

CONFERENCE ABSTRACTS

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Community practice

Development and validation of a tool to assess pharmacists' knowledge attitude and practice in maternal and child health services

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Background: Maternal and child health constitutes a critical public health concern, impacting the well-being of current and future generations, with mothers and children comprising over two-thirds

of the global population. Pharmacists as primary care providers may play an important role in optimising medication management in pregnancy, ensuring maternal and child well-being, and aligning with the United Nations Sustainable Development Goal of reducing global maternal and child mortality.

Methods: A cross-sectional research was conducted within the community pharmacies of Istanbul. The target population for this study consisted of all licensed pharmacists. A minimum sample size of 385 participants was required during their shift to answer either written or online. A questionnaire consisting of 41 items was validated. The main outcome measure involved pharmacist's knowledge, attitude, and practice in maternal and child health services. A written consent form was acquired. Statistical analysis was carried out using SPSS.

Results: A tool with 41 items was developed. Kaiser-Meyer-Olkin test and Bartlett's test of sphericity revealed intercorrelations between variables and the absence of redundancy. Pharmacists

demonstrated positive attitudes toward maternal and child health, with a mean knowledge score of 6.37 ± 1.68 and a

practice score of 48.32 ± 9.57 . Positive correlations were observed between knowledge, attitude, and practice. The tool exhibited reliability, with high Cronbach alpha values for attitude (0.871) and practice (0.823).

Conclusion: Participant pharmacists expressed a positive attitude toward MCH service providing yet inadequate knowledge and practice. The developed scale appears homogeneous and valid.

Pharmacist-physician collaboration for innovative management of medicine shortages

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Background: The number of medicines experiencing shortages is gradually increasing due to factors such as inflation, manufacturing problems and limited supply, which pose challenges for both patients and healthcare professionals. This is particularly relevant for physicians with busy schedules who not only require information on medicine shortages but also seek alternative solutions. To tackle these challenges effectively, insight into pharmacy inventory is necessary, underscoring the importance of collaboration between pharmacies and medical practices.

Purpose: To aid physicians in addressing the challenges posed by medicine shortages through a collaboration which involves proposing alternative solutions for each individual medication experiencing shortages or discontinuation.

Method: Development of an online overview presented in the form of a table that is continuously updated with information about medications currently facing shortages or discontinuation. The table was developed by a pharmacist at Middelfart Pharmacy based on several sources such as the Danish Medicines Agency's website, Anton Pottegaard's website (brief overview of current medicine shortages) and medicine shortage emails from the pharmacy's wholesaler Nomeco and various pharmaceutical companies. Importantly, the table also includes one or more alternative solutions such as different strengths, packaging sizes, drug forms, or in rare cases, Unlicensed Specials (ULS). These alternatives are either in stock at the pharmacy or can be obtained within a few days. After agreement with various medical practices in the Region of Southern Denmark to establish a collaboration with physicians, the table was sent to them to be utilised for managing these challenges. The physicians were asked to complete a questionnaire to obtain feedback regarding the usability and relevance of the table, as well as whether it has supported their work in practice.

Results: Based on preliminary feedback from physicians, this initiative will assist them in addressing medicine shortage challenges. This is especially due to providing alternative solutions which may not always be readily available without access to pharmacy inventory. Several medical practices in the region of Southern Denmark have already agreed to participate in the collaboration to test an online medicine shortage overview, which is easily accessible and continuously updated. After an extended period of using this overview, a questionnaire will be conducted. The results of this questionnaire are pending and will be presented on the poster.

Conclusion: Despite the numerous tools available to identify medicine shortages, collaboration with pharmacies can benefit physicians more by providing available alternative solutions. Hence, the table serves as a valuable tool for managing medicine shortages and minimising patient frustrations at pharmacies and medical practices. Further research could explore integrating these alternative solutions into physicians' systems for easier and quicker access.

Medicine shortages in Norwegian primary healthcare – From the pharmacy and wholesaler view

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Background: Shortage of medicines is an increasing challenge for community pharmacies. Previous studies from 2019 and 2022 suggest that Norwegian pharmacies do not find any immediate solution for up to 1.1% of their patients. This may seem like a small number, but it amounts to nearly 600 000 prescription fillings pr year, if you extrapolate to the entire Norwegian market.

Purpose: The purpose of this survey is to document the situation in 2024, and to follow up the two previous studies conducted in pharmacies. This survey will also describe how the Norwegian wholesalers supports the pharmacies in managing medicine shortages.

Method: Data from the pharmacies will be collected through an online survey in 50 pharmacies during a 4-week period in March 2024. The main outcome measures are how often the pharmacy does not have the prescribed medicine in stock and how often the pharmacy provides the patient with alternatives directly or the outcome if they do not have any alternative. The data will be analysed descriptively. A description of the wholesalers' contribution to managing medicines shortages will be provided by the three Norwegian wholesalers. Information from both the pharmacies and the wholesalers will also be compared with the Norwegian Medicines Agency's medicine shortages list, to evaluate if the respective information about shortages is consistent.

Results: The results are soon to be collected in the pharmacies (4. March – 31. March) and all results will therefore be submitted as soon as they are analysed, at latest in the beginning of June.

Conclusion: The results are currently being collected in the pharmacies (4. March – 31. March) and the conclusion will therefore be submitted as soon as the results are analysed, at latest in the beginning of June.

Describing pharmacists' core public health competencies during post-graduate early career readiness in Ghana

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Background: Due to emerging complex disease states and patients' demands for high levels of care, it is imperative that health professionals, including pharmacists, are equipped with adequate educational and training competencies to meet those needs. A challenge is that certain countries may need additional support in competency development in some areas, such as emergency preparedness, cultural and social impacts on health promotion and advice on medication use in diverse populations. More information is needed on the competencies being promoted and developed and how and why. Training may be structured differently among institutions, even though the ultimate goal, to graduate professionals in the field, might be the same. Many Western countries have had decades of experience in pharmacy education and yet continue to refine and revisit educational content and training strategies. However, many low- to middle-income countries (LMICs) are relatively novices in the professional doctorate degree program.

Aims: This study is in two parts. The first is to assess new practitioner's perceptions of readiness for the various competencies expected in the Global Competency Framework (GbCF). The second is to describe the educational processes and outcomes that contribute to readiness for public health roles for pharmacists in Ghana using evaluation science approaches.

Methods: To further understand one of the four main domains of the GbCF, the study focused on pharmaceutical public health. The first is an evaluative approach to uncover a new understanding of public health in the Doctor of Pharmacy (PharmD) program. This involved document reviews and purposefully sampled and engaged stakeholders: early career practitioners, faculty members and administrators from KNUST, seasoned pharmacists, leaders of the pharmacy council of Ghana and leaders in the FIP academic section. Enrolled five (5) participants per group with a total of n=30.

The second aim involved focus group discussions to assess new practitioners' levels of readiness within these core competencies.

Results: Public Health Competencies are embedded within the PharmD curriculum in a non-traditional way. PharmD programmes intentionally created specific public health experiences/activities for students to get hands-on training. Students want opportunities to discuss public health areas of

practice where they can apply the competencies learned in the classroom. Seasoned pharmacists' engagement in public health activities within their communities is not described as pharmacists' roles per se. Some FIP leaders view engagement with local and national level health ministries and government as an advantage in assisting with training opportunities in areas like immunisations.

Conclusion: Public Health should be a mandatory course in the PharmD curriculum. Incorporating Public Health in the curriculum equips PharmD students with the competencies needed to address population health issues. The philosophy underlying the integration of public health within the curriculum emphasises the pharmacist's professional commitment to Public Service, Health Promotion, and Disease prevention.

Communication between pharmacist and general practitioner

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Introduction: The correct use of medicines is crucial to achieve the overall effectiveness of the medication and expected health outcomes. It is important that any questions or queries the pharmacist may have about prescriptions and the medication of a patient can be discussed with the patient's general practitioner (GP) in an efficient way for both patients, pharmacists, and GPs. To date, there is no digital communication between Norwegian pharmacies and GPs. All communication is hence done by telephone, which is very time-consuming for all parties.

Purpose: To explore the communication needs of the patients, GPs, and community pharmacists. Furthermore, describe how the different needs should be communicated and identify what could be communicated digitally.

Method: A working group consisting of three GPs and three pharmacists representing the Norwegian College of General Practice, The Norwegian Association of General Practitioners, the Norwegian Pharmacist Association, and the Norwegian Pharmacy Association was established. The legal framework and working processes for pharmacists were explained to the GPs. A Norwegian study from 2016 investigating situations where pharmacists need more information to be able to dispense a prescription was used as a base to discuss different needs within the pharmacy. The needs for GPs were identified by empirical data.

Results: A list of situations where there was a need for communication was agreed upon. The list was divided into the needs of the patient, the GP, and the pharmacist.

Furthermore, it was agreed on which situations that still needs to be communicated by phone, what should be communicated by the patient and which situations would be suitable for digital communication. The GPs were concerned about increased workload getting digital messages from even more health personnel. The pharmacists were concerned about not getting responses back from the GPs, when a reply is wanted.

Conclusion: Pharmacists and GPs welcome a way of communicating digitally. There is a need to establish clear guidelines on how and when to use digital messages. A pilot study to develop and test such guidelines using digital messages is planned to start in 2024.

Seven cases of collaboration between municipalities and community pharmacies in the project 'Strengthening medication handling in municipalities' that identify key aspects of successful collaboration

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Background: Studies have shown that community pharmacies can contribute to strengthening medication handling in municipalities by providing relevant teaching and pharmacy services to staff about how to work safely with medication. A Danish study was conducted to strengthen the implementation of the teachings and services provided by pharmacies.

Purpose: One objective of the study was to gather information on how collaboration between pharmacies and municipalities is best organised to ensure that the services provided are practice-oriented.

Method: Seven cases highlighting essential elements of collaboration between pharmacies and municipalities in the project were selected. Three data sources were drawn from to describe the cases: 1) Reports from evaluation meetings between municipalities, pharmacies, and consultants from the Association of Danish Pharmacies. 2) A logbook of the contact between consultants from the Association of Danish Pharmacies, pharmacies and municipalities. 3) Pharmacy registration of the topics of teachings and pharmacy services provided by pharmacies.

Results: The pharmacies collaborated with the municipalities to provide the services that best suited the needs of the municipalities. In all cases, pharmacies delivered services

which were deemed highly satisfactory. Factors that contributed to effective collaboration were: 1) A key person from the municipality facilitating the collaboration between the pharmacy and the municipal institutions. 2) The participation of a person with knowledge of municipal systems and ways of working. 3) Instructing municipal staff on the purpose of receiving pharmacy services.

Conclusions: Key aspects of the importance of collaboration between municipalities and pharmacies in the delivery of pharmacy services were identified. Pharmacies delivered services which the municipalities were highly satisfied with.

The Portuguese Pharmacies' Territorial Cohesion Programme 2020-2023 edition (PTCP 2020-2023) – Results and impact

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Background: Since 2011, there has been a decline in the Portuguese population, particularly in rural areas facing service closures. Between 2011 and 2021, 257 out of 308 municipalities saw a drop in population. In the healthcare system, there is a trend of closing facilities, while pharmacies remain resilient all over the country, albeit facing challenges such as regulatory pressures and declining margins. Maintaining sustainability in this sector has become increasingly difficult, affecting investment in new services and the renewal of pharmacy infrastructure. The fragility of pharmacies is not merely an individual concern but a broader guild issue. Territorial cohesion programmes intend to balance territorial development within regions of a country. Regarding pharmacies, these initiatives address the challenges faced by pharmacies operating in low-density areas with low purchasing power and a high proportion of elderly residents.

Purpose: to characterise PTCP 2020-2023, a territorial cohesion programme developed in Portugal with the aim to promote the sustainability of vulnerable pharmacies in their original locations, addressing.

Methods: The programme allocated €500.000, with each eligible pharmacy able to receive a maximum of €20.000 in support. Eligibility criteria included factors such as geographic location, purchasing power, demographic characteristics, and sales performance compared to the national average. The

programme supported initiatives related to training, innovation, technology, human resources, infrastructure, operational efficiency, and pharmacy integration with the healthcare system. The selection process involved the evaluation of applications by a council, with 49 pharmacies ultimately receiving support totalling €428.718.09. The supported projects were co-financed between 90% and 65%. Following the project, pharmacies submitted final reports and conducted client surveys to assess the impact of the program. The evaluation of the programme was made using a self-reported questionnaire applied to the participating pharmacies, as well as financial data. Outcome measures evaluated were the EBITDA, self-reported impact on the service provided by the pharmacy and satisfaction.

Results: The implementation of supported projects led to positive outcomes, including improvements in economic and financial indicators, notably a 3.6pp increase in EBITDA. Pharmacies reported enhanced capacity to serve their populations, development of pharmacy activities, and improved proximity, quality, and equality of services. The surveyed population (n=1624) expressed satisfaction with the increased quality of patient counselling, pharmaceutical services, and scientific knowledge of pharmacy teams as an average of 4.8 on all evaluated parameters (on a scale of 0 to 5).

Conclusion: The PCTP 2020-2023 successfully provided support to vulnerable pharmacies in Portugal, contributing to their sustainability and enhancing the quality of services offered to local populations. As a limitation, the program's funding was limited, potentially leaving some vulnerable pharmacies without sufficient support. Additionally, the selection criteria may have excluded pharmacies facing unique challenges that were not fully captured by the eligibility criteria. Despite the positive outcomes observed, ongoing efforts are needed to address broader challenges facing the healthcare system and to ensure the long-term sustainability of pharmacies in rural and underserved areas. The achieved results and the positive impact of the programme on the pharmacy network have enabled the program's evolution and the launch of a 2024-2025 edition.

Understanding consumption patterns and influencing factors in the inappropriate prescription of benzodiazepines within primary health care settings

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Introduction: Anxiety and sleep disorders are highly prevalent health issues in the population. Managing these disorders may require the use of benzodiazepines (BZDs). However, the prolonged use of BZDs, especially among old people, has become an alarming and worldwide reality. The clinical benefits of BZDs occur in the short term, as their effectiveness for these indications is typically reduced after four weeks of use. Prolonged BZD use can pose risks, such as cognitive decline, mental confusion, impaired memory and attention, dependence, risk of falls, and exacerbation of respiratory dysfunction. Studying this issue in the context of Primary Health Care (PHC) is essential, as insomnia and anxiety are highly prevalent complaints at this level of care.

Aim: To examine the consumption patterns and the factors associated with the inappropriate prescription of BZD within PHC settings. **Methods.** This is a cross-sectional analytical study. All dispensing records of BZD from public pharmacies in a Brazilian municipality between 2018 and 2022 were considered to estimate BZD consumption using well-defined metrics. The Prescribed Daily Dose (PDD) and Defined Daily Dose (DDD) per 1000 inhabitants per day (DDD/1000PD) were calculated and compared with WHO DDD values. Long-term BZD use was defined as consuming at least 90 DDD and at least two dispensations per year. A multivariate logistic regression model was employed to determine which of the predictor variables (gender, age, and medication) are associated with prolonged use of BZD. The prevalence of clinically relevant drug interactions (by consulting Micromedex and Drugs.com) increasing the risk of pharmacotherapeutic safety problems in BZD use was also estimated.

Results: 40402 participants were enrolled, with female prevalence of 67.72%. and an average age of 55 years (SD=0.30). Diazepam and nitrazepam surpassed the recommended daily dose. While there was a decrease in diazepam consumption throughout the study period, as measured by DDD/1000PD, the consumption of other BZDs remained constant. Prolonged usage was detected in 29.12% of participants, with a notably higher prevalence among the elderly (38.46% of users), and advancing age emerged as a risk factor for prolonged use. Participants who utilised various

BZDs during the observation period exhibited a heightened risk of prolonged use. Elevated DDDs were also linked with prolonged usage. For drug interaction assessment, 13662 individuals receiving BZDs were studied, 6531 (47.8%) were on polypharmacy. A total of 51190 interactions related to BZDs were detected, averaging 3.75 interactions per user (SD = 4.07), 11331 (82.9%) users had at least one BZD-related drug interaction. Regarding the severity of these interactions, 861 (1.68%) were classified as major, 45733 (89.34%) as moderate, and 4596 (8.98%) as minor. None were considered contraindications. The most common interactions involved antidepressants (29.95%), antipsychotics (11.49%), and medications for peptic ulcer and gastroesophageal reflux disease (10.53%).

Conclusion: The findings provide insight into the scope of problematic prescription and inappropriate utilisation of BZDs in PHC, emphasising prolonged usage, notable prevalence among older adults, with advancing age posing as a risk factor for extended use, and the presence of significant drug interactions.

Perception of community pharmacists on their role in managing acute and chronic wounds

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Introduction: Acute wounds can become chronic if they are not managed correctly, and this often leads to a heavy financial and emotional burden for patients. Community pharmacists are well positioned to identify wound types, aetiology, and risk factors of wounds to recommend suitable treatment to manage advanced wounds that promote optimal healing.

Objective: The primary aim of the study was to investigate the role of South African community pharmacists in acute and chronic wound care management by gaining an understanding of the types of wounds commonly seen in community pharmacies, the training that pharmacists receive in wound care, and the pharmacists' perception of their own role in wound care management.

Method: A quantitative study design was utilised. A questionnaire was developed after an in-depth literature study. After conducting a pilot study, the online questionnaire was administered in August 2022 using QuestionPro®.

Stratified random sampling (according to provinces) was used to select 350 from a total of 3240 community pharmacies (rural and urban) in South Africa. The response rate was 56 (16.0%). The data was captured and analysed in Microsoft Excel® and descriptive statistics were calculated. Ethical approval to conduct the study was obtained from the ethics committee of the university.

Results: Most of the respondents (90%, n=56) were from the corporate community pharmacy sector located predominantly in Gauteng (39%, n=56) and Western Cape (23%, n=56). Just more than half of the respondents (57%, n=56) had a clinic in the pharmacy and 46% had a nursing sister on their staff. Acute wounds commonly seen by community pharmacists were burn wounds (61.8%, n=34), abrasions (58.2%, n=32) and surgical incisions (40.7% n=22). Half of the respondents (n=28) had adequate knowledge about acute wound care. A third (30.4%) of respondents indicated that they provide patients with chronic wound care advice (mostly to diabetic patients) at least once a week. Most respondents (51.8%, n=56) indicated that they educate themselves about advanced wound care by reading journal articles to stay up to date with wound management. Respondents cited lack of training/knowledge (26%, n=50) and time constraints (20%, n=50) as challenges faced when providing wound care services. As much as 70% (n=46) of respondents were in favour of an increased focus on wound care services in their community pharmacies.

Conclusion: Community pharmacists in South Africa play an important role in acute and chronic wound care services. Greater focus should be placed on training programmes and workshops to better equip pharmacists with the knowledge necessary to assist patients with wound care management and education.

Thirty years of the Syringe Exchange Programme in Portugal: The intervention of pharmacies in a successful case in the fight against AIDS

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Background: In the 1990s, Portugal faced an increase in new cases of HIV infection, especially among injectable drug users (IDU). It was urgent to find a solution that was difficult to implement on the ground, but Portuguese pharmacies, as public health agents, soon understood how essential it was and became part of the solution.

The Syringe Exchange Programme (SEP) "Say No to a Second-Hand Syringe" resulted from a partnership between the National Commission for the Fight Against AIDS (CNLCS), the Ministry of Health and the National Pharmacy Association (ANF), in 1993 and aimed to prevent the transmission of the Human Immunodeficiency Virus (HIV) among injectable drug users.

Purpose: 2023 marked 30 years since the implementation of the SEP, a pioneering risk reduction aimed at a population vulnerable to infection. This programme was implemented and operated exclusively in Portuguese pharmacies until the end of 1998 and was then also carried out by governmental and non-governmental entities.

This purpose is to understand the cases of HIV infection in Portugal over these 30 years, since the first case was reported in Portugal in 1983, analyse the intravenous consumption of psychoactive substances and relate it to the number of syringes distributed within the scope of the SEP. Finally, the authors will analyse the impact of the SEP on the number of cases of HIV infection and AIDS in injecting drug users in Portugal between 1993 and 2023.

Method: Know all this data through reports from official Portuguese institutions, namely the reports issued by DGS-INSa on HIV Infection and AIDS in Portugal between 1993 and 2023. And the data provided by the Intervention Service on Addictive Behaviours and Dependencies (SICAD), will allow us to know data on intravenous drug consumption in Portugal in the same period.

Results: Over these three decades, the SPE guaranteed the distribution of 64,159,008 syringes, an annual average of 2,138,634 syringes (Table 1). From 2013 to 2022, the annual average was 1,252,192 syringes, which reveals a reduction in the number of syringes distributed annually justified by changes in consumption patterns, with the smoked route gaining more and more ground.

In the last decade, the number of AIDS diagnoses in cases associated with IDU transmission has been decreasing (Table 2). When comparing the number of AIDS cases diagnosed in 2000 and 2022, there was a huge reduction in IDUs (90%).

Conclusion: The downward trend in new diagnoses of HIV infection associated with drug use since 2000 reflects the results of the policies and strategies implemented in this area, with a huge impact on changing behaviours associated with consumption. Over these three decades, pharmacies have become key partners in this strategy to combat HIV/AIDS in Portugal by participating since the very beginning of these strategies.

Exploring the factors influencing the continued use of medication event reporting systems in community pharmacies

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Medication incidents, also known as medication errors, within community pharmacies persist as significant safety concerns despite the evolution of medication dispensing practices. Understanding and addressing these incidents is crucial for enhancing workflow practices, mitigating risks, and enhancing patient safety. Digital platforms and information systems have emerged to facilitate incident reporting and management, thereby fostering continuous quality improvements in safety protocols. However, despite the imperative and, at times, mandatory nature of reporting medication incidents and near misses, sustained use of these systems remains suboptimal. This study delves into the factors influencing the continued use of reporting systems for medication incidents and near misses within Canadian community pharmacies. Grounded in theories of continued Information Systems use and Techno-stress, this research model is designed to elucidate key determinants. Through an online survey of 206 pharmacy practitioners, the authors identify several factors impacting the ongoing use of these reporting systems, including perceived usefulness, confirmation of system expectations, techno-overload, social pressure, and perceived threat. These findings underscore the complexities surrounding the continuous use of healthcare technologies in community pharmacies. The authors discuss the implications of these factors for pharmacy practice and academic scholars interested in enhancing this understanding of technology's continued use in these contexts. In conclusion, there are multiple factors influencing the use of reporting systems and social pressure, whether from superiors or peers, was the factor that most influenced pharmacy practitioners to continue the use of medication event reporting systems in community pharmacies.

Understanding attitudes and perceptions towards antibiotics and diagnostic testing for upper respiratory tract infections across six European countries

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Background: Upper respiratory tract infections (URTI) are common in adults across the globe, and advice is often sought from healthcare professionals (HCPs) about symptoms and available treatment options.

Aim: To examine the attitudes and perceptions surrounding RTIs, with a particular focus on the significance of diagnostic testing, in order to generate insights that can drive behaviour change related to antibiotic use.

Methods: An observational, questionnaire-based study was conducted on adults from Brazil, Germany (DE), Spain (ES), Italy (IT), Mexico, the Philippines, Poland (PO), Romania (RO), Saudi Arabia, Thailand, the United Kingdom (UK) and South Africa (n=1000 per country) who had experienced and were treated for RTI symptoms in the past six months. The online questionnaire explored RTI experiences, antibiotic use, attitudes and behaviours towards antibiotics and antimicrobial resistance (AMR). For some questions, respondents could select more than one answer, for example, where they sought advice on how to treat their respiratory symptoms.

Results: Of 12,000 eligible adults who completed the questionnaire, 6000 were from European countries. Overall, 81% (range: 56% [UK]–104% [IT]) of respondents sought advice from an HCP on how to treat their respiratory symptoms; specifically, 38% (range: 30% [UK]–46% [RO]) sought advice from a pharmacist. 39% (range: 34% [ES]–44% [DE]) of respondents reported that they had taken antibiotics for an RTI in the past six months, of which 71% (range: 62%

[UK]–77% [PO]) were provided the antibiotic by a doctor, nurse or pharmacist. The diagnosis was often part of the consultation among those taking antibiotics; 71% (range: 63% [PO]–77% [DE]) received diagnostic procedures, with physical examination (34%, range: 20% [IT]–45% [DE]) and swab testing (27%, range: 17% [ES]–45% [IT]) being the most common procedures performed. Out of the respondents who received a diagnostic test, 83% (range: 75% [DE]–88% [RO]) were confident with the results, while 5% (range: 2% [IT]–9% [DE+PO]) were not confident. In addition, 42% (range: 38% [IT]–49% [UK]) hoped that the diagnostic test would provide information as to which treatment was right for them. Of all respondents, 73% (range: 68% [IT]–78% [RO]) agreed that the next time they visit the doctor for a respiratory illness, they would like a diagnostic test to confirm if antibiotics are necessary. Of respondents who would like a diagnostic test, 28% (range: 22% [RO]–35% [IT]) would like a pharmacist to perform the test, and 24% (range: 18% [DE]–30% [UK]) would like to buy the test at a pharmacy and perform it at home.

Conclusion: The findings indicate that respondents felt confident with the results of diagnostic procedures, their value in directing the appropriate treatment choices and the role pharmacists could play in provision, which would have implications for appropriate RTI management reduce unnecessary antibiotic use and mitigate AMR.

Surviving in the deep end: The story of the NHS community pharmacy independent prescribing pathfinder programme

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Background: In the UK, there are over 90,000 pharmacy professionals on the General Pharmaceutical Council (GPhC) register. Community pharmacists in England represent 52% of the pharmacists on the GPhC register. Currently, there is no provision in England for pharmacist Independent Prescribers (PIPs) to prescribe on the National Health Service (NHS). This has led to a significant number leaving the sector to work in primary and secondary care. In January 2023, NHS England (NHSE) announced their intention to fund a Community Pharmacy Independent Prescribing Pathfinder Programme. It aims to establish a framework for the future commissioning of NHS community pharmacy clinical services incorporating independent prescribing in primary care.

Purpose: In a sector where NHS prescribing has never been done before, NHSE set out to:

- Establish Pathfinder sites to test the delivery of independent prescribing (IP) in community pharmacies across all NHSE regions.
- Identify the optimum processes, including governance, reimbursement, and IT requirements, that are required to enable IP in community pharmacies.
- Inform the development of professional and clinical service standards that support assurance of IP activities in community pharmacy services.

Methods: A letter and an expression of interest form with accompanying appendices including a detailed clinical governance guidance document was sent to each Integrated Care Board (ICB), inviting them to express an interest in taking part in the programme.

Results: All 42 ICBs in England expressed their interest in taking part in the programme, and 210 pharmacy sites were approved with ICBs to start implementing the programme from August 2023. The number of sites allocated to each ICB was decided based on population density, health inequalities, size of geography and availability of PIPs. The ICBs proposed 3 types of clinical models: Adding to existing national advanced clinical services (e.g. Community Pharmacist Consultation Service, Contraception); long-term conditions (e.g. cardiovascular disease and respiratory disease); and bespoke, novel clinical areas (e.g. deprescribing, antidepressants and menopause care). Despite these achievements, the success of the Pathfinder Programme hinges on addressing critical bottlenecks relating to setting Pathfinder sites as NHS cost centres, accessing patients' medical records and pathology services, setting up prescribing systems, recording consultations, notifying the patient's GP and remuneration.

Conclusion: NHS prescribing in community pharmacies in England will enable improved access to medicines and services in the community. However, since community pharmacy has existed for so long outside of the NHS, this change in role is forcing the supporting systems to change and accommodate community pharmacy input. Evaluation of the Pathfinder Programme is underway to understand its clinical and cost-effectiveness and develop recommendations to inform the future direction of the commissioning of Independent Prescribing in Community Pharmacies.

The perceptual system of autonomously motivated older chronic medication users regarding medication adherence: An interactive qualitative analysis

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Background: Medication adherence among older adults is a critical component of healthcare, yet understanding the role of motivation in this process remains limited. This study addresses this gap by examining how autonomous motivation levels influence perceptions of medication adherence among older chronic medication users.

Purpose: The objective of this study was to investigate the perceptions of older chronic medication users who are autonomously motivated regarding their medication adherence.

Method: This study utilised a qualitative research approach, namely an Interactive Qualitative Analysis (IQA). The Treatment Self-Regulation Questionnaire (TSRQ), was used to identify the members of an autonomously motivated focus group. The study focused on individuals aged 60 years and older who had been regularly using chronic medication for a minimum of six months. Participants who did not self-administer their medication, lived in elder care facilities, or had been using medication for less than six months were excluded from the study.

Affinities were identified and a mind-map was created for analysis. Qualitative data analysis techniques were employed to examine the affinities and feedback loops within the system.

Results: The autonomously motivated group comprised 10 individuals, with 7 females and 3 males, all aged between 70 and 75 years. Participants were currently on medications for conditions such as hypertension, hypothyroidism, and hormone imbalances

This autonomously motivated group of older chronic medication users regarded 'Responsibility' as their primary driver in medication adherence. They defined 'Responsibility' as "Understanding how your choices will ultimately affect yourself and others."

Secondary drivers included "Relationships with healthcare providers", and "Understanding the implications of medication". The primary outcome observed within this group was the development of a Medication Management System, which they defined as having a structured plan to consistently take their prescribed medication. This

autonomously motivated group of older adults demonstrated proactive health management behaviours.

Conclusion: This study highlights the importance of the type of motivation in perceptions of medication adherence among older adults. It suggests that autonomously motivated older adults take proactive steps to ensure they adhere to their medication regimen.

Findings suggest the need for interventions by pharmacists which enhance individuals' autonomous motivation, coupled with providing education about the potential risks and benefits of their medication. This approach emerges as a valuable strategy for enhancing medication adherence. Future research could investigate the perceptions among control-motivated groups as well as the effectiveness of possible intervention strategies.

