account.

At the current stage, Malaysia has not implemented any price control on drugs sold in the country. Pharmaceutical companies have always been permitted to operate in a free-market environment to promote healthy competition and innovation and market demand to determine the price (3). Allowing the price to reach the equilibrium of demand and supply will lead to better value for patients and the overall economy of a country. However, there is a public list of recommended retail prices on drugs, prepared by the MOH Malaysia under the Consumer Price Guide (CPG) initiative (4). The list serves as a guide for consumers to know the recommended retail price of drugs sold in Malaysia. In 2019, the Malaysian government spends 11.1% of its budget on drug purchases, consisting of RM773.93 million on approved product purchase list items, RM916.2 million on central contract tenders, and RM417.47 million on state-level purchases (13).

Malaysia shall use ERP to determine the ceiling price for drugs. Whichever countries chosen to be benchmarked with Malaysia will heavily affect the local drug supply chain. For example, if Malaysia were to benchmark countries with lower economic strength, there will be little to no incentive for the pharmaceutical industry to continue to operate as the profit margin would be severely cut (11). Investors would take their business elsewhere, causing few research and development (R&D) centres in the country, thus making innovative drugs less accessible to individuals. On the other hand, comparing countries with higher economic strength would be counter-effective in the effort to bring down the cost of drug prices in the country.

Applying the price control at wholesale and retail levels would certainly have a backflow effect throughout the HSC. Manufacturers and distributors would still need

effective and efficient distribution. If the price is too restricted, there will be not much room for them to offer wholesalers or retailers to encourage the uptake of their drugs. Manufacturers who already operating at a razor-thin profit could end up shutting down their business or moving out to other unrestricted countries which will directly affect the local drug supply chain. Other decisions such as the type of drugs (generic vs. originator, mature vs. new therapy, common vs. special drugs, imported vs. locally manufactured) will be involved in the price control and the stages of its implementation shall indirectly affect the local drug supply chain (3).

As seen during this turbulent time of political power change and the Covid-19 pandemic in the first half of 2020, there is still no new progress or further announcement regarding drug price control (DPCs). It is safe to assume that the policy has yet to be implemented, and there is still room for input and study on this matter. Therefore, the purpose of this study is to identify, assess, and prioritise the strengths, weaknesses, opportunities and threats of Malaysian pharmaceutical DPCs in the HSC ecosystem using SWOT analysis, as well as to identify strategies to capitalise on the advantages of the strengths and opportunities, rectify weaknesses, and resolve threats. This study was selected to evaluate the current situation, gathering the lessons learned from other experienced countries by analyzing the SWOT, subsequently offering authors humble recommendations and conclusion on this matter in the hope that this work would somewhat contribute to the betterment of the much-awaited policy.

There are three sections to the paper. It begins with a brief review of the current market condition and the vital role of SWOT analysis in assessing the industrial environment. The part that follows describes the SWOT analysis and the TOWS matrix, as well as a thorough review. Finally, the last section of the paper discusses the implications, limitations, and future research directions. Since this is the first attempt to incorporate SWOT in Malaysian pharmaceutical DPCs in the HSC ecosystem, the findings of this study will provide scholars and business practitioners with deeper insights into the HSC environment. Furthermore, the implementation of the proposed strategies will have a positive impact on the development of the HSC ecosystem. Some of the impact of DPCs on the HSC stakeholders include the patients, hospitals, general practitioners, community pharmacists, wholesalers and distributors, and pharmaceutical companies.

The focus group here will be patients, or, more precisely, OOP patients in the country. Consumer groups are constantly pushing the idea that the private sector has been significantly overcharging patients throughout the years. This perspective is seen as a clear win when the government announced that the drug price should be regulated and the ceiling price will be implemented.

Most likely, patients will be paying less money for the same drugs as before, which is a good thing for them, especially for those who are not covered by insurance (14). However, a study from other countries that had implemented such a policy like India has shown that DPCs would only harm patients more than good. Few pharmaceutical companies are interested in venturing into India or setting up their factory there. This situation makes the introduction of highly valued and innovative drugs to the citizens more difficult as they now need to import them instead of producing them locally. This has caused higher total spending on healthcare expenditure per capita compared to pre-policy implementation. The reciprocal effect of DPCs should be thoroughly considered by the government to ensure that healthcare expenses are not going to be worse than before (15).

