

# Economic sustainability and pharmacy

A commentary article

2023



FIP Development Goals



International  
Pharmaceutical  
Federation

# Colophon

Copyright 2024 International Pharmaceutical Federation (FIP)

International Pharmaceutical Federation (FIP)

Andries Bickerweg 5  
2517 JP The Hague <sup>(NL)</sup><sub>(SEF)</sub>  
The Netherlands  
[www.fip.org](http://www.fip.org)

All rights reserved. No part of this publication may be stored in any retrieval system or transcribed by any form or means – electronic, mechanical, recording, or otherwise without citation of the source. FIP shall not be held liable for any damages incurred resulting from the use of any data and information from this report. All measures have been taken to ensure accuracy of the data and information presented <sup>(NL)</sup><sub>(SEF)</sub> in this report.

Author:

Conor Driscoll, FIP intern

Editors:

Nour Eltahla, FIP equity and humanitarian programme manager

Ruben Viegas, FIP sustainability and humanitarian programme manager

Recommended citation

International Pharmaceutical Federation (FIP). Economic sustainability and pharmacy: A commentary article. The Hague: International Pharmaceutical Federation; 2023.

Cover image:

Aleksei Bezrukov | istock

# Contents

<b>1 Introduction.....</b>	<b>2</b>
<b>2 The value and purpose of sustainability in pharmacy .....</b>	<b>3</b>
<b>3 Insights from the pharmaceutical industry .....</b>	<b>5</b>
<b>4 Insights and lessons from other health professions .....</b>	<b>6</b>
<b>5 Competition and cost control .....</b>	<b>7</b>
<b>6 Collaborations in the pharmaceutical sector .....</b>	<b>10</b>
<b>7 Environmental considerations and waste reduction .....</b>	<b>11</b>
<b>8 Remuneration models for economic sustainability .....</b>	<b>14</b>
<b>9 Cultural competence, equity and careers in the pharmaceutical workforce .....</b>	<b>16</b>
<b>10 Pharmacists’ scope of practice in sustainability .....</b>	<b>18</b>
<b>11 Conclusions and recommendations .....</b>	<b>19</b>
<b>12 References .....</b>	<b>20</b>

# 1 Introduction

From an economic perspective, the concept of sustainability in pharmacy is aimed at ensuring the continuous viability and profitability of global pharmaceutical services and operations, while also preserving the health of the environment and societies at various levels. As the industry progresses towards more sustainable practices, it invertedly enhances its economic sustainability.

For instance, the adoption of greener chemistry and engineering approaches by the [ACS GCI Pharmaceutical Roundtable](#), not only reduces environmental impacts but also cuts costs. These cost savings come from efficient use of resources, reduced waste management expenses, and decreased regulatory burdens. Similarly, collaborations between pharmaceutical companies and healthcare systems like the NHS in the UK, aimed at aligning operations with sustainable practices, can lead to economic benefits. These can include improved efficiency, reduced operational costs, and enhanced reputation, leading to increased market share. Therefore, the progression of sustainability within pharmacy directly correlates with enhancing economic sustainability.

The examples provided illustrate how embracing sustainability can lead to economically sustainable advantages for pharmacy. To achieve greater economic sustainability within pharmacy parallel commitment to preserving the environment and safeguarding the accessibility of pharmacy services for future generations must be acquired.

This article aims to provide a comprehensive review of economic sustainability within the pharmacy and pharmaceutical sector, addressing the critical intersection of financial viability, environmental responsibility, and societal impact.

## 2 The value and purpose of sustainability in pharmacy

Improving economic sustainability in pharmacy involves making smart decisions that combine financial wisdom with the overarching priority of delivering excellent healthcare services to patients. Significant bodies within the pharmaceutical sector, such as the FIP, recognise this through articles, for example the 'Taking responsibility for the environmental impact of medicines' article. This is not necessarily a one-off action but rather the continuation of recognition for medicine's social, environmental, and economic impact that will ultimately prove to be the difference in greater economic sustainability within pharmacy.

By effectively balancing financial responsibility with the larger goal of improving patient well-being, the pursuit of sustainability in pharmacy goes beyond optimising resources to establish a strong foundation for the continuous advancement of pharmaceutical care across healthcare systems globally. This progressive approach is distinguished by its dualistic aim of addressing the immediate needs of the current generation while conscientiously preserving the opportunities and access for those in the future. Bolstering the economic vitality of pharmacy without compromising environmental integrity or diminishing future generations' access to these crucial services, will ensure that pharmaceutical progress is both sustainable and compassionate.

The world is witnessing a significant demographic shift. Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22%.<sup>1</sup> This ageing trend is even more pronounced in the WHO European Region, where by 2024, individuals aged over 65 years will outnumber those under the age of 15.<sup>2</sup> This shift will inevitably increase the demand for pharmaceutical services, underscoring the importance of economic sustainability within the pharmacy sector.