Community pharmacists' attitudes of future roles and professional preparedness in the management of atopic dermatitis

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Introduction: Pharmacist roles have evolved from medication supply to patient-focused care. From 2026, newly registered pharmacists in the United Kingdom (UK) will qualify as independent prescribers, furthering the evolution of the profession and improving access to medicines and patient care. Atopic dermatitis (AD) is a chronic skin condition affecting one in 10 people in their lifetime and requires long-term management. Community pharmacists (CPs) play an important role in this management as front-line healthcare providers. The evolution of the profession may contribute to AD patients receiving better healthcare in community pharmacies. Besides developments in the pharmacy profession, healthcare technology is steadily developing. Personalised medicine (PM) and pharmacogenomics (PGx) are supposed to be the mainstays of future healthcare. In this context, CPs' insight into their future roles in the management of AD is crucial. This qualitative study aimed to identify CPs' attitudes towards their changing role and involvement of PM and PGx in the management of AD.

Method: Semi-structured, in-depth interviews were conducted with CPs in the UK, and each interview was audio recorded. Recordings were transcribed verbatim and transferred to NVivo software for data management. Inductive thematic analysis was used to identify key themes and subthemes. Following line-by-line coding, relevant codes were categorised into subthemes and then associated subthemes were combined to identify main themes. Ethical

approval was granted by Newcastle University Ethics Committee.

Results: Fourteen CPs were interviewed between December 2022 and October 2023. Following thematic analysis, a main theme, 'changing CP role in AD management', was identified and consisted of two subthemes: i) value of prescribing capacity and ii) unpreparedness of CPs for the future. Participants were eager to have prescribing status soon and described it as having extra skills in supporting patients with AD, with one specific example, being able to prescribe topical corticosteroids for an AD flare-up. However, participants thought that the prescribing capacity still requires additional training and that CPs must be confident in prescribing.

In addition, participants were receptive to the idea of integrating PM and PGx into the current management of AD and implementing them in community pharmacies. Nonetheless, participants claimed CPs are currently unprepared to adopt PM and PGx since some participants themselves did not have much knowledge. They also believed the infrastructure of community pharmacies was insufficient for implementing PM and PGx services. They suggested community pharmacies should properly get resources to provide these services.

Conclusion: Participants were keen to have prescribing status and embed PM and PGx in the management of AD within community pharmacies. However, they reported extra training is needed for them to be more self-confident in the transition from a more conventional pharmacy role to the expected future role. Moreover, participants suggested that community pharmacies should get appropriate remuneration for the delivery of PM and PGx services. For future research, a larger scale study is needed to evaluate how CPs would utilise prescribing status and contribute to implementing PM and PGx in the management of AD.

Explore the responsibilities of licensed pharmacists in serving the Healthcare security system at community pharmacies in China: A documentary research

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Background: Eligible community pharmacies can apply for authorisation to become Designated Community Pharmacies (DCPs) to provide medicines listed in the National Healthcare Security Catalogue (NHSC) at a subsidised price to ensure affordable access to essential medicines for insured patients. Despite their pivotal role, the specific responsibilities of licensed pharmacists (LPs) within DCPs remain largely unknown.

Purpose: To identify and summarise the responsibilities of LPs in the DCPs.

Methods: A documentary analysis of government policies, regulations, and official information about the participation of LPs in the management of DCPs management was conducted from 31 January 2018 to 29 February 2024.

Results: China has issued 21 high-level policy documents related to DCPs and LPs, mainly by the National Healthcare Security Administration and the National Medical Products Administration. The basic responsibilities of LPs in DCPs were outlined in 5 documents, including: (1) pharmacy service: LPs are responsible for drug management, prescription review, dispensing, and providing guidance on the lawful and rational use of medication; (2) supervision of the National Healthcare Security Fund (NHSF): LPs oversee the review of medicines under NHFC, adhering to specified procedures; (3) supervision of pharmacy service: LPs supervise the quality of medicines and pharmacy service activities within their scope of practice.

Conclusions: China has delineated a policy framework outlining the supervisory responsibilities of LPs in managing the utilisation of the NHSF at DCPs. However, existing policies lack specific implementation guidelines, potentially

compromising their effectiveness. Future policy improvements are needed to clarify the scope of responsibilities, management processes, and reporting channels of LPs.

Primary healthcare re-engineering and provider reimbursement models: Pharmacists' roles as South Africa navigates towards universal health coverage

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Background: Universal health coverage has gained significant momentum internationally as the policy solution to promote equitable access to quality healthcare. The South African government is moving towards a National Health Insurance (NHI) system. A large part of the proposed policy has focused on promoting the functionality of the primary healthcare system (PHC) and the integral role of pharmacists as providers in order to promote an efficient referral pathway.

Purpose: This study sought to explore potential barriers perceived by key role-players (policy developers, pharmacists and medical insurance personnel) that could hinder achieving the NHI goal. Furthermore, given that a large focus is centred on PHC re-engineering, it was imperative to understand participant's opinions and perspectives on the role of a pharmacist at this level.

Methods: A qualitative research design was adopted in this study. Semi-structured interviews were conducted with thirty participants that were selected via a referral technique. These were audio recorded using a digital voice recorder on an online platform, transcribed verbatim and saved on Microsoft Word documents. NVivo[®] was utilised to facilitate the analysis of data. A thematic analytical approach was used to categorise codes into themes.

Results: Participants expressed that the inclusion of a pharmacist as a PHC provider will enhance accessibility to essential healthcare services as the profession adopts a more patient-centred role and reinforces the referral system. Crucial challenges identified by stakeholders included: (1) lack of a suitable reimbursement mechanism; (2) system nepotism and corruption; (2) gap in service delivery between the public and private sector; (3) lack of role-player engagement; (4) governmental capacity and capability deficiencies; (5) misalignment of local and national levels of care.

Conclusion: This study provided stakeholder insight into the perspectives and level of readiness of pharmacists as PHC providers. Stakeholder concerns could compromise the efficient functionality of NHI and attaining UHC. Policy and practice changes need to be made collaboratively between policy implementors and role players to promote better synergism within the healthcare system. These findings can be utilised as evidence for other low- and middle-income countries working on attaining UHC.

Prioritising intersectionality and collaborative models for pharmacists' involvement in cancer control: A comprehensive approach to enhance cancer control in LMICs

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Objective: Cancer is overburdening health systems, with low- and middle-income countries in sub-Saharan Africa bearing the highest burden, where some countries do not have oncologists to cater to patients. Health professionals such as community pharmacists could play more vital roles in improving cancer control, given that they are the most accessible health professionals in this region. Thus, a strategic framework for prioritising intersectionality and collaborative models to improve access to cancer control could be key.

Methods: The strategic framework emphasises the intersectionality in priority-setting for cancer control, recognising the interconnected determinants shaping health disparities in access to cancer care and the need for a collaborative model of care involving community pharmacists as integral players. Readiness assessments were conducted with patients, pharmacists, oncologists, and policymakers using a novel framework, employing qualitative in-depth interviews to gauge preparedness and support for pharmacists in cancer control and collaborative care.

Results: The collaborative model showcases pharmacists as vital contributors to cancer control, including supporting screening, diagnosis and survivorship within communities and helping patients navigate the referral system towards specialised care. Evidence from readiness assessments so far suggests positive indications from pharmacists, oncologists, and policymakers toward collaborative models.

Conclusion: There is a positive trajectory for the integration of pharmacists into cancer care teams in LMICs. The patient-level factors underscore the necessity for targeted interventions, including improved geographical accessibility to pharmacists, to enhance early diagnosis and afford patients quicker access to treatment. Prioritising

intersectionality in cancer control and the potential of collaborative care involving pharmacists could serve as a comprehensive approach that provides a roadmap for health systems in LMICs to strategically set priorities for cancer control. The positive indications from stakeholders underscore the urgency of adopting this approach to address the unique challenges in LMICs and ultimately improve cancer outcomes.

Planetary health and antibiotic disposal advice across Australian pharmacies: A mystery shopping expedition

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Background: Improper disposal of unused antimicrobial agents disrupts ecological equilibrium and escalates the proliferation of drug-resistant microorganisms. Pharmacists are well-positioned to support planetary health by facilitating appropriate disposal of antimicrobials. In Australia, a government-funded scheme allows community pharmacies to accept unwanted medicines for high-temperature incineration at no financial cost, but awareness of this scheme varies. Understanding the current antibiotic disposal advice and information given by pharmacists to consumers is pivotal in shaping informed policies and educational strategies to promote planetary health.

Purpose: To investigate the recommendations for the disposal of unwanted antibiotics given as advice to consumers by community pharmacists practising in Australia.

Method: A cross-sectional study design utilising a mystery shopping method was used to explore what pharmacists were recommending to the public regarding the disposal of unwanted antibiotics. Simulated patients called community pharmacies across all states and territories in Australia and asked for advice regarding the disposal of the leftover antibiotic mixture.

Results: Overall, 15 12 pharmacies were called across Australia, covering at least 10-20% of pharmacies in all states and territories. Over 60.1% of pharmacists recommended putting the leftover antibiotic syrup down the sink or down the toilet. About 13.4% recommend putting the unused antibiotic straight into the rubbish bin. About ten pharmacists recommended throwing the leftover syrup on the grass, soil

or in a street drain. 15 pharmacists did not want to give a recommendation at all, with some stating they needed to call their doctor to ask. 624/1533 (41.2%) of pharmacists recommended bringing the medication back to the pharmacy, but of that, 16/624 (2.5%) who recommended bringing back the leftover antibiotic syrup, still stated they would throw the returned medicine down the sink once returned.

Conclusion: Advice on antimicrobial disposal varied among many pharmacists, and not many pharmacists commented on the impact inappropriate disposal could have on the environment. Improvements in education and policy would support pharmacists to advise the public on the appropriate disposal of antimicrobials and other medicines. It is important the authors also provide solutions for patients who do not live close to the pharmacy and would still like to dispose of unused antibiotics properly without the inconvenience of returning to the pharmacy.

Pharmacists' and general practitioners' views on electronic alerts to aid detection, prevention, and management of potential prescribing cascades: A qualitative interview study

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Introduction: A prescribing cascade is a phenomenon where a medication is prescribed to manage the adverse effect(s) of another medication. Prescribing cascades are an under-recognised contributor to inappropriate polypharmacy, and healthcare professionals have difficulty in identifying and managing them in practice. There is a clear need for more innovative solutions to minimise these cascades in practice, and input from potential end-users is vital to guide their creation. Therefore, the primary aims of this study were to explore the views of pharmacists and general practitioners (GPs) on the use of electronic alerts to minimise prescribing cascades and to identify key features and behavioural influences affecting their use.

Method: Semi-structured interviews were conducted in April-July 2023 with seven community pharmacists and seven GPs working in Cork, Ireland. Interviews were audio-recorded and transcribed verbatim. Conventional content analysis was used initially to identify themes and subthemes. Directed content analysis, through the employment of the Theoretical Domains Framework (TDF), was utilised to identify the TDF domains influencing the use of electronic alerts for potential prescribing cascades.

Results: Five TDF domains were identified as predominant in influencing pharmacists' and GPs' use of electronic alerts for prescribing cascades:

1. knowledge: alerts would help address insufficient knowledge about prescribing cascades, serve as an education resource, and aid in the standardisation of care between settings.
2. environmental context and resources: alerts are needed given the pressures in primary care and lack of time for reviewing medications. There were concerns regarding alert integration into current workflow, and it was suggested that alert use could be modified at the level of individual settings.
3. memory, attention, and decision-making: whilst minimising alert fatigue, alerts must grab end-users' attention (e.g. through colour and a forced function that must be acknowledged before proceeding). Prescribing cascade alerts would minimise reliance on information recall and having evidence-based suggested actions to aid decision-making was perceived positively.
4. Social/professional role and identity: interviewees perceived they were the right people to receive these alerts given their oversight on patients' medications, whilst also considering the responsibilities of others who see them (e.g. locum GPs, other pharmacy staff). Whilst pharmacists perceived their roles more in flagging potential prescribing cascades, alerts gave pharmacists confidence in flagging such cascades to GPs.
5. Beliefs about consequences: alerts would have an overall positive impact on practice, increasing prescribing cascade identification, reducing patients' medication burden, and minimising future healthcare consultations.

Conclusion: This study uniquely identified key behavioural influences on primary healthcare professionals' use of electronic alerts for prescribing cascades. Whilst the transferability of some findings may be limited given the different extents of electronic system advancement internationally, the use of a robust theoretical framework should aid the targeting of key behaviours for future intervention. This study's findings should aid the development of prescribing cascade alerts or similar software interventions to minimise prescribing cascades and ultimately reduce patient harm.

Attitudes, perceptions and their associations with complementary and alternative medicine utilisation for malaria prevention

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Introduction: Malaria remains a major public health problem in Ghana despite a significant reduction in morbidity and mortality. The 2024 – 2028 National Malaria Elimination Strategic Plan seeks to integrate the practice of Complementary and Alternative medicine (CAM) with the existing system for malaria control in Ghana. However, little is known about the use of CAM remedies for malaria prevention in the general population and the extent to which perceptions about malaria and attitudes influence its utilisation. This study, therefore, assessed the role of perceptions and attitudes on CAM use for malaria prevention in the general population.

Methods: A cross-sectional survey was conducted from September to November 2023. Multistage sampling techniques were used to sample 6 regions, 6 districts, and 18 sub-districts, where 3064 randomly selected adults above 18 years were interviewed. The study evaluated factors including CAM utilisation for malaria prevention, attitudes towards malaria vaccines using the beliefs about medicine questionnaire-specific, perceptions about malaria using the 9-item brief illness perception scale, and sociodemographic factors. Multiple logistic regression analyses were employed to identify the predictors of the outcome.

Results: The lifetime and 12-month prevalence of CAM for malaria prevention was 39.2% (95%: 37.5-41.0%) and 35.9% (95%: 34.2 - 37.6) respectively, with herbal medicines (69.6.4%), vitamin supplements (36.4%), mineral supplements (32.5%) and spiritual healings/prayer (29.4%) as the top four. While 10% of the participants were sceptical, 16.6% accepted the use of CAM to prevent malaria. Stratified by sex, a significant difference in the prevalence was observed, 41.2% among males versus 37.3% among females ($P < 0.05$). The odds of CAM use for malaria prevention increased with an increase in fear of the consequences of

malaria (aOR: 1.14, 95% CI: 1.10-1.19), and perception of the continuous existence of malaria (aOR: 1.05, 95% CI: 1.01-1.09), personal control over malaria (aOR: 1.09, 95% CI: 1.05-1.13), CAM effectiveness for malaria treatment (aOR: 1.24, 95% CI: 1.19-1.29), experience of severe cases of malaria (aOR: 1.08, 95% CI: 1.04-1.13), higher concern about malaria (aOR: 1.05, 95% CI: 1.01-1.09) and higher emotional response to malaria (aOR: 1.13, 95% CI: 1.08-1.17). Compared to participants who accepted CAM for malaria prevention, those who were sceptical (aOR: 0.39, 95% CI: 0.27-0.55), ambivalent (aOR: 0.60, 95% CI: 0.46-0.79), and indifferent (aOR: 0.29, 95% CI: 0.21-0.38) were less likely to use CAM to prevent malaria. Older patients aged 60+ years had 2.6 times higher odds of utilisation (aOR: 2.61, 95% CI: 1.45-4.70) compared to those aged 18-9 years.

Conclusion: Attitudes and perceptions influence the utilisation of CAM for malaria prevention, with a significant difference in prevalence between males and females. The findings suggest the need for continuous assessment and development of guidelines with a focus on gender to maximise patient benefit from the use of CAM for malaria prevention or treatment. Research validating the clinical efficacy of herbs, especially for malaria prevention, and isolating lead compounds for prevention and treatment is recommended.

Transforming Nigeria's informal pharmacies: Strengthening regulatory oversight and quality assurance systems for improved access to quality medicinal products

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Background: In Nigeria, where a significant portion of the population relies on informal drug shops, privately owned pharmaceutical retail outlets, and proprietary patent medicine vendors (PPMVs) for receiving healthcare, ensuring the quality and safety of medicines dispensed by these providers is critical. Many PPMVs—serving as primary healthcare providers—operate without proper licenses nor adherence to good pharmacy practices, raising concerns about medicine quality and public health safety risks. The Pharmacy Council of Nigeria (PCN) faces challenges in regulating an estimated 200,000 PPMVs due to its limited resources and technical capacity.

Purpose: To address these issues, the U.S. Agency for International Development (USAID)-funded Promoting the Quality of Medicines Plus (PQM+) programme collaborated with stakeholders including the National Association of Patent and Proprietary Medicine Dealers (NAPPMED) and

PCN to enhance regulatory oversight and bridge gaps (e.g., insufficient staffing and resources) in primary care.

Method: PQM+ adopted a multifaceted approach, collaborating with NAPPMED and PCN to conduct training sessions aimed at enhancing communication, conflict management, and effective engagement between inspectors and PPMVs. These sessions equipped inspectors from six Nigerian states with skills to verify PPMV registration status, assess medicine quality, and review storage conditions during inspections. Trainers also educated PPMVs on inspection procedures and what to anticipate during regulatory visits, fostering transparency and understanding between regulators and vendors. Additionally, PQM+ supported the revision of PCN's inspector's manual and developed standardised inspection forms to streamline regulatory inspection processes, further enhancing the capacity of inspectors to ensure medicine quality and regulatory compliance.

Results: These efforts led to tangible improvements, including PCN achieving global accreditation, including ISO 9001:2015 certification and attained, along with the National Agency for Food and Drug Administration and Control (NAFDAC) of Nigeria, the World Health Organisation (WHO) Global Benchmarking Tool (GBT) maturity level 3 for facility inspection and licensing. Furthermore, PQM+ facilitated training for more than 2,300 PPMVs on good practices in stocking and selling quality-assured medicines.

PPMVs also learned about licensing and received incentives to register with PCN, including business support, additional training, and supportive supervision. As a result, the number of registered PPMVs increased.

Due to programme interventions, instead of buying their medicines on the unregulated open market, PPMVs began sourcing quality-assured products from registered wholesalers, thereby enhancing the overall quality and safety of the medicines distributed.

Conclusion: Sustained collaboration between PCN, NAPPMED, and other stakeholders is deemed essential for expanding regulatory oversight and ensuring access to safe, effective, and quality-assured medicines for all Nigerians. Registration and licensing fees could serve as sustainable funding sources to support regulatory activities and enhance PCN's capacity to oversee the extensive network of PPMVs nationwide.

By strengthening regulatory frameworks and fostering collaboration, Nigeria's informal pharmacies can continue to evolve from being rather a challenge to the health system to now becoming an integrated component of the regular health system stream and contributing to improving patient health outcomes and promoting the public health status of the Nigerian population.

The effect of the impact of sunscreen recommendations from pharmacists on sun protection behaviours: A pilot study

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Introduction: To effectively treat dermatological problems and prevent skin cancer, it is crucial to implement appropriate measures for sun protection. The existence of varying groups that must comply with sun protection advice highlights a significant deficiency in awareness and implementation of these precautions.

Purpose: To bridge the disparity between expert suggestions and personal sun exposure practices by investigating the crucial role that pharmacists play in offering guidance on sun protection and skin cancer prevention.

The primary objective of this study was to examine the sources from which medical professionals acquire advice for the application of sunscreen and evaluate the sun exposure patterns that arise as a result of these recommendations. It was anticipated that the advice provided by medical professionals would have a positive impact on sun protection practices, resulting in a more regular and efficient application of sunscreen.

Method: The study was conducted in August 2023 and used a convenience sample of 38 participants who were visiting a pharmacy. A dermatologist, in conjunction with a pharmacist, conducted a survey using a questionnaire consisting of 30 questions. Participants were surveyed about their sun exposure habits, patterns of sunscreen consumption, and the sources of their sunscreen recommendations, as well as providing demographic information, in order to conduct a thorough study. The variables of sunscreen application frequency, engagement in outdoor activities, and occupational sun exposure were examined closely to identify trends in behaviour.

Results: The group of participants, who had an average age of 38.7 years and were mostly female (81.6%), mainly obtained advice on sunscreen from pharmacists (47.4%) rather than physicians. The majority of individuals indicated that they applied sunscreen once every day, yet there was a significant range in the occurrence of sunburns. Significantly, 44.7% of the individuals participated in outdoor activities despite primarily working indoors, suggesting a discrepancy in implementing sun safety recommendations. The intervention demonstrated greater involvement among

younger males and older females, indicating that public health messaging is more effective for specific demographic groups. The results indicate a lack of correlation between receiving professional advice and actually implementing sun-safe measures, highlighting the necessity for more focused and persistent public health strategies. The study's demographic findings emphasise the significance of customising interventions to effectively target and involve certain communities.

Conclusion: This preliminary study emphasises the crucial role of pharmacists in influencing behaviours related to sun protection, indicating that pharmacy environments have a substantial potential to be successful platforms for public health interventions. This study serves as a preliminary examination, setting the stage for larger-scale research aimed at improving the effectiveness of interventions to promote sun safety. It supports the idea of involving physicians more directly in providing guidance on sun protection. In light of these discoveries, further studies should broaden the scope of participants and examine the distinct effects of guidance from different healthcare practitioners on behaviours related to safeguarding oneself from the sun.

Vaccination in the pharmacy: Analysis of the implementation of a monitoring programme for people vaccinated in community pharmacies

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Introduction: The administration of vaccines not included in the National Vaccination Programme is one of the health promotion services provided by Portuguese Community Pharmacies since 2007. To increase COVID-19 and Flu vaccination coverage of the population in Portugal, the Autumn-Winter 2023-2024 Seasonal Vaccination campaign started on the 29th of September of 2023, with the aim to vaccinate 2.5 million people in around 3,500 vaccination points across the country, 2,500 of which were community pharmacies. It was developed a tool to monitor vaccinated people in pharmacies, providing an opportunity for teams to monitor people who were more reluctant to receive vaccination, support the management of any reported adverse reactions and evaluate participant satisfaction with the service provided by pharmacies.

Methods: The Ezfy // Vaccination service was designed to monitor people vaccinated in community pharmacies, to evaluate the safety profile and support the management of possible adverse reactions to the vaccines. The database of people included in the service since its launch, from 30th of September of 2023 to 8th of March of 2024, was analysed in Excel® and Salesforce Health Cloud®. The information was

collected in Salesforce Health Cloud® by each pharmacy involved, using a customised form.

Results: The Ezfy // Vaccination service consists of a follow-up contact approximately two days after the administration of the vaccine(s). The service was made available to 120 pharmacies. During the aforementioned period, 1506 people were signalled for the service, in 26 pharmacies. As of 8th of March 2024, 1404 people have completed the follow-up contact. Most of the individuals identified are between 61 and 90 years old (78.50%; n=1182), 58.10% (n=875) of whom are female. Of the 1404 people who completed the follow-up contact, 65.60% (n=921) received both the COVID-19 vaccine and the Flu vaccine simultaneously, 14.81% (n=208) only the COVID-19 vaccine and 11.25% (n=158) only the Flu vaccine. 15.6% (n=206) of people reported having adverse reactions associated with the administration of the vaccine(s), the majority being reactions at the injection site (pain, swelling, redness, itching) (46.8%; n=137) and general disorders such as fatigue, chills and general malaise (22.53%; n=66). 10.81% (n=154) of participants reported needing more information about vaccination, 1.54% (n=22) reported negative feelings towards the vaccine, and 0.8% (n=11) had doubts about its effectiveness. Of the monitored participants, only 0.71% (n=10) were referred to other healthcare settings. On a scale of 1 to 10, where 1 means "Terrible" and ten means "Excellent", 90.53% (n=1118) of the participants who responded (n=1235) rated the experience with the service as 10 and 7.7% (n=96) as 9, with an average of 9.87.

Conclusion: The implementation of a follow-up service after the administration of vaccines in the context of a community pharmacy is feasible, allowing the pharmacist to support participants in managing adverse reactions, refer them to other appropriate healthcare setting whenever necessary, and assess satisfaction with the service provided at the pharmacy.

Implementation of a pharmaceutical service to support the initiation of injectable medicines

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Introduction: The initiation of injectable medicines can be a challenge. Studies demonstrate that fear of needles and apprehension about the administration are some of the main barriers to starting injectable medicines. The management of the treatment (self-injection, dose titration, knowledge and management of side effects) is also highlighted as a barrier to adherence to therapy. The role of pharmacists in supporting the initiation of injectable therapies is therefore important, through the implementation of follow-up programmes that

ensure that people know how to administer the medication correctly and adhere to the treatment over time.

Methods: The First Dispensing of Injectable Medicines Service was designed following the experience gained with two programmes to support the initiation of injectable therapies in Diabetes and Rheumatoid Arthritis, which involved 720 people in 88 community pharmacies. The database of people included in the service since its launch, from the 14th of September of 2023 to the 12th of March of 2024, was analysed in Excel® and Salesforce Health Cloud®. The information was collected in Salesforce Health Cloud® by each pharmacy involved using customised forms.

Results: The Service consists of an initial assessment to support the self-administration of the injectable medication (t0) and two follow-up contacts after 7 days (t1) and 30 days (t2) to assess adherence to therapy and solve problems related to the medication. During the aforementioned period, 74 people were included in the service in 25 pharmacies, with 44 follow-ups completed by the 12th of March. Most of the people included are between 51 and 90 years old (77.0%; n=57) and the majority are female (68.9%; n=51). Of the 68 people who completed t0, 34.8% (n=24) were using an injectable medicine for the first time. The majority of people (78.3%; n=54) were taught how to use the injectable medicine at the pharmacy, and 36.8% (n=25) administered the medication there. In 53.9% (n=14) of the participants, the administration was carried out by the pharmacist, and 42.3% (n=11) administered the medication with the support of the pharmacist. At t1, 96.6% (n=56) of the participants were taking the prescribed medication, declining to 86.4% (n=38) at t2. At the end of the program, the majority of people (95.5%; n=42) reported using the device correctly, with 66.0% (n=31) reporting having no difficulties using the device. Of those who reported difficulties, the main ones were "sticking" and changing the needle. Most of the participants revealed they were administering the medication at home independently (72.7%; n=32), and 20.5% (n=9) were administering the medicine at the pharmacy. Regarding the satisfaction with the support provided, on a scale of 0 to 10, where one means "Terrible" and ten means "Excellent", participants rated the experience with the support provided between 7 and 10, with an average of 8,9.

Conclusion: The implementation of a pharmaceutical service to support the initiation of injectable medicines is feasible, allowing the pharmacist to provide patient follow-up, in a personalised way, ensuring the correct administration and promoting adherence over time. It is also a service highly valued by the participants involved.

The community pharmacist beyond the counter: An experience engaged with the community

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Background: The present trend in Argentina of self-medication for everyday health issues, coupled with the advertising and accessibility of medication, as well as the distribution of medicines outside officially licenced pharmacy premises, has prompted this involvement in this professional intervention. Since 2012, the Argentinian Association of Pharmacists of Entre Ríos has been conducting a health promotion and preventive initiative targeted at fifth-grade students in primary schools. Subsequently, in 2015, the authors expanded the research project to include older adult polypharmacy patients who visit the pharmacy daily.

Purpose: The principal goal of this project is to promote communication between the community and pharmacists. Additionally, it supports initiatives in health and education about the responsible use of medication. The purpose of this plan is to dissuade individuals from purchasing medication from unlicensed sources other than pharmacies. Highlighting the risks associated with self-medication and the usage of illicit, stolen, or degraded medicines is another pivotal objective. Finally, the research works to enhance pharmacotherapy by educating seniors and those who care for them on the proper administration of medications.

The introduction of workshops for children in primary school is motivated by the imperative to instigate positive changes in medication-related behaviours since children are dependable and prolific multipliers in the social environment they live in.

Method: The project employs a workshop-based approach, with the Entre Ríos Association of Education Psychologists' participation in its design and implementation. Given its focus on fifth-grade students, primary schools serve as the primary setting.

When it comes to senior citizens, the project is designed using a lecture format, either in retirement communities, at colleges with senior citizen programmes, or even at the National Social Service for Retired People in Argentina, which called us to accomplish this goal.

The provision of lectures and educational sessions for elderly carers is expected to detect and prevent inappropriate prescriptions and poor medication administration practices, which will contribute to lowering the risk of drug side effects, patients' declining health, and unnecessary costs.

Results: The analysis of the data collected from the surveys revealed a concerning scenario, confirming the workshops and lectures' importance. The workshops for children have been recognised as of pedagogical interest by the General Education Board of Entre Ríos Province for five consecutive years. A total of 13,653 students participated from 2013 to 2019, with an average of 32 pharmacists participating.

Conclusion: In the context of older adults, the critical importance of these interventions is unmistakably evident, emphasising the necessity for continued engagement and support in this domain

Development of a training programme and framework for migraine guidance in community pharmacies in Norway

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Background: Migraine is a chronic illness, and studies have shown that low compliance, misuse and overuse of migraine medication are not uncommon amongst this patient group.*

A Norwegian study has shown that patients who suffer from migraine want and need more guidance and information regarding the medicinal treatment of migraine. Less than half of the participants in the study reported that they received information about their medication from the pharmacies, which underlines the need to develop training programmes and frameworks to increase the community pharmacist's knowledge of how to guide this patient group.*

Purpose: The establishment of a training programme and framework aimed to:

- Improve the community pharmacist's competency in the medicinal treatment of migraine
- Raise migraine patients' awareness of correct medical use, and adherence to migraine medicine

Method: Pharmacists in 40 community pharmacies were trained, and qualitative interviews were conducted to investigate their experience with the training and the use of the framework. The training programme was developed in collaboration with experts, and medical professionals, on migraine and communication with patients.

There has also been conducted a survey towards the patient group who received the migraine guidance to understand more about the usefulness of the framework and training.

Training programme

- Micro-learning – An introduction to migraine guidance in pharmacies

- Self-study - Instruction manual, fact sheets about the medicine, articles
- Micro-learning – Migraine (disease and prevention)
- Digital seminar – Communication with patients, migraine and use of medication
- Case training - Physical training in the pharmacy
- Theoretical exam - Digital

Results: The pharmacists reported that the training program:

- Increased their knowledge, and understanding, about migraine patients
- Increased their sense of security in engaging with the patient group
- Prepared them to uncover and handle situations where the patients medicine use was not optimal

“After the training programme I felt safe to talk to the patients about their migraine”

“The trainings prepared me for the tricky patient-cases, where you must find a good solution in cooperation with the patient and the doctor.”

