From theory to therapy: Balancing evidence in managing common ailments

Report from a FIP insight board

2025

International Pharmaceutical Federation

Colophon

International Pharmaceutical Federation (FIP)
Andries Bickerweg 5
2517 JP The Hague
The Netherlands
www.fip.org

Author
Ms Farah Aqqad, Data and Intelligence Lead (GPO)
Ms Nisa Masyitah, Data and Intelligence Manager (GPO)
Ms Anna Domin, Programme Manager

Recommended citation
International Pharmaceutical Federation (FIP). From theory to therapy: Balancing evidence in managing common ailments. Report from a FIP insight board. The Hague: International Pharmaceutical Federation; 2025

Cover image
Image by cottonbro studio from Pexels

Contents

Acknowledgements

FIP acknowledges the expert participants and chairs who contributed to the delivery of this insight board report.

FIP also acknowledges that this insight board was supported through unrestricted funds from Reckitt.

1 Introduction

Evidence-based medicine (EBM) and evidence-based practice (EBP) are essential frameworks for integrating scientific research, clinical expertise, and patient-centred decision-making in healthcare. While EBM originated in medicine, the principles extend beyond clinical medicine to pharmacy and other healthcare disciplines, where it is often referred to as evidence-based practice.

Evidence-based practice is commonly defined as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients".[1-5] In pharmacy practice, this means that medication-related decisions are based on a combination of scientific research, professional expertise, and patient preferences, rather than solely on clinical experience or tradition. This ensures that pharmacists deliver care that is both data-driven and patient-centred, improving treatment outcomes while adapting to individual patient needs and local healthcare systems.[1]

As illustrated in Figure 1, EBM and EBP are often used interchangeably and consist of three fundamental components:

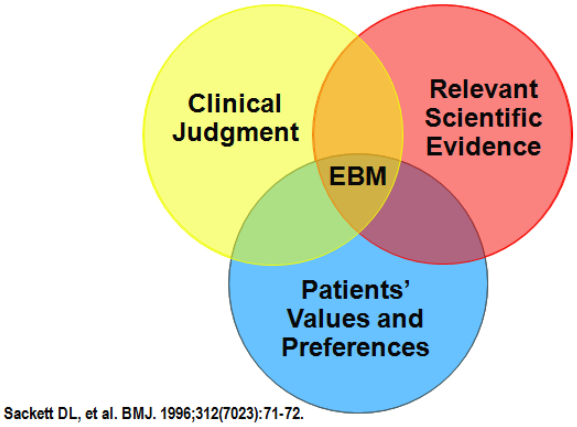

Figure 1: Components of evidence-based medicine (EBM) and evidence-based practice (EBP)[3]

Real-world data (RWD) refers to health-related data routinely collected from various sources outside of controlled clinical trials.[6,7] This includes electronic health records, medical claims data, pharmacy dispensing records, and patient-reported outcomes.[6] Unlike data derived from randomised controlled trials (RCTs), which assess medication efficacy in strictly regulated settings, RWD provides insights into how treatments perform in everyday clinical practice across diverse patient populations.[6]

Recognising the need to translate evidence into actionable pharmacy practice, the International Pharmaceutical Federation (FIP) convened an insight board discussion titled "From theory to therapy: Balancing evidence in managing common ailments—pain, respiratory, and reflux management." Held on 15 January 2025, the discussion brought together community pharmacists and experts from FIP's global network, including representatives from the Community Pharmacy Section (CPS), Hospital Pharmacy Section (HPS), Data and Intelligence Commission (D&I), Academic Pharmacy Section (AcPS), Technology Advisory Group (TAG), and FIP HUB leads. The objective was to discuss how pharmacists integrate different types of evidence—clinical guidelines, real-world data, patient experiences, and treatment protocols—into their daily decision-making processes.

The discussion focused on the practical challenges of applying evidence-based pharmacy practice, particularly in the adoption of new medicines, implementation of treatment protocols, and delivery of patient-centred interventions. Participants shared insights on how pharmacists integrate clinical guidelines, real-world data, and patient experiences when managing pain, respiratory conditions, and reflux, all while navigating operational constraints and evolving regulatory landscapes. Additionally, the insight board examined the critical role of continuous professional development (CPD) in equipping pharmacists with the latest evidence to enhance decision-making and patient care.

The session was structured around four key areas, reflecting the core challenges of translating evidence into practice and the expertise of the participants:

1. Defining and integrating reliable evidence into pharmacy decision-making.
2. Navigating the introduction of new medicines in both over-the-counter and prescription settings.
3. Leveraging CPD and clinical guidelines to maintain evidence-based practice.
4. Using real-world data to refine pharmacist recommendations and enhance patient outcomes.

Through these discussions, participants identified best practices and practical strategies to support pharmacists in integrating evidence into everyday patient care, mitigating challenges, and optimising self-care interventions. This report presents qualitative insights from the insight board, offering practical observations for pharmacy practitioners, educators, and policymakers.

It should be noted that the views expressed during the insight board reflect the expertise and experiences of the participants and do not necessarily represent FIP policy. However, the findings can be used to support existing FIP positions and initiatives and may serve as a foundation for further policy development, advocacy efforts, and CPD.

2 Insight board participants

Co-chairs		
Lars-Åke Söderlund	Community pharmacist; Vice President, FIP; Chair FIP Technology Advisory Group (TAG)	Sweden
Sham (R) Moodley	FIP Community Pharmacy Section ExCo member	South Africa
Wael Ali	FIP Community Pharmacy Section ExCo member	Egypt

FIP staff	
Catherine Duggan	Chief Executive Officer
Farah Aqqad	Data and Intelligence Lead
Anna Domin	Programme Manager
Nisa Masyita	Data and Intelligence Manager

Insight board participants		
Chima Amadi	FIP Hub, DG13 (Policy Development) Lead	Nigeria
Jay Badenhorst	Director of Pharmacy, Pharmacists' Defence Association (PDA)	UK
Leticia Caligaris	FIP Community Pharmacy Section ExCo member	Uruguay
Al Carter (written inputs)	D&I Commission - Regulation	USA
Amy Chan (written inputs)	FIP HUB, DG9 Lead (Continuing Professional Development Strategies)	New Zealand
Prosper Hiag	FIP Data and Intelligence Commission, regional advocacy (African Region)	Cameroon
Bärbel Holbein	FIP Hub, DG7 (Advancing Integrated Services) Lead, DG11 (Impact and Outcomes) Lead	Germany
Jack Shen Lim	FIP Community Pharmacy Section ExCo member	Malaysia
Robert Moss	FIP Technology Advisory Group (TAG); FIP Hospital Pharmacy Section (HPS)	Netherlands
Leonila Ocampo	FIP Community Pharmacy Section ExCo member; D&I Commission regional advocacy (South-East Asian Region)	Philippines
Jonathan Penm	FIP Hospital Pharmacy Section	Australia
Jorge Anibal Schlottke	FIP Community Pharmacy Section ExCo member	Argentina
Carl Schneider	FIP Data and Intelligence Commission (Pharmacy education expertise); FIP Academic Pharmacy Section (AcPS); FIP Technology Advisory Group (TAG)	Australia
Josep Maria Guiu Segura	FIP Data and Intelligence Commission (Pharmacy practice expertise)	Spain

Observers	
Adrian Shephard	Reckitt
Trevor Gore	Reckitt

3 Exploring the place of evidence in community pharmacy practice

Pharmacists play a critical role in translating scientific evidence into patient care. Their ability to assess, integrate, and apply clinical research findings ensures that pharmacy practice remains aligned with the latest advancements while being tailored to individual patient needs and local healthcare systems. However, integrating evidence into decision-making is complex, requiring pharmacists to balance:

- Foundational education
- Clinical guidelines
- Real-world patient experiences
- Local regulatory frameworks
- Evolving scientific advancements.