Considering this, sustainability within pharmacy can be viewed from an economic perspective, focusing on efficient cost management and service diversification. The first step towards this is smart cost management, which is essential for maintaining profitable pharmaceutical services. This involves careful investment in the workforce and efficient staff scheduling to ensure patient care is not compromised, while also preventing unnecessary labour expenses.

However, the challenge doesn't stop there. With high levels of non-adherence and ineffective management of medicines, there is a significant amount of waste. This is evidenced by a study<sup>3</sup> that found 62% of UK homes had leftover medications. In some countries, like the US, the US Drug Enforcement Administration (DEA) have implemented unused medicine take-back programmes to mitigate the risks posed by these leftover medicines. Yet, there is still a need for greater promotion of good disposal practices in societies, as highlighted by a study assessing the knowledge, practices, and barriers to disposal of unused medication among healthcare students in a Nigerian University.<sup>4</sup>

These findings present an opportunity for the pharmaceutical sector to influence more rational prescribing, reducing the number of leftover medicines and decreasing potential environmental risks. Secondly, sourcing pharmaceuticals at the correct price is crucial for improved economic sustainability in pharmacy. This requires close collaboration with

stakeholders such as wholesalers, manufacturers, and distributors to negotiate favourable terms and secure drugs at competitive prices. By managing workforce expenses and sourcing drugs in bulk at competitive prices, pharmacies can maintain operations while remaining profitable.

Lastly, diversifying services is key for economic sustainability in pharmacy. Pharmacies, which rely heavily on medication dispensing for revenue, are exposed to fluctuations in drug prices and market shifts. To buffer against this financial volatility, pharmacies must offer additional services such as Medication Therapy Management (MTM) to patients. This diversification contributes to the long-term economic sustainability in pharmacy.

In summary, the strategic management of costs and the diversification of services are crucial for fostering long-term economic sustainability in pharmacy and ultimately healthcare. These strategies, when implemented effectively, will ensure that the value and purpose of sustainability in pharmacy are upheld amidst the ever-evolving demographic landscape.

## 3 Insights from the pharmaceutical industry

In alignment with the overarching theme of sustainability in pharmacy, the International Pharmaceutical Federation (FIP) plays a pivotal role in advancing policies and strategies to ensure the enduring sustainability of pharmacy practice. FIP leverages its influence by issuing policy statements such as 'Environmental sustainability in pharmacy' and 'Environmentally sustainable pharmacy practice: Green Pharmacy'. These statements emphasise the federation's ability to call into action and rally the global pharmacy community to collectively address challenges and implement positive change.

FIP emphasises the need for appropriate remuneration models that not only uphold the economic sustainability of pharmaceutical services but also contribute to social sustainability by promoting equity in access, incentivising service delivery, and integrating pharmacy services effectively within healthcare funding systems. Countries actively supporting the improvement of economic sustainability in pharmacy include Romania. A study into pharmaceutical companies in Romania<sup>5</sup> revealed that these companies are actively involved in actions that consider societal well-being by offering financial support as well as managing various sustainable projects that aim to improve social and economic issues, leading to public health awareness campaigns, and investing in health projects.

FIP actively supports its members and the wider pharmaceutical community by publishing comprehensive resources that highlight key areas in sustainability, including remuneration models, access and equity, and supply chain optimisation. These resources serve as valuable guides, offering insights and best practices for stakeholders aiming to enhance sustainability in pharmacy.

This collective effort highlights the commitment on behalf of the global pharmacy community to address sustainability challenges and implement positive change.

## 4 Insights and lessons from other health professions

Enhancing economic sustainability in pharmacy can be achieved through insights gained from successful practices in other health professions.

Dentists and dental clinics, for instance, emphasise how important preventive care is in curbing oral health issues and reducing costly interventions later down the line. By embracing this concept, the pharmacy sector can invest in proactive services like health screenings and chronic disease management. By adopting this strategy, the pharmacy domain can anticipate diminished long-term healthcare expenses, consequently enhancing its fiscal standing in the foreseeable future.

In addition, drawing lessons from nurse practitioners can also enrich the pursuit of economic sustainability in pharmacy. Nurses provide patient-centred care which focuses on patient's overall well-being. Pharmacists can also adopt this ethos to refine Medical Therapy Management, ensuring optimal treatment outcomes and mitigating potential long-term healthcare costs.

Ultimately, both dental clinics and nurses offer insights that pharmacists can implement to enhance economic sustainability within their own sphere, fostering the financial viability and ultimately economical sustainability.