With the implementation of DPCs, which probably will affect high-margin prescription drugs (the primary source of income for retailers), hospitals and clinics need to find other ways to drive overall profit, such as value-added services and other products with high revenue streams. It is known that net drug prices in hospitals include other related costs such as transportation, pharmacists, and other services (16). Private hospitals are generally making only 5% to 7% of profit despite charging high rates for their healthcare services. This is because the dispensing of drugs in a hospital setting involves higher direct and indirect costs such as medication review, compliance monitoring, drug counselling, and titration of dosage. It also varies depending on levels of service, geographical locations, and specialities involved in managing the case (5). Having ceiling prices determined by an external party (government) could probably have a detrimental effect on their financials. Hospitals have higher leverage to offer more extended and value-added services, which could create new revenue streams in their business.

Moving on, the consultation fees for general practitioners in Malaysia are regulated and have not been revised since 1992. Most private clinics depend on the markup and sales of the drug to make a profit and stay afloat in business. Thus, the notion of the private clinic would survive are depending on the drug price as they have been surviving for decades with the same absurd consultation fee (17). DPCs will surely have a significant impact on their profitability. Almost 70% of their revenue is coming from selling medicine. The majority of them would be out of business and may not survive the obligation of DPCs. With the reduction of the availability of private clinics, government-owned clinics could see an increasing trend of people seeking treatment (18).

Furthermore, most pharmacies are selling non-medical consumer products such as cosmetics and toiletries because they are not making much profit from selling drugs (19). Their selling prices are generally lower than

clinics and hospitals to attract patients to buy from them. This is because they do not have the luxury of first contact with patients like doctors. With the implementation of DPCs, patients would feel more convenient just to buy medicine at their point of care instead of supporting their community pharmacies. Making the price of drugs a fixed number would kill off competition that does not benefit patients (20).

Wholesalers and distributors help to consolidate stocks from various manufacturers and disseminate them to healthcare facilities and pharmacies. They earn a small percentage of the drug's selling price for their service, and a higher price would yield better profit. Having a ceiling price for drugs would mean less revenue and would force them to find additional revenue streams to compensate. Added value services such as scarce solutions for digital supply chain management would undoubtedly give them an advantage over their competition (21).

Besides, there will be a high chance of re-evaluation of pharmaceutical manufacturing by foreign direct investment in Malaysia. Provided that the policy applies to both public and private sectors, there would be not much motivation for investors to build factories here and observe the need to discount their innovator or high-value drugs. For local players that consist of mostly generic drug manufacturers, the reduction of originator drugs price could spell out disaster for them. More patients will gravitate towards their originator competitors as the price difference will not be as high as before (22). Losing local generic drug manufacturers would be not only bad for the industry but also for the country. Approximately 60% of public healthcare is serving generic drugs, and the ability to generate profit is essential to enable more R&D to be done. With DPCs, manufacturers would stop producing drugs with low profits and become more expensive and challenging to make. Instead, they would focus on a high revenue-per-cost ratio and fast-selling products to be able to hold their market share and generate profits. In the end, the availability and variety of generic drugs could suffer and causes a drug supply crisis in Malaysia (2).

Notwithstanding the fact that DPCs provide several benefits to diverse stakeholders, there are some drawbacks to DPCs that prevent their implementation. For instance, it may address the problem of supply and demand imbalances. DPCs have the potential to alter market supply and demand dynamics. Prices set below the equilibrium point may cause shortages because suppliers may find it unprofitable to produce or supply goods at restricted prices. This may limit its availability and raise the cost of purchasing those goods through alternative channels (23). Similarly, DPCs may lower production incentives. When prices are artificially controlled, the incentives for producers and suppliers to invest in output, innovation, and quality improvement

are reduced. In the long term, this may result in less supply, lower product quality, and limited consumer choice (24). Not to mention that practising the DPCs on the HSC agenda may boost the black market and illicit activity. In some circumstances, DPCs can create incentives for the emergence of a black market. Controlled prices that are much lower than market prices can lead to smuggling or unlawful sales of goods at higher prices (23). As a result, markets may become unregulated and potentially unsafe, undercutting the intended benefits of price limits. Furthermore, if DPCs are not adequately managed, resource distribution may be distorted and can disrupt the efficient allocation of resources (25). When prices are not allowed to represent genuine production costs, markets struggle to properly allocate resources to their most productive uses. It may lead to inefficiencies, waste, and missed possibilities for economic growth.