Through this discussion, participants shared insights into how pharmacists define evidence and the prime sources of information they rely on in decision-making. While clinical guidelines provide a solid foundation, real-world experiences often shape the practical application of evidence in pharmacy practice.

"Pharmacists integrate reliable evidence by critically evaluating clinical guidelines, research studies, and evidence-based resources, ensuring decisions align with current best practices in their pharmacy practice protocols. Clinical pharmacy education provides a framework for interpreting evidence, while real-life patient experiences offer practical insights to personalise care, fostering a holistic, patient-centred approach."
— Spain, Data and Intelligence Commission

3.1 Defining and integrating evidence in community pharmacy practice

Reliable evidence in community pharmacy practice is defined by its scientific rigour, relevance, and applicability to real-world patient care. Participants emphasised that while peer-reviewed research, clinical guidelines, and professional consensus statements form the foundation of evidence-based practice, pharmacists also rely on assimilating patient-reported experiences, and interdisciplinary collaboration to refine their decision-making processes.

"The first step is to ensure that the evidence being used is from well-designed and conducted scientific peer-reviewed research. The second step is to ensure that the complex decision-making process is well defined, with extensive evaluation and interpretation of the data obtained." — South Africa, Community Pharmacy Section

"Here we say that a pharmacist is a student forever. For that reason, we keep updating our knowledge continuously. We must certify our title every five years, and part of this journey is to stay updated about new evidence to provide better patient care" — Argentina, Community Pharmacy Section

Pharmacists receive extensive foundational education that equips them with critical appraisal skills, enabling them to evaluate and apply evidence-based guidelines effectively. However, real-world practice often requires flexibility and adaptation, as pharmacists must navigate:

1. Local regulatory policies – Compliance with national and regional healthcare regulations that may influence treatment availability and prescribing authority.
2. Patient accessibility to medicines – Variability in drug availability, affordability, and healthcare infrastructure that impacts treatment options.
3. Socioeconomic and cultural considerations – Differences in healthcare beliefs, traditions, and economic factors that shape patient preferences and adherence.
4. Individual treatment preferences – Personalised care approaches that consider patient expectations, prior experiences, and risk-benefit considerations.

This interplay between academic knowledge and practical application underscores the need for contextualising evidence—ensuring that it is not only understood but also appropriately applied to meet the unique needs of each patient and healthcare system.

"We learn so much from our patients. They help us understand the nuances of their conditions, which no guideline can capture fully. Formal education equips us with the tools to evaluate evidence, but real-life applications teach us how to adapt this information to meet our patients' needs." — UK, Member organisation

Pharmacists frequently refer to standardised treatment protocols and national formularies to guide clinical decision-making. Some key frameworks include NICE (England), SIGN (Scotland), and WHO guidelines (global). These guidelines provide a structured approach to evidence-based care, ensuring that treatments are:

- Clinically validated
- Consistent across healthcare settings
- Aligned with national health priorities.

However, in countries where national guidelines are outdated or absent, pharmacists often adapt international or global frameworks to suit local needs, considering differences in drug availability, patient demographics, and healthcare system structures.

"In Uruguay, we don't have many local protocols, so we often adapt from Spain or the UK. But what works in those countries doesn't always fit our patient population." — Uruguay, Community Pharmacy

"All international guidelines need to be adapted to local practice, but that process is not always straightforward… Evidence is not always as clear as we think it is. What works in one region might not necessarily translate to another. Pharmacists need to adapt evidence to suit their patients and local systems." — Spain, FIP Data and Intelligence Commission

While global guidelines help ensure consistency and safety, real-world implementation depends on pharmacists' ability to navigate system constraints and apply evidence in a way that aligns with patient-specific factors.

For common ailments such as reflux or pain, pharmacists combine evidence-based guidelines with patient-reported experiences, ensuring treatment aligns with both clinical best practices and patient expectations.

"For common ailments, patients often prefer quick fixes. Educating them on the importance of long-term management is key, and that is where evidence-based discussions come in." — UK, Member organisation

"Pain scales and tools like asthma control questionnaires help guide our recommendations, but we still need to adapt them to each patient." — Malaysia, Community Pharmacy

For less common or complex conditions, pharmacists engage in exploratory discussions, leveraging real-world data (RWD), clinical tools, and patient feedback to tailor recommendations.

"We use RWD to understand how treatments work in real-world settings, beyond clinical trials. Reflective practice allows us to learn from our clinical encounters, ensuring we apply evidence in a way that truly benefits patients." — Hospital Pharmacy

Updating guidelines can take years or even decades, further slowing the integration of new evidence into practice. Some participants noted that hospital pharmacists often have more access to physicians and medical studies, giving them an advantage in implementing updated evidence. In contrast, community pharmacists rely on professional societies to provide summaries of relevant information, as they cannot keep up with all emerging evidence on their own.

3.2 Primary sources of evidence used by pharmacists

Pharmacists rely on a diverse range of evidence sources to guide clinical decision-making, optimise patient care, and stay updated on new treatments and regulatory changes. Table 1 outlines key evidence sources used in pharmacy practice, their descriptions, and examples:

"Evidence should be dynamic. It's not just about what we learn, but how we apply it in the ever-changing reality of pharmacy practice." — Community Pharmacy Section (CPS)

Table 1: Sources of evidence used in pharmacy practice

Source type	Description	Examples
Clinical guidelines and national policies	Pharmacists use standardised treatment protocols and national health policies to ensure consistency in medication use, treatment decisions, and patient safety. These frameworks provide validated, expert-reviewed recommendations for diagnosis, treatment, and prescribing practices.	World Health Organization (WHO), National Institute for Health and Care Excellence (NICE - England), Scottish Intercollegiate Guidelines Network (SIGN - Scotland), Medicines and Healthcare Products Regulatory Agency (MHRA - UK), Specialist Pharmacy Services (SPS – England)
Peer-reviewed journals and scientific databases	Scientific literature and systematic reviews offer pharmacists the latest research on drug efficacy, safety, and emerging therapies. Evidence from clinical trials and meta-analyses helps pharmacists make informed treatment recommendations.	British Medical Journal (BMJ), The Lancet, International Journal of Pharmacy Practice, (IJPP) Disease-specific journals (e.g., Diabetes Care for diabetes management)
Professional networks and conferences	Conferences, professional organisations, and peer collaborations provide pharmacists with updated knowledge on emerging trends, policy changes, and new therapeutic approaches. Continuing professional development (CPD) activities support ongoing education and skill development.	National pharmacy associations (e.g., Royal Pharmaceutical Society (RPS) and Pharmacist Defence Association (PDA), CPD events, international conferences (e.g., FIP World Congress)
Digital and artificial intelligence (AI)-driven decision support tools	Pharmacists use technology-driven platforms to access real-time evidence, treatment guidelines, and clinical recommendations. AI tools assist in optimising medication management.	UpToDate, Micromedex, EM Guidance (South Africa), British National Formulary (BNF), Clinical decision support systems integrated into electronic health records (EHRs)
Pharmaceutical industry and pilot programmes	Industry-led studies, post-marketing surveillance, and regulatory-approved pilot programmes provide valuable insights into drug effectiveness, safety, and real-world outcomes. While useful, pharmacists critically evaluate industry-sponsored evidence to mitigate potential biases.	Manufacturer-sponsored studies, post-marketing surveillance data, regulatory body-endorsed pilot programmes (e.g., FDA-authorised medication adherence programmes, USA)

4 Evaluating and adapting new medicines into community pharmacy practice

4.1 Factors influencing the adoption of new medicines

Pharmacists are central to the integration of new medicines for self-care into clinical practice in the community, ensuring that treatment decisions are both evidence-based and patient-centred. However, adoption is not straightforward, rather it is shaped by a complex interplay of regulatory frameworks, clinical data, patient expectations, operational challenges, and commercial influences. While some factors facilitate adoption, others create barriers, requiring pharmacists to navigate complex decision-making within healthcare systems.