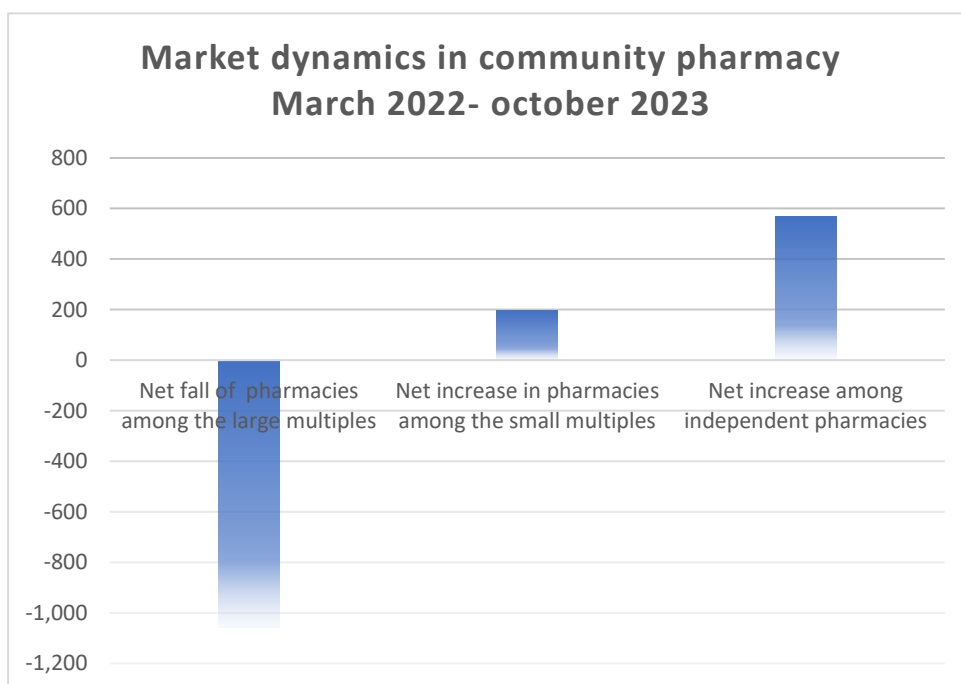
## 5 Competition and cost control

The sustainability of pharmacy-based services hinges on various factors, with competition and cost control playing pivotal roles. These factors, however, exhibit nuanced differences across certain sectors within the pharmacy field. Nonetheless the greening of pharmacy's supply chain stands as a factor of paramount importance, unifying the significance across both hospital and community pharmacy settings. This importance goes beyond specific sectors, resonating with exceptional impact when viewed through the lens of the entire pharmacy industry. Rather than a localised perspective, this approach underscores a comprehensive analysis of sustainability that encapsulates the entirety of the pharmaceutical field.

Competition emerges as a paramount factor for driving the economic sustainability of community pharmacies. The dynamics of competition catalyse the introduction of essential elements such as patient engagement and the seamless integration of technology, both pivotal in fortifying economic viability. The existence of these competitors places considerable downward pressure on prices, compelling community pharmacies to reevaluate their economic strategies to maintain financial viability. In response, community pharmacies must innovate, streamline operations, and adopt cost-effective practices to withstand the competitive market forces.

However, as much as this is a key factor for driving economic sustainability, within community pharmacy, it seems competition needs to be more highly regarded as a factor across the whole realm of community pharmacy. This is evident as, although the number of small and independent pharmacies have increased, large pharmacy chains such as Lloyds Pharmacy in the UK. As of October 2023, Lloyds operates only 138 pharmacies<sup>6</sup> — 90% fewer than in March 2022 (Figure 1). This underscores the importance of improving economic sustainability across all of community pharmacy.

Figure 1 -Market dynamics in community pharmacy



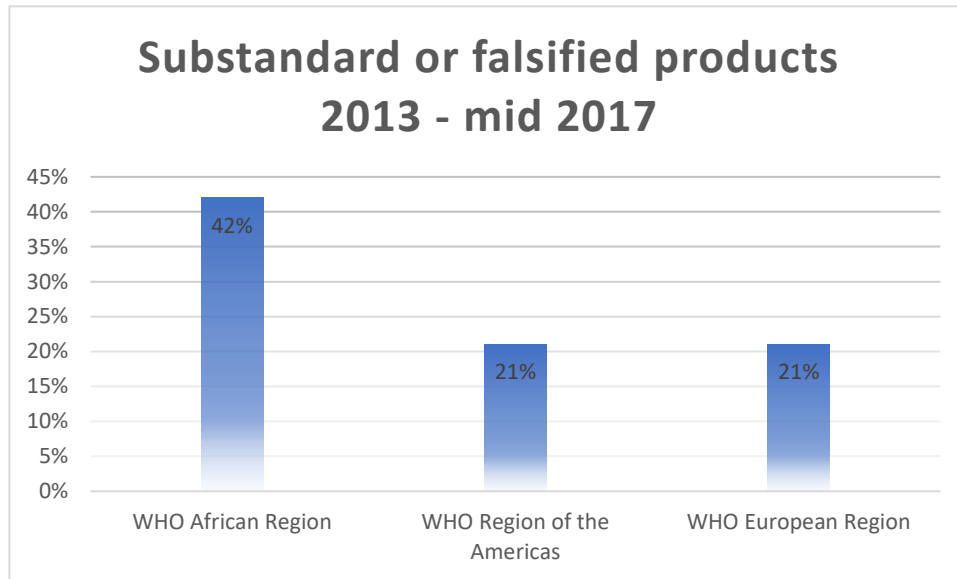
On the other hand, cost control is significant for enhancing economic sustainability in hospital pharmacy. Hospital pharmacies operate within larger frameworks, managing substantial budgets and costs are integral components of the hospital system. Achieving economic sustainability in hospital pharmacy settings revolves around skilful cost management. By optimising resource allocation, rationalising procurement practices, and efficiently managing inventory, hospital pharmacies contribute to the overall financial health of the hospital. However, it's important to note that the gap in success in remuneration models between community and hospital pharmacies is one that must be narrowed down much further. The FIP article 'Sustainability of Pharmacy Services', stated that larger chain pharmacies, that are better able to absorb the cost of negotiating lower dispensing fees with insurers, had a substantial impact on smaller pharmacies that are less able to compete. This dynamic further underscores the need for a more equitable approach in the pharmacy sector. Therefore, effective cost control within pharmacy not only becomes synonymous with bolstering economic sustainability, but also with ensuring a level playing field for all pharmacies, regardless of their size or location.