## MATERIALS AND METHODS

As a result of the paucity of studies on DPCs, the paper adopts an environmental scanning methodology to better comprehend Malaysia's HSC ecosystem. According to (26), scanning the business environment requires gathering and analysing information from a pertinent industry. Environmental scanning allows businesses to anticipate obstacles and opportunities that may affect their company ecosystem. In addition, compelling internal and external concerns about environmental scanning are essential in achieving and improving company performance. Depending on this study's objectives, several environmental scanning methodologies are used including primary and secondary data (27). Environmental scanning approaches have recently been used in higher education (28), healthcare (9), SCM (27), lifestyle changes (29), pharmaceutical (30) and a few other disciplines.

Environmental scanning can be done in a variety of well-established techniques including the Political, Economic, Social, Technological, Environmental, Legal (PESTEL) analysis, Internal-External Matrix, BCG Matrixes, Quantitative Strategic Planning Matrix (QSPM) model, Strategic Position and Action Evaluation Matrix (SPACE) and the Strengths, Weakness, Opportunities, Threat (SWOT) analysis (26). The approach used to scan the DPCs environment in Malaysia is a SWOT analysis in scrutinizing the internal strengths and weaknesses, and evaluating the opportunities and threats for external analysis.

Data collection methods include an extensive review of past literature and field observation. This study conducts a direct introspective examination of the Malaysian DPCs landscape. Relevant empirical data, news releases, government gazettes, and subjective information are gathered from numerous sources that fit or are related to the keywords of this study and supported by the year-long

personal field observation of the authors. Following (31) suggestion, the authors did not intend to meddle with the healthcare business settings through uncontrolled observation. Furthermore, the authors were able to scrutinize the DPCs' environment without influencing, manipulating, or altering the possible outcomes. An observational study is becoming more popular due to the possibility of richer outcomes, more detailed and significant.

This study suggests that using a SWOT analysis to analyse Malaysia's internal and external DPCs environment could provide another way for the government to expand this sector's economy. Furthermore, analysing the external environment allows the industry to discover key events and potential consequences that are outside of its control. Some of the recent use of SWOT analysis can also be seen in SCM (27), tourism (32), environmental management (33), pharmaceutical (30) and aviation management (34). Based on the preceding instances, it is clear that applying SWOT analysis for research and further understanding the DPCs environment through field observation of the Malaysian HSC sector is an exceptional tool choice. Principally, using the benefits of the SWOT analysis, this paper summarises the basis of competitive advantages that are critical to Malaysia's competitive environment in the HSC industry and recognizes possible threats and challenges that might disrupt Malaysia's efforts to expand this sector economy. Figure 3 is a complete representation of the research design for this study.

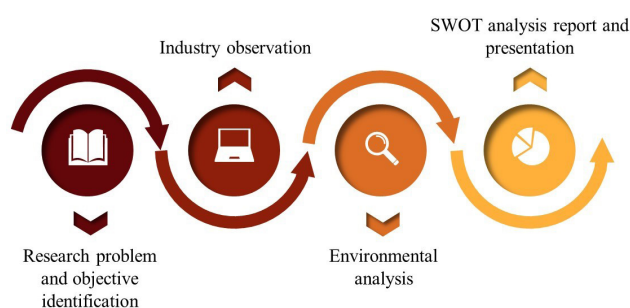


Figure 3: Research design

## RESULTS

### Strengths

#### 1) *Instant reduction of drug price*

Drug prices will effectively go down and reduce the burden on OOP patients. A patient would feel the immediate effect of the policy once it is implemented. At least in the short term, a patient will enjoy the lower price of drugs and can consider using the previously unaffordable drugs for their treatment. This situation will benefit patients who do not have the advantage to pay the current medicine price due to its high cost (7).