After the migraine guidance the patients self-reported that:

- They learnt something new about the use of their medication
- The conversation made them less concerned
- They got their questions answered throughout the conversation

All the respondents reported that they before the conversation in the pharmacy had concerns about their medicinal treatment, and all reported that the concerns were solved, or partly solved, after the conversation.

Conclusion: There is a need to train pharmacists in more systematic approaches in communication and guidance of specific patient groups to be able to give them a framework that easy contributes to uncover misuse, overuse or low compliance with medication. This could strengthen community pharmacies best practices and their position in the community healthcare offer.

Medication optimisation for dementia risk reduction

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Introduction: Some modifiable risk factors for dementia (e.g., diabetes, dyslipidaemia, hypertension) can be managed using medications. This study aimed to explore the potential for medication optimisation in patients at increased risk of dementia in primary care.

Method: The authors analysed baseline data from the HAPPI MIND dementia risk reduction trial. The trial recruited 403 middle-aged adults (median age 57 years, 63% female) with ≥ 2 dementia risk factors from 40 Australian general practices. This analysis examined the co-occurrence of self-reported cardiometabolic conditions (diabetes, dyslipidaemia, hypertension), lifestyle risk factors (smoking, obesity, excessive alcohol intake, physical inactivity), suboptimal management of cardiometabolic conditions (as indicated by clinical observations or pathology results), self-reported medication nonadherence (forgetting or skipping prescribed medication in the past week), polypharmacy (>5 regular, prescribed medications), and history of a Home Medicines Review (HMR).

Results: Three-quarters of participants (299/403, 74%) reported having either diabetes, dyslipidaemia, or hypertension. Of these, 93% (277/299) showed suboptimal management of one or more cardiometabolic conditions. Of the participants with suboptimal management, 27% (76/277) reported medication nonadherence in the past week. Therefore, 19% of the entire cohort (76/403) had poorly managed cardiometabolic conditions and medication nonadherence. Only ten participants (10/39, 26%) with polypharmacy and medication nonadherence had received an HMR. In this cohort, 17% (68/403) of participants had poorly managed cardiometabolic condition(s), medication nonadherence, and lifestyle risk factors for dementia.

Conclusion: Among middle-aged patients at risk of dementia, there is room for lifestyle changes and medication optimisation to improve health. Patients may benefit from holistic support (e.g., HMR, motivational interviewing, self-monitoring apps) to better manage their dementia risk factors.

Line 1400 – Bringing medicines closer

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Background: Line 1400 appeared in 2020, during the COVID-19 pandemic, reinventing the way to guarantee access to medicine and pharmaceutical monitoring to people, safeguarding the safety of citizens and pharmacy teams.

It allowed safer access to medicines, avoiding unnecessary trips to pharmacies, especially when searching for medicines with reduced availability.

Purpose: With the end of the pandemic, the difficulty in accessing various medicines continued, so the Line 1400 reinforced its role in this dimension, helping people to identify pharmacies that could potentially meet their needs in terms of access to medicines essential in times of scarcity.

It is intended that Line 1400 will be positioned as an essential tool to promote therapeutic continuity in situations of occasional unavailability of some medications.

The objective is to be able to respond to people's requests within a maximum of 2 working days after confirmation of the availability of the product in one of the pharmacies in the municipality that the person identifies.

Method: The 1400 line has evolved operationally over the last few years, under great pressure from people's requests to find the nearest pharmacy that has the medicine in stock needed to ensure the continuity of their pharmacological treatment.

In 2023, considering the growing demand for this service, a virtual agent was developed and implemented, which allows all calls to be answered during the service's operating period.

The collection of data necessary to activate the service can be carried out by the Virtual Agent between 9:00 am and 7:00 pm from Monday to Friday or through an online form available 24 hours a day, every day of the week.

Also in 2023, a process to confirm the existence of stock in pharmacies was implemented through the exchange of messages via pharmacies IT system, replacing the telephone contact, used until then.

Results: Changes to the methodology and the implementation of innovative measures made it possible to improve service levels of Line 1400, expanded its reach and made it accessible to a greater number of people. In 2023, Line 1400 received 107,361 requests for availability of scarce medications, of which 30,869 were satisfied, with the person being referred to the pharmacy that could satisfy his therapeutic need.

When asked about the usefulness and impact of Line 1400, users expressed a satisfaction index of 4.45 on a scale of 0 to 5, and a service recommendation level of 80%, measured using the NPS methodology.

Conclusion: Difficulty in access is not a recent problem in Portugal, but in recent years it has assumed increasing relevance.

The 1400 line presented a structured solution to a problem that was previously managed exclusively by people.

Its usefulness and impact in facilitating access to medicines with reduced availability are validated by the high levels of satisfaction and recommendation expressed by those who use the service.

The use of Generative Artificial Intelligence tools appears to be an important way to improve the service in the near future through greater automation of processes and information flows.

PEP-flute instruction – A service at the community pharmacy

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Background: A PEP-flute (Positive Expiratory Pressure) is recommended to eliminate secretion from the airways or to control respiration among patients who suffer from asthma, chronic obstructive pulmonary disease, or late complications after, e.g. COVID-19 or influenza.

Due to limited resources within the healthcare system, many patients do not receive guidance on how to use the PEP flute, and physicians simply advise patients to purchase a PEP flute at the pharmacy. Unfortunately, the pharmacy has no PEP-flute instruction service. Consequently, without proper guidance, patients risk not deriving the full benefits from the device.

Purpose: To study:

-how the service "PEP-flute instruction" can be made at the pharmacy.

-how the pharmacists and technicians experience delivering the service and using the developed materials.

Method: The following materials were developed:

-A manual describing the service.

-A protocol detailing how to use the PEP flute.

-A form for registering the service.

Over a period of four weeks (December 2023-January 2024), three pharmacies offered instruction to buyers of PEP-flute. The instruction was given in accordance with the materials.

The pharmacists and technicians assessed both the materials and their experience in delivering the service on a scale from 1 to 10. Moreover, they provided comments regarding the service and materials.

Results: Out of 34 PEP-flute instructions provided, 26 were for new users, while 8 were for those who had used it before. Only one patient had received previous instructions.

The pharmacists and technicians focused on advising patients regarding resistance levels and frequency of usage of the PEP flute.

Afterwards, the pharmacists and technicians assessed the usability of instructional materials.

The average rating for the manual, the protocol, and the form exceeded 9. The pharmacists' and technicians' overall experience in delivering the PEP-flute instruction service scored an average of 7.6.

Conclusion: The pharmacists and technicians assessed that the developed material worked well, and they felt well-prepared to provide the service. However, their experience in delivering the PEP-flute instruction scored lower. They commented that it would work better with more experience.

The study shows that patients have a great need for instruction, and community pharmacies can provide this service.

Pharmacist competence can improve the outcome of patient therapy

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Introduction: Pharmacists have very good attitudes toward the implementation of pharmaceutical care practice but a number of barriers that limit the pharmaceutical care practice implementation. These barriers include the level of understanding of pharmaceutical care practice, lack of a private counselling area, difficulties in communicating with physicians, and lack of access to patient medical records.

This qualitative study explores community pharmacists' experiences and reflections after completing a learning and

practice module which introduced them to a framework for successful interprofessional communication.

Method: Implementing pharmaceutical care entails the application of communication skills and cognitive skills that pharmacists have certainly used in the past, although not specifically for evaluating their patients' drug therapy. Before pharmacists can start the pharmaceutical care process, they need to establish a therapeutic relationship with their patients. The authors trained 20 pharmacists in one pharmacy chain. Each of them received a manual handbook with short conversations and questions that should be asked to the patient in certain situations and diseases. The authors analysed the situation that for each patient who has more than three drugs, more than 15 minutes of discussion and explanation were spent.

Results and Conclusion:

In 80% of the examined cases, the outcome of therapy was better and adherence to therapy was pharmacologically more effective.

Pharmacists need to be active listeners and demonstrate empathy for patients. They then need to interview the patient and collect relevant data to evaluate the patient's drug therapy and health status. Critical thinking skills improve pharmacists' abilities to identify drug therapy problems. Pharmacists can then use the problem-solving process to resolve the drug therapy problem. It is important that pharmacists create care plans to help guide their patient care activities and planned interventions.

A novel Continuing Professional Development (CPD) programme in sub-Saharan Africa

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Background: Maintaining professional competence of pharmacists is an essential component of optimal health care delivery. Continuing professional development (CPD) is one method to help achieve this. This pilot study evaluates a curated programme for online delivery of lectures for CPD for pharmacists in Botswana, Malawi, Ethiopia, and Zimbabwe.

Purpose: The objectives are:

- assess the content and logistics of an e-learning programme.
- understand how pharmacists access CPD
- to determine if pharmacists find that CPD helps their practice.

Methods: The subjects in the Square Academy CPD programme in clinical pharmacy are organised as modules with each module consisting of approximately four 30-minute lectures. The pharmacists who participated were selected by the pharmaceutical society in the respective country. Lectures are contributed by lecturers from around the world and include many essential topics amongst Polypharmacy, Pharmacovigilance, Pharmacoepidemiology and Medicine Use Review.

The participants access the programme with their username and password on Thinkific.

The platform allows monitoring of participation, understanding and perceived value to their practice.

Modules are submitted to the Academy of Pharmaceutical Sciences (UK) for endorsement. Pharmacists who complete the course in the designated time receive a certificate.

The pilot study was conducted in eight countries with a total of 150 participants.

Results: The results were assessed on three criteria:

- o Ease of access; use of the platform
- o Relevance and quality of content
- o The perceived value of CPD in their practice

Content was considered very good with ratings of 4 and 5 out of five. The pilot provided insight on the way in which CPD should be administered and monitored.

Conclusion: The Square Academy e-learning CPD programme is a valuable addition to help maintain professional competence. It has the potential to become an integral part of CPD with a mechanism to record access, understanding and the perceived value to pharmacists in their practice.

Innovating for the future in Norwegian pharmacies – New common pharmacy IT-system

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Background: The pharmacies in Norway have a long tradition of using a common IT solution. Changes in regulations and the need for new innovative solutions that support the pharmacies' mission and their position in the health system are the reasons why the entire industry has decided to develop a new shared national pharmacy system, including a shared pharmacy patient record.

Purpose: The solution is designed in accordance with the national framework in Norway, aiming to facilitate seamless and secure collaboration across entities to enhance patient

safety and promote collaboration, patient safety, innovation, and improvement by establishing a common patient record.

The solution is developed to:

- Enhance patient safety by presenting data that ensures patients use medications correctly.
- Facilitate the standardisation of processes and services within and between the pharmacies.
- Facilitate efficient collaboration between pharmacies and other stakeholders in the healthcare sector.
- Facilitate digital/technological innovation and specialisation among various pharmacy stakeholders.
- Address the competitive needs.

Method: Development of the common solution has been carried out as a project led by the Norwegian Pharmacy Association, with active participation from pharmacy owners in Norway. A governance and management model for the solution has been established to always ensure compliance with current regulations, and to ensure consensus on the common and consistent further development of the solution.

In parallel, the pharmacy chains and pharmacy owners have developed their own business solutions, which, along with the new shared solution, are intended to replace the current pharmacy system. These business solutions will address logistics, finance, and other areas essential for maintaining competitiveness.

Results: The new pharmacy solution is now being implemented in Norwegian pharmacies. The plan is for all pharmacies in Norway – approximately 1050 – to adopt the common solution by the end of 2025. At that point, all Norwegian pharmacies will be equipped for the future and will collaborate with other healthcare providers.

Conclusion: Even in a deregulated market with both pharmacy chains, independently owned pharmacies and publicly owned hospital pharmacies, it is possible to develop common collaboration solutions that facilitate innovation and the development of new services in pharmacies, while also preserving the possibility for competition.

Patient enrollment in a medication management mobile application

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Introduction: Retail pharmacy is a fast-paced environment, and leveraging a medication management mobile application

(MMMA) will likely ease the phone burden on staff and increase workflow efficiencies in community pharmacies. MMMA aims to decrease wait times for patients to inquire about their medications with staff including side effects and refill requests; decrease prescription abandonment and unnecessary medication filling as patients will have the ability to request both refills and return of drugs. Previous studies aiming to improve adherence attempted to call patients 7 days after filling a medication if it had not been picked up yet.¹ Furthermore, a study conducted on the effectiveness of mobile medication management applications demonstrated an improvement in patient adherence ($P = 0.007$).² The purpose of this quality improvement project was to generate an increase of 35 patient enrollments into the mobile medication manager each fiscal week to facilitate patient ease of access, medication adherence, and improved staff workflow.

Methods: Surveys were conducted at a community pharmacy quality improvement site prior to data collection of MMMA enrollment with 50 patients screened. Pharmacy staff at the QI project site promoted and educated the patient population about the MMMA in person and over the phone. A prompt on the Point of Service (POS) terminal at patient check out prompted staff to mention and inform patients of the MMMA. If the patient was interested and the prompt was accepted, the patient would receive a text to their mobile device to register. Data was collected in a retrospective chart review on a weekly basis for 3 weeks, 03/13/23 to 04/04/23. 03/13/23 was the baseline and the week prior to promotion of the mobile application.

Results: It was found that the reasons for not picking up prescriptions according to the survey were 14% "Other," 12% "no longer taking," 12% "forgot," 11% "cost," and 3% "transportation." The baseline number of prompts was 45. Text message prompt enrollment was 10 and 5, respectively, for Week 1 and Week 2. For SMS accepted in week 1, there were two total. POS prompts increased in week 1 to 48 and decreased in week 2 to 36. Corporate enrollment at baseline was 10; during week 1, it increased to 26 and in week 2, it was 14 total.

Conclusion: It was found that the corporate patient outreach for the QI project site was much more successful in increasing patient enrollment versus asking the patients directly. Data collected was from only the QI project site, thus this information was limited to just that pharmacy's demographic. Future projects could replicate ours with a larger time frame to increase sample size. Overall, this quality improvement project did not demonstrate improvement on enrollment from increasing education and enrollment opportunity for the MMMA at the store level; however, showed that corporate enrollment demonstrated a greater impact.

Development and content of a depot buprenorphine training package for NSW community pharmacists

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Background: Depot buprenorphine is the newest and fastest-growing opioid agonist therapy (OAT) formulation and forms a central pillar of the response to the global opioid epidemic. Community pharmacists already provide significant OAT dosing in many jurisdictions globally (indeed provide the majority in Australia) and are ideally placed to administer injectable depot buprenorphine to people living with opioid dependence in the community chronic care setting.

Purpose: Pharmacists provide extensive chronic care management, and specialist clinic settings cannot keep up with explosive and still-growing increases in depot demand. Evidence shows moving people into community settings improves individual and system-level outcomes and reduces costs. Authors prepared and piloted a world-first training course for community pharmacists to upskill in the administration of depots and provide safer care and long-term clinical management for people living with opioid dependence.

Method: Consultant physicians, senior nurses, and clinical pharmacists working in addiction medicine provided input on the development and review of topics and content for a blended-delivery training package for community pharmacists. Academics compiled materials for use in a government-sponsored pilot undertaken in Sydney, Australia.

Technical concepts included: buprenorphine pharmacology, pharmaceuticals, clinical considerations for depot OAT, pregnancy and organ disease, withdrawal identification and quantification, overdose identification and management using naloxone, clinical documentation and communication, legislation, and delivering depot OAT care.

Social concepts included: safer consumer language, accessible medicine information, opportunistic care, proactive needs screening, and care linkage.

The training was delivered state-wide to practising community pharmacists and additionally was separately embedded in the curricula of student pharmacists. Checkpoint written assessments are applied in both settings.

Results: This pilot was a world-first report on depot buprenorphine care provided by community pharmacists. Pharmacists were satisfied with and felt prepared by brief depot buprenorphine training. Most importantly, OAT client service evaluation suggests high satisfaction with interpersonal engagement and injection technique, demonstrating the value and effect of the training intervention on the end human recipients. Student

pharmacists appreciated the opportunity to develop important skills in a novel scope and opined on personal change in opinions and views of people with a history of substance use, indicating improvements in prejudice and views of people under their care as well as technical skill and knowledge.

Conclusion: Brief blended delivery training was feasible and acceptable to community pharmacists and developed the skills required to administer depot buprenorphine to the overwhelming satisfaction of OAT clients. Community pharmacists provided safe and palatable depot buprenorphine care to people with opioid use disorder.

Non-judgemental, treated with care and respect: First reporting of client experience of Community pharmacist depot buprenorphine services

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Introduction: Accessibility and environment of opioid agonist therapy (OAT) dosing is shown to influence both adherence and subjective experience. Subjective experience of care is shown to impact trust of practitioners and patient likelihood to seek or accept care. Pharmacists provide safe and quality injection services, are the most accessible healthcare providers, and are ideally positioned to support chronic care in the community setting.

Method: Semi-structured qualitative interviews or questionnaires were conducted with individuals receiving depot buprenorphine in NSW. A majority (n=34) received depots from community pharmacists under a statewide implementation pilot. Responses were analysed into themes: 1) stigma, 2) provider interactions, and 3) treatment setting.

Results: Participants reported overall extremely high satisfaction with pharmacist depot services, describing “more private”, “professional and friendly”, and “accommodating” care. Some thought the pharmacist injection technique was “less painful”, and the pharmacy setting avoided “the stigma of going to the clinic” and “running into old associates”.

Some clients contrasted this with “horrendous” experiences of “judgmental, painful, hostile and impersonal” interactions and injections which “hurt and feel rushed” in previous care settings. Some equivocal clients felt the care was “much the same as from the doctor”. This research informs OAT provision and demonstrates pharmacists can provide palatable depot services in the community pharmacy setting,

which clients may prefer to previous treatment settings such as hospital clinics.

Discussions and Conclusions: This research is the first in the world to report on pharmacists providing depot buprenorphine services. OAT clients reported very high satisfaction with pharmacist depot buprenorphine services. OAT clients experience high levels of stigma, and some consider community treatment settings preferable to clinics for reasons including wanting to avoid “bad influences”.

Pharmacy dispensing of mifepristone and misoprostol: Improving access to safe abortion

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Background: On average, 73.3 million abortions occur worldwide annually. World Health Organisation abortion guidelines recommend telehealth abortion as an alternative to in-person care. Research shows that this method is safe, effective, and cost-effective. As with other self-care interventions, telehealth abortion has revolutionised access and decreased the health system burden. Where abortion is legal, mifepristone and misoprostol have traditionally been dispensed in clinics; as such, community pharmacists may not be familiar with dispensing for abortion.

Methods: Three subject matter experts examined global trends in pharmacy dispensing of mifepristone and misoprostol for abortion, utilising two case studies to highlight barriers and facilitators of pharmacy access to abortion medications.

Results: South Africa (SA): Abortion Support doctors identify pharmacists in proximity to patients to dispense abortion medications on prescription. Of 303 pharmacies contacted, 40% of pharmacists were unwilling to dispense. Reasons provided included a belief that telehealth abortion is unsafe and a conscientious objection. Few pharmacists were aware that national policy prohibits pharmacist conscientious objection to abortion. Ongoing education and engagement with pharmacists and pharmacy organisations have established a network of abortifacient dispensing pharmacies in selected locations. However, rural areas remain dispensing deserts restricting abortion access for those unable to travel.

United States (US): Pharmacies offer a new venue for dispensing mifepristone in select states. Due to COVID-19, telehealth has become a popular option for abortion care. Anticipating the Federal and Drug Administration v. Alliance

for Hippocratic Medicine supreme court decision, abortion by mail may no longer be a legal option, establishing pharmacies as an essential access point in abortion-scarce areas. Research shows that pharmacists are willing and interested in dispensing mifepristone; however, barriers remain around scaling, patient comfort, and payment.

In these examples, prescribing for abortion is legal, and pharmacy is highly regulated. However, the sale of abortifacients without a prescription is common in many low- or middle-income countries, even when a prescription is required, or abortion is restricted. While studies show that medical abortion is easily self-administered, adequate patient information is required for effective use. Research shows that pharmacist knowledge of medical abortion regimens is poor, ranging from 3-17% in Latin America and 0-20% in Africa.

Abortion exceptionalism is evident in dispensing regulations and scheduling of abortifacients. Examples include the risk evaluation and mitigation strategy (REMS) (US), manufacturer restrictions on retail access (Netherlands), and the classification of mifepristone as a schedule IV controlled drug, the first non-addictive medicine to be classified as such (Taiwan).

Conclusion: As telehealth abortion becomes standard care, pharmacists will see increased demand for mifepristone and misoprostol. Telehealth offers access and economic benefits to patients and health systems but requires additional pharmacist education and support. Further initiatives are needed to educate pharmacists on medical abortion, including safety, effectiveness and patient perspectives in receiving care. This could include guidelines for abortion dispensing such as the CART-GRAC abortion dispensing checklist. To remedy the gap in abortion access, regulators should harmonise scheduling with clinical evidence, and pharmacists should understand applicable policies. For example, US pharmacists must complete training in compliance with REMs to dispense for abortion.

Strengthening the pharmacy workforce in Bangladesh: An inclusive model to build competencies among pharmacists and pharmacy support workers

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Background: In Bangladesh, pharmacies often serve as the first point of access to healthcare. However, there is a severe shortage of qualified pharmacists. Despite a population of 170 million, the country reports only one licensed pharmacist per 10,000 people. Furthermore, the majority of licensed pharmacists are employed within the pharmaceutical

industry, leaving a substantial portion of the population reliant on pharmacy support workers for healthcare services and advice. These staff provide a range of patient services, including referrals, yet they often lack adequate training and recognition – a situation that puts patients at risk and threatens public health.

Objectives: To address this challenge, Venue designed a health workforce strengthening programme that recognises the often-overlooked corps of informal pharmacy care providers and leverages their potential to improve quality patient care in low-resource settings.

Beginning in Bangladesh in 2016, training interventions aimed to equip ALL frontline providers in the pharmacy sector with the core competencies necessary to serve as providers of safe and effective care – strengthening capabilities across the entire spectrum of licensed pharmacists and pharmacy support workers.

Methods: Vennue designed and tested a competency-based training programme that adapts international best pharmacy practices to ensure local relevance in alignment with developing-country workforce capacity and patient population health needs.

Designed by global health and pharmacy practice experts in the US and Bangladesh, training modules are delivered by Vennue's local bilingual instructors who run on-site practice-based workshops.

Vennue's proprietary Patient-Centered Care curriculum includes three certification tracks, each consisting of six modules. Instructors and students customise the learning journey, advancing from one certification to the next to incrementally advance knowledge, skills, and practice.

From 2016 to 2022, training programmes were implemented in Dhaka, Mymensingh and Chittagong with five healthcare partners -- certifying 90 pharmacists and support staff at 16 pharmacy sites. Programme implementation included:

- A series of 18 training sessions with locally relevant case studies
- Workshops to draft standard operating procedures
- Role-play activities to strengthen consultation skills
- Performance evaluation and feedback
- Access to credible, up-to-date resources
- Peer Learning Circles to bring together pharmacists and Pharmacy Support Workers

Results: Quantitative and qualitative data was collected through baseline/endline KAP surveys, pre/post-tests for each session, course evaluations, and patient surveys. Results included:

- 41.62% gain in knowledge of pharmacy best practices, as measured by pre/post-tests for each module
- 23.05% cumulative increase in knowledge, attitude and practice (KAP)

- 97.40% of learners confirmed the programme improves their daily practice
- 68.23% increase in patient satisfaction
- Better collaboration between pharmacists and pharmacy support workers

Conclusion:

From 2016 to 2022, pilot projects in Bangladesh improved core competencies among pharmacists and Pharmacy Support Workers -- advancing knowledge and skills in patient-centred care among the full spectrum of pharmacy care providers, top to bottom. This inclusive programme can be replicated and scaled to improve quality care throughout Bangladesh and other low-income countries, enabling not only pharmacists but also pharmacy support workers to collaborate with other healthcare professionals as fully recognised members of the coordinated care team – helping to fill the gap for qualified frontline providers from within the existing pharmacy ranks.

Training programme in common ailments in community Portuguese pharmacies

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Introduction: Community pharmacies, as an accessible healthcare network that complements the national health system, have contributed to finding solutions that promote fair access to healthcare.

The population recognises the value of their intervention, the qualification and competence of their professionals, and supports the provision of more health services in pharmacies.

Considering the National Association of Pharmacies (ANF)' strategic positioning of affirming pharmacies as a space for health and well-being, optimising their integration into health systems, the implementation of a sustainable model, transversal to the entire territory, makes it possible to provide hybrid training, in a clinical and priority area such as common ailments.

Aim: To provide the training for a structured intervention service, reducing heterogeneity in the response to the population and reinforcing intervention in the dispensing of non-prescription medicines and non-prescription medicines with state reimbursement in community pharmacies. The Common Ailments training programme is an initiative that aims to empower pharmacists in their approach to this issue. It is being offered free of charge to pharmacists from all pharmacies that are members of the ANF, promoted by Health and Management Post-Graduation School (EPGSG) and sponsored by Farmacoepe. The aim is to evaluate the training provided and its results, including the satisfaction of the participants.

Method: Participants had access to an introductory face-to-face session, followed by 12 e-learning courses. These courses cover a transversal approach and structured intervention in 11 common ailments. The face-to-face sessions took place in all 21 regions across the country, including the islands. Following the end of the face-to-face sessions, a webinar was held to make the training accessible to pharmacists practising in pharmacies with a small number of staff.

The presented data was collected through two main methods: the Humantrain platform, a database utilised by EPGSG and assessments through forms. Following the collected data, an analysis was performed using Microsoft Office Excel and Microsoft Power BI as primary tools.

Results: In November 2023, the training programme was launched with face-to-face sessions aimed at pharmacists. There were 102 face-to-face sessions and the webinar, which ended in February 2024, was attended by 4,447 pharmacists from 1,749 pharmacies. Overall satisfaction among participants was an average of 4.4 (on a scale of 0 to 5). A total of 12 e-learning courses and SCL approach tools were made available. So far 4040 e-learning courses have been completed by 1088 trainees, covering a total of 676 pharmacies.

Conclusion: These results from the training programme indicate a massive uptake by community pharmacies, showing the interest of pharmacists in the problem of common ailments, as well as their motivation to respond consistently to the needs presented by the population. This training programme supports professional intervention in common disorders and responds to the new career model for pharmacists. It recognises and encourages the performance in pharmaceutical services, e.g. common ailments service. It also allows pharmacies to be supported in one of today's biggest challenges - the lack of human resources, promoting the attraction and retention of talent in community pharmacy.

How to form a glaucoma patient support group, the Ghana experience

Harrison Abutiati

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Introduction: Glaucoma is the leading cause of global irreversible blindness. This is why it has become a disease of public health importance. The Community Pharmacist is strategically placed to support the formation of a glaucoma patient support group and act as the expert on drugs in the group.

Purpose: Community pharmacists have not been documented to be actively involved in the formation of patient support groups in general and glaucoma patient support groups in particular. This is, therefore, a beginning for pharmacists to venture into this area where they can come in contact with patients and establish themselves as rational drug use advisors to group members.

Method: Membership of the group is open to all patients attending glaucoma.

clinic as well as others interested in glaucoma issues. Meetings are held with people living with glaucoma, on glaucoma clinic days in the outpatient department of the Korle Bu Teaching Hospital, Korle Bu in Accra Ghana. Ophthalmologists, optometrists, ophthalmic nurses and pharmacists are some of the healthcare professionals involved in the group. Information and experiences are shared in a congenial atmosphere and questions asked and answered on glaucoma. Membership registration cards and forms are filled in, and glaucoma eye screening and patient tracing issues are also discussed.

Those already diagnosed with glaucoma are advised to advise their relatives to come forward for eye screening in hospitals or during annual eye screening events since glaucoma is believed to be common in families.

Results: Cases of glaucoma and other eye conditions such as cataract, refractive errors, retinal changes due to diabetes and retinal detachment as well as allergic reactions were discovered and referred to specialists for treatment.

Conclusion: Pharmacists' involvement in glaucoma patient support groups and other support groups will lead to patients appreciating the contributions that pharmacists can make to patients becoming more confident, attending to their clinical appointments and strictly adhering to guidance on their prescriptions.

Exploring innovative collaboration: A unique partnership between Glostrup community pharmacy and general practitioner in Denmark

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Introduction: Escalating pressures on healthcare providers in Denmark, drove a local general practitioner to seek innovative solutions. In response, this community pharmacy established a collaborative agreement deploying pharmaconomists as consultants in the GP practice. The objective was to alleviate workload pressures and enhance service quality through improved compliance with guidelines.

Purpose: This study aims to describe the development of a tailored pharmacy service for the local general practitioner. Five objectives were outlined:

1. Drawing insights from literature and similar collaborations in Denmark.
2. Identifying the needs and preferences of the GP.
3. Developing the service concept, consolidated in a collaboration agreement.
4. Testing, evaluating, and adapting the service.
5. Conducting an evaluation and assessing satisfaction for all parties involved.

Methods: Various methods were employed to achieve the objectives. For the first objective, an initial literature review was conducted, and consultation with a representative from the Danish Association of Pharmacists was sought. For objectives 2 and 4, dialogue-based interviews were conducted with GPs. Objective 5 involves conducting a qualitative assessment scheduled for April/May 2024, examining the experiences of all involved parties.

Results:

1. Initial literature review and consultation did not yield relevant results.
2. Collaboration with GPs led to the identification of needs, preferences, and opportunities, serving as the foundation for service development. Examples will be presented at the FIP World Congress.
3. The new service involved deploying two pharmaconomists to support GP practices, providing expertise, alleviating daily operational tasks, and contributing to developmental tasks. The pharmaconomists' time is divided between research and patient interactions. The consultancy service, detailed in an appendix, allows for flexibility and updates based on mutual needs.
4. Evaluation after a two-month trial period revealed challenges in managing numerous follow-ups generated by

the pharmaconomists. Adjustments were made to the deployment schedule to ensure better management.

5. Preliminary feedback from GPs, pharmaconomists, and pharmacy staff is positive. Detailed outcomes will be presented at the FIP World Congress.

Conclusion: This pioneering collaboration between a community pharmacy and a general practitioner demonstrates significant potential in addressing healthcare challenges. Detailed insights will be shared at the FIP World Congress, presenting a novel model for future interdisciplinary collaborations in Denmark. The authors aim to inspire other local pharmacies to establish partnerships with GPs, ultimately enhancing healthcare delivery.