Despite the shared necessity for both community and hospital pharmacies to continually evolve their cost management strategies, they are both confronted with the economic inefficiencies brought about by substandard or falsified products. This presents a significant challenge that must be addressed for enhanced economic sustainability.

The diagram starkly highlights the alarming prevalence of substandard or falsified medicinal products, with a staggering number of reports received by the WHO<sup>7</sup>(Figure 2). The African region, in particular, is grappling with this issue, accounting for as many reports as the combined total from the Americas and Europe. These products wreak havoc on health systems, imposing hefty costs and causing significant inefficiencies for both hospital and community pharmacies. The goal is not just cost efficiency, but also economic sustainability. Yet, the situation is potentially even worse, as a vast number of cases likely go unreported. This is underscored by the fact that a mere 2% of the 1500 reports originated from the WHO South-East Asia Region.

In summary, both community and hospital pharmacies share the overarching goal of attaining economic sustainability. However, the routes they travel to achieve this sustainability differ due to their distinct operational contexts. The capacity to navigate and adapt to these sector-specific factors is fundamental to ensuring the enduring economic viability of pharmacy-based services. Community pharmacies must creatively address pricing pressures, while hospital pharmacies must excel in managing large-scale costs. This adaptability to sector-specific dynamics emerges as a cornerstone for the long-term economic sustainability of pharmacy-based services. These considerations emphasise the importance of enhancing sustainability in pharmacy from an economic stance.

Figure 2 - Substandard or falsified products



## 6 Collaborations in the pharmaceutical sector

Profound patient-pharmacy relationships within community pharmacy serve as a cornerstone for ensuring loyalty. By establishing bonds with their recurring clientele, community pharmacies secure long term economic growth as patient loyalty ensures consistent client retention. This relationship between patrons and the pharmacy becomes a linchpin for sustained success. As this article stated,<sup>8</sup> it shouldn't be just between patient and pharmacy, but rather should include employees, suppliers, regulators, and clients. The idea is that companies work with suppliers, ensuring they are meeting sustainability standards whilst collaborating with regulators to make sure they meet environmental regulations set.<sup>8</sup>

Moreover, pharmaceutical companies can engage with customers to educate them about sustainable practices whilst encouraging them to make more sustainable choices.<sup>8</sup> Furthermore, the strategic incorporation of cutting-edge technological solutions within community pharmacy offers huge efficiency gains. One instance revolves around the streamlined dispensing systems for prescribed medications, which replace the need for a surplus of manual workforce. The resultant optimisation translates to reduced workforce expenses while enhancing overall operational efficacy. This strategic infusion of technology acts as a catalyst, propelling both short-term efficiency and long-term economic expansion within the community pharmacy landscape.

## 7 Environmental considerations and waste reduction

While economic improvements are vital, a broader strategy is required to address the environmental repercussions stemming from the industry's operational processes. In 2019, for every \$1 million in revenue, the pharmaceutical sector was responsible for emitting a staggering 48.55 tons of CO<sub>2</sub> equivalent. This alarming disparity is accentuated when compared to the automotive industry's 31.4 tons per \$1 million in revenue during the same period.<sup>8</sup>

It's crucial to adopt sustainable manufacturing practices, leveraging renewable energy sources like solar power to a greater extent. The establishment of facilities such as Amgen's advanced biomanufacturing plant in New Albany, Ohio, incorporating solar panels as well as other sustainable energy equipment, is a significant step towards reducing pharmacy's carbon footprint.

