

Pharmacy-based point-of-care testing

A global intelligence
report

EXECUTIVE SUMMARY

2024



FIP Development Goals



International
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Colophon

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

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Authors

Dr Inês Nunes da Cunha, FIP Practice Development and Transformation Projects Manager
Mfonobong Ekpoh, FIP Practice Development and Transformation Projects Coordinator

Editor

Gonçalo Sousa Pinto, FIP Lead for Practice Development and Transformation

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Foreword

Point-of-care tests (POCT) include a wide range of near-patient tests to identify, diagnose, assess or monitor indicators of health conditions or bodily functions, used in non-communicable diseases (e.g., blood pressure, blood cholesterol levels, glycaemia, etc.), infectious diseases (including sexually transmitted infections, human immunodeficiency virus, hepatitis C, influenza, etc.), and pregnancy. Some of these tests have the potential to improve the detection and management of infectious diseases by reducing the time between testing and diagnosis of an infection. Early diagnosis of infection benefits patients by facilitating timely access to care and initiation of treatment, and it also benefits the community at large and health systems by reducing the likelihood of disease transmission.^{1,2}

Due to their accessibility, convenience and expert health workforce, community pharmacies are ideal places for the provision of primary healthcare services, including preventive interventions, POCT, referral and the provision of healthcare advice, and pharmacists are continually sought out for recommendations of over-the-counter medicines and prescription treatments.² Therefore, community pharmacists have the knowledge and training to assess, triage, and treat or refer these health conditions appropriately.

With at least 400 million people worldwide lacking access to essential health services, and every year 100 million people being pushed further into disadvantage because they must pay for health care out of their own pockets, extensive pharmacy-based tests can be an important component for every country and economic setting on the path to reaching universal health coverage (UHC), promoting health, keeping the world safe, and serving the vulnerable.³

Considering the global significance of the role of pharmacies, which intensified during the COVID-19 pandemic, it is paramount that pharmacists can perform these tests, receive the necessary training and reimbursement for the provision of these valuable services, and be involved in collaboration with governments, non-governmental organisations, and third-party payers for service provision and public policy implementation. In addition, it is essential that professional pharmacy organisations at global, regional and national levels support practitioners in the implementation and delivery of services in this area.

[FIP's statement of policy on the role of pharmacy professionals in point-of-care testing](#), published in 2022, emphasised and resolved to support government and policymakers, FIP member organisations, pharmacy academic institutions and individual pharmacy professionals who wish to promote the provision of point-of-care screening and testing services in pharmacies.⁴ By leveraging the expertise of pharmacists and the accessibility of pharmacies, the integration of POCT improves patients' outcomes and, from a public view, contributes to stronger health systems.

Through an extensive consultation process with member organisations, this FIP report provides insights into pharmacy-based POCT services globally, identifies the challenges in the provision of these services, and encourages regional and country-level integration of pharmacy-based tests in healthcare programmes.

This report highlights evidence related to POCT interventions by pharmacists around the world and their positive health and economic outcomes for patients and the wider community. I trust you will find the report valuable and inspiring. FIP looks forward to working with its member organisations and all individual pharmacists around the world to ensure the optimisation and expansion of pharmacists' scope of practice in POCT to better serve patients and health systems and improve the well-being of our communities.



Paul Sinclair
President
International Pharmaceutical Federation (FIP)

Executive summary

Point-of-care testing (POCT) services performed in pharmacies or clinical biology laboratories (where many pharmacists practise in several parts of the world) for screening, monitoring or assessing acute or chronic diseases, contribute to increasing patient awareness of the importance of such tests for the early detection of disease and appropriate referral, to improving medication safety, and to informing the responsible use of medicines (e.g., combating antimicrobial resistance by reducing inappropriate use of antibiotics). These tests serve as an invaluable tool for triaging patients and identifying those who may need further medical attention. POCT services can also expand the role of pharmacy professionals as healthcare professionals by enabling and informing the initiation, adjustment or discontinuation of certain medicines, and the provision of health information and advice.⁴ This provides an opportunity for pharmacists to become more directly engaged with patients in terms of monitoring and managing their care.⁵

FIP published a global intelligence report on “[Pharmacy-based point-of-care testing](#)” with the aim of providing a comprehensive overview of the key role of pharmacists in POCT and how this contributes to timely patient care and to health system efficiency through interprofessional care teams. The report also shares global best practices to advance pharmacy practice and international standards of patient care.