USP <797> requirements and best practice recommendations for compounding autologous serum eye drops

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Introduction: Autologous serum eye drops have been compounded by 503A sterile compounding pharmacies located in the United States for more than 25 years. Multiple articles have been written on this subject and sometimes contradict each other. To add further complication, the United States Pharmacopeia, General Chapter <797> Pharmaceutical Compounding – Sterile Preparations was revised and became official on November 1, 2023, which requires compounders to rethink how they perform compounding of this preparation. The purpose is to highlight USP <797> requirements for compounding autologous serum eye drops and to recommend best practices not addressed by USP <797>.

Method: A retrospective review using Pub Med was performed of articles related to the compounding of autologous serum eye drops. Articles that only discussed the benefits of using autologous serum eyedrops and not the compounding process were excluded. The search resulted in nine articles dated from 2009 to 2021. Eight articles were written by authors from the US and one article each was written by authors from Italy and Greece. Data evaluated included procedures for drawing patients' blood, handling and storage of blood before compounding, centrifuging of blood, compounding procedure, packaging, and beyond-use dates. The results were compared to the requirements in the revised USP <797>.

Results: Articles discussed the benefits of autologous serum eye drops but many were missing specific procedural information. For example, only two articles stated which needle size to use for drawing patients' blood to avoid

hemolysis. Contradictions occurred with respect to clotting time, centrifuge speed and duration, compounding procedure, packaging, and beyond-use dates. The greatest contradictions were in beyond-use date recommendations. Beyond-use dates ranged from 2 hours when stored at room temperature to 181 days when stored frozen. USP <797> has very specific beyond-use date requirements and also requires the manipulation of blood-derived material to be clearly separated from other compounding activities to avoid any cross-contamination. Several of the articles recommended compounding in a laminar airflow workbench, rather than a biological safety cabinet. The use of a laminar airflow workbench could contribute to cross-contamination risk.

Conclusion: Articles referenced an older version of USP <797> which uses the obsolete concept of risk levels of sterile compounding. The current revision of USP <797> replaces low-, medium-, and high-risk level compounding with Categories of compounding which are primarily based on the state of environmental control, the probability for microbial growth, and the time period within which they must be used. Because articles referenced an older version of USP <797>, they are not compliant with the revised standards. Many articles were also missing specific procedural information. USP <797> does not cover all aspects of the compounding of autologous serum eye drops. It is up to the facility to decide how they will clearly segregate this activity from other compounding activities. Procedures and best practices are needed that comply with the revised standards. Although not compendially applicable when compounding autologous serum eye drops, USP <825> Radiopharmaceuticals – Preparation, Compounding, Dispensing, and Repackaging offers insight into how 503A compounders might segregate activities and equipment to avoid cross-contamination.

Should more patients be proposed dose dispensed medicine?

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Introduction: Dose dispensed medicine (DDM) is medicine machine-packed in small pouches for each time of administration for the individual patient. In 2022, a study was carried out at Vojens Pharmacy in Denmark, which indicated that the potential of DDM is much greater than the current state. Patients were very satisfied with DDM and believed other patients should be offered this service. What are the possible obstacles preventing this service from being more commonly adopted? The objective was to investigate the potential of proposing DDM to more patients. The target groups were Vojens Pharmacy, other pharmacies, medical centres and patients.

Method: From January 2023 to May 2023 a qualitative survey was handed out to pharmacy staff, to identify their knowledge on DDM and their counselling method of this service. Four pharmacies located in Southern Denmark participated in the study. In the same period six interviews were carried out with different medical centers in Southern Denmark, to investigate the collaboration between pharmacies and medical centers of DDM.

Results: Pharmacy staff needs knowledge an ongoing training on DDM. They need to know the advantages, costs and start-up procedures. For this purpose, support material in the form of a postcard, was developed for the pharmacy to use when proposing DDM to patients. The postcard acts as support material and provides an overview of the advantages of DDM and the pricing structure for both the pharmacy and the patient. Several challenges were evident from the interviews with the medical centres. It is important that medical centers know the workflows on how changes with DDM are made and how the deadlines work. A flow diagram was made to show the process from proposing DDM at the pharmacy to the time of receiving DDM from the pharmacy.

Conclusion: More patients can be proposed using the DDM service. However, it requires a strong collaboration between the pharmacies and medical centers. In addition, the staff must have the appropriate competences needed to have a dialogue with the patients.

Addressing social determinants of health and obesity management: A comprehensive community-based approach

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Introduction: In Maryland, disparities in obesity prevalence persist among racial, ethnic, and economically disadvantaged groups, particularly evident in Somerset County, a rural and medically underserved area. With a substantial population of African American and Hispanic residents, Somerset County faces higher rates of obesity, hypertension, hyperlipidemia, and diabetes compared to the state average. In response, the SCALE-DOWN programme aims to address these disparities by targeting overweight and obese minorities on a university campus.

Method: The programme focused on social determinants of health (SDOH) by identifying participants' social risks based on the American Academy of Family Physicians Social Needs Screening Tool and connecting them with local resources with the Neighborhood Navigator. Referrals based on economic stability, education access, healthcare, and community context were completed by four rehabilitation counselors to

provide participants with flexibility in accessing resources. Evidence-based physical activity programmes tailored to individual needs, including aerobic, strength, flexibility, and balance exercises, with the goal of achieving at least 150 minutes of physical activity per week, were offered by three exercise science specialists. Participants received fitness trackers to monitor their progress and enhance self-efficacy for obesity management. Monitoring and tracking of obesity progression by a pharmacist and exercise science faculty, coupled with regular follow-ups, evaluated programme effectiveness and satisfaction.

Results: Two hundred fifty-seven participants enrolled in the programme consisting of 65% female and 84.4% African-American. Approximately 45.1% of participants had food insecurity, 22% did not regularly see their medical provider due to transportation issues, 35.4% did not have money to pay bills, and 51.8% did not have a job. Approximately 19.1% of participants were referred to local services to meet their social needs. A subgroup of 20 participants also entered the physical activity program. Their baseline weight was 205.2 lbs \pm 49.1 lbs, with a BMI of 34.4 kg/m² \pm 8.7 kg/m² and a fat percentage of 37% \pm 8.6%. After 3 months, the weight decreased to 185.4 lbs \pm 52.1 lbs with a BMI of 29.3 kg/m² \pm 8.32 kg/m² and a fat percentage of 32.9% \pm 8.8%. Exit survey reports showed that 100% of participants were satisfied with the program.

Conclusion: The integration of social needs screening, referrals to local resources, and tailored physical activity programmes reflects a comprehensive approach to addressing both social determinants of health and obesity management. By addressing both medical and social needs, the SCALE DOWN programme aimed to holistically improve participants' health outcomes. Other organisations should adopt similar strategies to address SDOH and promote healthy behaviours among vulnerable populations.

Pharmacist intervention in biosimilar education within community pharmacy practice

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Introduction: The lower costs of biosimilars, compared to originator biologics, make these biopharmaceuticals a promising avenue for increased cost-effective healthcare systems and patient accessibility.

Purpose: The aims were to develop a questionnaire and infographics to assess patients' perceptions and concerns of biosimilars and clarify information needs, and to assess how pharmacist interventions affect perception on biosimilar use.

Method: A questionnaire and 3 infographics were developed in Maltese and English and validated. One infographic explained what generic medications are. The other two infographics provided an overview of biologics and biosimilars and the regulatory criteria that need to be satisfied for biosimilars to be placed on the market. The questionnaire was disseminated to 65 patients on biosimilars from 10 community pharmacies around Malta, which were geographically selected to include the north, centre, and south regions. All patients were subjected to an educational pharmacist intervention, with the aid of infographics.

Results: Fifty out of 65 participating patients on biosimilars were not aware that they were taking a biosimilar and not the originator biologic. Nineteen patients were apprehensive knowing they were given a biosimilar medication pre-pharmacist intervention. Post-pharmacist intervention, only six patients remained apprehensive. The main concern with biosimilars was the potential occurrence of side effects (n=17), and 39 patients sought the need for further education regarding this. Thirty-one patients were not always dispensed the same brand of biologic medication, of which, 15 perceived both the biosimilar and the originator as effective. Eight patients believed that the originator biologic was superior to the biosimilar, and 1 patient believed that the biosimilar was more effective than the originator biologic. When asked which sources of information patients refer to when they require more information about biosimilars, 60 refer to the consultant, 39 refer to their family doctor and 32 to the pharmacist. Fifty-four patients found the infographic information detailing biologics, biosimilars, and regulatory criteria to be novel. When evaluated on their understanding of the infographics, 56 patients answered all questions correctly. Fifty-eight patients either strongly agreed or agreed that there is not enough education on biosimilars. Sixty-one patients either strongly agreed or agreed that the pharmacist intervention helped them understand better what a biosimilar is, and 44 patients agreed that a pharmacist intervention prior to initiating a biosimilar would have benefitted them.

Conclusion: A pharmacist intervention, which involved the use of infographics, proved to be beneficial in increasing the confidence of patients with biosimilar use. The development of validated and easily understood educational material played an important role in closing knowledge gaps and improving biosimilar acceptance.

Pharmacist intervention in high-risk medication dispensing

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Introduction: High-risk medications are associated with an increased risk of significant harm when misused or used in error.

Purpose: To evaluate whether high-risk medications are treated differently to non-high-risk drugs during dispensing in a community pharmacy.

Method: A documentation sheet titled 'HiRisk' and patient interview questions were developed in English and Maltese. These were validated for relevance, comprehensiveness and presentation by four community pharmacists and two general practitioners. Observational studies were carried out using the developed tool in five community pharmacies chosen from five different districts chosen by stratified random sampling. The dispensing of the first ten prescriptions presenting with a high-risk medication was observed and the 'HiRisk' documentation sheet was filled in for every prescription received. Fifty patient interviews were then conducted on a separate cohort of patients receiving HiRisk medication in two out of the five community pharmacies, chosen by convenience sampling.

Results: From the dispensing of 50 high-risk medication prescriptions, the direct oral anticoagulants (DOACs) were the most commonly dispensed (n=20) having presented 13 rivaroxaban prescriptions and 7 apixaban prescriptions, followed by warfarin (n=11) and insulin (n=7). All pharmacists (n=50) ensured that the patient knew how to administer the medication and whether the patient had any problem with the high-risk medication being dispensed. All pharmacists (n=50) repeated major key advice points to ensure patient understanding. When carrying out patient interviews, 28 of the interviewees were male and 22 were female, whose majority (n=20) had been taking their medication for a period between 1 and 5 years. Similarly, to the observational studies, DOACs were the most common high-risk medications dispensed (n=16). Only four patients presented with side-effects related to the high-risk medication.

Conclusion: Results gathered from the observational studies using the 'HiRisk' documentation sheet and from patient interviews correlate with the direct oral anticoagulants being the most dispensed high-risk medication. The community pharmacist is in an ideal position to intervene to minimise risks and aid patient compliance during the dispensing process of high-risk medications.

CONÓCEME (get to know ME)-antibiotics: Improving education and awareness about antibiotics and bacterial resistance in the Spanish school population—A project by the Spanish Society of Family and Community Pharmacy, SEFAC

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Background: The WHO's Global Action Plan on Antimicrobial Resistance (GAP) stresses the importance of enhancing awareness and understanding of bacterial resistance through effective education and training, being important to do so from an early age. In 2018, SEFAC launched the project "CONÓCEME: Understand the Medicine, Discover the Pharmacist," aimed at enhancing the rational use of medications through educational interventions for Spanish adolescent students.

In 2022, the "CONÓCEME - Antibiotics" module, focusing on rational antibiotic use (RUA) and Antimicrobial Resistance (AMR), was added to the Project.

Purpose: To assess the impact of a group educational intervention conducted by community pharmacists (CP) from SEFAC on the knowledge about RUA and AMR among secondary and high school students in Spain, and to evaluate the level of satisfaction with this intervention.

Methods: Multicenter before-after intervention study. The target population comprised students in the 3rd and/or 4th year of secondary education and the 1st year of high school from participating educational centres in Spain during 2022-23. The training was conducted in person by CP trained by SEFAC. The intervention involved a group educational session consisting of the screening of a video on antibiotics and AMR, followed by an explanatory session on key basic concepts. The impact of the intervention (change in knowledge) was assessed through a test developed by the team, which was completed by students via the project platform across their mobile phones before and after the session. The educational material and questionnaires were based on the contents of the Spanish National Plan against AMR. At the end of the training, students and teachers completed a satisfaction survey. Teachers obtained Informed Consent from parents for student participation.

Results: The study was carried out in 78 educational centres in 41 Spanish towns. 137 CPs and 5,955 students participated, but due to a computer problem, data were only collected

from 3,919. Of these, 52.7% were women, and a mean age of 15.3±1 years and 93.9% of Spanish nationality. 84.7% had used medication in the previous three months, with 12.6% having used antibiotics. Participants began with a mean knowledge level of 2.4±1.3 points (on a scale of 0-6), which increased to 3.9 ± 1.4 after the educational intervention. The improvement difference of 1.5±1.5 was statistically significant ($p < 0.05$). Students starting with a lower average knowledge level (1.4 ± 0.7) achieved an improvement of 2.1±1.4 points. Those with a higher average level (3.6±0.8) showed an improvement of 0.8±1.2 points. This suggests that the effectiveness of the intervention was more noticeable in students with lower initial knowledge levels. The average satisfaction level among students was 3.4± 0.6 (on a scale of 0-4) and among teachers was 4.7±0.6 (on a scale of 0-5).

Conclusion: The CP-led educational intervention of RUA and AMR has improved the knowledge of adolescent students, especially those with less knowledge. The educational activity has been highly valued by participating students and teachers. Given the topic's significance and the initial knowledge level, there's a clear call for integrating similar educational activities into the secondary and high school curriculum.

Understanding conversations and perceptions in relation to antibiotic use for respiratory illnesses among adults globally: Results from the Sore Throat and Antibiotic Resistance (STAR) study

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Introduction: Understanding the conversations and perceptions that people have towards respiratory tract infections (RTIs) can help to inform interventions that reduce

inappropriate antibiotic use, which is particularly high for RTIs.

Purpose: To explore conversations and perceptions related to antibiotic use for RTIs, which generate insights that can help to drive behaviour change.

Method: An observational, questionnaire-based study was conducted in adults (18–64 years of age) from Brazil (BR), Germany (DE), Italy (IT), Mexico (MX), the Philippines (PH), Poland (PO), Romania (RO), Saudi Arabia (KSA), South Africa (SA), Spain (ES), Thailand (TH), and the United Kingdom (UK), who had experienced and were treated for RTI symptoms in the past six months. The online questionnaire explored RTI experience, antibiotic use, and attitudes and behaviours towards antibiotics and antimicrobial resistance (AMR).

Results: Of 18,564 people screened, 12,000 were eligible and completed the questionnaire (n=1000 per country). Of respondents who used antibiotics for an RTI in the last 6 months (53%; range: 34% [ES]–80% [TH]), the focus of the explanation provided by the HCP (pharmacist, doctor or nurse) when respondents were prescribed or received the antibiotics was mainly how to get symptom relief (39%; range: 25% [DE]–58% [TH]), the importance of following instructions (39%; range: 23% [ES, KSA]–57% [PH]) and the reason for the prescription (38%; range: 29% [ES]–56% [PH]), rather than details of AMR (22%; range: 13% [BR, IT]–38% [PH]). Among respondents who were given any explanation when they obtained antibiotics, 88% stated they understood the explanation provided to them (range: 78% [DE]–95% [PH]). Overall, 63% of respondents (range: 49% [PO]–73% [RO]) believed they were quite knowledgeable about the side effects antibiotics can cause and 64% (range: 42% [DE]–79% [PH]) were concerned about AMR. Additionally, 52% of respondents (range: 33% [ES]–75% [TH]) thought that antibiotics were effective for treating RTIs, 38% (range: 22% [DE]–61% [TH]) said that they normally used antibiotics to treat RTIs, 42% (range: 27% [PO]–60% [PH]) said that using antibiotics for RTIs was consistent with their core values about healthcare, and 49% (range: 33% [DE]–68% [TH]) said they knew many people who use antibiotics for treating RTIs. Of all respondents, 21% had not seen information about antibiotic use for respiratory conditions (range: 7% [PH]–32% [RO]).

Conclusions: Over one-half of respondents had taken antibiotics for an RTI. In addition, a substantial proportion thought that antibiotics were effective for treating RTIs and typically used antibiotics for this purpose, highlighting a misunderstanding on the consumers' behalf. Pharmacists are often the first point of contact in the healthcare system, which presents an opportunity for them to provide education and advice on how to manage RTIs using symptomatic relief and the impact of inappropriate antibiotic use.

Analysing marketing communication strategies and vaccination rates in pharmacy settings

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Introduction: One-to-one marketing, addressing customers individually, is well-established in marketing and plays a central role in Customer Relationship Management (CRM). Since the beginning of this new century, CRM software has become more sophisticated to respond to new requests from companies.

Short Message Services (SMS) are a widely recognised communication method in societies, as the global penetration of the technology approaches 100% worldwide. SMS advertising was also reported as a very cheap and effective communication medium for marketers, which allows feedback from the senders.

Email marketing is being increasingly recognised as a cost-effective marketing tool. It is one of the most effective online marketing tools because of the precision with which email can be tailored, targeted and tracked.

Social media is also important for generating co-created value, sharing information through a network in a faster way around the globe, monitoring brand-related discussions, and promoting customer-to-customer interactions. In Portugal, 78.5% of the population uses social networks, with Facebook[®] being the most relevant (5.9 million users), followed by Instagram[®] (5.3 million).

Aim: To understand the marketing communication strategies and the number of people vaccinated in the three pharmacies.

Method: This analysis was conducted across three pharmacies, each varying in size, all belonging to the same group - Central Pharma Group (CPG). Additionally, these pharmacies are situated in diverse areas within the Lisbon region, serving populations of different ages.

Results: The CPG, throughout the vaccination Flu and COVID campaign, sent a total of 85.080 SMS and 9.527 marketing emails to different age groups, in accordance with the current legislation. In Facebook[®] and Instagram[®], campaigns with 5 posts each were run, reaching 24.100 users with 2.583 interactions, and the global engagement campaign, which lasted 3 months, had 28.924 impressions, 755 interactions and 1.838 views.

Overall, the CPG vaccinated 8.425 patients (FCC vaccinated 5.081 (60.30%), FVS vaccinated 1.693 (20%) and FST vaccinated 1.651 (19.60%). In all three pharmacies, two vaccination peaks were registered. The first happened in October, followed by another in January, coinciding with the government's decision to provide vaccinations free of charge

to individuals aged 60 and above for both flu and COVID, and after for those aged 50 and above for COVID, and 18 and above for flu. During that time, the communication via SMS and email marketing was intensified.

Conclusion: SMS communication played a crucial role in advertising the new services offered by pharmacies. Simultaneously, it held significant potential for promoting rapid growth prospects by refining target audiences and enhancing the effectiveness of marketing campaigns.

Oral emergency contraception: Analysis of the dispensing data in three pharmacies in Lisbon area (Portugal)

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Introduction: Emergency contraception is recommended after unprotected sexual intercourse including contraceptive failure, reproductive coercion and sexual assault. Both hormonal and non-hormonal methods are available in Portugal. Copper intrauterine devices and Oral Emergency Contraception (OEC), either with levonorgestrel or ulipristal acetate, are available for dispensing.

In Portugal, OEC can be dispensed without a prescription. OEC is more effective the sooner it is taken after sexual intercourse. The risk of pregnancy is reduced if OEC is taken up to 72h (levonorgestrel) or up to 120h (ulipristal acetate) after unprotected intercourse.

Aim: To analyse the 2023 OEC dispensing data in three pharmacies located in the Lisbon area, all of them belonging to the "Central Pharma Group (CPG)" chain.

Method: The three pharmacies are located in different zones of the Lisbon metropolitan area. They serve different size populations and varying age groups. Farmácia Central do Cacém (FCC) and Farmácia Vasconcelos (FVS) are located in a suburban area with a large immigrant community of younger adults. Farmácia São Tomé (FST) serves a more elderly population due to its location in one of the oldest neighbourhoods of Lisbon. 2023 dispensing data registered at the software SIFARMA[®] was collected from the 3 pharmacies and analysis was done using Microsoft Excel[®] 16.78.3.

Results: The data obtained revealed a different dispensing pattern among the three pharmacies. FCC dispensed an average of 30 OEC pills per month while FVS an average of 8 and FST an average of 4 OEC pills. Altogether, an average of ca. 43 OEC pills were dispensed in the three pharmacies of the Central Pharma Group.

As expected, the results are in accordance with the pharmacies location/population size. OEC pills dispensing is higher in FCC, which serves a large (and young). Although FVS also serves a young community, OEC dispensing is lower due to the medium size population served. As for FST, due to its location and because it serves a small size population, it has a very low average of OEC pills dispensing.

The data collected showed that there is higher OEC dispensing during the weekends and holidays (i.e. one to five days after) as well as during the months of July and August.

Conclusion: The easy access to OEC in pharmacies in Portugal is positive for women and pharmacies are the place of choice to have them dispensed. Pharmacists have an important role during the OEC dispensing, not only by promoting its correct use, but also by encouraging sexual health and responsible sexual behaviors, especially considering the increasing incidence of sexually transmitted diseases in Portugal.

The palliative kit, an example of regional multidisciplinary cooperation in the Netherlands

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Introduction: Compared to other European countries, palliative care for adults in the Netherlands is generalist care. There are relatively few specialised centres, but the patient often continues to live at home, and care is provided by regular care providers in the neighbourhood. Living at home has advantages (such as staying in the familiar home environment and lower healthcare costs), but it can also lead to acute care during evenings, nights and weekends. If the patient suddenly deteriorates, the GP has to come at night and the pharmacy has to quickly deliver medicines and medical aids. The acute supply of medical aids is particularly a problem because pharmacies often don't have them. This is because medical aids are no longer standardly being supplied by pharmacies for a few years. They are only being supplied by certain suppliers who are contracted by the health insurer.

Purpose: To prevent acute palliative care during evenings, nights and weekends.

Method: To prevent acute palliative care during evenings, nights and weekends the palliative kit has been developed through regional collaboration between general practitioners, pharmacists and community nurses.

The palliative kit is a box composed by the pharmacy that contains supplies to immediately treat (acute) symptoms. The kit is placed in the home of palliative patients when they enter the terminal phase, at a time that can be planned. The doctor will give an indication for this. Because the right items are already present at the patient's home and permission has

been granted, the nurse can immediately use the kit when necessary. Of course, regional collaboration agreements are key.

A palliative kit may have different compositions per region, but in most cases it contains: ampoules of morphine, ampoules of midazolam, the necessary syringes, needles and bandages and a urinary catheter with insertion set.

The pharmacist receives a rate from the health insurer for supplying the box and the medical aids. The pharmacist gets the medicines reimbursed separately.

Results: The palliative kit has been positively assessed in evaluations. The palliative kit prevents unnecessary time spent by the community nurse, GP and pharmacist. Especially during evenings, nights and weekends.

In addition, the patient's family experiences the presence of the palliative kit as reassuring and supporting, because they know that in the event of an acute deterioration of the patient, they necessary medications and medical aids are there already.

Health insurers are also enthusiastic about the palliative kit and want to reimburse it nationally.

Conclusion: The palliative kit is a successful result of regional cooperation. It is now being rolled out nationally and all health insurers have the intention to reimburse it.

National multidisciplinary vision for primary care 2030 in the Netherlands, and the role of the pharmacist

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Introduction: As a society, we face the major challenge of keeping primary care accessible to people who need it and connecting it well to the social domain. We all have to work towards this. This shared national multidisciplinary vision of primary care will help us with this.

Purpose: To ensure that by 2030, primary care will be accessible to all citizens who need care, and contributes to equal opportunities for good health for everyone.

Method: All healthcare providers in primary care, including the Royal Dutch Pharmacists Association (KNMP), patients associations, health insurers, social domain, and the government jointly developed a vision for primary care in 2030. This includes the goals and a concrete plan and partnership to achieve them together.

Results: Six main goals were formulated:

- 1: Reduce unwanted pressure on primary care
- 2: Good preparation for and guidance to primary care
- 3: Appropriate primary care, focused on health and quality of life, digitally supported when appropriate
- 4: To make better use of the capacity within primary care; rearrangement of tasks where necessary
- 5: Close cooperation within the neighbourhood between professionals, so that health problems can be proactively addressed
- 6: Accountability of primary care, cooperation at the regional level to resolve bottlenecks throughout the chain, and 24/7 primary care infrastructure available for crisis situations.

Local organisation

A stronger first line organisation is needed to be able to innovate. In concrete terms, this means that professionals will work together in close local partnerships in the neighbourhood or village in 2030. Key players in the close-knit local partnership, including at least the general practitioner, community nurse, community pharmacist and social domain, have short lines of communication with each other and can respond to the specific needs of citizens, and work together on innovation and prevention.

Regional organisation

This also means that by 2030 a regional primary care partnership will be active in every region, supporting and representing the local partnerships. Through this regional partnership, sustainable agreements are made with health insurers, municipalities and other healthcare domains about the organisation, infrastructure and activities required to keep primary care sustainably accessible and strengthen it.

The above developments are supported by health insurers, municipalities and national policies.

Conclusion: The Royal Dutch Pharmacists Association (KNMP) has contributed to a national multidisciplinary vision of primary care. For this, local cooperation is key. The community pharmacist is one of the four key players in local primary care partnerships, together with the general practitioner, community nurse and the social domain. Conditions like organisation and infrastructure being arranged in a regional partnership, which supports the local partnerships. This is again supported by health insurers, municipalities and national policies.

Independent prescribing in community pharmacy: What works for whom, why and in what circumstances (INTEGRATE)

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Introduction: Making better use of the resources provided by community pharmacies is key to the National Health Service's Long Term Plan to improve access to primary care. Pharmacies offer convenient and accessible sources of healthcare advice for the public, particularly in areas of high deprivation.

In the United Kingdom, community pharmacy is increasingly moving to a funded professional service model, developing prescribing from community pharmacy is a key part of this. From 2026, new Education and Training Standards will see all UK pharmacy graduates holding prescribing status upon initial registration. There are key contextual issues which may inhibit independent prescribing from community pharmacies, which this realist review should identify.

Purpose: This aim is to improve understanding of how independent prescribing in community pharmacy works, why it works, and in what circumstances so the authors can recommend strategies to maximise implementation and utilisation to meet the needs of community pharmacy and, ultimately, patients.

Method: INTEGRATE is funded by the National Institute for Health Research (NIHR; award ID: NIHR155314). It involves a realist synthesis following the accepted Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES). The realist synthesis will follow an iterative five-stage process:

- (1) Locate existing theories – via initial exploratory searches and development of initial programme theory with stakeholders
- (2) Search for evidence – a formal search strategy will be developed by this information specialist to identify published research and grey literature
- (3) Article selection – articles will be screened against inclusion and exclusion criteria

- (4) Extract and organise data; data for programme theory development will be coded in NVivo software
- (5) Synthesise evidence and draw conclusions – context-mechanism-outcome configurations will be developed and embedded within a programme theory which will be refined and developed with stakeholder input.

A stakeholder group consisting of a wide range of healthcare professionals, commissioners, employing organisations, policymakers and patient and public representatives will meet up to six times during the 18-month project.

Results: Despite, or arguably because, of the introduction of Pharmacy First Schemes across the UK (when prescription-only medicines can be supplied via the clinical protocol), there is no widespread use of pharmacist-independent prescribing in community pharmacies. With poor utilisation of prescribing in community pharmacies nationally, there is a need to learn transferable lessons from pharmacists and services that have delivered successful initiatives, including supply and administration of prescription-only medicines and overcome barriers to implementation to understand enablers of successful delivery. By addressing the aims, the results from INTEGRATE should answer some of these key questions. This is essential now, as workload and workforce pressures in the NHS are significant.

Conclusion: INTEGRATE will co-produce evidence-based recommendations with an expert stakeholder and a Patient and Public Involvement and Engagement (PPIE) group underpinned by the literature. This approach will provide evidence to support the widespread implementation of independent prescribing in community pharmacies.

Lack of knowledge surrounding methamphetamine use disorder – A qualitative study

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Background: Methamphetamine use disorder (MUD) has been associated with significant harm at the population level. The implementation of harm reduction services in pharmacy has established a role for pharmacists in the provision of services to people with substance use disorders. However, little is known about pharmacists' knowledge and experience surrounding MUD. The aim of this study was to explore pharmacists' perspectives on the provision of services to clients with MUD.

Methods: Recruitment of pharmacists involved a convenience sampling strategy across Sydney, Australia. The use of semi structured interviews explored pharmacists' perspectives surrounding the treatment and management of MUD. Transcribed interviews were then thematically analysed and coded by the research team and consensus reached.

Results: Nineteen participants were recruited. The overarching theme was lack of knowledge of pharmacists. Participating pharmacists almost unanimously viewed there was a lack of educational resources surrounding MUD, inadequate university curricular on MUD, and a lack of support for the role of pharmacists in any prospective MUD treatment programmes.

Conclusion: A general lack of knowledge of pharmacists surrounding MUD was found in this study. A lack of educational resources and support of pharmacists can contribute to feelings of incompetence and lack of confidence, thereby creating barriers and gaps in service delivery to people with MUD. This warrants further research into developing educational resources about MUD tailored to pharmacists' needs.

Contributions and challenges faced by Ghanaian community pharmacists in addressing asthma within their communities

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Background: Asthma remains a significant public health concern worldwide, and its management requires a multifaceted approach involving various healthcare professionals. Community pharmacists, as accessible frontline healthcare providers, play a crucial role in asthma management. Despite the growing prevalence of asthma in Ghana, the potential for community pharmacists to significantly improve outcomes for asthma patients remains underexplored. Understanding the experiences and perspectives of Ghanaian community pharmacists is essential for optimising asthma care and promoting better health outcomes in the Ghanaian.

Purpose: This research aims to evaluate the extent of involvement, challenges, and opportunities for community pharmacists in the provision of asthma care services.