4.1.1 Clinical data and regulatory approval

The regulatory approval process is one of the most important enablers in medicine adoption, ensuring safety, efficacy, and quality standards before new medicines enter the market. Pharmacists rely on national, regional and international regulatory agencies, including:

- Medicines and Healthcare products Regulatory Agency (MHRA, UK)
- South African Health Products Regulatory Authority (SAHPRA, South Africa)
- New Zealand Medicines and Medical Devices Safety Authority (Medsafe, New Zealand)
- Food and Drug Administration (FDA, USA)
- European Medicines Agency (EMA - EU).

These agencies evaluate clinical trial data and conduct post-marketing surveillance that help pharmacists determine a medicine's place in therapy.

"When it is approved, there is a lot of confidence in the marketplace that if SAHPRA approves it, it means that all the groundwork and the baseline work is done." — South Africa, FIP Community Pharmacy Section

However, a significant barrier remains—pharmacists often have limited access to full clinical trial data, making it difficult to critically evaluate medicines beyond manufacturer-provided information.

"New medicines require necessary clinical trials before registration, but very little of this data is shared with pharmacy. Balancing the commercial aspect with scientific evidence is always a tough balance." — South Africa, FIP Community Pharmacy Section

Moreover, some medicines lack robust real-world data during their initial release, leading to uncertainty about how they will perform outside of controlled clinical trials.

"We don't always have enough real-world evidence when a new medicine is introduced. Take COVID vaccines—initial hesitancy was due to limited long-term data and widespread misinformation." — UK, Member organisation

"Early clinical trials don't always reflect real-world outcomes. We need post-marketing surveillance to understand long-term safety and effectiveness." — South Africa, Community Pharmacy

While regulatory approvals enable pharmacists to access well-vetted treatments, regulatory inconsistencies across countries can create disparities in medicine availability and delays in adoption. Some medicines may be approved in one region but unavailable in another, limiting global treatment consistency.

"Variability in regulatory approvals means some medicines are available in one country but not in another, making treatment consistency a challenge." — Spain, FIP Data and Intelligence Commission

"When a prescription medicine is newly introduced, its adoption is largely dictated by formulary updates and prescriber awareness. In contrast, new OTC products flood the market with less regulatory oversight, requiring pharmacists to take a greater role in ensuring their safe use." — UK, Member organisation

4.1.2 Scope of practice limitations

In many countries, regulations restrict pharmacists' ability to apply evidence-based practices to their full extent. Common limitations include:

- Prescribing restrictions that prevent pharmacists from initiating or modifying therapy
- Rigid protocols that do not allow pharmacist-led interventions
- Lack of recognition for pharmacist-led medication reviews, even when supported by strong clinical evidence.

"Regulatory restrictions sometimes prevent us from implementing evidence that could significantly improve patient outcomes… Even if we know a particular treatment is effective, pharmacists in my country aren't authorised to make adjustments, which limits the impact we can have." — UK, Member organisation

4.1.3 Operational constraints and healthcare system factors

Pharmacists navigate multiple operational challenges when integrating new medicines, including:

- Time constraints in high-demand settings
- Access to structured continuing professional development (CPD)
- Resource limitations, particularly in low-income settings.

Many pharmacists, especially those in busy community and hospital settings, struggle with limited time to evaluate new research while managing daily patient interactions. As a result, they often rely on familiar guidelines, experience, and quick-reference tools rather than critically assessing new studies.

"I know I should check the latest clinical updates on reflux treatments, but realistically, I only have a few minutes per patient, so I rely on what I already know." — Australia, FIP Hospital Pharmacy Section

The lack of dedicated time for continuing professional development within working hours further limits pharmacists' ability to keep up with evolving evidence, forcing them to prioritise learning outside of work.

"Finding time to stay updated while handling consultations, prescriptions, and patient counselling is one of the biggest challenges we face." — Malaysia, FIP Community Pharmacy Section

Additionally, treatment guidelines vary across healthcare systems, requiring pharmacists to adapt international guidelines to fit local healthcare contexts.

"Pain management guidelines differ across countries. What is recommended in one country as a first-line treatment might not even be an option elsewhere" — Cameroon, Data and Intelligence Commission

"Some guidelines prioritise cost-effectiveness, while others focus solely on clinical efficacy—this creates dilemmas in practice." — UK, Member organisation

4.1.4 Commercial pressures and influence from pharmaceutical company marketing

Pharmaceutical companies play a major role in the introduction of new medicines by providing:

- Marketing materials and direct-to-pharmacist education
- CPD sponsorships and sales representative outreach
- Industry-funded studies and real-world data generation.

While manufacturer-led training and CPD provide valuable clinical insights, they can also introduce biases, leading to commercial-driven medicine adoption rather than purely evidence-based decision-making.

"The pharmacy rep force, particularly in South Africa, has a huge influence on how new medicines are utilised, especially for minor ailments." — South Africa, FIP Community Pharmacy Section

"We need to be mindful about commercial interests. Sometimes, marketing drives medicine adoption more than clinical benefit." — UK, Member organisation

"We have to be careful when manufacturers push new products—sometimes the clinical data isn't significantly better than existing treatments, but marketing makes them seem revolutionary." — FIP Data and Intelligence Commission, Spain

Additionally, over the counter (OTC) medicines are highly influenced by direct-to-patient advertising, creating a patient-driven demand for new medicines, regardless of their clinical superiority over existing options.

"Advertising plays a big role in OTC medicine demand. Patients often request what they've seen on TV rather than what's clinically appropriate." — Uruguay, FIP Community Pharmacy Section

4.1.5 Patient preference and accessibility

Despite clinical evidence, patient expectations and affordability constraints significantly influence medicine adoption. Pharmacists often balance scientific recommendations with patient-driven factors, such as:

- Advertising and media influence
- Word-of-mouth recommendations
- Brand familiarity and perceived superiority
- Affordability and insurance reimbursement policies.

When multiple treatment options are available and offer similar clinical benefits, patient preference naturally plays a role in medication selection. However, when a new medicine enters the market, marketing and advertising often influence patient expectations, sometimes elevating patient preference as a deciding factor. Patients may actively request newly launched medicines, assuming they are superior, even before their full clinical advantages are well established.

"Patients often request new medicines they have seen in advertisements, without fully understanding whether they are better than existing treatments." — Uruguay, FIP Community Pharmacy Section

In some cases, socioeconomic status influences treatment choices, with some patients preferring cheaper generics, while others insist on expensive branded medicines, regardless of clinical necessity.

"If patients cannot afford the new options, it becomes difficult to implement them effectively." — Argentina, FIP Community Pharmacy Section

In addition to advertising, misinformation from social media and alternative health sources can skew patient perceptions of new medicines, leading to unrealistic expectations or hesitancy. Pharmacists reported a growing mismatch between clinical guidelines and patient-driven requests, as self-diagnosis and misinformation continue to shape medicine preferences.