The industry also grapples with substantial waste generation, which jeopardises both the environment and human health, ultimately compromising the notion of sustainability. This is evident in the clear impact of pharmaceuticals on the environment and the human body. As stated in an FIP article,<sup>9</sup> active pharmaceutical ingredients (API's) have "impacts on hormonal activity and may potentiate the action of hormones". Further issues on the environment include the excretion of metabolites and non-metabolites, after the administration of medicines, which then end up in sewage treatment plants. For example, carbamazepine was detected in effluent from sewage treatment plants in what the FIP described as "relatively high concentration". Although we must take into consideration the fact that this FIP article was written in 2015, the impact of pharmaceuticals on the environment is still ever-present. A study<sup>10</sup> that examined the treated sewage wastewater in the city of Thibodaux, Louisiana, USA, detected high levels of coliform entering the wetland throughout the duration of the study. However, more than 75% removal of tetracycline, sulfamethoxazole, bacitracin, and penicillin was observed in the wetland. Amoxicillin was removed by 67% and erythromycin was reduced by 56.1% throughout the wetland sites. This signifies the exploration into how a wetland is effective in removing antibiotics and antibiotic-resistant bacteria in a treated sewage treatment effluent. Furthermore, it underscores the urgent need for the pharmaceutical industry to harness the power of these natural systems to bolster sustainability efforts.

Encouragingly, pharmaceutical companies are taking initial measures to curb waste. Abbott's innovative CGM sensor, the Freestyle Libre 3, serves as a prime example, showcasing a reduction of over 70% in total volume, including a 41% decrease in plastic usage.<sup>8</sup> These efforts reflect a growing awareness of the importance of greening the pharmacy's supply chains. Recognising the critical role of the global supply chain in environmental preservation and human well-being, its optimisation holds the utmost significance in the pursuit of improving sustainability within the pharmacy sphere.

The role of education in addressing environmental issues within the pharmaceutical sector cannot be overstated. Integrating environmental aspects into every course where appropriate is now under development in the Helsinki University Pharmacy Faculty,<sup>11</sup> where the new curriculum was launched for MSc in Pharmacy studies in 2016. The

purpose is to integrate the environmental point of view in all teaching so that the new graduates can work according to these principles. This approach to education is a crucial step towards ensuring that future pharmacists are equipped with the knowledge and skills necessary to contribute to sustainability in the industry.

Insights into the environmental risks that a community pharmacy poses are significant in improving understanding within the pharmaceutical sector of what needs to be done to mitigate these issues. Table 1 below shows the risks that a community pharmacy in Finland poses on the environment.

Table 1 – Activities to target environmental risks in a community pharmacy

Activity	Issue	Effect on environment	Importance of risk	What can we do	Indicators
Paper usage	Garbage: paper and cardboard, confidential material	Adds to unnecessary landfill	++	Collection of waste, recycling	Monitor paper usage, follow up of the amount of confidential material
Premises	Electricity, water, heating	Effect on wastewater and climate	+	Modern technology (less consumption of energy), closing all machines for night, effective cleaning, central heating, and cooling with optimal temperatures.	Monitor electricity bills, change of equipment
Storage	Optimisation of storage	Unused medicines are a cost for disposal processes	+	Effective storage management	Amount and value of expired products
Equipment	Batteries and fluorescent lights	Used batteries and fluorescent lights are a cost for disposal processes	+	Collect and take to proper discharge place	Exchange intervals of fluorescent lights
Cleaning	Towels for single use	Unnecessary landfill	+	If possible, usage of multi-use towels	Follow-up of towel usage
Eating	Packaging materials, biowaste	Unnecessary landfill and impact to atmosphere	++	Sorting and recycling	
Logistics	Logistical problems	Traffic emissions	+	Suppliers use same transport system	
Clients	Packaging materials	Unnecessary landfill	+	Clients information, ask if plastic pack is needed, we do have linen bags	Frequency of plastic bag orders
Clients, return of unused and expired medicines	Medical waste	Environmental problems if not discharged properly	+++	Support of adherence, rational use of small packages, information to clients, recycling information.	The amount of returned medicines per year

Activity	Issue	Effect on environment	Importance of risk	What can we do	Indicators
Physicians, prescribing habits	Environmental risks	Toxic effects on the environment	+	Information to other health care providers. National guidelines on prescription.	Action taken

*\*Table data taken from FIP article 'Green Pharmacy Practice' - environmental risks in a community pharmacy in Finland.*

In light of the statistics, notably the pharmaceutical sector's contribution to 4.4% of global emissions,<sup>8</sup> it is evident that the pharmacy industry plays a significant role in environmental degradation. Therefore, the implementation of sustainable manufacturing processes is imperative not only to bolster economic sustainability but to invigorate the broader concept of sustainability within the pharmacy industry.