Method: The study employed a cross-sectional design to explore the involvement of community pharmacists in asthma management. Data collection involved the distribution of a semi structured questionnaire to one hundred and thirty-nine practicing community pharmacist who were randomly sampled. Data Analysis was carried out using Statistical Package for Social Sciences (SPSS) version 23 and Microsoft Excel.

Results: A high proportion of the respondents (65.2%;n=91) were males and 34.8%(n=48) were females. Monthly visits of asthma patients varied as 50% (n=70) of respondents encountered less than five asthma patients monthly, and only 7% (n=10) more than fifteen patients. With respect to the roles performed by the pharmacists in asthma management, 89.6% (n=125) were involved in ensuring medication availability, 76.5% (n=106) counselled patients on medications and inhaler technique, 36.5 (n=51) formulated action plans, 33% (n=46) managed moderate acute asthma and 27.8% (n=39) monitored and followed up on patients with chronic asthma. Ten percent (n=4), 35% (n=49) and 55% (n=76) of respondents had peak flow meters, spacers, and nebulisers available for sale in their pharmacies, respectively. However, 3% (n=4) and 10% (n=14) of respondents had peak flow meters and nebulisers, respectively, for use in the monitoring and managing of asthma in the pharmacy. Challenges cited by respondents were no extra income for care offered to asthmatic patients (n=59; 51.3%), difficulty in getting stocks of asthmatic devices and some medications (n=47; 40.9%) and offering care to asthmatic patients is very time-consuming (n=46; 40%).

Conclusion: This study highlights the significant role played by Ghanaian community pharmacists in asthma management, despite facing several challenges. While a considerable proportion of pharmacists are actively engaged in ensuring medication availability, counselling patients on medications and inhaler techniques, and providing essential services, there are notable gaps in the availability of essential asthma management devices within pharmacies. Furthermore, the challenges reported by pharmacists call for policy interventions and support mechanisms to alleviate these barriers. Addressing these challenges and enhancing the role of community pharmacists in asthma management can significantly contribute to improving asthma outcomes and overall public health in Ghana.

CisMED and FarmaHelp, pharmacist-led tools to prevent and mitigate shortages

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Introduction: The General Council of Pharmacists of Spain (CGCOF) has developed two digital tools that aim to prevent and mitigate medicine shortages, a global burden that deeply affects patients and community pharmacists: CisMED, a communication system that generates real-time information on supply incidents at the pharmacy level, and FarmaHelp, which allows community pharmacies to communicate with other pharmacies in the surrounding area when a patient's request for a medicine cannot be fulfilled at the first instance.

Purpose: CisMED (Center for information on medicines supply) provides a tool to pharmacists and the CGCOF that helps with the early detection of supply incidences and ultimately can help the national competent authorities to prevent and mitigate medicine shortages. Farmahelp is a technological platform at the service of pharmacies, which connects pharmacies in the surrounding area to offer a solution to patients.

Method: CisMED is an information system that allows participating pharmacies to report supply incidences the very moment they occur, based on a communication infrastructure between pharmacies, Pharmacists' Associations, and the General Council. CisMED collects data on medicines that have not been supplied to the pharmacies by any of their suppliers. This information is entered into a SQL database and is analysed using SAS, R and Python statistical software.

FarmaHelp is a free online platform provided to community pharmacies so that, if a patient requests a medicine that is not available in that pharmacy, they can ask other nearby pharmacies which of them have the medicine available so that the patient can pick it up at the pharmacy that has it on stock.

Results: In 2023, more than 10,000 pharmacies voluntarily participated in CisMED, which is half of all Spanish pharmacies, reporting a 30% increase in medicines that could not be supplied to pharmacies. More than half of the alerts generated by CisMED are not reported as shortages by the Spanish Medicines Agency. In total, the system detected up to 475 medicines with supply incidents or alerts, from all therapeutic groups, with an average of 92 incidents per week. The nervous system, with 17.9%, and cardiovascular medicines, with 17.1%, were the most reported categories. This information is shared with the Spanish Medicines Agency on the basis of a collaboration agreement.

Regarding FarmaHelp, in 2023, 10,000 pharmacies were connected to it and the number of medicines found increased from 106,925 in 2022 to 389,364 in 2023. This meant that in 7 out of 10 occasions (73.5%) the pharmacist was able to offer a solution to the patient thanks to the use of FarmaHelp.

Conclusion: Community pharmacists are well-trained professionals who, with appropriate and precisely designed tools, play a key role in the early detection, prevention and management of medicine shortages for the benefit of patients.

Social determinants of health: Approach from a civil society perspective

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Introduction: Social determinants have a direct effect on people's health and their unequal distribution is what ultimately generates the existence of health inequalities, especially affecting the most vulnerable groups. This reality highlights the need to generate measures that involve all actors and use all available resources to reduce social gaps and address the ultimate cause of disease: inequity.

Purpose: To explain how aspects such as age, environment, place of origin and residence, gender and affective-sexual relations are decisive factors in health, and what measures should be implemented in each of them to reduce the influence they have on health.

Method: Promoted by the General Pharmaceutical Council of Spain, this study is the result of research carried out by the Barcelona Institute for Global Health and the contributions of the 14 organisations that make up the Social Advisory Council of the Pharmaceutical Profession (CAS).

It has been developed in three phases: (i) literature review and drafting of the five papers that make up the report; (ii) policy analysis and drafting of recommendations; and (iii) sharing of data and review process by the CAS.

Results: Social determinants define the risk factors, diseases and specific health problems that each person will suffer from. To reduce this effect, a decalogue of recommendations has been created, derived from the debate of the members of the CAS around the study, and which is summarised in the following measures:

1. Incorporating the "Health in All Policies" approach.

2. Integrating social determinants into health research.

3. Breaking the intergenerational transmission of inequity.

4. Promoting health promotion, disease prevention and social protection strategies.

5. Prioritising care policies.

6. Ensuring accessibility to the health system.

7. Supporting access to quality housing and healthy environments.

8. Ensuring decent employment and working conditions.

9. Strengthening mental health care, the detection of unwanted loneliness and the prevention of violence and hatred.

10. Developing crisis preparedness plans.

Conclusion: Addressing the social determinants of health requires in particular social policies and community action. These are two areas in which pharmacists and community pharmacies, given their proximity, accessibility, and integration into the community, can play a key role.

Based on these assets, pharmacies carry out care and social initiatives, from the identification of risk situations of vulnerable people to the provision of health promotion and disease prevention services, as well as communication and referral to other professionals or competent bodies. These actions are supported by the social and community roots of pharmacy, which help to reinforce many of the aspects mentioned in the study and in the decalogue.

Health education and proper use of medicines through Farmacéuticos' YouTube channel

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Introduction: Medicines and health information on the Internet and social media may often come from non-trustworthy sources, lack scientific evidence, and commonly fall into the realm of hoaxes and misinformation. Active participation of institutions and healthcare professionals is required to tackle this situation and promote health education on the proper use of medicines, adding knowledge and using the most appropriate language and formats for dissemination on social networks.

Purpose: The authors contribute towards the health education of the population in general and, in particular, to the rational use of medicines, providing scientific content in friendly and accessible ways and taking advantage of the potential of the new social communication channels.

Method: The CGCOF, together with a medical TV specialised production company, promoted the creation of a YouTube channel on health and the rational use of medicines, called "Tu Farmacéutico Informa" (Your Pharmacist Reports). This is a weekly video piece lasting 2-3 minutes, which explains the most relevant aspects of the most commonly used active ingredients in a simple way. Several topics have also been added to the channel on a monthly basis, such as skin care, medicinal plants, orthopaedic technical aids, veterinary medicines, women's health, vaccines and biosimilar medicines.

These videos are developed by a collaborative team of pharmacists and communication experts. In addition to their publication on the YouTube channel, they are also disseminated through the main social networks - Instagram, Facebook, LinkedIn, X-Twitter, Whatsapp or Telegram - under the hashtag #TuFarmacéuticoInforma.

Results: Over 450 video pieces on medicines, medicinal plants, skin care and technical aids, as well as on the correct handling of inhaler devices, among others, have been produced and published since October 2016.

To date, this audiovisual health education project has attracted 535,000 followers, more than 100 million views, 998,100 likes, and 29,400 comments and the videos have been shared more than 786,000 times.

At the same time, popular interest in the content is reflected in the average viewing rate of the videos - on average 65% - which means that the pieces are viewed nearly in their entirety by Internet users.

The 2 videos that attracted the most interest among the population are:

- "How and when to use Sildenafil, which accounts for more than 4.9 million views and an average viewing rate of 68.6%.
- "How and when to use Metformin", with 4.1 million views and an average viewing rate of 67.9%.

In addition, more than 25 health video tips have more than one million views on YouTube.

Conclusion: Social networks are a powerful tool to convey friendly and accessible knowledge to society. These videos enhance the accessibility and comprehension of content.

Videos endorsed by health organisations, providing rigorous, quality health information on health and medicines are well perceived by Internet users, as well as promoting health education for the population and helping to empower patients.

The active participation of professional organisations in the dissemination of reliable health content is necessary to tackle misinformation and fight the proliferation of health hoaxes in the digital environment.

Pharmaceutical care to the transplant patient

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Introduction: Organ transplantation and the introduction of immunosuppressive drugs are two of the most important therapeutic achievements of the 20th century. However, there are still major challenges, such as the high morbidity and mortality associated with treatment, lack of adherence and the risk of rejection. The JuntOS project (TOS is the acronym for a solid organ transplant in Spanish) is the result of a collaboration between the General Pharmaceutical Council of Spain (CGCOF) and the Spanish Society of Hospital Pharmacy (SEFH) to ensure continuity of pharmaceutical care between levels of care.

Purpose: Optimising the use of immunosuppressants in solid organ transplant (SOT) patients by improving treatment adherence rates. As intermediate objective is to improve training, practice and care coordination among hospital pharmacists and community pharmacists, as well as to enhance patients' health education.

Method: Since July 2022, work has been underway to collect information and provide tools to improve training, practice and care coordination between hospital and community pharmacists, counting with the endorsement of the National Transplant Organisation and various transplanted patients' associations.

A research pilot project is being currently developed and is focused on:

-Design of a joint action protocol.

-Technological development of Nodofarma Asistencial* as a support tool:

o Communication between professionals.

o Improved adherence to treatment.

The documentation has recently been presented to the clinical research ethics committee in Cantabria in order to achieve its endorsement for the research project.

Results: The JunTOS project has generated useful materials for pharmacists and patients. For example, the CGCOF has published a Pharmacotherapeutic and Pharmaceutical Action Guide for SOT and held a training webinar on the multidisciplinary approach to these patients, both of which were aimed at pharmacists, which allowed them to update their knowledge of the fundamentals of transplantation, the pharmacological approach, the management of complications, as well as professional action to assure pharmaceutical care and enhance treatment adherence. In addition, an infographic was created for patients in order to provide them with relevant information about what a transplant is, its treatment, the importance of adherence, recommendations for their daily routine and warning signs/symptoms.

Conclusion: JunTOS is an innovative project to improve the pharmaceutical care of SOT patients, providing training and communication tools for professionals and patients. The research pilot project is expected to start around June 2024 in three provinces, aiming to recruit more than 300 SOT patients on the hypothesis that continuous and optimised pharmaceutical care will lead to better adherence and clinical results in the use of immunosuppressants and, in turn, in the survival and quality of life of these patients.

*Nodofarma Asistencial: Digital registration platform created by the CGCOF for the provision and implementation of Professional Pharmaceutical Care Services in pharmacies, with the aim of promoting care practice, protocolised and homogeneous throughout the national territory.

Rural health schools: Health education by pharmacist

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Introduction: The General Pharmaceutical Council of Spain (CGCOF), together with the Regional Pharmaceutical Council of Castile and Leon (CONCYL) and the corresponding Provincial Pharmacy Chambers jointly launched the programme "Rural Health Schools. Health education by the Pharmacist", in Castile y Leon Autonomous Community, which accounts for 32% of the rural pharmacies in Spain and was therefore a suitable region to start this project in. The project took place and was funded in response to the

objective of the Ministry for the Ecological Transition and the Demographic Challenge to promote territorial transformation.

Purpose: This project is centred on health education and health promotion for people living in towns with fewer than 5,000 inhabitants in Castile and Leon to strengthen the cohesion of rural areas, improve the quality of life of their inhabitants, as well as to promote and make the most of the role of community pharmacists in providing care.

Method: 230 pharmacies applied to participate in the project, and 109 rural pharmacists from Castile and Leon were selected, which is 5% of all the pharmacies in the region. The selection criteria were the following: enrolment order, economic viability compromised pharmacies (when exceeding certain economic criteria and other criteria, these pharmacies receive an economic benefit from the government), smaller to larger municipalities, and previous participation in other programmes.

CGCOF technicians trained the selected pharmacists to ensure the proper implementation of the sessions. The participating pharmacists were provided with dissemination materials required for the delivery of the training sessions and for the correct development of the project among the population. These trained pharmacists delivered five paid training sessions aimed at the general population residing in these villages. These activities addressed relevant topics by age group and gender; elderly people (prevention of functional decline, emotional wellbeing), adults (screening, occupational health), women (sexual health, nutrition during different stages of life), adolescents (contraception, prevention of alcoholism) and children (vaccination, prevention of overweight), among other topics.

Results: These training sessions were attended by a total of 9,664 people, 7,198 of whom filled in the satisfaction survey. 98% of the participants reported that they would attend further training provided by a pharmacist. 97% of the surveyed also consider it appropriate to receive more training like this on a regular basis and 99.9% would recommend this service to other municipalities and would recommend it to others.

Conclusion: Community pharmacists have the skills and capacities to carry out interventions and actions in the different areas of the project (health care, public health and social services), playing a key role in the health and social system.

Diminution in the professional paradigm in community pharmacy: Implications for pharmacy as a profession and its autonomous regulatory status.

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Background: Pharmacy has an exalted status as an autonomously regulated profession however changes in the nature of pharmacists' practice, and in societies' perspectives of professionalism, have implications for the ongoing status of pharmacy as a profession.

Purpose: To examine stakeholders' perspectives on the performance of community pharmacists in Australia through the lenses of professionalism and standards.

Method: Thematic analysis was undertaken of semi-structured interviews with 38 purposively selected individuals in four socio-ecological strata of community pharmacy; societal, community, organisational and interpersonal.

Results: Pharmacists' professionalism is ostensibly high but it cannot be assumed. It needs to be demonstrated through personal interaction and by meeting standards. In many pharmacies, work practices and a growth in commercialism threaten pharmacists' professional paradigm in which patients' interests are paramount. Whereas performance-based funding is applied in pharmacies in some countries, in Australia, there are limited imperatives for pharmacists to meet the promulgated standards.

Conclusion: The business-professional dichotomy that has emerged in community pharmacy could challenge the classification of pharmacy as a profession and its autonomous regulatory status. In the face of this threat, changes in the existing funding policy and the introduction of an externally monitored quality framework could be used to enhance professionalism, attainment of standards and overall performance.

Hepatitis B virus awareness and vaccination using implementation strategies in rural communities outreaches in Federal Capital Territory, Nigeria

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Introduction: Hepatitis B Virus (HBV) remains a significant global health concern, especially in rural communities. This highly infectious disease primarily targets the liver, causing severe damage, increasing the risk of liver cancer, and potentially leading to death if left untreated. Unique challenges in rural settings, such as limited healthcare accessibility, educational barriers, and cultural nuances, perpetuate the disease burden in rural communities and serve as obstacles to information dissemination about HB and vaccination. The study objective was to disseminate accurate information on HBV, including transmission modes, complications, and prevention measures through the implementation of awareness campaigns, community engagement, and targeted intervention, to enhance vaccination.

Method: This descriptive cross-sectional study investigated the effectiveness of an awareness campaign as an implementation strategy to enhance Hepatitis B virus (HBV) vaccination rates in 11 rural communities in the Federal Capital Territory, Nigeria with limited access to healthcare facilities and resources. Positive cases identified during screenings were referred to nearby healthcare facilities. The study conducted between October 2021 and October 2023 utilised Churches and selected households as access points. Positive cases identified during screenings were referred to nearby healthcare facilities for further evaluation, confirmatory tests, and appropriate medication management. Data was collected regarding the number of outreach initiatives carried out, the total count of HBV screenings administered, the number of individuals testing positive for HBV infection, and the enrollment figures for vaccination. Additionally, screenings for other comorbidities, such as HIV and Diabetes, were conducted.

Results: The data obtained was analysed using the Statistical Package for the Social Sciences (SPSS). Eleven communities took part in the study, comprising a total of 547 (40.8%) male participants and 794 (59.2%) female participants. A screening for hepatitis B was conducted on 1341 individuals, revealing that 48 (3.6%) tested positive. Following the screening, 305 (22.7%) individuals opted for vaccination, and out of these, 87 (28.5%) completed the three-shot vaccination regimen within 6 months. Additionally, 69 (22.6%) individuals received two shots of the vaccine. The study also included testing

individuals with co-morbidities, such as those with diabetes, HIV, and cases resulting in death.

Conclusion: Findings from the study emphasise the importance of sustained initiatives to raise awareness about HBV, promote vaccination and tackle challenges faced in rural communities. Implementing targeted strategies that address knowledge gaps, dispel myths, improve access to healthcare facilities, and enhance the cold chain infrastructure, holds the potential for significant strides in preventing and controlling HBV in these underserved areas.

Policy Developments for Portuguese pharmacies - 2023/2024 in review

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Background: This work presents a comprehensive overview of the new legislative and regulatory landscape developments impacting community pharmacies in Portugal during the years 2023 and 2024. It investigates key policies enacted during this period, assessing their alignment with national health priorities and their impact on enhancing accessibility to medicines. This analysis aims to provide insights into the evolving framework of community pharmacy practice in Portugal and its implications for healthcare delivery and patient outcomes.

Purpose: The regulatory environment surrounding these pharmacies continuously evolves to adapt to changing healthcare needs, technological advancements, and policy imperatives. The years 2023-2024 witnessed significant legislative and regulatory developments aimed at enhancing the quality, accessibility, and efficiency of pharmacy services in Portugal. Understanding their implications and how they contribute to the development of community pharmacy practice and better address patients' needs is relevant.

Methods: New legislation concerning community pharmacies in Portugal was identified through the National Association of Pharmacies (ANF) policy and advocacy work with the government, health authorities, and patient groups to pinpoint critical developments. A focused analysis was conducted on 15 significant national legislations, and the main elements pertinent to the advancement of pharmacy services were extracted and summarised. The main aspects of the identified legislation were systematically compared with the priority actions outlined within the Portuguese

Pharmacies' White Book to conduct a comprehensive analysis of how they contribute to the development of the sector.

Results: These legislations addressed various aspects, including but not limited to therapeutic renewal, vaccination services, dispensing of speciality medicines, and measures to alleviate medicine shortages. The identified legislation demonstrates alignment with the ANF global strategy outlined in the Portuguese Pharmacies' White Book, focusing on various dimensions and axes such as accessibility, innovation, quality of care, and professional training. The impacts of the legislative developments on these dimensions are diverse, with some measures enhancing accessibility to healthcare services and others fostering innovation in pharmacy practice or improving the quality of patient care.

Conclusions: The legislative and regulatory developments in community pharmacies during this period underscore the sector's ongoing commitment to better addressing patients' needs. By addressing key challenges and leveraging opportunities for improvement, these policies have the potential to reshape the landscape of pharmacy practice, enhance patient care, and contribute to the sustainable development of the healthcare sector in Portugal.

Leveraging community pharmacies to increase vaccine awareness and accessibility in Puerto Rico

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Introduction: Routine adult immunisation rates within the unincorporated territory of Puerto Rico are below the United States Centers for Disease Control and Prevention (CDC) targets. The Vacunas para Todos team aims to partner with community pharmacies across Puerto Rico to increase awareness, education, and accessibility of the CDC-recommended vaccines for adults.

Methods: The Vacunas para Todos team applied three evidence-based strategies leveraging the power of community pharmacies in collaboration with health educators to achieve this objective. 1. Collaborate and empower community pharmacies to promote immunisations and to educate community members about vaccine-preventable illnesses. 2. Facilitate the participation of pharmacists in their communities by coordinating and supporting health fairs and vaccine clinics outside the pharmacy in community settings. 3. Partner with a national community pharmacy association to support national campaigns in which over 50 community pharmacies participated in each of two coordinated immunisation weeks

across Puerto Rico to raise awareness and provide immunisations.

Results: From April 14, 2023, to January 31, 2024, the Vacunas para Todos project partnered directly with 40 community pharmacies across 30 municipalities in Puerto Rico. The Vacunas para Todos team coordinated, collaborated or participated in 50 community immunisation events. Through this program, 4,311 community members were provided with immunisation education and orientation and 3,566 individuals received a total of 4,297 vaccines. Common barriers to immunisation encountered included lack of coverage for vaccines administered in community pharmacies from major health plans in Puerto Rico and lack of vaccine confidence or perceived importance of immunisations, in particular with regard to COVID-19 boosters.

Conclusion: Community pharmacies play a crucial role in the promotion, orientation, and administration of immunisations in their communities. By partnering with community pharmacists, the Vacunas para Todos project contributed to raising awareness, education, and accessibility to immunisation services in communities across Puerto Rico. This multidisciplinary, collaborative approach can serve as a model for addressing other public health challenges in Puerto Rico, such as diabetes, asthma, and opioid crisis, among others.

Digital support in pharmacist-patient consultations

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Background: To further improve direct and personal communication with patients, Dutch pharmacists have developed the guideline 'pharmaceutical patient consultation'. Pharmacists have many consultations with patients, including patients with chronic illnesses. Although digitisation is already being used on many fronts in pharmacy, little is known about digitisation in pharmacist-patient interaction.

Purpose: Pharmacists deal with various groups of patients with whom they conduct consultations. These may be patients with occasional care needs or patients with chronic care needs.

Currently, KNMP is investigating the impact of digital support in pharmacist-patient interactions.

Method: KNMP has developed a model showing the diversity of consultations between pharmacist and patient. In this

model, the focus is on consultations with patients starting chronic medication (starting phase) or who have been taking chronic medication for some time (follow-up phase). In addition, consultations when 'reducing and stopping' are shown. The impact of digital support will be determined in these different phases for the patient (in terms of outcomes of care).

Results: In addition to literature research, KNMP conducted a number of interviews with stakeholders. KNMP would like to talk to representatives of other countries.

Conclusion: Evidence is lacking for the impact of digitisation in pharmacist-patient interaction. To this end, more research is needed.

Dealing with increasing medicine shortages: use of a digital platform to ease the handling in pharmacy practices

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Background: Internationally, medicine shortages cause increasing concern. For patients it may impose a significant effect on their safe use of medication. For pharmacists (and physicians) it is time-consuming to get trustworthy information. In 2004 the Royal Dutch Pharmacists Association (KNMP) launched the platform KNMP Farmanco: www.farmanco.knmp.nl. It provides pharmacists with up-to-date information on medicine shortages in The Netherlands and practical advice on how to handle them.

Purpose: Providing pharmacists with trustworthy information on medicine shortages and providing them with possibilities for solutions.

Method: On the digital platform a medicine shortage can be reported by industry or pharmacists. The definition used (by KNMP) to describe a drug shortage is as follows: medicines are not available nationwide and the shortage is likely to last longer than 14 days (verified with suppliers).

Based on the report, the manufacturer is contacted for an analysis of the problem such as reason for the shortage. Within 24 hours of the report, information is provided on the platform about the cause and the duration of the shortage and possibilities for solutions. An advice on a pharmaceutical alternative, import or pharmacy preparation is usually published afterwards.

The solutions are investigated sequentially:

- substitution: same active ingredient and dosage form;

- pharmaceutical alternative: other active ingredients, replaceable based on therapeutic standards;
- import: product from another country (EU or MRA countries);
- pharmacy preparation.

Results: There are currently more than 1000 active medicine shortage cases on the platform. The number of medicine shortages has increased from 1514 in 2022, to 2292 shortages in 2023.

The average duration of shortages has also increased from 91 days to 107 days.

Almost 73% of the shortages in 2023 can be remedied by medicine with the same active substance. 17% of the shortages were remedied by pharmaceutical alternatives, 7% by import and 2% by pharmacy preparation. For less than 1% of the shortages, no alternative is available at all.

Conclusion: The developed platform provides trustworthy information and practical advice on medicine shortages for pharmacists. This helps pharmacists to deal with the increasing numbers of medicine shortages every day by providing several solution possibilities. This also helps the physicians.

Digitalisation of supplemental counselling

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Background: Since 2016, Danish pharmacies must offer a New Medicine Service (NMS). This service is designed for patients recently diagnosed with a chronic illness who have been prescribed new medication within the past six months. While offering this service at Firkløver Pharmacy, challenges were observed among certain patient groups. These groups have either lacked the capacity or the opportunity to fully engage in comprehensive medication counselling. This observation inspired the development of supplementary

digitalised materials that could be accessed by patients at a later time.

Objective: Evaluate the effect of digitalised supplementary counselling on enhancing patient compliance and improving the quality of life.

Method: Through interacting with patients at the counter, pharmacists at Firkløver Pharmacy identified antidepressant users as the primary group in need of digitalised supplementary counselling, with a focus on SSRI (Selective Serotonin Reuptake Inhibitor) and SNRI (Serotonin Noradrenaline Reuptake Inhibitor) for feasibility purposes. This patient group showed limited knowledge about side effects and how to manage them. A handout with a QR code was developed, linking directly to a pharmacy-created animated video. The video provides supplemental information about the most common side effects and how to minimize them. The handout was distributed to the targeted patient group (from March to July). Those who accepted the handout were invited to evaluate whether the video enhanced their understanding of side effects and how to alleviate them. The effect of digitalised supplementary counselling was assessed using quantitative measures (video views, evaluation responses) and qualitative methods (interviews with patients conducted at the counter or over the phone).

Results: In the first two weeks of March 2024, the video received 20 views. Among viewers, 75% (n=15) found it helpful for understanding medication side effects and how to minimise them, while the remaining 25% (n=5) did not respond to the evaluation.

Participant feedback was positive, with comments highlighting the video's user-friendly design and its effectiveness in providing supplemental information. Notable comments include: "the video helped me better understand how to ease my side effects" and "having the information presented in a video format was helpful and user-friendly". However, it's important to note that the project is ongoing, and more results will be presented in the poster presentation.

Conclusion: Digitalised supplementary counselling appears to be effective for patients prescribed antidepressants. Despite the availability of various sources informing about side effects, this approach has the potential to enhance patient compliance and improve the quality of life. Given the effectiveness of this initiative, further research could explore extending digitalised counselling to other medication groups with more complex side effect profiles.

Ownership profile of community pharmacies in South Africa: Preliminary results

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Introduction: Twenty-one years ago (since 2003), the South African Minister of Health passed legislation authorising non-pharmacists to own community pharmacies, where it is considered beneficial to the public, provided that comprehensive pharmaceutical care is ensured. Purpose: This study aims to identify the ownership profile and previous changes in the type of ownership of community pharmacies recorded in the South African Pharmacy Council (SAPC) registry system from 2000 to 2024.

Methods: Secondary data from 2000 to February 2024 were obtained from the SAPC Register of Pharmacies and Owners of Community Pharmacies (N = 4013). Ownership information was available for 2731 community pharmacies. An additional 365 community pharmacies were closed during the study period from 2000 to 2024. Ethical approval was obtained (NWU-00371-20-A1)

Results: In 2024, 36,8% (n = 1006) of community pharmacies are owned by a pharmacist, 42,8% (n = 1169) by a non-pharmacist and 20,3% (n = 556) by a mix of pharmacist and non-pharmacist. The most prevalent types of business entities were private companies (n = 2542; 63,13%), with a juristic person (n = 2178, 79,8%) as the most prevalent type of owner. Only 17,1% (n = 468) of existing community pharmacies were registered before open ownership legislation was passed in 2003. Of these, only 65,6% (n = 307) are still owned by a pharmacist, 24,6% (n = 115) by a non-pharmacist and 9,8% (n = 46) by a mixed. After 2003, most newly registered community pharmacies were owned by a non-pharmacist (n = 1054; 46,6%) or a mix (n = 510; 22,5%). For this group, pharmacists owned only 30,9% (n = 699) of community pharmacies ($p < 0.0001$; Cramer's V = 0.2716). A total of 365 community pharmacies closed during the study period 2000 to 2024; of these, 23,8% (n = 87) existed before open ownership legislation was passed in 2003, and 76,2% (n = 278) opened after 2003; however, 98% of the 365 community pharmacies closed after 2003. Ownership data were available for 141 of the community pharmacies that closed and indicated that 65,9% (n = 93) of these community pharmacies were owned by pharmacists.

Conclusion: The legislative change seems to have had an impact on the ownership dynamic of community pharmacies, as shown by a substantial increase in non-pharmacists and

mixed ownership, with a corresponding decrease in the number of pharmacist-owned pharmacies.

Sociodemographic factors associated with cardiovascular risk screening at community pharmacies: A cross-sectional survey

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Introduction: Cardiovascular diseases are a leading cause of mortality globally. Approximately 18 million deaths occur annually due to cardiovascular diseases globally. Strikingly, 33% of affected populations were below 70 years old, thus imposing suffering and economic difficulties, particularly in low- and middle-income countries, which carry over 75% (n = 13 million) of cardiovascular disease-related global mortality. The risk factors include the use of tobacco, consumption of an unhealthy diet, overuse of alcohol, inadequate physical activity, hypertension, dyslipidemia, and diabetes (World Health Organisation, 2016; Yusuf et al., 2004). These risk factors can be measured and identified early at primary healthcare facilities for early management and improved outcomes. Community pharmacists present an opportunity for the effective detection of cardiovascular disease risk factors through screening.

Aim: To evaluate factors associated with hypertension, diabetes, cholesterol, and undiagnosed cardiovascular disease screening in four districts of Lesotho.

Methods: This study was part of an extensive multi-centre cross-sectional survey exploring the role of community pharmacists in preventing and controlling diseases. A semi-structured questionnaire was distributed to licensed community pharmacists across four districts between March and July 2023. Emails were sent to 71 community pharmacists to invite them to participate in the study, followed by a phone call. Non-parametric tests were used to describe data distribution and assess relationships between dependent and independent variables.