"We spend so much time countering misinformation—patients trust what they see online more than scientific evidence." — Uruguay, FIP Community Pharmacy Section

Pharmacists must actively engage with patients to correct misconceptions while also ensuring they respect patient autonomy in treatment choices.

In summary, to improve the safe and effective integration of new medicines, healthcare systems must:

1. Improve transparency in clinical trial data for pharmacists
2. Harmonise regulatory approvals across regions to improve accessibility
3. Provide structured CPD programmes for new treatments
4. Mitigate commercial biases in pharmaceutical marketing
5. Equip pharmacists with tools to manage patient-driven requests and misinformation.

4.2 Over the counter (OTC) vs adoption of prescription medicines

Pharmacists operate within distinct decision-making frameworks for prescription and OTC medicines, each with specific regulatory oversight and professional responsibilities. While prescription medicines undergo stringent regulation and require inclusion into formularies before adoption and use, OTC medicines are also subject to regulatory review but may enter the market through reclassification. This distinction presents different challenges in ensuring their appropriate use, particularly in pharmacist-led counselling and patient self-management.

Table 2 outlines the key differences between prescription and OTC medicines, highlighting the regulatory, clinical, and market-related factors that impact pharmacist roles and patient decision-making.

Table 2: Comparing prescription and OTC medicines: Regulation, access and pharmacist involvement

Factor	Prescription medicines (Rx)	Over the counter (OTC) medicines
Regulatory approval	Requires a marketing authorisation from regulatory agencies such as MHRA (UK), FDA (USA), or SAHPRA (South Africa). Must comply with national formularies and treatment guidelines (e.g., NICE, NHS, PHARMAC).	Must meet regulatory criteria for safe use without medical supervision. Reclassification from prescription-only (POM) to pharmacy medicine (P) or general sale list (GSL) requires evidence of safety.
Prescribing and decision-making	Prescribers (physicians, specialists, pharmacist prescribers) make the final decision, while pharmacists provide clinical verification, medication counselling, and adherence monitoring. Pharmacist prescribers may initiate and manage therapy in specific settings.	Patients self-select medicines, and pharmacists play a critical advisory role in assessing suitability, educating patients, and ensuring safe use.
Clinical evidence	New prescription medicines are introduced with comprehensive clinical trial data, regulatory oversight, and ongoing pharmacovigilance.	Rely more on post-marketing surveillance, real-world data, and consumer feedback, as clinical evidence may be less extensive.
Patient access	Requires a prescription from a registered prescriber, ensuring controlled use and medical oversight. Some pharmacist prescribers operate clinics to improve accessibility.	Available without prescription, promoting self-care and patient autonomy but increasing the risk of misuse or incorrect self-diagnosis.
Monitoring and follow-up	Patients receive regular follow-ups, with monitoring of adverse effects, treatment outcomes, and therapy adjustments. GPs, pharmacists, and specialists collaborate to optimise therapy.	Minimal to no follow-up; pharmacists rely on patient education and counselling to ensure safe use.
Market influence	Physicians and pharmacists are influenced by clinical data, national formularies, and reimbursement	Direct-to-patient advertising, brand recognition, and patient demand play a larger role, often shaping

	policies when adopting new treatments.	medicine use beyond clinical necessity.

For prescription medicines, pharmacists integrate new treatments into established healthcare frameworks, guided by clinical protocols, formularies, and regulatory approvals. For example:

1. Pain management – Evaluating new analgesics, particularly opioids, for dependency risks and effectiveness for chronic and acute pain.
2. Respiratory conditions – Assessing new inhalers for asthma and COPD, ensuring correct technique and improving patient adherence.

"Assessing new inhalers or medicines for asthma and COPD, focusing on patient technique, ease of use and adherence. Pharmacists will need to do inhaler technique training, which allows them to demonstrate the inhaler to the patient. These are often done by training providers." — UK, Member organisation

3. Reflux management – Considering new proton pump inhibitors (PPIs) or alternative gastroesophageal reflex disease (GERD) treatments, with a focus on long-term safety.

"For reflux, starting therapy vs. maintenance therapy must be clearly defined, especially as long-term PPI use raises concerns." — UK, Member organisation

Unlike prescription medications, OTC medicines are influenced by direct-to-patient advertising, manufacturer marketing strategies, and consumer trends. This commercialised approach means pharmacists must navigate patient misconceptions and ensure appropriate usage. Example of some challenges include:

1. Pain relievers – Market-driven promotion influences consumer choices, sometimes favouring branding over clinical benefits.

"The pharmacy rep force, particularly in South Africa, has a huge influence on how new medicines are utilized, especially in the space that we are talking about here, which is the minor ailment areas." — South Africa, FIP Community Pharmacy Section

2. Cough and cold medications – Variability in active ingredients and effectiveness, requiring pharmacist intervention for appropriate selection.
3. Acid reflux treatments – Patients self-medicate with OTC PPIs without understanding their long-term effects, sometimes delaying appropriate medical evaluation.

As self-care and patient autonomy expand, pharmacists must take on a more active role in educating patients, mitigating risks, and promoting evidence-based decision-making in both medicine categories.

"In my pharmacy… we are quite happy to open up the computer in front of us with the patient and have a discussion about adapting that request to all the patient's needs." — Uruguay, FIP Community Pharmacy Section

Table 3 outlines reported key challenges pharmacists face in integrating both Rx and OTC medicines into practice.

Table 3: Challenges in the adoption of prescription vs OTC medicines

Challenge	Prescription medicines (Rx)	Over the counter (OTC) medicines
Regulatory and access barriers	Stricter regulations require updates to national formularies and prescribing guidelines before new medicines can be widely adopted.	OTC reclassification from prescription status can create confusion, requiring pharmacist intervention to guide appropriate use.
"When a prescription medicine is newly introduced, its adoption is largely dictated by formulary updates and prescriber awareness. In contrast, new OTC products flood the market with less regulatory oversight, requiring pharmacists to take a greater role in ensuring their safe use. — UK, Member organisation		

"Pharmacists need to remember that their responsibility in OTC supply is actually greater as there may not be a check and balance. This is especially true in markets in Malaysia where metformin and steroid creams/ointments are considered pharmacist-initiated medicines." — Malaysia, Community Pharmacy Section

"For New Zealand, funding of medicines plays a big role in medicines access. PHARMAC (the Pharmaceutical Management Agency (Te Pātaka Whaioranga)) is a New Zealand government agency that decides which medicines, vaccines, and related products are publicly funded. The medicines funding criteria can affect the accessibility of products to the public. For OTC non-funded products, recommendations from pharmacy staff can vary depending on what products staff are aware of based on their training, company representative visits or resources, through to consumer requests. In New Zealand, direct-to-consumer advertising of products through media is allowed so consumers may be more aware of some brands than others" — New Zealand perspective

Patient education and health literacy	Patients may struggle with complex medication regimens, adherence, or switching to newer treatments. Some continue using outdated medicines out of habit, leading to unnecessary medicine wastage.	Patients often misunderstand OTC dosages, indications, or safety concerns due to misleading advertising and poor health literacy.
Commercial pressures and market influence	New prescription treatments require prescriber education and guideline updates before they become widely adopted.	Consumer advertising and pharmaceutical marketing drive demand, sometimes overriding clinical considerations.
Monitoring and pharmacovigilance	Prescription medicines undergo structured monitoring through adverse drug reaction (ADR) reporting systems like the Yellow Card Scheme (UK) or FDA MedWatch (USA) to track safety concerns post-launch.	OTC medicines lack structured follow-up, making it difficult to assess real-world effectiveness and detect inappropriate use.
"With prescription medicines, patients return for follow-ups, and we can monitor effectiveness. With OTC, we have no idea how they use them after they leave the pharmacy." — UK, Member organisation		
Workforce and resource constraints	High pharmacist workload limits detailed patient counselling on new treatments, impacting patient understanding and adherence.	Pharmacists struggle to provide in-depth OTC consultations due to limited staffing and high patient demand.
"We need better staffing and structured consultation time—otherwise, we are constantly forced to balance between speed and patient safety." — Australia, FIP Data and Intelligence Commission (Pharmacy education expertise), FIP Academic Pharmacy Section (AcPS), FIP Technology Advisory Group (TAG)		

To optimise the adoption of new medicines and ensure pharmacists can effectively integrate them into practice, targeted strategies must be implemented across regulatory, educational, and operational levels. Table 3 presents proposed strategies to support pharmacists in overcoming these barriers.