#### 2) *Instant increase in drug accessibility*

Accessibility to a bigger selection of drugs is always a good thing for patients, especially in life-threatening conditions where a different drug could potentially change the outcomes of the disease. The drastic effect of price reduction would also mean patients could benefit from the vast selection of drugs at the same time instead of waiting for a generic version of a favourable innovative drug due to affordability issues (35).

#### 3) *A consumer-centric move*

Customers can find the best deal around when drugs have a ceiling price and are made available to the public. Price referencing will allow patients to make a prompt decisions and be more comfortable shopping around than before when prices are often undisclosed and packaged together with other related services. With DPCs, it will eventually create a more competitive market and consumers will have more value and choices (22).

#### 4) *Better value for patients*

DPCs will be levelling up the healthy competition among all players, including hospitals, clinics, pharmacies, and supply chains including manufacturers, wholesalers, and distributors. By having fixed pricing on drugs, companies and businesses would need to offer better value for their product and services to lure customers (36). While customers are getting a better deal for their treatments, the capitalistic market would also appreciate those who can thrive in a harsh situation and punish businesses that are not creative and innovative in providing their products and services. Theoretically, the system would work for the betterment of society (37).

#### 5) *Reduce congestion in public healthcare centres*

Drug cost reduction in private centres makes them more appealing as the bar has been lowered, allowing more accessibility and reducing congestion in public healthcare centres, which is a significant reason for MOH to consider the policy. Although still at an initial stage, the move should pull more people away from just using public healthcare facilities and indirectly contributes to saving for the government (37).

## Weaknesses

#### 1) *Lack of incentive*

Pharmaceutical companies would feel disincentivised to innovate and improve their R&D if there is no strong reason to do so. Levelling up prices on drugs based on the type and not on quality or efficacy, would do no good to anyone, especially to patients who needed the drugs to work as intended. Pharmaceutical companies are seen as greedy and filled with capitalistic motivation but without proper compensation, they are unable to offer their side of value to the patients (35).

## **2) Discouragement towards businesses**

Some companies might shut down due to thin margins and be unable to sustain their business, which will look bad on the government. Clinics are incredibly vulnerable as they have limited value-added services or products to offer compared to pharmacies and hospitals. The pharmacy would also be affected if people would simply buy their drugs from the point of care (clinics or hospitals) if the price is the same as in the pharmacy. A pharmacy has always been a place where people buy drugs cheaper than getting them from healthcare facilities, but that would not be going to be so after the implementation of the DPCs policy (16).

## **3) Questionable enforcement**

Certain parties might question the capability of the government to implement and monitor the price control mechanism. Looking at other countries which already implemented policies on drugs such as the prohibition of distributing and selling counterfeit drugs, or selling prescription drugs, it is fair to say that more effort can be put to manage such cases. So many other unsolved cases around and more are operating freely without restriction. Enforcement needs to be consistent and reliable before DPCs can be implemented to avoid discrimination towards law-abiding businesses (38).

## **4) Drug is not the main reason for high healthcare expenses**

The drug is only a portion, and not even the highest cost of healthcare and regulating drug prices alone would only have a small effect on the overall healthcare cost. Currently, drug cost is only accounted for 14% of OOP healthcare expenses, compared to 46% for outpatient services and 24% for inpatient services (5). Healthcare centres would probably markup other products and services to compensate for losses from regulated drug prices, making the healthcare expenses unchanged.

## **5) Potential of higher healthcare costs in the long run**

DPCs could potentially result in a higher level of healthcare utilization due to drugs being manufactured in minimal requirement quality to save cost, instead of producing the most effective, as selling both would yield the same revenue. Lower-quality drugs might not work best for patients, and this will lead to unoptimized treatment, which will cost more in the long run in the form of higher utilization of healthcare (35).