The basis for this report was established through a review of existing literature. In addition, a short survey and a compilation of case studies specifically tailored to engage FIP member organisations (MOs) were conducted. An insight board (focus group) discussion was then convened with subject matter experts from selected MOs to provide valuable insights.

Our literature review suggests that POCT services are strongly correlated with health outcomes, economic savings, increased health system efficiency and reduced burden on other healthcare sectors. It also identified barriers that prevent pharmacists and their team members from providing these services effectively. Evidence from 22 countries, 11 case studies and inputs from the insight board identify the range of services currently provided in different countries/regions, explain the remuneration models available and reinforce the valuable role of pharmacists in providing these services. The data collected indicate that while most countries supporting the implementation of POCT services have professional standards in place, the specifics of these standards and the supporting remuneration frameworks vary considerably. In addition, the data highlight the challenges faced by pharmacists wishing to implement POCT services and show that fostering a collaborative ethos between other members of the primary healthcare team and pharmacists remains crucial.

POCT services are strongly correlated with health outcomes, economic savings, increased health system efficiency and reduced burden on other healthcare sectors.

Key findings

- Several studies included in the literature review in this report suggest that the provision of POCTs is becoming more common in community pharmacies.
- Inadequate practice models for POCTs, lack of understanding of good laboratory practice and inadequate training in how to perform or interpret some tests, legislative and regulatory barriers, and bureaucracy in referral or continuity of care in other healthcare settings were identified in the reviewed articles as potential challenges that could hinder the role of pharmacists in this area.
- The survey highlights the global variation in the adoption and practice of community pharmacy-based POCT services, with an increasing number of countries having implemented legislation to allow the provision of such services by pharmacists and pharmacies.
- Our findings show that while pharmacy professionals can make little to no clinical decisions with the results of the tests they perform in several parts of the world, some interesting experiences exist where POCT services have been linked to prescribing authority by pharmacists, contributing to reducing the pressure on general practice and emergency departments.

- Lack of adequate reimbursement and varying levels of national legislation to provide POCT services are the main recurring challenges to pharmacists' scopes of practice.
- Data from pharmacy-based services, as well as the visibility of practice gained through the role of pharmacy during the COVID-19 pandemic, should be used in advocacy discussions with governments, third-party funders, other healthcare professions, pharmacy associations and the public.
- For member organisations considering the initiation and/or implementation of pharmacy-based POCT services, it is important to lead stakeholder discussions on the implementation of pharmacists' scope to adjust medication dosages as an actionable response to POCT results to further improve access and timeliness of care for patients.
- The evidence from this report shows that by providing POCT services to the communities they serve, pharmacies and their teams can have an impact on the healthcare system by providing access to medicines and services for all populations, engaging in collaborative disease management programmes for person-centred care, promoting antimicrobial stewardship, providing patient education and improving the ability to monitor community exposure to infectious agents.