Challenge	Proposed solutions
Regulatory and access barriers	• Clarify reclassification guidelines: Ensure structured transitions from prescription-only (POM) to OTC status, allowing pharmacists to take an active role in ensuring safe use. • Streamline formulary inclusion: Engage with regulatory bodies to prevent delays in the adoption of new prescription medicines.

	• Enhance pharmacist prescribing authority: Expand pharmacists' ability to initiate, adjust, and deprescribe medications where appropriate. • Align referral pathways: Standardise pharmacist-led referral protocols within national healthcare frameworks to improve access to specialist care.
Patient education and health literacy	• Expand structured counselling services: Provide pharmacist-led education on appropriate medicine use, adherence, and potential risks. • Develop digital health resources: Use interactive tools (e.g., mobile apps, AI-driven chatbots) to reinforce patient education. • Strengthen pharmacy-first services: Encourage pharmacists to take the lead in managing common ailments, reducing unnecessary doctor visits. • Combat misinformation: Engage in public health campaigns to counteract misleading claims and enhance patient decision-making.
Commercial pressures and market influence	• Promote evidence-based decision-making: Ensure pharmacists' recommendations prioritise clinical efficacy over commercial interests. • Regulate direct-to-consumer (DTC) advertising: Advocate for responsible marketing practices to prevent patient demand being driven by misleading promotions. • Reduce reliance on industry-sponsored CPD programmes: Encourage independent, unbiased professional development opportunities. • Develop pharmacist-led consumer guidance: Provide independent assessments of new OTC medicines, helping to counteract promotional messaging.
Monitoring and pharmacovigilance	• Strengthen ADR reporting: Ensure pharmacists play an active role in national adverse drug reaction (ADR) reporting systems (e.g., Yellow Card Scheme, FDA MedWatch). • Improve OTC safety tracking: Develop pharmacy-based surveillance systems to detect misuse, dependency risks, and underreported adverse effects. • Integrate pharmacovigilance tools: Use AI-driven safety monitoring platforms that alert pharmacists to emerging safety concerns in real time. • Standardise follow-up protocols: Implement structured patient follow-ups for newly reclassified OTC medicines that have higher misuse potential.
Workforce and resource constraints	• Strengthen pharmacist CPD programmes: Expand training on new medicines, real-world evidence (RWE), and updated clinical guidelines. • Invest in digital transformation: Integrate AI-driven decision-support tools and electronic health records (EHRs) to optimise workflow efficiency.

	• Advocate for protected learning time: Ensure pharmacists have dedicated time within their work schedules for ongoing professional development. • Improve pharmacy staffing models: Address workload challenges by advocating for increased workforce capacity and better task delegation strategies.

5 Integrating evidence-based medicine into community pharmacy practice

5.1 Role of CPD and clinical guidelines in evidence-based pharmacy practice

5.1.1 Continuing professional development (CPD)

CPD is a cornerstone of lifelong learning, ensuring that pharmacists continually update their knowledge and skills to meet evolving healthcare needs. Many countries, including South Africa, New Zealand, and the USA, have mandatory CPD requirements for re-licensure.

"CPD encourages pharmacists to engage in lifelong learning by identifying learning needs, planning activities, reflecting on outcomes, and applying new knowledge in practice." — UK, Member organisation

Key functions of CPD in pharmacy practice:

1. CPD provides structured learning opportunities that incorporate the latest clinical guidelines, regulatory updates, and emerging research.
2. Pharmacists can develop new skills, such as independent prescribing, medication therapy management, and deprescribing strategies.
3. CPD facilitates training in digital health tools, AI-based decision-support systems, and new medication management platforms.

"We need to move away from product-oriented CPD to outcome-based CPD, ensuring they translate into measurable clinical impact." — Malaysia, FIP Community Pharmacy Section

Despite the benefits of CPD, participants identified several barriers that limit its effectiveness:

1. Many pharmacists in high-demand settings struggle to allocate time for CPD within their workload.
2. CPD models often rely on pharmacists identifying their own knowledge gaps, leading to inconsistencies in training uptake.
3. Not all CPD modules are accredited or linked to practice-based competencies, raising concerns about content quality.

"On-demand CPD sessions, micro-learning formats, and regional adaptation are key to maximising pharmacist engagement while minimising time constraints. — New Zealand

5.1.2 Local, regional, and global guidelines

Participants agreed that guidelines provide essential structure for pharmacists, ensuring consistent, evidence-based care across different healthcare systems. However, the availability, quality, and applicability of guidelines vary significantly depending on local regulatory frameworks and healthcare infrastructure.

1. **Local guidelines**
   - Developed to address country-specific health needs and local prescribing frameworks.
   - Often aligned with national pharmacy associations and healthcare authorities.

"Local guidelines ensure pharmacists deliver care tailored to their population while aligning with regulatory policies." — South Africa, FIP Community Pharmacy Section

2. **Regional guidelines**

- Aim to harmonise clinical practices across larger geographic areas, ensuring consistency while adapting to regional healthcare challenges.
- Often integrated into national protocols or supported by regional organisations (e.g., ICBs in the UK).

"Regional guidelines help bridge national policies with real-world pharmacy practice, ensuring evidence is applied consistently across different localities." — UK, Member organisation

3. **Global guidelines**
   - Set high-level evidence standards that serve as reference points for national and regional adaptation.
   - Developed by WHO, FIP, NICE (England), SIGN (Scotland), and other health agencies.
   - Example: WHO's antimicrobial stewardship guidelines are widely referenced but adapted based on regional resistance patterns and drug availability.

"Linking local guidelines with international standards ensures that pharmacists provide globally aligned yet contextually relevant patient care." — Spain, FIP Data and Intelligence Commission (Pharmacy practice expertise)

5.2 Variability in evidence application across therapeutic areas

Participants discussed how evidence-based guidelines are applied differently across key therapeutic areas, due to variations in clinical complexity, regulatory restrictions, and patient behaviours. Participants highlighted that while some areas, such as respiratory health, benefit from well-established and standardised guidelines, others, like pain and reflux management, often present challenges due to variability in evidence, patient-driven treatment preferences, and inconsistent regulatory frameworks.

5.2.1 Pain management

Pain management is one of the most complex therapeutic areas for pharmacists due to the diverse nature of pain conditions, which range from acute to chronic pain, neuropathic pain, and palliative care. Evidence-based treatment recommendations often include both pharmacological (e.g., NSAIDs, opioids, antidepressants) and non-pharmacological interventions (e.g., physiotherapy, cognitive behavioural therapy, acupuncture).