Results: Out of the 62 questionnaires distributed, 50 were returned, resulting in an overall response rate of 80.6%. A total of 48 were complete and were included in the analysis. Hypertension and diabetes screening were the most common screening tests among community pharmacists. A total of 43 (89.6%) and 37 (77.1%) pharmacists “often” to “always” provided hypertension and diabetes screening, respectively. There was a significant relationship between diabetes screening and the geographical area of community pharmacies ($df=2$, $X^2=7.107$, $p = 0.029$). On the other hand, 7 (14.6%) and 6 (12.5%) “often” to “often” screened cholesterol and undiagnosed CVDs, respectively, implying low involvement. Cholesterol screening differed between urban and sub-urban pharmacies ($df=2$, $X^2=7.133$, $p = 0.028$) and the number of patients seen daily ($df=2$, $X^2=6.622$, $p = 0.036$). There was a significant relationship between undiagnosed cardiovascular disease screening and the type of pharmacy (independent and chain stores, $df=2$, $X^2=6.587$, $p = 0.037$) and the presence of pharmacy assistants ($df=2$, $X^2=8.117$, $p = 0.017$).

Conclusions: Hypertension and diabetes screening were the most common cardiovascular screening tests, while community pharmacists were less motivated to perform the screening of cholesterol and undiagnosed cardiovascular diseases. Geographical area, patient flow, and presence of support staff were significantly related to the provision of the screening services. The findings can inform pharmacy practice and policy-makers about community pharmacists’ contributions to cardiovascular disease prevention. Future research should include community pharmacists from other districts (the highlands) to compare and generalise the findings.

Consumer perspectives and satisfaction regarding services offered by community pharmacies for hypertension and diabetes

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Introduction: Non-communicable diseases, especially hypertension and diabetes, are increasing. However, detection and control levels are inadequate. Community pharmacies serve as crucial points in the healthcare system, acting usually as the first point of contact for primary care. Leveraging community pharmacies for the routine detection and management of these conditions can improve the situation. Their accessibility, extended hours and absences of appointment requirements make them valuable. Consumer perceptions of these pharmacies significantly impact their

satisfaction and utilisation of services. Understanding patient experience is vital for effective healthcare provision.

Purpose: This was an exploratory study to uncover customer perceptions and expectations of community pharmacy services in managing hypertension and diabetes. Access to healthcare remains a challenge in parts of sub-Saharan Africa, including Ghana, due to factors like urban concentration of facilities. However, the extensive network of community pharmacies across the country can play a vital role in addressing this. Active involvement of community pharmacists in managing conditions like hypertension and diabetes can improve control, adherence and overall pharmaceutical care.

Method: A cross-sectional study involving 42 pharmacies from Ghana’s two most populous regions was conducted. Only those diagnosed of hypertension or diabetes and on medications were recruited. All participants were walk-in clients of the recruited pharmacies. Participants were administered questionnaires. Gap scores were calculated for five service quality dimensions using the SERVQUAL model. The SERVQUAL model assesses service quality and customer satisfaction. These five dimensions assessed were tangibility, reliability, responsiveness, assurance and empathy. A positive score suggests the client’s satisfaction with the dimension measured.

Results: A total of 535 clients participated in this study. The gap scores for all dimensions were positive suggesting overall positive perceptions. Tangibility and reliability recorded the highest gap scores (0.23) with assurance recording the least (0.02). Counselling was the most patronised ($n=380$; 71.0%) service with medication review ($n=206$; 38.5%) being the least. The most readily available service was sale of prescription medications ($n=338$; 63.7%). Proximity ($n=386$; 72.1%) and good customer service ($n=358$; 66.9%) were key factors for clients selecting a pharmacy. Clients perceived dispensing ($n=344$; 64.3%) and providing medicine information ($n=332$; 62.1%) as the principal pharmacists’ roles. One (0.2%) client expressed dissatisfaction with pharmacy services. Lack of privacy ($n=345$; 64.5%) and the attitude of pharmacists ($n=265$; 49.5%) marred clients’ experience. Clients least expected community pharmacists to monitor health progress ($n=180$; 33.6%) and screen for other conditions ($n=193$, 36.1%). The association between consumer satisfaction and the number of years the consumer has had the condition ($p = 0.04$), years of patronising from the pharmacy ($p = 0.02$), and the diagnosed condition(s) ($p = 0.01$) were statistically significant. Pharmacist presence ($p = 0.04$) significantly influenced customer satisfaction. Customers visited the facilities mostly to refill their medications.

Conclusion: Customers were satisfied with community pharmacies, perceiving services as generally exceeding expectations. The behaviour of employees and privacy concerns suggest a need for improvement in instilling confidence among clients. It is expected that community pharmacy practice could be enhanced to optimise primary

healthcare and the attainment of therapeutic outcomes especially among clients with chronic conditions.

MyCare start: Preliminary results of an ongoing early adopters study in Swiss community pharmacies

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Background: One in four Swiss people live with a chronic illness, which often requires long-term medication. MyCare Start, developed by the Swiss Pharmacists' Association (pharmaSuisse), is in Switzerland a new interprofessional service designed to support patients starting a new chronic treatment by offering patients access to essential information and empowering them in their therapeutic journey. It is based on the proof of concept of the New Medicine Service (NMS) from the United Kingdom. MyCare Start consists of two short patient-centred interventions performed by trained community pharmacists.

Purpose: This preliminary assessment aims to provide success indicators for an efficient implementation of myCare Start on a larger national scale.

Method: Over 170 Swiss pharmacies agreed to participate (i.e. early adopters) in the first evaluation of the uptake of the myCare Start service. From March 2023 to December 2024, all pharmacies are asked to recruit 10 adult patients upon presentation of a prescription for a new long-term medication from a predefined list. Additionally, pharmacies are asked to invite physicians to establish an interprofessional community centred on the myCare Start service. Patient's and pharmacists/physicians' self-reported outcomes are collected by a structured online questionnaire at three time points, one at baseline and two during the follow-up period

(0, 6 and 11 weeks, respectively, 0, 3 and 6 months) using a self-controlled case series design. The main outcome measures are patients' acceptance and satisfaction as well as pharmacists/physicians' perception on the interprofessional collaboration's quality.

Results: To date (March 2024) 19 physicians were recruited along with 178 patients, from which 105 completed all self-reported outcomes. Analysis of self-reported outcome measures will provide information on indicators of success and failure.

Conclusion: This study will inform the next steps of the myCare Start implementation at the national level using implementation science.

Utilising private pharmacies to initiate high risk young women and men on pre-exposure prophylaxis in South Africa (PPrEPP-SA): Preliminary findings on the initiation of participants on PrEP in private community pharmacies

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Introduction: There are 7.9 million people in South Africa between the ages of 15 and 49 living with the human immunodeficiency virus (HIV). Despite the strides made in screening and treatment of patients with HIV, the number of new infections remains high. The uptake of oral HIV pre-exposure prophylaxis (PrEP) has been very slow, despite clear guidelines as well as donor, public, and private support. It is hypothesised that accessibility plays a huge role in the low uptake of PrEP. Thus, this study harnesses the developed private community pharmacy sector in South Africa to expand PrEP coverage among high-risk men and women.

Method: This implementation study was designed to evaluate the efficacy of recruiting and retaining high-risk individuals on pre-exposure prophylaxis (PrEP) within multiple community pharmacies. HIV-negative men and women over the age of 18 who were willing to be initiated on PrEP were recruited to participate at selected community pharmacies in Gauteng and the Western Cape. Participants who met the inclusion criteria were dispensed the fixed-dose combination antiretroviral containing tenofovir and lamivudine/emtricitabine as per national PrEP guidelines for 13 months. The study was approved by the University of the Witwatersrand Human Research Ethics Committee (and

South African Health Products Regulatory Authority (Ref EZ-FV-032) for participant consent to collect data.

Results: Preliminary data indicated that of the 838 potential participants screened, 87.95% (n=737) were initiated on PrEP between June 2023 and January 2024 across 10 community pharmacy sites. The number of males (n=355) and females (n=382) enrolled was similar, with the majority of the participants (80.19%) between 18 and 35 years of age. Risk assessment of participants found that most were sexually active (768), and more than three-quarters (n=595) were engaging in sexual activity without a condom. More than half the participants (58%) were recruited outside of the pharmacy, by Research Assistants who approached people passing the pharmacy entrance. Within the pharmacy most participants were recruited while shopping in the aisles (22%) or consulting with pharmacy personnel in the dispensary (16%).

Conclusion: It is anticipated that this study will provide insight into pharmacy-based delivery models for PrEP. The initial results from the study are positive and indicate that community pharmacies are accessed by persons wishing to initiate PrEP. The results at the end of the study period will indicate if participants continued taking PrEP over the 13-month period and will also explore their perceptions of accessing these services from community pharmacies.

The role of knowledge and perception of hypertension in adherence to antihypertensive drug therapy among adults in Ikorodu, Lagos State, Nigeria

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Background: Hypertension is the most common risk factor for chronic diseases and deaths. Globally about one billion people have high blood pressure, two-thirds in developing countries. Several studies have assessed the knowledge and perception of hypertension among adults but not much has been studied on their influence on adherence to antihypertensive drug therapy. This study investigated the role of knowledge and perception of hypertension in adherence to antihypertensive drug therapy among adults in Ikorodu, Lagos, Nigeria.

Methods: A descriptive cross-sectional study on the knowledge, perception, and their effect on the adherence level of patients who are on antihypertensive medications was conducted, using a well-structured, face-to-face,

interviewer-administered questionnaire in randomly selected Community Pharmacies in Ikorodu, Lagos State, Nigeria. The al-zam formula was used to determine the sample size of 65 from 224 patients. The questionnaire was pretested and reliability was ascertained using standardised Cronbach's alpha. Descriptive statistics was analysed with SPSS v 23, and the association between knowledge, perception, and adherence was compared using the Chi-square test. The Nigerian Institute of Medical Research granted ethical approval for the study.

Results: Out of 65 respondents enrolled in the study, (83.5%) 54 had adequate knowledge of hypertension, (58%) 38 had a positive perception of hypertension and (51%) 33 of the respondents adhered poorly to their antihypertensive medications.

Conclusion: Patients' adequate knowledge and positive perception did not translate to a high level of adherence to antihypertensive drugs. Intensified and structured patient counselling in community pharmacies may improve adherence. Further studies are recommended to investigate the reasons for poor adherence.

The importance of pharmacist intervention in the follow-up of COVID-19 and flu vaccination

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Introduction: Community pharmacies are the population's primary choice when it comes to healthcare, not only for their geographic range but also because they are equipped with specialised healthcare professionals that possess skills that allow them to provide many essential services.

The partnership between community pharmacies and the Portuguese National Health Service (SNS) in the seasonal vaccination campaigns against flu and COVID-19 has contributed to the considerable growth in the vaccination coverage and immunisation of the population and the relief of the SNS as well. However, the population's adherence is at times compromised by a lack of information, fears, and worries associated with vaccines, as well as by the lack of any follow-up post-administration.

The goal of this project is to highlight the importance of follow-up services for vaccinated patients through the identification of potential adverse reactions, patient needs, and pharmaceutical interventions, as well as present the level of satisfaction of all the patients who benefited from this follow-up service.

Method: The methodology consisted in the integration of the vaccinated patients into a follow-up service, where they were contacted two days after the administration by the

pharmacists to evaluate their safety profile. That is, to identify, sustain, and manage possible adverse reactions related to the vaccination administered.

Results: Between October of 2023 and February of 2024, there were 735 patients monitored, which corresponds to 91.08% of the patients vaccinated against COVID-19 and 84.48% of the ones against the flu. Regarding the patients vaccinated against the flu, adverse reactions were found in 0.93% (n=6), whereas against COVID-19, 0.93% (n=6) had gastrointestinal disorders, headache, fever, and reactions in the injection site. As for the needs identified, 15 patients mentioned “more information about the vaccination”, 7 “negative feelings about the medicine”, and 6 “doubts about the efficacy of the medicine”.

As far as pharmaceutical intervention, in addition to the detection and management of adverse interactions and reactions, patients were informed about vaccination and pharmacological and non-pharmacological measures. Only one patient was referred to the doctor.

The experience of the pharmaceutical follow-up/intervention service had an average evaluation of 9.98 (on a scale of 1 to 10).

Conclusion: The implementation of this follow-up service for all vaccinated patients (even though initially it was thought of for exceptional cases only) proved to have contributed to greater safety, trustworthiness, and adherence to vaccination. At the end of October, the authors shared this experience with other pharmacies by publishing a testimony to promote this practice.

From the behind-the-counter interactions, while the patients registered for the vaccination to the follow-up service through the phone, the patients always acknowledged and showed appreciation for the concern and care for them.

Equity and diversity promoting strategies identified in the evaluation of PrEP-Rx

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Background: Community pharmacy has been identified as a potential avenue for improving sexual health equity due to the accessibility of pharmacies and the trust patients have in pharmacists. Despite this, research and evaluation of pharmacy-based sexually transmitted infection (STI) services is limited. Further, existing knowledge about their reach to underserved populations is almost non-existent.

The PrEP-Rx study was conducted in Nova Scotia, Canada, and involved pharmacist prescribing of pre-exposure prophylaxis (PrEP) for HIV (human immunodeficiency virus) prevention. Participant recruitment was conducted through social media,

media releases, and referrals by participating pharmacists. People eligible for PrEP in Nova Scotia include gay and bisexual men who have sex with men and transgender women (gbMSM), persons who inject drugs, and heterosexual people with an HIV-positive sexual partner. Although PrEP-Rx was a success, over 82% of enrolled participants identified as white, almost all participants were cis males, and there were no persons who injected drugs.

Evaluation of PrEP-Rx participant recruitment strategies may offer insight into how to best reach diverse communities and improve equity in STI care through community pharmacies.

Purpose: To identify strategies for improving pharmacy-based STI services to reach at-risk and underserved populations.

Methods: A qualitative study using semi-structured interviews was conducted with pharmacists involved in PrEP-Rx and community stakeholders according to a pre-defined interview guide. Both groups were asked questions regarding the recruitment strategy used in PrEP-Rx (social media promotion, advertisements through pharmacies, and news stories on television), and how the recruitment strategies could be improved or changed to better reach target populations. Community stakeholders were asked additional questions about their community and experiences to provide context to their suggestions.

Interview recordings were transcribed verbatim. Data was analysed using reflexive thematic analysis. Transcripts were inductively coded by assigning words or terms to represent a specific idea or phrase from participants that aligned with the study objectives. Coding was completed by two investigators and related codes were merged into categories. Themes were interpreted from categorised data. Transcripts were re-reviewed for confirming or disconfirming evidence for each theme prior to theme finalisation.

Results: A total of 9 participants (4 pharmacists and 5 community stakeholders) completed the study. Five themes were identified from the analysis: cultivating partnerships with community groups, direct engagement with community advocacy bodies, targeted advertisements to community groups, representation of target populations in promotional materials, and addressing systemic barriers to care (such as privacy offered in community pharmacies).

Conclusion: Findings support the notion that community engagement and representation are vital for ensuring pharmacy-based STI services are accessible to individuals from underserved populations. Service providers should also focus on dismantling systemic oppression and discrimination embedded within their pharmacy environments to create welcoming and safe spaces for individuals to receive care. Uptake of these recommendations in service promotion and delivery may help to improve the equity of pharmacy-based STI services for underserved populations.

Chronic kidney disease services in community pharmacy

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Introduction: The prevalence of patients with chronic kidney disease (CKD) has been increasing. Thirty percent of CKD patients in Thailand used non-steroidal anti-inflammatory drugs (NSAIDs) or herbal medicines, which may contribute to the fast progression of CKD. Community pharmacists play an important role in managing such issues to slow the progression of CKD by collaborating with nurses at a CKD clinic. The Thai National Health Security Office's policy (NHSO) launched a pharmacy service for the treatment of common illnesses, including pain management, in 2022. This programme enables community pharmacists to prescribe rational painkillers for CKD patients. The aim of this study was to develop a model for slowing the progression of CKD at community pharmacies in Thailand.

Method: This pilot study was conducted to test the model for slowing the progression of CKD at a community pharmacy in Angthong province, Thailand, from August 2023 to February 2024. The process of the Angthong model for CKD involves: 1) a nurse at CKD clinic identifies CKD patients with medication or herbal medicine-related problems and refers these patients to a pharmacy; 2) a pharmacist conducts medication reconciliation, checks medication adherence, and identifies potential causes of acute kidney injury, such as NSAIDs, herbal medicines or drug interactions, using a CKD risk assessment tool and the mobile application Herbal Expert by Mayuree; 3) the pharmacist manages medication or herbal medicine related problems for each patient and monitors patients' kidney function for at least three months. Additionally, the pharmacist screens for a high risk of CKD and refers patients to the CKD clinic.

Results: The Siwaporn Pharmacy was the first pharmacy in Thailand to provide pharmaceutical care for CKD patients for 6 months. The CKD clinic at Angthong Hospital referred 23 patients with CKD stages 3 to 4 who improperly used medications and/or herbal medicines. Two patients, identified by the pharmacist as high-risk for CKD, were referred to the CKD clinic; one patient used multiple NSAIDs, and another used homemade herbal medicine. The pharmacist suggested stopping herbal and dietary supplements (32%) and advised restricting salt diets and ensuring adequate water intake (16%). Thirteen patients (52%) stopped using NSAIDs and replaced by other painkillers,

such as topical NSAIDs, capsaicin gel, or tramadol. Kidney function improved from CKD stage 3 to stage 2 within 3 months for five patients. The remaining patients are still being monitored for their kidney function at the CKD clinic after receiving pharmaceutical care from the pharmacist. The community pharmacist's costs for pain management were reimbursed by the NHSO. Two cases out of 23 cases were reduced to one antihypertensive drug item by a doctor due to stopping NSAIDs use and monitoring home blood pressure.

Conclusion: Community pharmacists, as part of a multidisciplinary team at CKD clinics, have the potential to address medication or herbal medicine related to nephrotoxicity in CKD patients and to slow the progression of CKD. Consequently, this model appears to reduce the costs associated with medications and CKD management.

Pharmacogenomics service system in Thai community pharmacies through telepharmacy services phase 1

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Introduction: Community pharmacies in Thailand are healthcare service units distributed across the country, offering convenient access to services for the public. The incorporation of pharmacogenomics services, which entail genetic testing related to drug efficacy and the prevention of adverse drug reactions, can aid in predicting treatment outcomes and averting adverse reactions, thus bolstering medication safety in community settings. Recognising the potential of community pharmacists to enhance medication safety, the Community Pharmacy Association (Thailand) has developed a pharmacogenomics service system utilising telepharmacy technology to broaden patient access to these services.

Objective: to examine the implementation of the phase 1 model of Pharmacogenomics in pharmacies.

Methods: This quantitative research study is divided into three phases: development and planning, implementation, and evaluation. In the first phase, planning, the Community Pharmacy Association (Thailand) organised an 8-hour pharmacogenomics training course aimed at providing community pharmacists with knowledge and understanding of genomics. The training, conducted nationwide via an online system, consisted of two sessions and one practical workshop. Community pharmacies interested in participating

in the pharmacogenomics service project through telepharmacy were recruited starting in November 2023, with nationwide recruitment efforts. Moving into the development phase, the pharmacogenomics services offered in these pharmacies initially focused on testing for the CYP2C19 gene, which predicts treatment outcomes of clopidogrel, and the HLA-B15:02 and HLA-B58:01 genes, which predict the risk of adverse reactions to carbamazepine and allopurinol, respectively. In addition to genetic testing, participating pharmacists reviewed patients' medication lists, explained the rationale and necessity for genetic testing, and provided instructions on how to collect DNA samples using cheek swabs. A system for transporting DNA samples from the pharmacies to the laboratory within a specified timeframe of no more than 7 business days was established. Test results were reported through an online system called Pharmcare. Upon receiving the results, the pharmacist analysed them, scheduled a consultation with the patient (either online or in-person, based on the patient's preference), and documented the genetic test information in the online system for future reference by healthcare providers.

Results: The Community Pharmacy Association (Thailand) launched the project in November 2023. A total of 155 pharmacists completed the 8-hour pharmacogenomics training course, with 60 pharmacists attending the practical workshop. Remarkably, over 83.2% of participants reported high satisfaction levels with the training and knowledge gained. Expressing interest in the development project, 84 pharmacies across 44 provinces nationwide stepped forward, with the Southern region showing the highest level of interest.

Conclusion: The Pharmacogenomics Service System in Thai Community Pharmacies Through Telepharmacy Services Phase 1 has demonstrated a great opportunity for continued implementation in the future. Currently, the project remains in the implementation phase. The results will be carefully analysed and utilised to inform proposals aimed at integrating these services into the national healthcare system, thereby enhancing public access to these vital services.

A mixed methods study into the feasibility and impact of a community pharmacy osteoporosis service

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Background: Community pharmacist services such as medication reviews are becoming increasingly specialised. Pharmacists are well suited to manage issues with osteoporosis. Despite the existence of effective

pharmacotherapy, poor patient persistence and adherence to osteoporosis medications limit treatment effectiveness. An estimated 50% of patients are not adherent to their osteoporosis medications. An ageing population and number of people with osteoporosis, coupled with limited existing medication management services, and poor disease understanding, pose a significant challenge to the current and future health system. Interventions addressing the multifaceted reasons for poor adherence in osteoporosis are required.

Purpose: This study aims to report the development, feasibility, acceptability, and impact of a novel community pharmacy osteoporosis service.

Methods: Semi-structured interviews were conducted with Australian community pharmacy stakeholders, including pharmacists, pharmacy owners, and pharmacy patients. These interviews guided the development of the service, focusing on addressing patient's beliefs and knowledge of osteoporosis, its risk factors, and treatment. The osteoporosis service was then implemented in Australian community pharmacies, recruiting eligible patients who had a history of using prescription medicines for osteoporosis. The researchers called patient participants 4 weeks after the service to assess impact and measure service quality using an abridged perceived Service Quality Scale (pSQS-SF6). Dispensing records were collected for osteoporosis medications at baseline and will also be captured at 12 months following the service to assess adherence at the implementation stage of therapy. Post-implementation, interviews were conducted with pharmacists to assess feasibility, acceptability, and impact. Content analysis was performed on both pre-implementation and post-implementation interviews, and on comments collected from participating patients during the follow-up calls.

Results: Pre-implementation interviews (n=11 pharmacists, n=10 consumers) provided valuable insights and informed the development of the service. Post-implementation, interviews with pharmacy staff (n=9) discussed the feasibility and acceptability of the service. A total of 111 patient participants had the community pharmacy osteoporosis service. Mean perceived service quality was high (pSQS-SF6 = 6.33/7). To date, no significant differences in adherence have been reported and data collection is still ongoing. Analysis of pharmacist and patient transcripts highlighted various themes, including the importance of pharmacist-patient relationships in service uptake, the value of personalised medication management plans, and the role of community pharmacists in patient education and support. Some concerns regarding the service were also raised including that enhanced services can be disruptive to workflow, inadequate remuneration for time, and the necessity of the service compared to standard practice.

Conclusions: The findings highlight the potential of community pharmacy osteoporosis services in enhancing patient education and medication adherence. Strategies utilising these insights into service provision and

development are crucial for optimising the future feasibility, acceptability, and impact of community pharmacy-based interventions targeting osteoporosis management. Further research including randomised controlled trials are also required to determine effectiveness.

Osteoporosis health promotion and screening in Australian community pharmacies

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Introduction: Osteoporosis is often referred to as a 'silent' disease due to its asymptomatic nature, leading to delayed diagnosis and increased risk of fractures. A staggering 200 million people worldwide are estimated to have osteoporosis, the consequences of fragility fractures include significant morbidity and mortality. A significant portion of individuals remain undiagnosed, a growing problem, exacerbated by the aging population. Community pharmacies, with their strategic locations and established relationships with patients, are well-positioned to offer preventive health services like osteoporosis screening. Despite screening tools such as Know Your Bones being readily available, there is a gap between research and practice, prompting the need for approaches such as implementation science to rapidly translate research findings into clinical practice.

Purpose: This study aimed to develop, implement, and evaluate a community pharmacy service encouraging patients to complete an osteoporosis screening survey called Know Your Bones.

Methods: The REAIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) implementation science framework was used to guide the implementation process and reporting of this mixed-methods study. Semi-structured interviews were conducted with a convenience sample of pharmacy stakeholders, including pharmacists, pharmacy staff, and pharmacy consumers to inform the development of the service. A convenience sample of community pharmacies was then recruited, trained, and implemented the osteoporosis screening service for one week in their store. Engagement with the Know Your Bones screening tool was monitored through website analytics. Interviews were also conducted with pharmacy staff post-implementation.

Results: Forty-one stakeholder interviews were conducted and highlighted factors impacting the feasibility of osteoporosis screening in pharmacies. Under each REAIM domain, barriers and facilitators were identified. Reach was found to be influenced by factors such as advertising, relationship quality between consumers and pharmacists, attitudes towards preventative healthcare, and technology usage in health promotions. A total of 448 consumers were

screened for osteoporosis during the one-week health campaign. Effectiveness - pharmacists reported the intervention served as a catalyst for some for further medical review, prompting osteoporosis diagnosis and treatment. Pharmacy staff felt upskilled and able to discuss osteoporosis risk factors and build relationships with patients. Adoption – Twenty-seven community pharmacies were recruited for participation. Reasons found for adoption included staff training, pharmacists' altruism, and remuneration. Reasons for non-adoption were difficult to glean, and seven pharmacies did zero screenings. Implementation – facilitators included physical infrastructure and location, whereas barriers included contemporary issues such as COVID-19, low staffing levels, and time burden. Maintenance – participants reported that the sustainability of the intervention will be determined by financial viability, government remuneration, and consumer demand.

Conclusion: Implementing osteoporosis screening in the vast network of community pharmacies across Australia has the potential to make a substantial impact. By leveraging the extensive reach of these pharmacies, it is possible to enhance efforts to improve awareness, knowledge, and early diagnosis of osteoporosis. Effectively addressing the identified barriers and facilitators in this study can maximise the reach and effectiveness of these interventions, ultimately leading to significant public health benefits.

Ethical community pharmacy practice in Nigeria: Challenges and prospects

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Introduction: As community pharmacists play an increasingly vital role in advancing public health and well-being, it is important to uphold ethical pharmacy practice. Maintaining a balance between pharmacy ethics and profit-making in a community pharmacy setting could be challenging, leading to ethical dilemmas that may undermine the standards of professional practice.

Aim: This pilot study aims to assess ethical practice, identify drivers of unethical conduct, and propose potential solutions

to uphold professional ethics in community pharmacies in Nigeria.

Method: A mixed-methods study with quantitative and qualitative (open-ended) questions was conducted. The survey questions were designed based on the Pharmacy Council of Nigeria's (PCN) code of ethics. The study was conducted in compliance with the PCN's code of conduct and ethical standards. Responses were anonymised and informed consent was given by all participants. A minimum sample size of 96 was determined using a 95% confidence level and a 10% error margin. Respondents were selected by random sampling to reduce bias. Descriptive analysis and the Chi-square test were done to identify significant associations, while open-ended questions were analysed using inductive content analysis. Data was analysed using SPSS (v23). A phenomenology theoretical framework was employed to separate the researcher's experience from that of the participants and reduce bias.

Results: A total of 100 responses were collected from 20 states. Respondents frequently engaged in good pharmacy practices by providing medicine use information (81%) and maintaining patient confidentiality (92%). However, 21% sold prescription-only medicines (POMs) like antibiotics without prescriptions, 48% did not perform quality checks on purchased medicines to identify substandard or falsified products, and less than half (47%) properly disposed of expired or damaged medicines. Dispensing POMs without prescriptions was not significantly influenced by the degree of qualification, years of experience, or pharmacy management ($p > 0.05$). Pharmacies owned by non-pharmacists were four times more likely to purchase medicines from unregulated markets ($P = 0.002$). Pharmacists who regularly referred to the PCN code of ethics were less likely to dispense POMs without prescriptions ($P = 0.039$). Managerial pressure (70%), financial incentives to meet sales targets (68%), and a lack of incentives for professionalism (58%), were the economic drivers of unethical pharmaceutical practices. Poor channels of communication with doctors (72%), inadequate PCN regulation (64%), work dissatisfaction (52%), pressure from patients (48%), as well as poor undergraduate training on ethical practice (38%), were other drivers of unethical pharmacy practice. Suggested themes to improve pharmacy practice from the open-ended questions were improved pharmacist remuneration, incorporation of electronic communication channels to doctors, improved PCN regulation, and improved awareness and training on professional ethics. This study may be potentially limited by recall bias and the Hawthorne effect.

Conclusion: Community pharmacists in Nigeria sometimes engage in unethical practices for financial reasons. Strategies to improve community pharmacy practice in Nigeria include tax reliefs and grants for community pharmacies (CPs), increased regulatory oversight by the PCN, mandating adequate incentives and salaries for community pharmacists, facilitating interprofessional communication, addressing ownership of CPs by non-pharmacists, and providing

comprehensive undergraduate and post-graduation training on ethical pharmacy practice.

Expanding access to chronic medication, including ARTs, through community pharmacy involvement: Insights from South Africa's CCMDD programme amidst COVID-19

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Background: South Africa grapples with the challenge of providing uninterrupted antiretroviral therapy (ART) to its vast population living with HIV. The COVID-19 pandemic compounded existing issues of overcrowded healthcare facilities and limited staff capacity, disrupting ART access. In response, innovative solutions were sought to maintain medication availability for HIV patients.

Purpose: This study evaluates the effectiveness of leveraging community pharmacy involvement and pick-up points in scaling up the Central Chronic Medicines Dispensing and Distribution (CCMDD) programme during the COVID-19 pandemic, with a focus on facilitating ART access.

Method: The CCMDD programme, initiated in 2016, aimed to alleviate congestion in public health facilities and enhance medication access through community-based pick-up points. During the pandemic, CCMDD intensified efforts by expanding the network of pick-up points, including community pharmacies and implementing multi-month dispensing. Enrolment criteria adjustments were made to broaden patient eligibility. Continuous monitoring via GIS-based tools facilitated real-time adjustments to meet evolving patient needs.