Community pharmacy-based POCT services offered in each country

Type of test	Countries
Blood glucose and diabetes	
Fasting plasma glucose (FPG)	Bosnia and Herzegovina, Canada, Fiji, Germany, Nigeria, Portugal, South Africa, Spain, Switzerland, Uruguay
Random plasma glucose (RPG)	Australia, Bosnia and Herzegovina, Canada, Cape Verde, Fiji, Germany, Israel, Nigeria, North Macedonia, Portugal, Slovenia, South Africa, Switzerland, USA
Plasma glucose 2 hours after a 75g oral glucose load (oral glucose tolerance test, OGTT)	Canada, Nigeria, South Africa
Glycated haemoglobin A1C (HbA1C)	Canada, Israel, Portugal, South Africa, Spain, Switzerland, Uruguay
Lipid testing	
Total cholesterol	Australia, Canada, Cape Verde, Fiji, Germany, Ireland, Israel, Nigeria, Portugal, Slovenia, South Africa, Spain, Switzerland, Uruguay, USA
HDL cholesterol	Canada, Germany, Ireland, Nigeria, Portugal, South Africa, Spain, Switzerland, Uruguay, USA
Triglycerides	Canada, Germany, Ireland, Nigeria, Portugal, South Africa, Spain, Switzerland, Uruguay, USA
Cardiovascular health indicators	
Blood pressure	Australia, Austria, Bosnia and Herzegovina, Canada, Cape Verde, Fiji, France, Germany, Ireland, Israel, Nigeria, Norway, Portugal, Romania, Slovenia, South Africa, Spain, Switzerland, Uruguay, USA
Mean pulse rate	Australia, Austria, Bosnia and Herzegovina, Canada, Fiji, Germany, Ireland, Israel, Nigeria, Portugal, Romania, South Africa, Spain, Switzerland, USA
Respiratory function testing	
Spirometry	Australia, Bosnia and Herzegovina, France, Ireland, Nigeria, Portugal, South Africa, Spain, Switzerland
Haematology testing or indicators	

Type of test	Countries
Haemoglobin	Canada, Ireland, Portugal, South Africa, Spain, Uruguay
Infectious disease testing	
Flu tests	Australia, Canada, Portugal, Switzerland, USA
Strep throat tests	Canada, Ireland, Israel, Portugal, Switzerland, USA
Respiratory syncytial virus (RSV) tests	Australia, Canada, USA
HIV testing	Australia, Austria, Canada, France, , Nigeria, Portugal, South Africa, Spain, Switzerland, USA
SARS-CoV-2 tests	Australia, Austria, Belgium, Bosnia and Herzegovina, Canada, France, Germany, Ireland, Israel, Portugal, Romania, Slovenia, South Africa, Switzerland, Uruguay, USA
Hepatitis C antibody test	Australia, Nigeria, Portugal, Switzerland
Sexually transmitted infections screening tests	Canada, Nigeria, Portugal, South Africa, Spain, Switzerland
C-reactive protein	Germany, Portugal, South Africa, Switzerland
Procalcitonin	Switzerland
Urine testing	
Pregnancy tests	Australia, Bosnia and Herzegovina, Fiji, France, Germany, Nigeria, Portugal, Slovenia, South Africa, Spain, Switzerland
Microscopic panel (erythrocytes, leukocytes, casts, crystals, bacteria, epithelial cells)	Portugal, Spain
Macroscopic panel (dipstick) (colour, bilirubin, occult blood, macroscopic blood, glucose, ketones, leukocytes esterase, nitrite, pH, protein, gravity, urobilinogen)	France, Nigeria, Portugal, South Africa, Switzerland

Recommendations

Supporting the integration of pharmacy-based point-of-care testing into healthcare in all countries is an important step towards achieving affordable and accessible primary healthcare worldwide. The process of prioritisation and implementation in each country could be accelerated by engaging stakeholders in favourable policies, improving public awareness, establishing multidisciplinary collaborations, establishing country-wide evidence-based protocols and frameworks, and advocating with data showing the benefits of these tests to patients, healthcare systems and economies.

To gain recognition from governments and third-party funders, it is recommended that available data on the benefits of evidence-based POCT practices in pharmacies be used to advocate favourable legislation and implementation. This will result in strong partnerships that provide a protocol for reimbursement and service delivery and ensure a coordinated, seamless approach to accessible healthcare. It is suggested that additional training for pharmacy professionals, access to patients' electronic health records, and clinical decision making based on test results would be complementary to ensure that pharmacy-based POCT delivers increased value for patients.

Community pharmacists around the world provide a wide range of POC tests that improve health and economic outcomes for patients and communities. Despite barriers to reimbursement and reluctance from other healthcare professionals, the clinical and economic benefits, supported by the available evidence, are critical in communicating key advocacy messages to stakeholders for consistent practice.