## **6) Inaccurate price comparison**

ERP might not give an accurate comparison as a different country would have a different burden of disease, market structures, willingness and ability to pay, indications of dispensing, and included components in drug prices such as sales tax, distributor margins, and other overheads. Not to mention that different countries would have different stages of the drug life cycle, which could potentially impact intellectual property protection. This

situation could cause more problems than a solution. Furthermore, differences in presentation and pack size or dosage could complicate the comparison process (39).

## **Opportunities**

### **1) Many innovative ideas came during the change of policy**

New companies could bring innovation and a new business model that adds value to the whole supply chain, especially the end-users. Policy changes have more often than not, brought creativity in people from mixed backgrounds who can see things from a different angle. One of the principles of the blue ocean strategy is making the competition irrelevant and the new policy might be the starting point for the pharmaceutical industry to make changes for the betterment of all stakeholders (21).

### **2) Cessation of unethical practice**

Doctors and pharmacists in private healthcare would no longer sell drugs based on the profit margin that they are making, and instead, really offer the best value for patients. However, surprising this presumption is, doctors and pharmacists are being accused of pushing unnecessary drugs to patients to get incentives from pharmaceutical companies. With DPCs, pharmaceutical companies would have a much lesser budget to offer these incentives, and the culture would probably cease to exist in the future (3).

## **Threats**

### **1) Disruption of a drug supply chain**

There might be a disruption of drug supplies in Malaysia with the policy in place due to less incentive to supply the product. Generic manufacturers will be hugely affected when the price difference with originator drugs is narrowed down with the policy. A patient would see that originator drugs are now affordable and probably will switch to that instead of taking generic ones. Reduce in revenue is a big challenge for generic drugs, as they are already surviving on a very thin profit margin. Eventually, some of them need to close down, and with fewer operational companies around, the nationwide supply of drugs could be disrupted (40).

### **2) Higher healthcare costs in the long term**

The price will probably increase in the long term when more pharmaceutical companies closed down as profits are razor-thin if any. The remaining manufacturers became oligopolistic and were able to raise the price due to a shortage of supplies and high demand in the market. In February 2020 statement, India confirms that its drug pricing programme resulted in a price increase for regulated pharmaceutical products compared to identical but unregulated pharmaceuticals. The cheaper formulation had seen a 21% increase in price, and the

costly formulations saw a leap of 2.4 times higher price compared to the pre-implementation of DPCs back in 2013 (41).

**3) Loss of investment in the pharmaceutical industry**  
DPCs could hinder and affect existing foreign manufacturers' investment in the country. Tax breaks and economic incentives are not enough to lure investors in when the price of their product is being capped. New innovative drugs are also not going to be launched in a country with price control due to the need to recover huge capital invested in developing the drugs (42).

**4) Encouraging the production of ineffective drugs**  
Drug manufacturers could reduce the quality of drugs to lower the production cost to retain or even survive with a small margin of profit. In Malaysia, a generic drug manufacturer only needs to prove the bioequivalence of a drug and not its efficacy. Despite still biochemically the same drug, a lower quality drug could not be as effective as the original version. Using lower-quality drugs could potentially increase the need for other healthcare resources such as hospitalization (41).

#### 5) Reduce access to innovative drugs

There could be a steep decline in launches of new drugs in Malaysia as India experienced after implementing DPCs in the 1990s. Today India saw a huge 75% drop in new drug launches due to disincentivized multinational pharmaceutical companies that have not wanted to bring innovative products into the country. There could be fewer new drugs available for Malaysian later in the future if DPCs are implemented (15).

#### 6) Loss of potential revenue for the country

Medical tourism could be affected when less innovative drugs are introduced in Malaysia. The 2020 vision of the Malaysia Healthcare Tourism Council estimated almost two million patients from various countries would come to Malaysia to get treatment (worth around USD 680 million). While Malaysia is ahead of many other developed countries in providing the most valued healthcare services, the country might get left behind (5). The results of the SWOT study are summarised in Figure 4. The findings of the SWOT analysis show that for Malaysia's DPCs to swell, internal DPCs' strengths must be retained or strengthened while exploiting and snatching external opportunities in the rising global healthcare industry. Moreover, internal weaknesses must also be carefully observed and should be minimised to diminish the effects on overall Malaysia's HSC industry. Finally, the continuous external challenges should never be underestimated. Each stakeholder involved in DPCs must be aware of the possibilities of impotence because mitigating the effect of external factors and maintaining vigilance will ensure the industry's success in Malaysia.