Results: Amidst the COVID-19 pandemic, CCMDD successfully expanded its reach, accommodating an additional 284,437 patients (a 12% increase) from March 2020 to December 2021. The strategic involvement of community pharmacies as pick-up points played a crucial role in ensuring medication access, particularly for ART.

Conclusion/Next Steps: The successful expansion of the CCMDD programme highlights the efficacy of utilising community pharmacy pick-up points to enhance ART access during crises. Lessons learned underscore the importance of community involvement in strengthening healthcare system resilience. Moving forward, sustained collaboration with community pharmacies and innovative service delivery models will be pivotal in maintaining uninterrupted medication access for chronic conditions in South Africa and beyond.

Changes of childhood obesity and height among cohort studies

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Background: Argentina is one of the middle-income countries experiencing a rapid nutrition transition. Overweight and obesity are increasing in all age groups. In this study, using four cross-sectional representative samples from the school population of the city of Jovita (Córdoba, Argentina) in 2003, 2009, 2015 and 2021, the authors aimed to examine changes in indicators of childhood obesity and height by age.

Methods: This is a population-based study. The authors measured the weight and height of schoolchildren aged 6.00 to 11.99 years in public schools. The authors calculated BMI-for-age z-scores (ZBMI). WHO criteria for nutritional categorisation were used.

Height-for-age z-scores (HAZ) were used to express a child's height in terms of the number of standard deviations.

Logistic regression models were used to analyse the relationship between school-age obesity (outcome) and cohort (2003, 2009, 2015 and 2021), comparing each cohort with the first cohort as a reference.

Results: The authors studied 1720 schoolchildren, 920 (53.5%) boys and 800 (46.5%) girls. The authors observed a median ZBMI of 0.42, Inter-Quartile Range (IQR)= -0.30-1.30. The 50th percentile of

ZBMI was not the same in each cohort ($p = 0.037$). The highest ZBMI took place in 2015. The prevalence increased steadily from 9% in 2003 to 21% in 2021, with a 3-4% rise every six years.

HAZ showed a continuous increase, indicating an improvement in stature over the 18 years. The association between BMI/age z-score and HAZ suggests a positive relationship, emphasising that taller children are more likely to be obese.

Logistic regression analyses confirmed a direct increase in obesity by cohort, independent of age, sex, and HAZ.

Conclusion: This study showed that height and weight measurements have increased over a relatively short period, and an increase in childhood obesity in Jovita, Argentina, over the 18 years analysed, exceeds global prevalence rates.

These results indicate the need to reinforce the actions of pharmacists in the fight against obesity in all age groups.

Investigation into lipid profile relationship between children and their biological parents

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Introduction: The lipid profile in the blood circulation is influenced by genetic factors and can be modulated by dietary habits and the level of physical activity, which are usually shared within the family environment. However, dyslipidemias in the paediatric population are frequently underdiagnosed.

Objective: The purpose of this study was to evaluate the prevalence of lipid profile parameters (LPP) components in children aged 6 to 12 years, as well as to estimate the association between the children lipid profile and their respective parents.

Methods: In 2021, a cross-sectional analytical investigation was carried out in which children, along with their biological parents, participated. Blood LPP were assessed for all participants. The magnitude relationship was quantified using odds ratios, establishing statistical significance at $p < 0.05$. Positive categorisation was based on the presence of elevated levels of some LPP in either the parent or the child, along with a decrease in HDL cholesterol. Furthermore, the authors evaluated the predictive ability of parent-to-child LPP. Diagnostic tests were determined, including sensitivity and specificity.

Results: 374 children, 362 mothers and 276 fathers were evaluated. Between 10 and 20% of the prevalence was found to be high in the LPP. The Odds ratios showed a significant association for Total Cholesterol $p < 0.0001$, LDL-Cholesterol

$p = 0.0003$, NO-HDL-Cholesterol $p = 0.029$, and HDL-Cholesterol $p = 0.018$. Other diagnostic tests are also shown: Sensitivity $\geq 45\%$ and Specificity $> 60\%$.

Conclusion: The LPP of the children showed a high prevalence, and most of them also showed a favourable correlation between parents and children. Parents diagnosed with dyslipidemia periodically go to the pharmacy to look for their medications, which makes it an appropriate place to develop a professional pharmaceutical service for early diagnosis in children, adolescents and young adults.

PHI-CAPTCHA: A challenge to the pharmaceutical community for a new professional pharmaceutical service

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Introduction: Hypercholesterolemia and dyslipidemia are usually thought to be risk factors specific to adults.

Hypercholesterolemia and other dyslipidemias are present from childhood, even from birth.

The prevalence of dyslipidemia in childhood is very high.

There is a natural and apparently logical tendency to relate hypercholesterolemia to obesity. This relationship does not exist.

The correlation of lipid profile components between children and parents is strong.

Objective: Design and implement a Professional Pharmaceutical Service based on the PHI-CAPTCHA project proposal.

Methods: PHI-CAPTCHA, an acronym for Pesquisa de Hipercolesterolemia Infantil (PHI—Spanish) y Children and Adult Programme To Cholesterolemia Assessment (CAPTCHA—English), is a project proposal.

It requires the action of a team from an academic or professional entity to transform the project proposal into a project and to design and implement it.

The following physicians have expressed explicit interest in the development of PHI-CAPTCHA through letters of support:

Stephen Daniels PhD. author of the latest consensus on cholesterol in children in the USA.

Pedro Mata PhD. President of the Fundación Hipercolesterolemia Familiar (Spain)

Raúl Santos, PhD. Past-president of the International Atherosclerosis Society

Results: The authors are committed to collaborate in work teams for the development of the project and its implementation or, failing that, to provide all the information they possess and the necessary advice, to the extent of their possibilities, to all those who wish to accept the challenge.

Conclusion: The world medical community is demanding in a very particular and emphatic way, the provision of a professional service in an area of health care in which the pharmacist does not usually participate. However, within the FIP guidelines, several documents advise screening for risk factors for chronic non-communicable diseases.

Prevalence of lipid profile in a population of Argentinean children 6-12 years of age

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Introduction: Atherosclerotic cardiovascular disease (CVD) is one of the leading causes of death worldwide. Although its clinical manifestations occur in adulthood, the atherosclerotic process begins in childhood and progresses throughout life. Therefore, early identification and treatment may reduce the risk of CVD in adulthood.

Objective: The purpose of this study was to describe the prevalence, type of dyslipidaemias and associated factors in a population of Argentinean children.

Methods: Cross-sectional study in three school cohorts from Jovita, Córdoba, Argentina (2009-2015-2021). Anthropometric data were collected and lipid profile parameters were measured in fasting blood samples.

Results: A total of 1088 school children aged 8.94 ± 0.07 years, 53.2% male, were recruited. When considering the recommended limits for each lipid, 59.6% were in the

acceptable range, 24.6% at risk and 15.8% at high cardiovascular risk. Specifically, the prevalence of elevated values was represented by TG: 18.8%, Non-HDL: 15.6%, LDL-C: 13.8% and TC: 11.9% and decreased HDL-C value = 18.7%. In total, 42.7% of the population presented some clinical form of dyslipidaemia. The authors highlighted isolated hypertriglyceridaemia (8.27%), low HDL-C (11.6%) and mixed TG/HDL-C dyslipidaemia (5.8%). Bivariate correlation analysis showed an association with the Z-BMI score. The prevalence of obesity was 17.8%. No correlation was found between obesity and hypercholesterolemia.

Conclusion: In summary, this study reveals a worrying situation: CVD will remain the leading cause of mortality in Argentine adults due to the high prevalence of risk factors in children. It is imperative to improve and establish national policies to control environmental factors that contribute to this trend since, unlike genetic factors, they are predominant and can be modified. The pharmacist can be an active collaborator in the early detection of dyslipidemia. The PHI-CAPCHA Professional Pharmacist Service project proposal was developed for this purpose.

Evaluation of the impact of pharmacist intervention in the early detection of Chronic Obstructive Pulmonary Disease (COPD) through the 'What if I lose my breath? A breathtaking struggle.'

Mariana Rocha, Pedro Vasques, Gisela Paz

Rede Claro - Networking Solutions, Lisboa, Portugal

Background: Chronic Obstructive Pulmonary Disease (COPD) is currently considered the third leading cause of death in the world. In 2016, around 800,000 Portuguese over the age of 40 suffered from COPD in Portugal, but only 17% of people were identified as having the disease, and, of these, only 32.3% had their diagnosis confirmed by spirometry. Spirometry is a basic pillar in the study of respiratory function, which makes it possible to obtain spirometry parameters (FVC, FEV1, FEV1/FVC and PEF) with promising objectives in the detection, assessment and monitoring of lung pathologies.

Purpose: Assessment of lung function; Identification of patients with respiratory pathology without an established diagnosis; Brief intervention for smoking cessation.

Methods: The study took place in November 2022 and involved three interventions:

- Promoting health literacy among COPD patients by raising awareness of the associated risk factors and creating strategies for earlier detection of the condition (dissemination of communication materials in the media);

- Brief Intervention for Smoking Cessation for smoking patients;
- Pulmonary function was assessed in patients with the following symptoms (dyspnea, cough, exhalation, fatigue, age > 45 years, and smoker) through spirometry. Spirometries were performed using an Air Smart Spirometer®, following the necessary requirements and subsequent medical referral.

Data was collected using a form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 4235 people, of which 71% were male, 68% were aged between 60 and 75 years, and 38% were smokers (higher rate in males). Of the individuals who were referred to the doctor, 35% had a Tiffeneau Index < 70%, of whom 69% were asymptomatic, a frequent feature of mild COPD. In terms of spirometry classification, data from 2951 spirometries were obtained for both genders. Of the users assessed, 52% of major changes in the ventilatory pattern were detected, with the following distribution: 21% were classified as obstructive, 15% as mixed and 16% as restrictive. The users who presented obstructive and mixed curves were referred to the doctor. Of the patients evaluated, 65% had not been diagnosed with respiratory pathology. The average number of cigarettes smoked per day was 13.4, and the average duration of smoking was 22 years for men and 16 years for women. The vast majority (59%) had already made at least one smoking cessation attempt, but only 9% with follow-up. All patients were referred to the smoking cessation programme through the 5As Brief Intervention.

Conclusion: In COPD, the role of the community pharmacist in educating patients about their disease is crucial. Early identification of signs of a mild phase, which is usually asymptomatic, can lead to early treatment of the patient, with a significant improvement in their quality of life.

Evaluation of the impact of pharmaceutical intervention in mental health through the programme: Mental Health in Focus - not all wounds are visible

Mariana Rocha, Pedro Vasques, Gisela Paz

Rede Claro - Networking Solutions, Lisboa, Portugal

Background: It is estimated that one in five Portuguese people has a psychiatric disorder. This means that 22,9% of adults suffer from some form of mental illness, making Portugal the country with the second highest prevalence of psychiatric illness in Europe. Portugal's worrying mental health situation, combined with the pharmacist's knowledge and skills profile, makes it clear that there is a real and

relevant need for pharmacists to be involved in mental health management.

Purpose: Assessment of patients with mental illness and associated comorbidities; Assessment of compliance to therapy; Pharmaceutical follow-up and monitoring of mental illness.

Methods: The study took place during the month of October 2022 and involved two interventions:

- Promoting health literacy and the patient's journey with mental illness, raising awareness of risk factors and creating strategies for early detection of the pathology (dissemination of communication materials in the media);
- Implementation of a questionnaire aimed at assessing:
 - Diagnosis of mental illness; associated comorbidities; ongoing behavioural changes since diagnosis; frequency of non-adherence to therapy; relevance of pharmacist follow-up and monitoring in the treatment of mental illness.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: 100 pharmacies and 5116 participants were involved, 57% of whom were female, and 46% were aged between 45 and 70. Of the individuals assessed, 53% of users have been diagnosed with mental illness for more than two years, and 38% have at least one comorbidity associated with the pathology. After being diagnosed with a mental illness, 37% of users say they haven't seen a doctor in more than two years, with the majority being seen by their family doctor (56%) and a smaller number by a psychiatric specialist (11%). In terms of the classification of adherence to therapy, 22% of users classify it as reasonable (with some medication forgotten) and 12% as low (with significant medication forgotten). Of the users assessed, 16% said they had forgotten to take their medication in the last week and 24% in the last month. The main reasons for forgetting to take medication were polymedication (23%), financial issues (17%) and factors related to the therapy (11%). Of the users assessed, 37% said that it was essential for the pharmacist to follow up and monitor their treatment, with this being more relevant for reasons of compliance with the therapy (51%) and resolving problems related to the therapy (30%).

Conclusion: The community pharmacist is an excellent ally in early intervention in chronic diseases, and considering that the worldwide prevalence of mental illness continues to rise, the active intervention of the community pharmacist in sensitisation, awareness-raising and early intervention can be a great asset in both the prevention and cure of mental illness in the population.

Evaluation of the impact of pharmaceutical intervention in the detection and monitoring of chronic venous disease through the programme: How heavy is the pain in your legs?

Mariana Rocha, Pedro Vasques, Gisela Paz

Rede Claro - Networking Solutions, Lisboa, Portugal

Background: Chronic venous disease affects around 35% of the Portuguese population and 7 out of 10 women over the age of 30. In addition to the huge impact, it has on users' quality of life, it is responsible for 1,000,000 lost working days a year and 8% of early retirements in Portugal.

Purpose: Identify users with risk factors (age, gender and family history); Identify, at an early stage, users at risk of developing chronic venous disease without an established diagnosis; Follow-up and monitoring of patients with an established diagnosis of chronic venous disease, in terms of symptom control.

Methods: The study took place during the month of July 2023 and involved two interventions:

- Promoting health literacy and the patient's journey with Chronic Venous Disease, raising awareness of risk factors and creating strategies for early detection of the pathology (dissemination of communication materials in the media);
- Implementation of a questionnaire to assess the likelihood or associated risk of developing venous disease, collecting the following information:
 - Age, gender and family history;
 - Pregnancy, use of hormonal contraceptives, lifestyle;
 - The feeling of heavy legs, swollen ankles and factors that aggravate these symptoms;
 - Presence of strokes, varicose veins or ulcers.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 5234 people, 94% of whom were female, 42% were aged between 35 and 50, and 65% had at least one family member with a history of venous disease.

Of the individuals assessed, 42% have been pregnant at least once, 28% use hormonal contraceptive methods and 41% do not consider themselves to have a healthy lifestyle (diet, physical activity, smoking habits and alcohol intake). In their daily lives, 32% of users report standing or sitting for at least 8 hours, and 40% for between 4 and 8 hours.

Of the individuals assessed, 35% reported frequently feeling heaviness in their legs, and of these, 63% said that hot weather (summer) aggravated their symptoms. Of the people who took part in the study, 59% said they had strokes, 38% had varicose veins, and 3% had ulcers. With regard to the risk

associated with venous disease, 14% of individuals had a low risk, 49% a moderate risk and 37% a high risk of developing the pathology.

Conclusion: Chronic venous disease is currently a pathology with a high prevalence in Portugal and because of this it is necessary for pharmacists to be properly trained in the pathology and to play their part in alerting and informing the user about the disease itself, through hygiene and dietary measures and therapeutic alternatives. In this way, pharmacists can make a positive contribution to the early diagnosis and treatment of the disease, preventing it from progressing.

Evaluation of the impact of pharmaceutical intervention on smoking cessation through the programme: Don't let your life go up in smoke

Mariana Rocha, Pedro Vasques, Gisela Paz

Rede Claro - Networking Solutions, Lisboa, Portugal

Background: According to estimates by the World Health Organisation (WHO), more than 8 million people die each year from tobacco-related diseases, of which around 1.2 million are exposed to environmental smoke. Pharmacists are health professionals who have direct contact with the population, making it easier to intervene in the prevention and control of tobacco consumption.

Purpose: Assess the degree of nicotine dependence of the population; Identify the number of interventions for smoking cessation using the brief intervention algorithm; Identify the number of users who start smoking cessation treatment after pharmaceutical intervention.

Methods: The study took place during the month of September 2023 and involved two interventions:

- Promoting health literacy and the patient pathway for smokers, sensitising them to smoking cessation (dissemination of communication materials in the media);
- Implementation of a questionnaire to assess the population's nicotine dependence and implementation of the brief algorithm for smoking cessation in users who decide to quit after the pharmaceutical intervention.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 4115 people, 48% of whom were female and 42% aged between 41 and 60.

Of the individuals assessed, 58% said they had been smoking for more than ten years, and 49% said they had tried to quit

at least once without success. Of the smokers who took part, 12% say they need to smoke their first cigarette of the day as soon as they wake up and 32% need to smoke in places considered forbidden. Of the individuals assessed, 51% said they preferred the first cigarette in the morning, 35% smoked even when they were ill, and 68% said they smoked more than ten cigarettes a day. Of the individuals who took part, only 32% showed a desire to quit smoking, and of these, after implementing the brief algorithm for smoking cessation, 17% decided to start a smoking cessation treatment. The main reasons why users don't go ahead with smoking cessation treatment are financial (12%) and the preference to see their doctor first (9%).

Of the individuals assessed, 12% had a low degree of nicotine dependence, 28% low to moderate, 41% moderate and 19% high.

Conclusion: Tobacco continues to be one of the most important global public health problems despite the efforts and prevention and control measures already adopted, causing the deaths of around 11,800 Portuguese people every year.

Pharmacists are health professionals in a privileged position to help smokers in the smoking cessation process, and they must constantly raise awareness of the importance of quitting, considering the harmful impact that tobacco has.

The role of the pharmacist in the detection, intervention, and motivation for the treatment of obesity through the programme: Give Weight to Your Health

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Background: Obesity is one of today's main public health problems and is considered a chronic disease and, at the same time, a risk factor for the development of other chronic diseases. Treating obesity requires the intervention of a multidisciplinary team and liaison between the various health professionals.

Purpose: Anthropometric evaluation of patients; Evaluation of the motivation of patients for the treatment of Obesity; Evaluation of the impact of pharmaceutical intervention in the motivation of the patient for pharmacological and non-pharmacological treatment of Obesity; Patients identified without an ongoing treatment plan for Obesity who, after pharmaceutical intervention, have started medical treatment.

Methods: The study took place during March and April 2023 and involved three interventions:

- Training of pharmacy professionals in terms of approach and interventional role in Obesity;
- Promote health literacy among overweight or obese patients, acting to raise awareness of earlier diagnosis (dissemination of communication materials in pharmacies and the media);
- Anthropometric evaluation and questionnaire implementation:
 - Check weight, height, waist circumference and body mass index (BMI);
 - Implementation of a questionnaire to gather the following information:
 - o Comorbidities associated with excess weight; ongoing strategies and/or treatments for weight loss; assessment of the patient's motivation for treatment of Obesity; interest in starting a medical plan for the treatment of Obesity.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 8553 people in this intervention action, of which 67% were female. The age group with the highest prevalence was over 60 years (32%).

Of the assessed individuals, 67% were overweight (BMI \geq 25 kg/m²), 64% had a waist circumference higher than recommended, and 47% had at least one or more associated comorbidities. Of the overweight patients, 66% were not being monitored during the weight loss process, and of these, 25% represented obese grade I (17%), grade II (7%) and grade III (1%) patients. Of the overweight individuals without a weight loss plan or follow-up, 40% showed interest in starting a treatment plan after pharmaceutical intervention, and of these, 47% intend to start the medical plan within the next 30 days.

Regarding the impact of pharmaceutical intervention (classified between 1 to 5), there was an increase in the approach and initial motivation of the patient for the treatment of obesity (grade 1- 14%; grade 2 - 25%; grade 3 - 33%; grade 4 - 16% and grade 5 - 11%) compared to the final motivation of the same (grade 1- 8%; grade 2 - 16%; grade 3 - 31%; grade 4 - 27% and grade 5 - 18%).

Conclusion: As health professionals, the authors must educate the population to adopt a healthy lifestyle, helping to prevent Obesity, currently considered the "epidemic of the 21st century". The accessibility and proximity of community pharmacies to their population have allowed us to prove the beneficial and decisive impact that pharmaceutical intervention has on detecting and motivating patients to treat obesity.

Evaluation of the impact of pharmacists on skin cancer prevention through the programme "Skin has memory".

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Background: Skin cancer is often diagnosed late, and there is a tendency for incidence, morbidity and mortality to increase, making it a serious public health problem. In Portugal, there has been an increase in the number of cases of all forms of skin cancer, especially in younger people.

Purpose: Identify and evaluate the population's knowledge and attitudes towards skin cancer prevention; To assess users' knowledge and awareness of the risk factors inherent in the development of skin cancer; Identify and assess knowledge and attitudes towards sun protection.

Methods: The study took place during the month of July 2022 and involved two interventions:

- Promoting health literacy about skin cancer, raising awareness of risk factors and creating strategies for early detection of the pathology (dissemination of communication materials in the media);
- Implementation of a questionnaire aimed at assessing:
 - o The influence of "sociodemographic" characteristics on the level of knowledge and attitudes towards skin cancer prevention;
 - o Preventive care adopted by the population;
 - o Knowledge and performance of skin self-examination.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 4872 people, 68% of whom were female, 46% were aged between 35 and 50 and 25% were smokers.

Of the individuals assessed, 35% said they had no knowledge of skin cancer, and of those who did (65%), 19% had a family history of skin cancer, and of these, 3% had already had skin cancer. With regard to preventive care, 26% say they are not properly informed about the care they should take to prevent the development of skin cancer, and of those who consider themselves sufficiently informed, 18% only use sunscreen as a preventive measure, and 20% say they are exposed to the sun at non-recommended times (11 am to 5 pm). With regard to professional activity, 13% of users say that they are exposed to the sun, and of these, only 3% take preventive measures (such as wearing a hat, sunglasses, etc.). Of the users who took part in the study, 61% had never carried out a skin self-examination.

Conclusion: Intense and unprotected exposure to UV radiation can cause multiple skin problems, such as skin cancer, sunburn, photoaging of the skin, hyperpigmentation and sun intolerance. As a health professional who are very close to the population and have a high level of technical-scientific knowledge, pharmacists can and should take part in actions to raise awareness and educate the population to adopt preventive behaviours, including: the correct use of sunscreen, wearing suitable clothing, sunglasses with lenses that protect the eyes from UV radiation, and a hat or cap; and not exposing themselves directly to the sun at critical times.

Evaluation of the pharmacist's role in the identification and early detection of irritable bowel syndrome through the programme: Let's talk about irritable bowel syndrome.

Mariana Rocha, Pedro Vasques, Gisela Paz

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Background: Irritable bowel syndrome (IBS) affects between 10 and 25% of people worldwide and around one million Portuguese and is twice as common in women as in men. Pharmacists, as health professionals close to the community, play a key role in the early detection of this pathology.

Purpose: Assess symptoms suggestive of irritable bowel syndrome; Identify patients with a condition without an established diagnosis; Refer patients with a detected condition to a doctor after pharmaceutical intervention.

Methods: The study took place during the month of November 2023 and involved two interventions:

- Promoting health literacy and the path of patients with irritable bowel syndrome, sensitising them to early detection (dissemination of communication materials in the media);
- According to the Rome IV criteria, implementation of a two-stage questionnaire for users:
 - 1st phase: Screening phase (evaluation of the main signs and symptoms suggestive of irritable bowel syndrome)
 - 2nd phase: Diagnostic phase (confirmation of diagnosis and impact on users' quality of life).

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 4902 people, 65% of whom were female and 56% aged between 41 and 60.

During the screening phase, 92% of the individuals assessed reported feeling abdominal pain or discomfort that was relieved after defecation, 85% often have abdominal pain

that causes the severe urge to defecate, 83% report having symptoms for more than three months and 77% report that their symptoms interfere with their daily activities.

Only 8% of patients did not go on to the second phase, the diagnostic phase, because they only had one of the symptoms from the screening phase, and according to the Rome IV criteria, this was not very suggestive of having irritable bowel syndrome and 92% went on to the next stage. In addition to the initial symptoms, at the screening stage, 55% of the individuals assessed reported feeling their stomachs swell on a regular basis, and 36% said that their bowel movements are often "irregular" (diarrhoea or constipation). Of the individuals assessed, 45% reported that their faeces were abnormal (in terms of shape/texture/consistency), 54% had frequent gas, and 34% had difficulty defecating, feeling pain, urgency and effort.

Of the 92% of users who progressed to the last stage of the questionnaire, and given the symptoms present, it was concluded that 47% had symptoms suggestive of irritable bowel syndrome and were referred to a doctor to confirm the diagnosis.

Conclusion: Despite the intense research in this area, irritable bowel syndrome is still poorly understood and, unfortunately, undervalued by many health professionals. Through this intervention, the authors were able to prove that the role of pharmacists can play a decisive role in the identification and early detection of this pathology.

The pharmacist's role in assessing the population's cardiovascular risk and lipid profile through the programme: Your heart doesn't have seven lives - the secret is prevention

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Rede Claro - Networking Solutions, Lisboa, Portugal

Background: Cardiovascular diseases are the leading cause of mortality worldwide and in Portugal, and therefore, reducing the risk factors associated with them is an important factor in preventing the occurrence of this type of disease. Considering the new global cardiovascular risk assessment table (SCORE2 and SCORE2-OP), Portugal, which was previously considered a low cardiovascular risk country, is now considered a moderate cardiovascular risk country.

Purpose: Patients without a diagnosis of cardiovascular pathology and with the presence of risk factors; Cardiovascular risk assessment in patients without a diagnosis of cardiovascular pathology and with risk factors; Assessment of cardiovascular risk in patients with associated comorbidities; Cardiovascular risk assessment in users with uncontrolled diagnosed cardiovascular pathology.

Methods: The study took place during the month of May 2023 and involved two interventions:

- Promoting health literacy and the path of patients with cardiovascular disease, raising awareness of early diagnosis (dissemination of communication materials in the media);
- Cardiovascular assessment based on the measurement of blood pressure, total cholesterol, LDL cholesterol, HDL cholesterol and triglycerides, and the application of a questionnaire aimed at obtaining the following information:
 - Age, gender, smoking habits, body mass index, physical activity, family history of cardiovascular disease, stress level classification, and cardiovascular pathologies (diagnosed) with the aim of ultimately being able to indicate to the user the cardiovascular risk of developing a fatal or non-fatal disease in 10 years.

Data was collected using a Formsapp® form developed for this purpose and analysed using Excel® software.

Results: Of the pharmacies involved, 100 involved 4151 people, 69% of whom were female and 56% aged between 60 and 75. Of the individuals assessed, 15% were smokers, 39% didn't do any physical activity, and 60% were overweight and/or obese. Regarding family history, 52% of the individuals said they had at least one relative with cardiovascular disease, 62% had been diagnosed with cardiovascular pathology, and 63% classified their stress levels as moderate to high. Of the users without a diagnosis of cardiovascular pathology, 46% have a family history of cardiovascular pathology, 39% were overweight and/or obese, and 50% are smokers. Of the users without a diagnosis of cardiovascular pathology, it was found that 3% have a high risk of developing a cardiovascular event in 10 years, and 26% have a moderate risk of developing a cardiovascular event in 10 years. It was found that 27% of users at high risk and 53% of users at moderate risk of developing a fatal or non-fatal event within ten years had three associated comorbidities. Of the individuals assessed, 32% of users with hypertension do not have their blood pressure under control, 54% of users with hypercholesterolaemia do not have their total cholesterol under control, and 25% of users with dyslipidaemia do not have their triglycerides under control.

Conclusion: The pharmacist is in a privileged position to reduce cardiovascular risk factors through the pharmaceutical care provided in the community pharmacy, which has been useful both in therapeutic counselling and in monitoring non-pharmacological therapy.

Standardising virtual interactive cases for pharmacist prescribing for minor ailments

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Introduction: Virtual cases are associated with increased learner satisfaction and provide learning opportunities that simulate practice. The authors created a series of pharmacist prescribing for minor ailment (PPMA) cases via the Virtual Interactive Case (VIC) System to facilitate PPMA engagement. Following a usability study of three pilot cases, users requested an enhanced feedback mechanism in VIC to better inform individual knowledge gaps in PPMA patient assessments. This project aims to develop and standardise the scoring/feedback mechanism of PPMA VIC cases to reflect community pharmacy practice and provide case-specific feedback to users more accurately.

Method: A preliminary scoring table was created incorporating feedback from the usability study of three PPMA VIC cases and by consulting the curricular resources on PPMA. Three independent pharmacy-student assessors then applied the scoring table on three VIC cases and regrouped to reach a consensus on the final scoring table. The final scoring table was then applied to the entire series of 14 PPMA VIC cases by four independent reviewers, followed by consensus generation.

Results: The final scoring table was separated into five "point" levels: 50, 25, 15, 5, and 0. If a PPMA VIC user asks all 50-point questions, then they have completed a core patient assessment of the respective minor ailment. If the user also asks the 25-point questions, then they will be able to recommend patient-specific interventions. The 15-point questions represent best practices for general patient-centred care. The 5-point questions are unrelated to the specific minor ailment but present opportunities for health promotion. Finally, 0-point questions are irrelevant/unnecessary PPMA patient-assessment questions.

Conclusion: Through an iterative/consensus-generating process, the authors developed and standardised the feedback mechanism of a series of 14 PPMA VIC cases. With this enhanced scoring method, pharmacists may better engage in the VIC learning experience and reflect on their strengths and weaknesses in PPMA patient assessments. A standardised scoring/feedback mechanism of PPMA VIC cases will not only better reflect real-life pharmacy practice but also provide case-specific feedback to learners, a win-win advancement in continuing professional development.

Enhancing public health: Insights into influenza and COVID-19 vaccination at community pharmacies in Portugal

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Background: Vaccination programmes stand out as among the most cost-effective public health interventions, playing a vital role in safeguarding global health against preventable diseases. To enhance accessibility to vaccination, the Government of Portugal has extended the national seasonal vaccination campaign for Influenza and COVID-19 beyond the National Health Service (NHS) facilities to include community pharmacies across mainland Portugal for the 2023-2024 period. This expansion ensured that individuals aged 60 or older could receive vaccinations free of charge, under the same conditions as other NHS facilities, at participating community pharmacies.