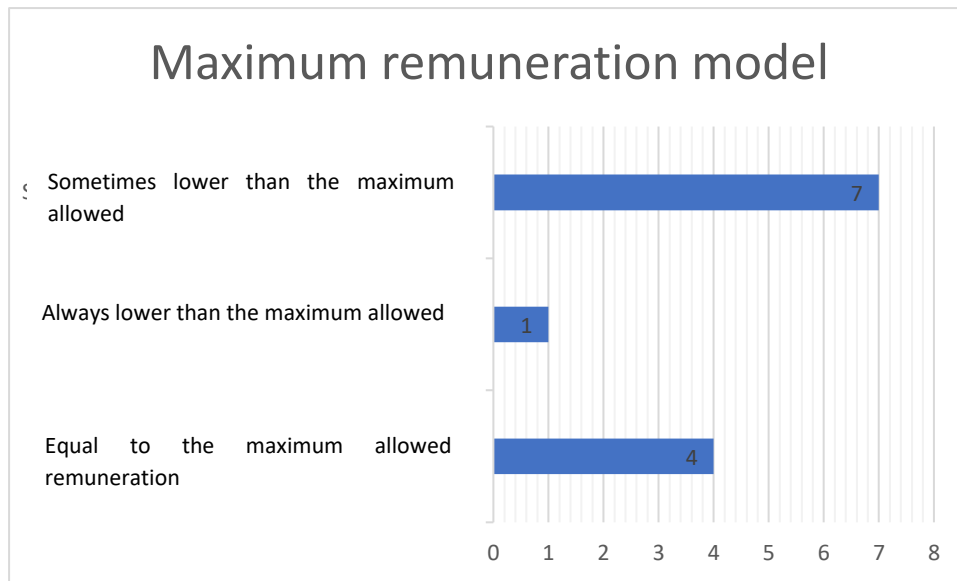
## 8 Remuneration models for economic sustainability

To promote economic sustainability in pharmacy, it's important to reward it. This reward comes through remuneration models. A successful remuneration model is one that promotes sustainable delivery of professional services.<sup>12</sup> A study by the FIP looked at this, revealing that the most common remunerated services include the compounding of prescription medicines.<sup>13</sup> This sheds light on how nations are progressively attaining economic sustainability by valuing the remarkable pharmaceutical services provided by professionals. However, it's important to note that this prevalent remunerated service was observed in only nine out of 72 countries and territories. This highlights the ongoing journey towards achieving enhanced economic sustainability in pharmacy, as this proportion remains relatively small. Nevertheless, it's worth highlighting the positive trajectory of the global pharmacy community towards a more economically sustainable future. This is evident as 28 out of 65 respondents stated that pharmacies must navigate multiple third-party remuneration payers. While managing multiple payers might seem intricate, it provides greater flexibility to advocate for and secure remuneration services from specific payers, emphasising the significance of securing various payers for pharmacist services, which can result in heightened recognition for their contributions.

Global implications of remuneration models emphasise the need to enhance their efficacy for a greater impact on pharmacies, whether community or hospital based. The goal is to first achieve economic sustainability, which will subsequently enable these pharmacies to become sustainable as a whole. It was reported that in seven cases, the actual remuneration was sometimes lower than the maximum allowed, in four cases it was equal to the maximum allowed remuneration, and in one case it was always lower than the maximum allowed (Figure 3). These findings highlight the variability and potential inadequacy of remuneration models, raising concerns among stakeholders about low dispensing fees tied to medicine costs. The goal is to first achieve economic sustainability, which will subsequently enable these pharmacies to become sustainable, as a whole. This includes addressing the issues identified in the remuneration models to ensure they are effective and fair, thereby contributing to the overall sustainability of pharmacy services.



Figure 3 – Maximum remuneration models



Data taken from FIP article: 'Sustainability of Pharmacy Services'

Within the article under discussion, community pharmacies in particular felt the negative financial impact of lowered caps on regressive margins applied to dispensing medicines at the time the article was written. This financial instability makes it nearly impossible for small pharmacies, such as those in Switzerland, to become more sustainable. However, there is a noticeable lack of published information on the medium- to long-term effects of pharmacy remuneration reforms implemented in the past decade. This underscores the need for more extensive publication and discussion on the impact of these reforms to enhance sustainability. The FIP statement on the 'sustainability of pharmacist-delivered professional services through viable remuneration models' lends support to advocates and recommendations for remunerating professional services provided by pharmacists in all settings, including multidisciplinary healthcare teams and collaborative practices. This endorsement and recognition of remuneration models are crucial for the economic sustainability of the pharmacy sector. Remuneration models play a pivotal role in outlining a clear path for pharmacies to achieve this objective.

## 9 Cultural competence, equity and careers in the pharmaceutical workforce

The underrepresentation of Black, Hispanic and Native American people in the field of US pharmacy, as evidenced by the 2019 American Community Survey, is a stark reminder of the inequities that persist in our society. These groups comprise 31% of the US population, but only 15.7% of the total number of PharmD degrees conferred in 2019<sup>14</sup> (Table 2). This disparity underscores the urgent need for sustainable models that connect the realms of sustainability, equity, and access.