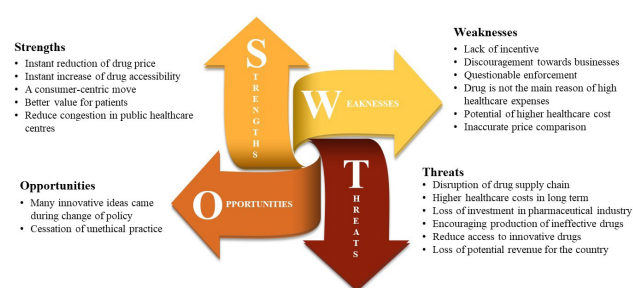


Figure 4: DPCs in Malaysia SWOT analysis

## DISCUSSION

Instant reduction of drug prices, an increase in drug accessibility, a consumer-centric move, better value for patients and reduce congestion in public healthcare centres are the strengths of DPCs in Malaysia based on the findings of the observation and SWOT analysis. In addition, evident weaknesses include a lack of incentive, discouragement towards businesses, questionable enforcement, the drug is not the main reason for high healthcare expenses, the potential of higher healthcare costs and inaccurate price comparison. Furthermore, Malaysia presents tremendous chances for DPCs to thrive including numerous innovative ideas that came during the change of policy and cessation of unethical practices. However, the country's DPCs is threatened by the disruption of the drug supply chain, higher healthcare cost in the long term, loss of investment in the pharmaceutical industry, encouraging the production of ineffective drugs, reduction in access to innovative drugs and loss of potential revenue for the country. Thus, the below strategies are being proposed to enhance DPCs in Malaysia towards better managing the entire HSC industry in Malaysia.

### Strategies for MOH

#### 1) Regulatory impact analysis (RIA)

RIA is a systemic approach to critically assess the pro and cons effects of proposed regulations and their non-regulatory alternatives. It also identifies the expected effects of regulation, by using methods like cost-benefit analysis. Any regulation should have passed through RIA to ensure all the angles are covered, and the outcome shall be beneficial to most stakeholders. Only the most effective and efficient options should be chosen using a systematic and holistic approach (18). As a responsible government, the impact of such policy should be studied and determine if the effort is serving the objective of reducing public hospital congestion and offering lower drug prices and at the same time being fair to patients, doctors, clinics, hospitals, pharmaceutical manufacturers, pharmacies and other stakeholders. The result of such research should be made public and accessible to all.

## **2) Strategic purchasing**

In the UK, there have been successful direct negotiations with drug manufacturers, including originator drugs that are coming from a single manufacturer. With big purchase orders for government and private use, manufacturers are able to reduce the price even further and able to achieve a lower price of drugs without any price control (12). The National Institute for Health and Care Excellence recommends to the National Health Service which drugs should the government fund based on value for money and treatments' effectiveness using Health Technology Assessment (HTA), compared to Malaysia where the majority of the decision to purchase which drugs are decided by non-empirical demand from practitioners.

## **3) Health technology assessment (HTA)**

Instead of relying on price referencing or price control, the true value of a drug is assessed by looking at the health benefits compared to the price. With an evident-based appraisal, drug companies shall be incentivized to produce the best product at the most affordable price to make sales. The cost to acquire drugs should not be the main reason for reimbursement decisions; instead, the true value of a drug should be considered together with the added value that it can offer compared to the price. More variability in prices and benefits to patients can be offered by having a system that prioritizes cost-effectiveness evidence when determining the price and reimbursement of innovative drugs (43). HTA would also be more tailored towards a country's atmosphere and their willingness/affordability to pay for drugs, compared to direct price comparison with other countries. Without an evident-based, cost-effectiveness assessment and enforcing DPCs, pharmaceutical companies would just use the minimum required to produce a drug instead of manufacturing the best version, as both would sell at the same price. Unfortunately, cost-effectiveness is not a prerequisite in the submission for national formulary listing by MOH, thus purchasing of drugs by MOH is not guided by evident-based value but based on demand from healthcare practitioners on the ground (19).