Key evidence challenges in pain management:

- Variability in guidelines – Pharmacists must navigate multiple pain management guidelines, such as NICE (UK) and CDC (US), which can differ in their recommendations on opioid use, non-opioid alternatives, and stepwise pain management approaches.
- Opioid stewardship and deprescribing – In response to the opioid crisis, pharmacists are increasingly involved in opioid deprescribing initiatives, patient education on safe use, and alternative pain management strategies.
- Limited evidence for alternative therapies - Many patients seek alternative treatments, such as cannabinoid-based medicines and acupuncture, despite limited high-quality evidence supporting their use.

"Pharmacist Independent Prescribers (PIPs) are increasingly involved in deprescribing opioids and managing complex pain regimens in collaboration with multidisciplinary teams." — UK, Member organisation

3.2.2 Respiratory health

Unlike pain management, respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD) benefit from well-established, evidence-based guidelines that ensure a standardised approach to treatment. Pharmacists frequently refer to frameworks such as NICE, BTS/SIGN, and GOLD guidelines, which outline clear treatment pathways.

Key evidence challenges in respiratory health:

- Ensuring correct inhaler technique – Despite clear guidelines, inhaler misuse remains a major issue, affecting treatment efficacy and patient adherence.
- Integration of emerging therapies – The introduction of biologic therapies for severe asthma requires pharmacists to stay updated on new prescribing criteria, administration techniques, and patient selection.
- Addressing environmental and sustainability concerns – New research highlights the environmental impact of inhaler propellants, leading to shifts in prescribing toward more sustainable options.

"Respiratory guidelines are among the most standardised, making it easier to implement evidence-based care compared to other therapeutic areas." — South Africa, FIP Community Pharmacy Section

"Without proper inhaler technique, even the most effective medicine won't work. Pharmacists must ensure patients are using their devices correctly." — Malaysia, FIP Community Pharmacy Section

5.2.2 Reflux management

Gastroesophageal reflux disease (GERD) and acid reflux are commonly managed with both prescription and OTC treatments, making pharmacist intervention critical in guiding appropriate use. Unlike respiratory health, reflux management lacks a uniform approach, leading to greater variability in evidence application.

Key evidence challenges in reflux management:

- OTC dominance and self-medication – Many reflux treatments, such as proton pump inhibitors (PPIs) and antacids, are widely available OTC, leading to high rates of patient self-medication without pharmacist consultation.
- Concerns about long-term PPI use – While PPIs are effective for managing reflux, long-term use has been associated with risks such as nutrient malabsorption, kidney disease, and osteoporosis. Pharmacists must balance patient demand with evidence-based recommendations on appropriate therapy duration.
- Variability in clinical guidelines – Unlike asthma or COPD, reflux treatment guidelines vary more widely across countries and health systems, creating challenges in standardising pharmacist interventions.

"For reflux treatments, many patients misuse OTC PPIs without understanding their long-term effects. Pharmacists must intervene when needed." — Malaysia, FIP Community Pharmacy Section

"Reflux management may vary between different geographical regions and healthcare systems depending on consumer preference." — New Zealand

Table 4 provides a comparative summary of the key challenges pharmacists face in integrating evidence into practice across these three therapeutic areas, along with the main considerations for optimising patient care.

Table 4: Summary of variability in evidence application across therapeutic areas

Therapeutic area	Challenges in evidence application	Pharmacist consideration
Pain management	Divergent guidelines, opioid stewardship, limited evidence for alternative therapies	Risk-benefit assessment, deprescribing opioids, balancing pharmacological and non-pharmacological treatments
Respiratory health	Inhaler technique, emerging biologics, environmental concerns	Ensuring adherence, monitoring treatment outcomes, integrating sustainability into prescribing
Reflux management	OTC dominance, long-term PPI risks, guideline variability	Preventing misuse, educating on therapy duration, aligning with clinical guidelines

5.3 Enhancing pharmacists access to research and guidelines

5.3.1 Digital and decision-support tools for real-time evidence integration

Key strategies to improve access to digital tools:

1. Embedding clinical decision support systems within pharmacy dispensing software to provide immediate access to treatment guidelines, drug interactions, and formulary restrictions.
2. Expanding the availability of pharmacist-specific mobile applications, such as the BNF (British National Formulary) and UpToDate, to allow for quick referencing during patient consultations.
3. Using artificial intelligence (AI) to automate literature reviews and summarise key clinical findings, ensuring pharmacists receive concise, evidence-based updates without requiring extensive manual research.
4. Creating national and regional digital health repositories, similar to South Africa's Knowledge Hub, to provide pharmacists with open access to guidelines, CPD materials, and regulatory updates.
5. Leveraging professional bodies to negotiate affordable access to paywalled clinical resources, ensuring independent pharmacists are not disadvantaged.

"Pharmacists have access to numerous guidelines, but the challenge is finding time to review them thoroughly. We need streamlined digital tools that allow for quick decision-making." — Germany, FIP HUB

"AI solutions may help, but pharmacists need to be cautious about relying on unverified automated recommendations. Trust in clinical decision-making remains critical." — UK, Member organisation

5.3.2 Expanding CPD accessibility and competency-based learning

Recommendations for strengthening CPD in pharmacy practice:

1. Developing structured, accredited CPD programmes in key areas such as pain management, reflux therapy, and respiratory conditions, modelled after IPCRG's Asthma Management Certification.
2. Transitioning CPD programmes to flexible, on-demand learning formats, allowing pharmacists to complete training at their convenience.
3. Encouraging micro-credentialing and certification, where pharmacists can earn specialised qualifications that are recognised for career advancement.
4. Ensuring protected learning time for CPD, with advocacy efforts to make learning part of paid working hours rather than an additional burden outside of practice.
5. Collaborating with professional organisations and industry partners to offer CPD incentives, such as free training modules in collaboration with healthcare companies.

"Many pharmacists have asked for 'bite-sized' on-the-go learning. I think if knowledge could somehow be disseminated into 10-minute learning chunks, that would be helpful for CPD as many pharmacists highlight time as the major barrier to CPD." USA, FIP HUB

"CPD is essential and mandatory for ongoing recertification. The recertification process asks for reflection, identification of knowledge gaps, and peer group discussions. The main issue is that the knowledge gaps are often self-identified unless the pharmacist practices in a more structured clinical setting (e.g., hospital/primary health care organisation)." — USA, FIP HUB

5.3.3 Strengthening the role of professional organisations in evidence dissemination

Key actions for professional organisations:

1. Creating centralised, pharmacist-specific evidence hubs, like the Royal Pharmaceutical Society's (RPS) evidence platform, to consolidate clinical guidelines, research updates, and regulatory changes.
2. Developing structured interprofessional collaborations, where pharmacists, prescribers, and researchers work together to standardise best practices and ensure pharmacists' perspectives are included in guideline development.
3. Providing quick-access evidence summaries (e.g., NICE evidence summaries) to help pharmacists make efficient, informed decisions without lengthy document reviews.
4. Hosting evidence-based CPD workshops and case discussions, helping pharmacists translate theoretical knowledge into practical applications.