Table 2 - Equity aspects and sustainability

Ethnicity	% Of US Population	% Of PharmD Degrees
Black	12.7	8.8
Hispanic	18	6.4
Native American	0.8	0.3

One such sustainable model is the concept of cultural competence within the field of pharmacy. Cultural competence not only comprehends but also honours the diversity of patient populations. It acknowledges the imperative that individuals from various origins should have equal access to pharmacy services whenever the need arises. This recognition inherently fosters patient engagement and creates a foundation of trust, thereby addressing the underrepresentation.

Moreover, cultural competence resonates deeply with the principle of equity. Its practice signifies a commitment to tailoring services for diverse cultural groups with distinct requirements. This conscientious approach propels the trajectory of equity within the realm of pharmacy, further bridging the gap between the current state and a more equitable and accessible future in the field of pharmacy. Thus, cultural competence serves as a key component in addressing the disparities and fostering sustainability, equity, and access in pharmacy. The pivotal role that cultural competence plays as a sustainable model becomes evident in how it seamlessly unites access and equity. By nurturing a climate where access is universal and equity actualised through personalised care, cultural competence plays a significant role that bridges these dimensions.

In addition, medication adherence programmes synergise the principles of equity and sustainability within the realm of pharmacy. By fostering patient commitment to their prescribed medication routines, these initiatives take on heightened significance, particularly for marginalised communities grappling with additional barriers to continuous healthcare access. Enhancing medication adherence holds exceptional weight: it not only cultivates improved health outcomes, but also significantly alleviates the collective strain on pharmaceutical services. This connection to economic sustainability highlights how important medication adherence programmes are in this context. In a broader perspective, both cultural competence and medication adherence programmes embody sustainable models that intersect with

access, equity, and sustainability. These interconnections hold profound significance for the economic sustainability of the pharmacy sector. Thus, the integration of these elements is crucial in addressing the disparities in the profession of pharmacy and in promoting a more equitable and sustainable future.

## 10 Pharmacists' scope of practice in sustainability

Promoting the expansion of pharmacists' scope of practice represents a vital step towards enhancing sustainability within pharmacy. According to a report from the FIP addressing sustainability in pharmacy, the imperative to maximise sustainability within pharmacy calls for a proactive stance in advocating for the evolution of pharmacists' roles beyond conventional dispensing. The FIP highlights the significance of pharmacy organisations in actively supporting the notion that pharmacists possess the capacity to undertake roles extending far beyond traditional dispensing responsibilities.

A prime example of this evolution is the integration of additional responsibilities, such as Medication Therapy Management (MTM). The report emphasises the importance of focusing the pharmacy profession's collective efforts on the task of "enhancing access to care in underserved communities".<sup>15</sup> These communities, identified by the FIP, often grapple with limited access to essential healthcare resources. Here lies the pivotal role that pharmacists can fulfil within these communities, providing essential healthcare services and advice. This crucial responsibility not only propels healthcare excellence in marginalised regions but also substantially fortifies the overall endurance of the healthcare framework, rendering it more encompassing and reachable for all in society.

In conclusion, stakeholder engagement plays an influential role in ensuring that sustainability is embraced by all participants, from drug manufacturers to consumers. This, coupled with the integration of technological advancements, emerges as a significant force driving economic sustainability within the pharmacy sector. The presence of competitive dynamics within community pharmacy acts as a catalyst for fostering innovation in these fundamental aspects. Furthermore, recognising the expanding role of pharmacists beyond mere drug dispensation, especially in underserved communities, holds the key to fortifying sustainability in pharmacy. Embracing and leveraging these factors' potential paves the way for sustained economic viability as well as general sustainability within the pharmaceutical industry.

## 11 Conclusions and recommendations

In conclusion, the pursuit of economic sustainability in pharmacy necessitates a comprehensive grasp of its core principles. A foundational comprehension paves the way for insightful exploration and discovery, drawing invaluable lessons from other healthcare sectors like dental clinics, which have skilfully utilised resources to strengthen their financial stability. Paramount to this journey is the understanding of how things work together between competitive dynamics in community pharmacy and astute cost management in hospital pharmacy. These variables stand as cornerstones in diverse sectors of pharmacy, collectively guiding the effort towards better economic sustainability. The core idea here is that payment methods play a key role in boosting economic sustainability.

### Recommendations:

Visionary pharmacists have discerned pivotal elements that fuel economic sustainability. Among these, the art of compounding prescription medication emerges as a catalyst, markedly enhancing patient outcomes by addressing tailored necessities. These ideas, constituting the foundations of economic sustainability, motivate pharmacists to consistently channel their endeavours towards the enduring financial vitality of the pharmacy domain. The ideas shared in this discussion show a mix of sustainable ways of thinking, carefully connected to important aspects like accessibility, long-term viability, and fairness. Cultural competence and adherence initiatives, stand as bridges that seamlessly interlink these dimensions, providing holistic financial longevity for pharmacy. The development of greener manufacturing methods will curb the sector's environmental footprint, whilst broadening the horizons of pharmacists will enhance worldwide access to services offered, especially within undeserved communities, guaranteeing present global accessibility but also that the valuable services pharmacists provide remain accessible to future generations. Clearly, the ideas presented in this article provide pharmacy with valuable concepts and solutions. By bringing these ideas together in a coordinated way, they become a powerful tool in our ongoing effort to improve pharmacy's economic sustainability.