## **4) Declaration of wholesale prices**

Instead of controlling the drug price, a list of wholesale prices from various manufacturers can be made public, which will encourage competition between them, and assuring affordable drug prices. This initiative would be aligned with Good Pharmaceutical Trade Practices set by MOH (5). The declaration would ensure a formal announcement on price revision or any trading term changes that involve suppliers to customers.

## **5) Drug price visibility to be made compulsory**

All facilities that sell drugs (pharmacies, clinics, and hospitals) are required to make the drug price list visible and easy to see. Patients could then choose either to buy the drugs at their point of care or seek them at other places. By allowing healthy competition

between businesses, the drug price would regulate itself by the force of supply and demand in the market (2). Having said that, it is going to be a huge challenge for the enforcement team to monitor such practices in so many places nationwide. The price can also be changed periodically, especially with digital boards where prices can be adjusted instantly if there were to be an inspection (13).

## **6) Better communication with stakeholders**

The proposed policy would involve millions of ringgit worth of business and involve international and conglomerate companies. Thus, the industry and other stakeholders are obviously on the edge of their seats, trying to understand what shall be implemented in the future and how it will affect them. By being in constant discussion with the industry, the government would not only be able to hear from the other side but would come out with the best solution for everyone (17). More often than not, the private sector is willing to share its knowledge and expertise from which the government could benefit. Transparency and communication are really what the industry is asking for, especially in the changes in legislation and timelines that affect their businesses. To achieve this, MOH should conduct regular consultations with all stakeholders and addresses their concerns whenever possible (8).

## **Strategies for supply chain**

### **1) Hospitals/clinics**

Hospitals could try to ensure their patients fill up prescriptions from them rather than buying them from pharmacies. Loyalty to a brand or centre is also crucial to ensure positive revenue in the future. Connection and communication are vital to ensure that patients feel connected and taken care of, especially in multidisciplinary care like a hospital (20). Investing in technology and telemedicine could potentially open up new revenue streams for retailers as they get more connected to patients and have ongoing touchpoints throughout the patient's life. These retention strategies are beneficial and will also be future-proof for moving forward (16).

### **2) Distributors**

Positioned in the middle of the supply chain, distributors will need new strategies to ensure their products can have good exposure to retailers and patients. At least in the early stage, prescription drugs are likely to be the first target and not so much over-the-counter (OTC) drugs or other consumer health products. Exclusive distributors, distributors of originator drugs, or high-value drugs that are dependent heavily on their products, shall have the biggest drawback. To encounter the situation, distributors need to diversify their product offerings and portfolio as well as collaborate with other distributors in the form of partnerships to minimize overhead and waste from high-risk products (44).



Other than managing its existing product offering, the distributor should also seek to offer other value-added services to increase its revenue stream. For a manufacturer, a distributor can offer credit management, debt collection service, and account management. For retailers, they can provide services such as continued medical education, operational training for staff, and real-time cloud service inventory management (45). For internal changes, distributors could improve their operational efficiencies through the optimization of the network and supporting manufacturers with consistent and better sales as well as the renegotiation of supply contracts with principals and customers to ensure the best outcome for everyone (40).

### 3) Pharmaceutical companies

One of the main methods to make money for pharmaceutical companies are price discrimination, where recommended retail prices are different between countries. Mostly depending on the country's economic strength, GDP, regional pricing, and policies in place (36). Price regulation on drugs could spell out disaster for them and probably would not do any good in reducing the drug price if less player exists to offer such a product. Nonetheless, the government's priority is to ensure no disruption to the supply of drugs to the country, and this shall give more room for negotiation for pharmaceutical companies. With technology disruption happening in many industries, it is bound to happen in the pharmaceutical landscape where many ripe problems are waiting to be solved with the application of technology. Cutting out the middleman could potentially give a better margin of profit for the manufacturer by dealing directly with retailers and handling the logistics (43). While it is not easy, the only way to maintain or increase profit while having a ceiling cap on price is to deepen their bottom line. Engaging with physicians and profiling customers in the form of advanced analytics could also optimize the channels and remove dependency towards the middleman.