"The South Africa Government has created a knowledge hub – a professional development platform. The Hub is made available with courses, webinars, and an e-library for free. The e-library contains all the latest information, including local guidelines. We used this quite effectively to provide all the necessary tools for any pharmacy participating in the COVID-19 vaccine campaign." — South Africa, FIP Community Pharmacy Section

"Professional bodies must work towards linking local guidelines with international and regional standards of practice. There exists a need to move away from product-oriented CPDs to outcome-oriented ones, ensuring that pharmacists are equipped with the most relevant knowledge and clinical skills." — Malaysia, Community Pharmacy Section

5.4 Strategies for strengthening evidence-based pharmacy practice

5.4.1 Policy and advocacy for better evidence integration

Proposed policy enhancements:

1. Expanding pharmacist prescribing authority, allowing pharmacists to initiate, modify, and deprescribe medications based on clinical guidelines. This would enable timely interventions, reduce inappropriate medication use, and enhance patient safety.
2. Aligning reimbursement models with evidence-based care, ensuring pharmacists receive financial support for medication reviews, adherence counselling, and patient education. Structured reimbursement models will maximise pharmacists' contributions to patient care.
3. Integrating EBM into national pharmacy strategies, following successful models like the NHS Medicines Optimisation Innovation Centre (MOIC) in Northern Ireland, to embed structured, evidence-driven pharmacy services into healthcare systems.
4. Strengthening pharmacist involvement in regulatory decision-making, ensuring that policies reflect pharmacists' expertise in medication optimisation. Pharmacists are uniquely positioned to evaluate medication effectiveness and safety, yet they are often excluded from key discussions. Strengthening their representation in regulatory bodies would lead to more informed, practical policies that support medication safety and accessibility.

5.4.2 Leveraging technology and AI to support evidence-based decision making

Key technological advancements in EBM:

1. AI-powered clinical decision-support tools, embedded within pharmacy systems, assisting with drug interactions, treatment algorithms, and patient-specific guideline recommendations.
2. AI-driven literature summary platforms, providing real-time updates on new clinical trials and emerging best practices, allowing pharmacists to stay informed without manually reviewing extensive publications.

3. Interoperable pharmacy systems, ensuring seamless access to patient records, treatment guidelines, and medication histories, improving clinical decision-making and patient safety.

"AI integration in pharmacy is still in its infancy, but it holds great potential for improving evidence-based practice." — Germany, FIP HUB

The integration of artificial intelligence and digital tools into pharmacy practice is transforming how pharmacists' access and apply clinical evidence. AI-powered clinical decision support systems help pharmacists make real-time decisions, improving efficiency in managing high workloads while ensuring adherence to the latest guidelines.

Another major advancement is the development of AI-driven literature summary platforms, which process vast amounts of research and highlight key findings relevant to pharmacy practice. Given the overwhelming volume of emerging clinical evidence, these tools enable pharmacists to stay updated without manually reviewing extensive publications.

Additionally, investing in interoperable pharmacy systems is crucial for enhancing evidence-based practice. Seamless access to patient records, medication histories, and treatment guidelines across healthcare settings allows pharmacists to make more informed decisions and improve care coordination. However, fragmented systems and lack of electronic health record (EHR) integration remain barriers in many countries, limiting pharmacists' ability to apply evidence efficiently.

While AI streamlines access to clinical evidence, its role in pharmacy is still evolving, and its recommendations must be validated for accuracy and reliability. The challenge remains in ensuring that AI-driven outputs are trustworthy, seamlessly integrated into workflows, and aligned with pharmacist expertise.

6 The role of real-world data (RWD) in pharmacy practice

Real-world data (RWD) refers to healthcare data collected outside controlled clinical trials, including patient health records, pharmacy dispensing data, disease registries, insurance claims, and digital health sources such as wearable devices and mobile apps.[6,7] In pharmacy, RWD provides insights into medication adherence, patient experiences, and treatment effectiveness, enabling pharmacists to make evidence-informed decisions that optimise medication use and improve patient care.

Unlike randomised controlled trials (RCTs), which focus on drug efficacy in ideal conditions, RWD reflects real-life patient interactions, prescribing trends, and health outcomes across diverse populations. Despite its value, pharmacies face challenges in systematically collecting, analysing, and using RWD. Effective collaboration between pharmacists, manufacturers, academia, and regulatory bodies is essential to bridging this gap and ensuring that real-world insights inform pharmacy practice.

This section is data-led and informed by written input collected after the insight board. It should be viewed as complementary and additional rather than representing direct insights or positions from the board itself.

6.1 The role of stakeholders in RWD collection and analysis

Effectively leveraging RWD requires collaboration among healthcare providers, policymakers, regulatory bodies, industry, and academia. Pharmacists play a critical role in contextualising data, identifying trends in medication use, and ensuring its clinical relevance.

Examples of pharmacy-led RWD initiatives include:

- South Africa: IQVIA partnerships provide pharmacies with OTC medicine data, offering insights into purchasing trends and self-medication behaviours.
- Portugal: A national pharmacy-owned software system collects real-time dispensing data, which informs policy decisions and public health strategies.
- Argentina (SIAFAR system): Community pharmacists record interventions related to non-communicable disease management and immunisation services, creating a national patient care database.
- UK: RWD has supported the expansion of vaccination services, antimicrobial stewardship , and minor ailment management, demonstrating pharmacists' impact on cost-effective, evidence-based care.

6.2 Impact of RWD on pharmacist recommendations and patient care

RWD enables pharmacists to enhance medication safety, optimise patient adherence, and guide healthcare policies.

Key areas where RWD has influenced pharmacist interventions include:

1. **Pharmacovigilance and medication safety**

Pharmacists contribute to adverse drug reaction (ADR) monitoring through systems like UK Yellow Card Scheme and FDA MedWatch, enabling pharmacists to report real-world safety concerns, leading to actions such as:

- Pseudoephedrine restrictions: RWD reports on misuse and diversion of pseudoephedrine led to stricter pharmacy dispensing regulations.
- Pholcodine safety concerns: RWD linking pholcodine to anaesthetic complications prompted usage restrictions.
- Long-term NSAID use: RWD highlighting gastrointestinal risks associated with NSAIDs has led pharmacists to routinely recommend proton pump inhibitors as gastroprotective agents for at-risk patients.

2. **Public health initiatives**

- Antimicrobial stewardship: Large-scale RWD has highlighted overprescription trends and its link to antimicrobial resistance, reinforcing pharmacists' role in ensuring rational antibiotic use and patient education.
- Vaccination programmes: Similarly, large-scale vaccination programmes have provided invaluable data on vaccine safety and efficacy, with pharmacists using this evidence to address vaccine hesitancy and improve immunisation rates.

3. **Strengthening interdisciplinary collaboration**

- Argentina: Community pharmacies leveraged RWD from a national hypertension campaign, tracking pharmacist interventions in monitoring and following up with patients. This led to a formal partnership between community pharmacists and the National Cardiologists' Association, improving interdisciplinary care models.
- UK: RWD contributed to the expansion of pharmacist-led vaccination services, which are now nationally commissioned.

This evolution highlights the growing recognition of pharmacists' role in delivering clinical services beyond traditional dispensing, with RWD supporting policy shifts and funding allocations.

6.3 Challenges in assessing RWD

One of the most significant obstacles to using RWD in pharmacy practice is the lack of direct access to comprehensive data sources. In many healthcare systems, RWD is fragmented across multiple stakeholders, including manufacturers, insurers, regulatory bodies, and academic institutions. Pharmacists, especially those in community settings, often have limited access to prescribing patterns, patient records, and longitudinal treatment outcomes, restricting their ability to assess medication effectiveness and safety in real-world settings.

Data protection regulations, such as the General Data Protection Regulation (GDPR) across Europe, play a critical role in safeguarding patient privacy. However, challenges arise in the efficient sharing of aggregated, de-identified data that pharmacists require for medication review, adherence monitoring, and adverse event detection. While access to patient data may not always be restricted, the complexity lies in ensuring seamless and standardised sharing mechanisms that comply with regulatory frameworks while enabling effective pharmacy interventions.