## 12 References

1. World Health Organization. Ageing and health [Internet]. 2022. Available at: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>.
2. World Health Organization. By 2024, the 65-and-over age group will outnumber the youth group: new WHO report on healthy ageing [Internet]. 2023. Available at: <https://www.who.int/europe/news/item/11-10-2023-by-2024--the-65-and-over-age-group-will-outnumber-the-youth-group--new-who-report-on-healthy-ageing>.
3. Watkins S, Barnett J, Standage M et al. Household disposal of pharmaceuticals: attitudes and risk perception in a UK sample. *Journal of Material Cycles and Waste Management*. 2022;24(6):2455-69. [Accessed: 29 April 2024]. Available at: <https://doi.org/10.1007/s10163-022-01494-7>.
4. Akande-Sholabi W, Olaoye DQ, Adebisi YA. Drug take-back program: assessment of knowledge, practices, and barriers to safe disposal of unused medication among healthcare students in a Nigerian university. *BMC Medical Education*. 2023;23(1):810. [Accessed: 29 April 2024]. Available at: <https://doi.org/10.1186/s12909-023-04788-y>.
5. Dănescu T, Popa M-A. Public health and corporate social responsibility: exploratory study on pharmaceutical companies in an emerging market. *Globalization and Health*. 2020;16(1):117. [Accessed: 29 April 2024]. Available at: <https://doi.org/10.1186/s12992-020-00646-4>.
6. The pharmaceutical journal. Community pharmacy in Britain: a changing market [Internet]. 2023. Available at: <https://pharmaceutical-journal.com/article/feature/community-pharmacy-in-britain-a-changing-market>.
7. Medicine quality. 1 in 10 medical products in developing countries is substandard or falsified [Internet]. 2017. Available at: <https://www.iddo.org/news/1-10-medical-products-developing-countries-substandard-or-falsified#:~:text=Since%202013%2C%20WHO%20has%20received,from%20the%20WHO%20European%20Region>.
8. Pharma News Intelligence. Strategies for Sustainability in the Global Pharmaceutical Supply Chain [Internet]. 2023. Available at: <https://pharmanewsintel.com/features/strategies-for-sustainability-in-the-global-pharmaceutical-supply-chain>.
9. International Pharmaceutical Federation (FIP). Green Pharmacy Practice, Taking responsibility for the environmental impact of medicines. The Hague: [Internet]. 2015. [Accessed: 29 April 2024]. Available at: <https://www.fip.org/file/113>.
10. Bernharthorton C, Willis J, Raje H et al. Effect of a natural wetland on the removal of antibiotics and antibiotic resistant bacteria in a treated sewage treatment effluent. *Bioresource Technology Reports*. 2023;23:101558. [Accessed: 29 April 2024]. Available at: <https://www.sciencedirect.com/science/article/pii/S2589014X23002293>.
11. Mathers A, Fan S, Austin Z. Climate change at a crossroads: Embedding environmental sustainability into the core of pharmacy education. *Can Pharm J (Ott)*. 2023;156(2):55-9. [Accessed: 29 April 2024]. Available at.
12. International Pharmaceutical Federation (FIP). FIP Statement of policy - Sustainability of pharmacist-delivered professional services through viable remuneration models. [Internet]. 2020. [Accessed: 29 April 2024]. Available at: <https://www.fip.org/file/4934>.
13. International Pharmaceutical Federation (FIP). Community pharmacy at a glance 2021. Regulations, scope of practice, remuneration, and distribution of medicines through community pharmacy

- premises and other outlets. [Internet]. 2021. [Accessed: 29 April 2024]. Available at: <https://www.fip.org/file/5015>.
14. George A, Teelucksingh K, Fortune K. Diversity, Equity, and Inclusion in the Profession of Pharmacy: The Perspective of Three Pharmacy Leaders. *HCA Healthc J Med*. 2023;4(2):77-82. [Accessed: 29 April 2024]. Available at.
  15. International Pharmaceutical Federation (FIP). Sustainability in health care: The role of the pharmacist and pharmacy practice. Report from an international roundtable. [Internet]. 2023. [Accessed: 29 April 2024]. Available at: <https://www.fip.org/file/5566#:~:text=It%20highlights%20the%20need%20for,healthcare%20professionals%20about%20sustainable%20practices>.

International  
Pharmaceutical  
Federation

Fédération  
Internationale  
Pharmaceutique

Andries Bickerweg 5  
2517 JP The Hague  
The Netherlands

-  
T +31 (0)70 302 19 70  
F +31 (0)70 302 19 99  
fip@fip.org

-  
[www.fip.org](http://www.fip.org)

| Economic sustainability 2023