Pharmaceutical companies should invest in providing patient assistance programs or digital interventions to track and get feedback directly from the patient. The system can be deployed at a clinic or hospital level where primary data shall be provided by doctors, where care can continue at home with patients using digital interventions (such as smartphone apps) where more data can be extracted to learn more about efficiencies and effectiveness of their products. By having vital information on what is working and what is not with their drugs, pharmaceutical companies can make leap changes to improve their offering and thus will be translated into an increase in future revenue (46). By supporting their end customers and sharing the burden of this price regulation, pharmaceutical companies shall be able to build long-term relationships and trust with them. In ensuring the government are able to carry out the policy in the best way with minimal unwanted side

effect as well as to safeguarding industry player to get ready to face the new DPCs policy that has been passed the parliament and is likely to be implemented within the year 2020 (37).

Figure 5 demonstrates a mitigation strategy for DPCs in Malaysia that might be useful for the relevant stakeholders.

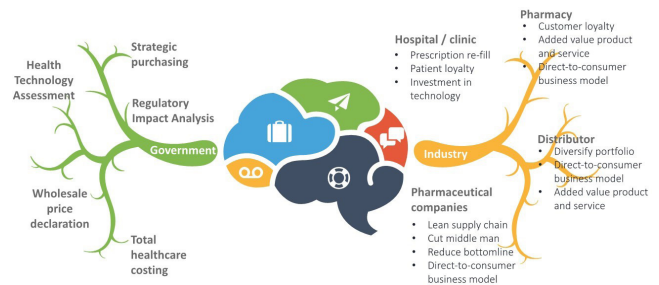


Figure 5: Mitigation strategies of DPCs in Malaysia

### Research Implication

Ideally, the article will devote itself to the rising research in the healthcare industry while also providing a deeper grasp of HSC management. Furthermore, insights gained through intrinsic and extrinsic ways could help stakeholders capture the full benefits of the growing healthcare industry by implementing smart drug price management activities. For academics, this study could establish the framework for future studies in Malaysia on DPCs. This would contribute to the entire healthcare business discipline while also enriching the HSC discipline. Meanwhile, the findings of this study would inform practitioners about the potential and prospects in Malaysia's healthcare industry. Furthermore, the material in this study would be useful to managers in both the public and private sectors in creating and executing strategic initiatives.

### Limitations and future research

Because this is one of a few studies to look into DPCs in Malaysia, one of the study's limitations is the extremely subjective conclusions. Based on the author's observations in the industry, the identified SWOT has been highlighted. A quantitative SWOT analysis should be conducted in future research. An empirical investigation would support the importance of the subjective aspects discussed in this work. Furthermore, because the HSC is always evolving, the findings of this article should be used as a parameter as the highlighted internal and external components may alter in the future. Hence, future studies should concentrate more on systematic and comprehensive empirical studies. More effort is needed to fully understand and unearth other pertinent or unseen SWOT that surround Malaysia's healthcare industry. As a result, the report suggests that future empirical studies using focus groups or panel interviews be conducted to gain more comprehensive insights into the total understanding of DPCs in the HSC. Despite the report's limitations, especially in light of Malaysia's lack

of DPCs and HSC research, the qualitative technique utilised in this work further supports the feasibility and relevance of SWOT analysis for exploratory study.

## CONCLUSION

Malaysia's HSC sector has expanded in recent years, and the industry now plays an important role in the country's economic development and social welfare. Malaysia is going through a critical period as a global pharmaceutical competitor. Although the industry has bravely embarked on an expansion path that aspires to make it a centre for low-cost production and R&D, it still faces a complex set of local and global hurdles that put significant strain on HSC. Furthermore, the issue was complicated by environmental complexity, a knowledge gap, and a limited research source. This study was consequently carried out to identify, evaluate, and prioritise the Malaysia pharmaceutical HSC ecosystem's strengths, weaknesses, opportunities, and threats, as well as to analyse best practices using SWOT analysis.

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