Many pharmacy records do not integrate with hospital or primary care databases, making it difficult to obtain a comprehensive patient history. Standardised data-sharing protocols are needed to enhance continuity of care and pharmacist interventions.

Even when pharmacists gain access to RWD, issues related to data completeness, reliability, and standardisation present further challenges. Many RWD sources contain incomplete or inconsistent entries, making it difficult to draw meaningful conclusions. For example:

- Inconsistent RWD sources (e.g., OTC sales not linked to patient records) reduce the ability to track adherence and outcomes.
- Self-reported patient data may contain biases or inaccuracies, affecting reliability.

Unlike structured clinical trial data, RWD varies in quality and can be influenced by industry sponsorships. Pharmacists need specialised training in biostatistics, epidemiology, and critical appraisal to differentiate between high-quality evidence and commercial bias.

Pharmacists already operate in high-demand environments where time constraints impact their ability to analyse and apply RWD in practice. With increasing workloads in both community and hospital settings, there is limited time to review RWD reports, assess trends, or incorporate new insights into patient consultations. Unlike physicians who may have structured case reviews or rounds, pharmacists often engage in rapid decision-making with little opportunity for in-depth data analysis.

In many countries, pharmacy IT infrastructure is procured independently by contractors, leading to variability in data systems and a lack of standardised RWD integration into everyday pharmacy operations. Without streamlined processes for accessing, analysing, and applying RWD, its use remains sporadic and reactive rather than systematic and proactive.

Furthermore, the lack of standardised guidelines on how pharmacists should use RWD in clinical practice results in inconsistencies in its application. While some healthcare systems actively encourage pharmacist-led real-world evidence initiatives, others do not prioritise pharmacist access to these datasets. This variability leads to uneven adoption of evidence-based decision-making across different pharmacy sectors and regions.

6.4 Strategies for strengthening RWD utilisation in pharmacy

To address these barriers, structured approaches are needed to improve data access, quality, interpretation, and pharmacist engagement. Table 5 outlines proposed strategies to enhance pharmacists' ability to collect, analyse, and apply RWD effectively.

Table 5: Strategies to strengthen RWD use in pharmacy practice

Challenge	Proposed strategies by participants
Limited access to comprehensive data sources	• Implement structured templates and digital platforms to systematically record patient interactions, OTC medicine usage, and pharmacist interventions.
	• Develop unified national and regional data-sharing systems that consolidate RWD across healthcare settings.
	• Advocate for interoperable pharmacy IT systems that integrate with national health databases and electronic health records (EHRs).
	• Advocate for national regulatory bodies to establish clear protocols and best practices for RWD use in pharmacy.
Data privacy and regulatory barriers	• Establish ethical and compliant frameworks for anonymised RWD sharing balancing patient privacy with research needs.
	• Advocate for clearer regulations to allow pharmacists to access and contribute to RWD safely.
Limited pharmacist training in RWD interpretation	• Strengthen continuing professional development (CPD) programmes to include data literacy, biostatistics, and research methodologies to equip pharmacists with skills to analyse and apply RWD.
	• Develop training programmes on RWD interpretation and data literacy.
	• Equip pharmacists with critical appraisal skills to assess industry-sponsored RWD studies.
Lack of interdisciplinary collaboration	• Strengthen partnerships between universities, pharmacy organisations, and regulatory bodies to support data analysis, practice improvements, and integration into curricula.
	• Establish interdisciplinary research networks where pharmacists actively contribute to RWD policy and guideline development.

Minimal patient involvement in data collection	• Encourage direct patient input on medication effectiveness, side effects, and adherence through digital feedback tools and structured pharmacy consultations.
	• Develop mobile applications and patient portals to facilitate real-time reporting of medication outcomes.
Lack of structured pharmacovigilance for OTC medicines	• Advocate for pharmacy-based surveillance systems to track OTC misuse, dependency risks, and underreported adverse effects.
Time constraints and workflow integration	• Integrate AI-driven analytics and real-time literature summarisation tools into pharmacy software to automate data processing and decision support.
	• Embed digital decision-support tools within pharmacy workflows to ensure easy access to RWD without disrupting patient care.
	• Implement automated alerts for high-risk medications and adverse drug reactions.

7 Conclusion

Community pharmacists play a critical role in translating scientific evidence into everyday patient care, ensuring that medication decisions are informed by real-world data (RWD), clinical guidelines, and patient needs. This report has highlighted the complexities of integrating evidence-based medicine (EBM) into community pharmacy practice, focusing on the challenges and opportunities related to continuing professional development (CPD), regulatory frameworks, digital tools, and pharmacist-led interventions. As healthcare systems increasingly recognise the role of community pharmacists in medication optimisation, self-care support, and public health, strengthening evidence-informed decision-making is essential for ensuring effective, safe, and accessible pharmacy services.

Despite significant progress in expanding the pharmacist's role beyond dispensing, community pharmacists continue to face barriers in applying evidence effectively in practice. These include time constraints, the variability of treatment guidelines, limited access to patient data, commercial influences on medicine availability, and regulatory inconsistencies. While RWD has the potential to improve medication safety, adherence, and public health outcomes, challenges related to data standardisation, integration with pharmacy systems, and pharmacists' training in data analysis limit its full impact in community settings.

As pharmacist-led services continue to evolve—whether through expanded prescribing authority, structured deprescribing initiatives, antimicrobial stewardship, or minor ailment management—ensuring equitable access to high-quality evidence must remain a priority. This requires enhanced CPD programmes tailored to real-world pharmacy challenges, stronger collaboration between professional bodies and regulatory agencies, and the adoption of digital decision-support tools that streamline evidence application in fast-paced pharmacy environments.

References

1. Wiedenmayer, K., Summers, R. S., Mackie, C. A., Gous, A. G. S., & Everard, M. (2006). Developing pharmacy practice: A focus on patient care (Handbook – 2006 edition). Geneva, Switzerland: World Health Organization & International Pharmaceutical Federation. Retrieved from https://www.fip.org/files/fip/publications/DevelopingPharmacyPractice/DevelopingPharmacyPracticeEN.pdf
2. Oxford Review. Evidence-Based Practice: Essential Guide [Internet]. Oxford: Oxford Review; [cited 2025 Feb 27]. Available from: https://oxford-review.com/evidence-based-practice-essential-guide/
3. Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence-based medicine: what it is and what it isn't. BMJ. 1996 Jan 13;312(7023):71-2. doi:10.1136/bmj.312.7023.71. PMID: 8555924; PMCID: PMC2349778.
4. George Washington University Himmelfarb Health Sciences Library. Evidence-Based Medicine: What is Evidence-Based Practice? [Internet]. Washington, DC: George Washington University; [cited 2025 Feb 27]. Available from: https://guides.himmelfarb.gwu.edu/ebm
5. Critical Appraisal Skills Programme. What is Evidence-Based Practice? [Internet]. CASP [cited 2025 Feb 27]. Available from: https://casp-uk.net/news/what-is-evidence-based-practice/
6. Makady A, De Boer A, Hillege H, Klungel O, Goettsch W. What is real-world data? A review of definitions based on literature and stakeholder interviews. Value Health. 2016;20(7):858-65. doi:10.1016/j.jval.2017.03.008
7. U.S. Food and Drug Administration. Real World Evidence [Internet]. Silver Spring, MD: U.S. Food and Drug Administration; [cited 2025 Feb 27]. Available from: https://www.fda.gov/science-research/science-and-research-special-topics/real-world-evidence

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