Pharmacy professional organisations are encouraged to:

- Engage in collaborative discussions with relevant stakeholders, including policymakers, healthcare providers and patient advocacy groups. This multidisciplinary approach should focus on citizens' health needs. Building strong partnerships will garner support and foster a coordinated approach.
- Clearly define the POC tests that pharmacists are qualified to perform or should be authorised to perform.
- Conduct studies and gather data to demonstrate the added value of pharmacy-based POCT services. Demonstrate how these services can improve patient outcomes, enhance healthcare accessibility, and contribute to public health goals.
- Encourage government and payers/insurance companies to include services provided by pharmacists in their treatment plans.
- Prioritise the availability of specialised training for pharmacists to ensure they are well-equipped to perform POCT services accurately and confidently. Proper training instils trust and professionalism in delivering these services.
- Provide a catalogue of cost-covering reimbursed analyses that can be conducted usefully in the pharmacy, as well as pragmatic quality controls.
- Implement pharmacists' scope to adjust medication dosages as an actionable response to POCT results to further increase access and timeliness to care for patients.
- Establish robust quality assurance measures to ensure the accuracy and reliability of POCT services. Maintaining high-quality standards is essential for gaining trust and credibility.

Key advocacy messages

- POC testing undoubtedly improves access to quality treatment or evidence-based management. As an integral part of healthcare systems, pharmacists should be supported by favourable policies, political will, and training to work to their full scope of practice.
- The availability of a reimbursement model for pharmacy-based testing, or its inclusion in disease management packages, will broaden the range of services provided, ensure affordable healthcare, and improve patient turnover for public and third-party payers.
- A multidisciplinary approach best serves the health needs of the public and ensures that the skills of all healthcare professionals are recognised and used to benefit the health of the population. Communication with other healthcare professionals is essential, so establishing a continuous communication channel with primary care will facilitate doctors' and nurses' knowledge of POCT in community pharmacy.
- Pharmacies can promote health awareness and preventive care by offering screenings and tests for diabetes, cardiovascular risk or other chronic diseases, as well as acute conditions. This proactive approach can lead to early detection and intervention, ultimately improving patient health outcomes.
- Pharmacy associations are encouraged to raise public awareness of pharmacy-based POCT services and advocate to governments, academia and regulators to improve training and increase the range and scope of tests available to funders and third-party payers to increase the range of accepted and reimbursed tests.
- Pharmacists and pharmacy associations need to advocate involvement in POC testing, including continuing professional development competencies to improve patient care. They also need to use all available data on evidence-based practice of POCT in pharmacies to advocate favourable legislation and implementation.

Conclusion

The [Pharmacy-based point-of-care testing: a global intelligence report](#) presents current pharmacy-based POC testing and the role of pharmacy and pharmacists in providing this service. In general, patients pay for the service out of pocket, as in most countries these tests are not funded by either public or private third-party payers. Survey findings also suggest that additional training for pharmacists to perform the tests efficiently is recommended, but not mandatory in all countries. In most of the countries, test results are typically communicated to other healthcare professionals through manual documentation or telephone calls, as pharmacists in these countries generally do not have access to patients' medical records.

Evidence from this report highlights the clinical and economic benefits of pharmacy-based POC testing. The literature review shows that pharmacy-based POCT services have improved patients' quality of life by reducing irrational use of antibiotics and detecting disease early or identifying at-risk populations. Economically, POCT was a more cost-effective option than physician-based care, resulting in greater efficiency in healthcare delivery and significant healthcare cost savings for individuals and governments. Additional tests and hospitalisations are significantly reduced, and secondary and tertiary healthcare facilities are better optimised. Key benefits cited by participants include convenience and rapid access to healthcare, especially in rural and underserved areas, facilitating referrals for shared management, and promoting good health and general well-being. Despite barriers to reimbursement and reluctance from other healthcare professionals, the clinical and economic benefits, supported by the available evidence, are critical in communicating key advocacy messages to stakeholders for consistent practice.

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International
Pharmaceutical
Federation

Fédération
Internationale
Pharmaceutique

Andries Bickerweg 5
2517 JP The Hague
The Netherlands

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

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www.fip.org

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