To describe Portugal's 2023/2024 seasonal vaccination campaign, emphasising the participation and performance of community pharmacies while also investigating individual satisfaction and agreement with the community pharmacies' participation.

Methods: Observational, descriptive study of the 2023/2024 Influenza and COVID-19 vaccination campaign. Data regarding the number and localisation of pharmacies providing the service and vaccines administered were retrieved from a vaccine monitoring national database from the Ministry of Health. Regarding individuals' experiences, two telephone questionnaires (CATI methodology) were administered to a random sample of a representative panel of the Portuguese population aged 60 years or over residing in mainland Portugal. The first questionnaire was applied before the beginning of the campaign (September 2023), and the second between January 25 and February 7, 2024. A total of 1400 questionnaires were obtained in the first contact and 1200 in the second (error 3%, 95%CI). Several dimensions were assessed, including satisfaction with the vaccination process in 2022/2023 and 2023/24 seasons (5-level Likert scale: 1-very dissatisfied to 5-very satisfied), agreement with the service administration by the pharmacies (yes/no/don't know), and reasons for choosing the place of vaccination (proximity, trust, referral, etc.).

Results: In this season, 88.7% (n=2,487) of mainland community pharmacies across 98.9% of municipalities adhered to the national NHS vaccination campaign. Between September 29, 2023, and March 3, 2024, 69.2% of COVID-19 vaccines and 69.9% of Influenza vaccines for individuals aged 60 and above were administered at these pharmacies. The majority (94.8%) of study participants, despite the vaccination uptake or place, agreed that Influenza and COVID-19 vaccines are appropriately administered in

pharmacies, with 2.0% expressing no opinion and only 3.2% disagreeing. Over 60% of participants indicated accessibility, including proximity and speed, as the main reason for selecting pharmacies as their vaccination location for Influenza (67.4%) and COVID-19 (63.3%). Nearly all participants reported being either 'Satisfied' or 'Very Satisfied' with the Influenza vaccination experience in the 2023/2024 season (mean 4.77), showing an increase compared to the 2022/2023 season (mean 4.48) ($p < 0.05$). Similar satisfaction trends were observed for COVID-19 vaccinations, with a mean value of 4.76 reported for the 2023/24 season compared to 4.39 in the previous season (2022/2023) ($p < 0.05$).

Conclusions: The results suggest that community pharmacies significantly contributed to the 2023/2024 Influenza and COVID-19 seasonal vaccination campaign, enhancing both proximity and population satisfaction. These factors likely contributed to the sustained high vaccination coverage observed in Portugal.

Pharmacy deserts: Addressing disparities in the access to pharmaceutical care

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Background: Pharmacy deserts were first described by Qato et al (2014), to identify neighborhoods that lack convenient access to a pharmacy, a definition that was originally adapted from the concept of food deserts in the US. There are several ways to define a pharmacy desert, which can consider only the distance to the nearest pharmacy (e.g., distance of 1 mile or more) or encompass several metrics besides distance, like economic status, vehicle ownership, and urban-rural typology. The identification and characterisation of pharmacy deserts are crucial for setting a strategy to strengthen the network of community pharmacies in Portugal and ensure or increase the population's access to medications and pharmacy services.

The main purpose of this study was to identify and characterise community pharmacies that cover deserted areas in mainland Portugal. Additionally, the pharmacies that would contribute to the highest number of people living in pharmacy deserts in the event of their closure were identified.

Method: Each of the 2802 community pharmacies located in mainland Portugal (operating at the beginning of 2024) was assigned a specific number of inhabitants based on proximity. This number of inhabitants was identified through the GHS Population Grid – Global Human Settlement Layer, an available dataset from the European Commission that estimates the “number of people per cell” (i.e., in a 100 by 100-meter area) based on data on human population, built-up area, and degree of urbanisation. Pharmacy deserts were defined if the distance to the nearest pharmacy (in each cell, in straight-line) was greater than 1.6km, 3.2km, or 16.1km for urban, suburban, and rural areas, respectively. The main outcome measures were the number of pharmacies that cover pharmacy deserts and the total geographic area (km²).

Results: In mainland Portugal, 56% (n=1574) of pharmacies cover geographical areas classified as pharmacy deserts, corresponding to an area of 24,354 km² (27% of the total national territory). 72 (5.9%) of the 1228 remaining pharmacies were identified as crucial to preventing the appearance of more pharmacy deserts. These pharmacies cover essentially the population of Porto district (31%), followed by Braga (13%), Aveiro (11%) and Coimbra (10%), located in the North region of Portugal.

Conclusion: The majority of community pharmacies in Portugal cover geographical areas that constitute pharmacy deserts. Protection mechanisms to prevent the emergence of new pharmacy deserts and guarantee the capillarity of this network are essential to continue to secure equitable access to medications and pharmacy services for the population. It is crucial to incentivise the financial sustainability of the community pharmacies, particularly those which could greatly increase the number of inhabitants living in pharmacy deserts.

Role of community pharmacies in decreasing distances and promoting access of the population to Influenza and COVID-19 vaccination in Portugal

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Background: Vaccination is the leading public health tool to reduce the prevalence and severity of influenza and COVID-19 infections. During the seasonal vaccination campaign, the population aged 60 and older is offered free of charge Influenza and COVID-19 vaccines. However, in previous campaigns, about a third of the target population did not adhere to the Influenza vaccination. The most reported reason for non-adherence was the existence of external barriers, including logistic aspects such as distance to vaccination sites. As an attempt to increase accessibility and, therefore, vaccination coverage, the Portuguese Government's strategy for the 2023/2024 season included vaccination in community pharmacies.

The purpose of this study was to evaluate the impact of the inclusion of community pharmacies on the distance of the population to vaccination sites.

Methods: This was an analytical study based on the average distance (km) of the population to the nearest official vaccination site participating in the campaign. The average distance of the resident population, by municipality, to the nearest vaccination site was calculated using the GPS coordinates of the official National Health Service (NHS) sites and pharmacies. The Global Human Settlement resident population grid was derived from census datasets for 2011 (Eurostat), Corine Land Cover Refined 2006 (CLC06rV2), and European Settlement Map 2016. Analysis was performed for two scenarios - with and without the participation of Pharmacies - and stratified by municipality subgroups according to 3 indices: population density, ageing index and per capita purchasing power index.

Results: A total of 844 (24.8%) official NHS sites and 2487 (88.7%) pharmacies participated in the 2023-2024 Influenza and COVID-19 vaccination campaign. Without the participation of pharmacies, the average distance of each person to the nearest NHS vaccination site was 2.4 km,

decreasing to 1.2 km with the inclusion of pharmacies (-1.2 km, -50.5%). This result was even higher when considering the most vulnerable groups within the Portuguese population. Including pharmacies in the network of vaccination allowed for a reduction of -2.3 Km in the average distances in municipalities with lower population density (from 4.9 Km to 2.6 Km), a reduction of -1.7 Km in municipalities with higher ageing index (from 3.6 Km to 1.9 Km) and a reduction of -1.4 Km in municipalities with lower per capita purchasing power index (from 2.9 Km to 1.5 Km).

Conclusions: Results suggest that pharmacies help to remove barriers to the population's access to public health programs, such as vaccination campaigns, by filling geographical and socioeconomic gaps in the national territory coverage. With the participation of pharmacies, the seasonal flu and COVID-19 vaccination campaign to the population had a territory coverage with significantly lower gaps, especially in groups of the population that are already more vulnerable.

The impact of Portuguese community pharmacies on influenza vaccination coverage

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Background: According to the World Health Organisation, vaccine hesitancy is one of the major threats to Global Health, especially in the context of potential post-pandemic vaccine fatigue. The most reported reason for non-adherence to vaccination is the existence of external barriers, including logistic aspects such as distance to vaccination sites. Aiming to counteract the projected decrease in coverage, the Portuguese Government extended the 2023-2024 seasonal vaccination campaign for those aged 60 years or older to community pharmacies, enhancing proximity and vaccination hours.

To assess the potential impact of the inclusion of community pharmacies on Influenza vaccination coverage during the 2023/2024 seasonal vaccination campaign.

Methods: Analytical descriptive study. The percentage variation in distance reduction (in kilometres) from the population to the nearest official vaccination site participating in the national campaign between 2022/2023

(only NHS sites) and 2023/2024 (NHS sites and Community Pharmacies) seasonal campaigns for each municipality was computed. Additionally, the absolute variation in influenza vaccination coverage among individuals aged 65 years or older was calculated for the top and bottom 10% of municipalities with the highest and lowest distance reductions, respectively. Municipality-specific influenza coverage data for both seasons were sourced from the Ministry of Health. The average distance (in kilometres) from the resident population to the nearest vaccination site (including primary care centres or pharmacies) was determined using GPS coordinates from official NHS sites, pharmacies, and the GHS resident population grid, derived from Census datasets for 2011 (Eurostat), Corine Land Cover Refined 2006 (CLC06rV2), and European Settlement Map 2016 (ESM 2016). Lastly, estimated coverage for the top and bottom 10% of municipalities with the highest and lowest distance reductions were compared.

Results: Overall, as of February 22, 2024, the average national influenza vaccine coverage for individuals aged 65 or older stood at 71.9%, representing a decrease of 0.2 percentage points (pp) compared to the 2022/2023 campaign (72.1%). For all municipalities, compared with the 2022/2023 season, influenza coverage varied from -12.5 pp to +7.9 pp, while distances reduced from 0.8% to 85.6%. Among the top 10% of municipalities with the highest distance reductions (reduced by at least 66.5%), there was an average increase in influenza coverage of 1.1 pp in the 2023/2024 campaign compared to 2022/2023. Conversely, the bottom 10% with the lowest distance reductions (below 12.5%) experienced a reduction of 4.6 pp in influenza coverage.

Conclusions: The proximity of pharmacies seems to significantly impact influenza vaccination coverage in Portugal, particularly amidst a widespread reduction in vaccination intention. This underscores the importance of strategic planning and policy initiatives aimed at enhancing proximity to ultimately contribute to higher and more sustained coverage rates within the population.

Communication physician-pharmacist: Enhancing interprofessional collaboration in Portuguese community pharmacies using therapeutic notes

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Introduction: The healthcare landscape is evolving towards a more patient-centred approach, emphasising the specific needs of each individual. Therefore, the concept of multidisciplinary teams is growing. Their goal is to work in a perspective of integrated healthcare, actively monitoring the changes to the patient's clinical state and rapidly introduce the needed measures. Interprofessional communication is the first step to create these health teams and it is urgent to enhance it¹.

In Portugal, a new communication channel was launched (under Ministerial Order 263/2023), allowing pharmacists to share therapeutic notes with prescribing physicians. These notes contain information provided by the pharmacist regarding dispensing, or non-dispensing, of a prescribed drug. This feature was activated in the software of the pharmacies affiliated with the Portuguese National Pharmacy Association on 26 September 2023.

This study analyses and evaluates the implementation of the therapeutic notes communication channel in Portuguese National Pharmacy Association affiliated pharmacies from the month of October to December of 2023. Data collected during the month of September was excluded since it was obtained just from one pharmacy.

Method: A retrospective quantitative analysis was conducted using data collected from pharmacies using the Nova Solução Sifarma software between October and December 2023. The authors described the number of therapeutic notes sent and the adoption rate among pharmacies, overall and at the district level, over time. The adoption rate was calculated as the proportion of pharmacies sending therapeutic notes out of the total number of pharmacies in the same district.

Results: The number of pharmacies using the therapeutic notes feature increased from 846 in October to 1,798 in December 2023, an increase of 113%. A total of 74,558

therapeutic notes were sent, increasing by 1,276% over the same time frame. The average number of therapeutic notes per pharmacy had an increment from 3.4 to 21.8. The proportion of pharmacies adopting the feature varied across districts and over time. In December, the average adoption rate was 28%, ranging from 9% in the Autonomous Region of Madeira to 39% in Braga. The month of February was characterised by an average adoption rate that increased to 63%. The Autonomous Region of Madeira remained the district with the lowest adoption rate (31%), while Viana do Castelo was the region with a greater proportion of pharmacies sending therapeutic notes (86%).

Conclusion: Introducing a new communication software tool between pharmacists and prescribing doctors represents a crucial step towards the improvement of interprofessional collaboration and the future development of multidisciplinary healthcare teams. These results show the progressive adoption of this tool, reflecting the commitment of pharmacies and the great willingness of pharmacists to create a more patient-centred healthcare system in Portugal.

Studying the role of pharmacists in the healthcare system during COVID-19 pandemic in Russia

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Introduction: During the COVID-19 pandemic, the healthcare systems of all states faced several challenges due to the novelty of the virus and the lack of proper treatment. It becomes essential to assess the role of pharmacists during the pandemic and ensure their willingness to reduce the workload on other healthcare specialists. The study can be useful in creating effective management plans to increase healthcare professionals' resilience during new COVID-19 outbreaks.

Objective: The study is aimed at evaluating opinion of pharmaceutical specialists concerning their responsibilities in prevention of COVID-19 spread and their involvement in pharmaceutical care during pandemic through interviewing specialists from pharmacies of Moscow region.

Methods: The study was carried out from July 2021 to July 2022, targeting pharmacists practising throughout the pandemic. Data were collected through surveying 253 pharmaceutical specialists from Moscow pharmacies. A significant part of respondents compiled women (84,6%) at the age of 20-30 years (34%) with work experience from 1 to

5 years (24,9%). Participants mostly included community pharmacists (81,8%).

Results: Most of the study sample (more than 50% for each survey statement) agreed that pharmacists contribute to the prevention of the pandemic by being a reliable and credible source of information based on recommendations of healthcare authorities. At the same time, most participants (52%) disagreed with the view that hospital pharmacists can be involved in patient care and support during morbidity increases. Such value reveals the features of the national healthcare system where pharmacists are mostly responsible for combating medication misinformation and raising awareness about personal hygiene, in contrast to foreign healthcare services where hospital pharmacists participate in disease control and prevention measures.

Despite the front-line role of pharmacists in raising public awareness through providing actual information and patient education, about 30% of respondents reported that they've never conveyed essential information about COVID-19 infection to patients at their pharmacies through brochures and oral messages. Such results indicate that pharmaceutical specialists had to gain knowledge concerning new viruses and spread this information among patients, which was complicated due to the high rate of work.

Overall, most of the study participants reported that they have current knowledge regarding prevention measures, referring to and consulting suspected COVID-19 patients, though 40% of participants aren't sure they can provide professional care for patients with COVID-19 infection. More than 30% of pharmacists don't know where they can report information about infected patients, and 16% of respondents aren't sure of their knowledge about the proper process of isolation of the sick. All these values reflect the complications of pharmaceutical care in 9 pandemic periods, which could be facilitated if pharmaceutical specialists could test patients, freeing up the time for other healthcare providers to manage the most urgent cases.

Conclusion: Pharmaceutical specialists play crucial role in public healthcare by providing advice on preventive measures and individual hygiene to slow down the spread of COVID-19 infection. Further studies are needed to develop effective awareness-raising strategies for pharmaceutical specialists about new viral infections and to improve the system of communication among all parts of the healthcare systems.

Mentalising in pharmacy – Promising results from the evaluation of an education programme for the pharmacy workforce to support patient-centred counselling

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Introduction: One of the core activities at community pharmacies is counselling patients on medication to support correct use and to contribute to health promotion. Dialogue is known to be key to ensure patient-centred counselling, but studies show that pharmacy workforce rarely include patients' perspectives in counselling, especially if they sense that the patient or they themselves will be emotionally affected.

A theory-driven education programme was developed with the aim of increasing the pharmacy workforce's mentalising abilities and enabling them to be aware of and navigate their own and patients' emotions in a counselling situation. The topics in the programme include the mentalising mindset, mentalising communication and pharmacy practice. The 2,5 ECTS programme was developed in Denmark and tested in Denmark and the Netherlands. The programme was developed with a user-driven workshop format that included perspectives from patients, pharmacy workforce and proprietors.

Purpose: The aim was to evaluate participants' knowledge of mentalising in a pharmacy practice context and their competencies and benefits of transferring this to knowledge about how to act and communicate in mentalising ways in pharmacy encounters, with the potential of establishing patient-centred counselling.

Method: In Denmark, 28 participants from 11 community pharmacies participated. A mixed methods design based on the Kirkpatrick levels of evaluation inspired the evaluation. Data comprised written reports with 36 qualitative questions answered by participants upon completing the programme, as well as quantitative measurement of their Level of Emotional Awareness, their Job Satisfaction Measure before and after the programme and a Course Experience Questionnaire after the programme.

Results: The qualitative evaluation revealed three themes: 1) "Awareness of emotions and communication skills is an important element when mentalising is the goal", 2) "It's far more than just a dispensing situation – I now tune into the patient", 3) "Don't have to hide behind the screen any longer". The quantitative evaluation showed: 1) a significant increase in awareness of mental states ($p < 0,001$), 2) a significant improvement in job satisfaction regarding salary ($p = 0.01$), prospects ($p = 0.04$) and standards of care ($p = 0,004$),

3) that most participants agreed (48.8%) and strongly agreed (39.1%) that they were satisfied with the education programme.

Conclusion: The education programme promoted the participants' awareness of mental states and mentalising communication skills, enabling them to centre the interaction around the patients' perspectives. The results are promising to support pharmacy workforce to act truly patient-centred in counselling desk meetings and to prevent or reduce job-related stress and burnout.

Revolutionising telepharmacy for upper respiratory tract infection / allergy management: Automation of patient-reported symptoms into potential diagnosis and prescription

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Introduction: The COVID-19 pandemic has heightened public awareness of upper respiratory tract infections (URTIs), including their impact, patterns of seeking treatment, self-care practice, and symptomatic management. However, achieving accurate self-diagnosis, which is vital for proper care and treatment, is often not accomplished. Usage of digital healthcare has been significantly increasing, with over 2.9 billion users worldwide since 2020. Telepharmacy has gained significant importance amidst social distancing measures and home lockdowns, serving as a crucial primary care service. In Thailand, the Pharmacy Council has implemented guidelines for telepharmacy services. Numerous studies have shown that telepharmacy improves drug adherence, disease control, and patient satisfaction. Thus, Telepharmacy is a digital health platform that can improve patient care by facilitating the proper self-care of URTIs through symptom assessment and rational symptomatic management.

Methods: A chatbot was developed within the Chii official LINE app, a telehealth provider, to assess URTIs based on patients' self-reported symptoms. The chatbot algorithm was based on well-established clinical guidelines validated for symptom-based diagnosis of six common URTIs/allergy, including allergic rhinitis, COVID-19, influenza, otitis media, pharyngotonsillitis, and the common cold. The chatbot was widely adopted through social media, along with disease education content. Patients could access and self-check their symptoms by automatically generated questions. Upon completion, the chatbot will provide patients with

information on the most likely diagnosis, treatment options, selfcare tips followed by an online tele-consultation and prescription of medication by a pharmacist. Finally, the patients could purchase medications which will be delivered to home subsequently.

Results: Within three months, the chatbot reached 116,271 individuals nationwide in Thailand. Out of 553 individuals who used the chatbot for disease screening, 433 (78%) completed it. The top 3 most common self-reported symptoms were runny nose / nasal congestion (78%), fever (39%), and shortness of breath (21%). The chatbot algorithm identified allergic rhinitis in 224 (52%) cases, COVID-19 in 110 (25%) cases, and influenza infection in 64 (15%) cases. There were 118 cases consulted with tele-pharmacists with 100% successfully receiving medication based on reported symptoms. The most prescribed medications were oxymetazoline nasal spray and menthol, camphor, eucalyptus ointment (91% of patients), followed by paracetamol and fexofenadine tablets (36-38% of patients).

Conclusion: The telepharmacy chatbot programme has yielded insightful findings, revealing that the primary motivation for patients seeking treatment was runny nose or nasal congestion, potentially indicative of allergic rhinitis or early signs of a common cold. Although medications such as nasal decongestants and menthol, camphor, eucalyptus ointment were prescribed based on self-reported symptoms, there is room for optimising the algorithm to achieve more precise differential diagnosis. This optimisation would lead to improved self-care practice, and rational use of medication and ultimately enhance the patient care system.

Rethinking digital health in pharmacy: De-risking interventions through evidence-based practices

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Introduction: The potential of digital health tools in pharmacy practice is vast, promising enhanced patient care and improved outcomes. Yet, behind this promise lies a significant challenge. Imagine an app designed to improve diabetes management yet leading to unsafe insulin recommendations. Picture a mental health app intended to support users, but instead compromising their privacy. These scenarios are not hypothetical—they are real, and they underscore a critical gap in the deployment of digital health technologies.

Aim: This submission aims to emphasise the importance of evidence-based interventions, rigorous validation, and continuous improvement to ensure the safe, effective, and successful deployment of digital health interventions.

Results: Wearable devices, while promising for continuous health monitoring, often provide inaccurate health metrics, potentially causing stress and misinformation. For community pharmacists, recommending these devices without understanding their limitations could lead to ineffective patient care. Health and wellbeing apps, particularly for mental health, have been found to share users' personal data with third parties like Facebook and Google without explicit consent, raising significant privacy concerns. A survey indicated that 80% of mental health apps share user data without clear consent, posing a threat to patient confidentiality. Epic's Sepsis Algorithm, aimed at early sepsis detection, demonstrated significant shortcomings, with an 86% false positive rate and identifying only 1 in 3 cases correctly. This could lead to unnecessary antibiotic use, contributing to antibiotic resistance and alert fatigue among healthcare providers, risking missed genuine sepsis cases. The GuildLink system, designed for adverse drug Event (ADE) reporting by pharmacists, faced usability issues, with only 40% finding it user-friendly. This highlights the need for involving end-users in the design and testing phases to ensure usability. Remote Patient Monitoring (RPM) systems, while beneficial, often face connectivity issues and lack of patient engagement, particularly in rural areas, with up to 50% of RPM systems failing to maintain engagement.

Conclusion: The stakes could not be higher. The way forward is clear: prioritise early-phase testing, engage in continuous validation, and adopt evidence-based interventions. This necessitates a fundamental rethinking of how the authors approach digital health technologies, treating these tools with the same scrutiny as pharmaceutical interventions. Just as The authors would not release a pharmaceutical drug without rigorous testing, digital health tools must undergo thorough scrutiny to ensure safety and efficacy. Pharmacists should consider whether tools are validated and understand the risks of recommending unvalidated apps.

Conclusion: Educating patients about tool usage and data privacy is crucial. Healthcare organisations should establish systems for continuous feedback to ensure the effective implementation and safety of digital health tools, with pharmacists playing a key role in this feedback loop. This is especially important in an era of AI interventions, where the potential for both benefit and harm are significantly magnified.

(De) Regulation of the pharmaceutical practice: the current situation in Argentina

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Introduction: The pharmacy practice in Argentina has developed over the last century into an extensive healthcare network well known around the globe, with the pharmacist having a starring role in the promotion of healthy habits and the prevention, early detection and monitoring of diseases. In recent years, Argentina has faced a tough economic and social situation, which led to a change in the government during the last elections. In December 2023, the new government took power, and one of the first measures taken was the "Decreto 70/23 (DNU 70/23)", which led to the deregulation of the economy. This reclamation went directly against the pharmacy practice, attempting to treat the community pharmacies as simple markets, allowing medicines to be sold outside the pharmacies and turning the medicines from social goods to consumption goods. After that, another decree, "Decreto 63/24 (D 63/24)", brought some reclamation rules for some articles of DNU 70/23. The COFA worked and still working diligently on the defence of pharmacy practices throughout a presentation in the cohort, also with the generation of spaces of dialogue with the different parties and with the promotion of the pharmacy practice as well.

Method: COFA wrote a book where a comparison between the current reclamation and the changes that the DNU pretends to make. This book also included an international perspective throughout letters of support from international organisations.

Results: Both international and national institutions supported the defence of the pharmacy practice, considering the role of the pharmacist as crucial for the support of the health system as it is the presence of a pharmacist at the pharmacy office. Also the institutions supported the model of the medicines as social goods and the access to efficient, safe and high-quality medicines available exclusively in community pharmacies in order to avoid falsified medicines and guarantee the rational use of them.

Conclusion: Pharmacies support and sustain the health system through many services, such as drug dispensation accompanied by pharmaceutical counseling, the control and monitoring of non-communicable diseases, the promotion of healthy habits, vaccination campaigns and multiple other activities for the prevention of diseases. All this work results in better patient outcomes and savings for the health system, optimising very valuable resources like time, space and money. Due to all of these reasons, the presence of pharmacists at the community pharmacy becomes not only necessary but mandatory to meet society's demands, since

many times, contact with the pharmacist is the only approach that patients have with the health system. Regulation of the pharmacy practice is needed to guarantee access to safe drugs and avoid unnecessary health risks. Facing the social and economic crisis that collaterally affects the health of these communities, the pharmacist is not the problem; the pharmacist is part of the solution.

Does following a 'script' translate into a successful professional service? An Australian quantitative survey

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Introduction: Across Australia, quality assessment programmes are optional, and there have been few developments regarding quality assessment of service delivery. Individual pharmacies or banner groups/chains may choose between self-developed standard operating procedures (SOPs) or the Australian-wide recognised Quality Care Community Pharmacy (QCPP) Standard. To date, research has focused on qualitative assessment and pharmacists' perceptions, satisfaction, and motivations. The aim of this study was to discern the association between following SOPs for professional services delivery in Australian pharmacies through a cross-sectional survey.

Method: The development of an Australia-wide semi-structured survey was informed by evidence, content, and face validity assessments. Following ethics approval, the web-based survey was distributed among practising community pharmacists in Australia between March and October 2022. Descriptive statistics were performed, and a correlation analysis was undertaken to discern associations.

Results: Valid responses (N=108) from pharmacists practising across all Australian jurisdictions underwent analysis. In the previous 14 days, 40% (43/107) of respondents reported they were involved in professional services for ten or more hours. Most delivered services were Dose Administration Aids (34%), immunisations excluding COVID-19 vaccinations (30%), COVID-19 vaccinations (15%), opioid substitution (5%), absence from work certificates (3%), MedsCheck (3%), blood pressure management (2%), weight management service and Diabetes MedsCheck (1%), respectively. Ninety-six percent (48/50) of pharmacists perceived SOPs positively support service delivery. Of 108 respondents, pharmacists reported using these SOPs: QCPP (68%), self-developed (46%), and banner/chain-developed (36%). If pharmacists were already using QCPP SOPs, they were more likely to develop further procedures for their services: either banner/chain-developed ($r = 0.644, p < 0.01$) or staff-developed ($r = 0.286, p < 0.01$). An increased range of internal communication processes was

associated with increased personnel in professional services delivery ($r = -0.268, p < 0.05$) and, subsequently, charging for the service ($r = 0.323, p < 0.01$).

Conclusion: Following 'the script' in the form of an SOP in community pharmacy is associated with improved professional services delivery through the use of internal communication processes and sustainment as indicated by seeking patient remuneration for professional services.

Exploring the willingness of community pharmacists in Palestine to administer immunisations: A cross-sectional study

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Background: Vaccination is a cost-effective and highly successful method for preventing various diseases. Despite this, many immunisation programmes are underutilised. In countries like Portugal, England, and the USA, pharmacists' involvement in vaccine distribution has proven beneficial for patients and healthcare systems. Although Palestinian pharmacists are not currently involved in vaccine services, they play a significant role in public education. To expand their responsibilities and improve their practice, it is essential to evaluate their interest in becoming immunisation providers and their perspectives on the subject.

Purpose: To assess the willingness and readiness of Palestinian community pharmacists to administer immunisations in the future, as well as to identify any obstacles that may hinder their involvement in immunisation services.

Methods: A cross-sectional observational study was conducted among community pharmacists from February to May 2024. A validated questionnaire was used to collect the data that covered various aspects, including sociodemographic characteristics, pharmacists' readiness to administer adult vaccines, their attitudes toward immunisation, and an evaluation of barriers hindering community pharmacists from offering immunisation services. Additionally, the survey explored pharmacists' vaccination knowledge, essential components for integrating immunisation into their practice, and reasons for advocating for pharmacists as immunisers. The data was analysed using descriptive and regression analysis. Data was summarised using descriptive statistics, including frequency for binary variables and mean \pm standard deviation for continuous variables. The relationship between vaccination intake and participant characteristics was assessed using a chi-square test with a significance level of $p < 0.05$.

Results: Out of 401 community pharmacists invited to participate in this study, 398 took part, resulting in a response rate of 99%. The majority of participants were female (75.6%). Among the participants, 86.9% showed a willingness to engage in vaccine administration. Pharmacists with previous experience in immunisation were significantly more willing to immunise (p -value < 0.05), with 59 out of 102 participants with previous experience expressing a willingness compared to 87 out of 296 without such experience. The analysis demonstrates that gender has a statistically significant association with willingness to immunise (p -value = 0.023), with 45 out of 97 males expressing a willingness compared to 101 out of 301 females. The research highlighted key barriers to willingness for immunisation, including concerns about patient safety and the need for sufficient training. Participants highlighted concerns about vaccine integration, such as cost (88.4%), reimbursement (83.7%), limited pharmacy space for vaccine storage (80.4%), and space availability for vaccine administration (65.6%). Moreover, 82.9% of community pharmacists' showed a high level of understanding of the importance of vaccines in preventing and controlling infectious disease outbreaks. The majority of pharmacists agreed that the main element needed to incorporate immunisation in pharmacists' practice scope was the necessity of financial reimbursement or adequate remuneration for pharmacists involved in vaccine administration (84.1%).

Conclusion: The findings indicate that Palestinian pharmacists are accepting of their role as vaccinators, although they have expressed some concerns regarding financial and legal obligations. The study proposes that more work is required to enhance the preparedness of pharmacists and pharmacies to provide vaccination services. Additionally, it suggests that regulatory bodies should increase their involvement in emphasising the significance of training and its influence on patient safety and satisfaction.

Exploring the impact of delivering medication as self-care on healthcare greenhouse gas emissions in the United Kingdom

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Background: The healthcare system is responsible for 4-5% of total greenhouse gas (GHG) emissions in England. In response to climate change, the National Health Service (NHS) is calling

for less carbon-intensive care practices. One of the major drivers of healthcare resource utilisation (HCRU) that could be avoided is self-treatable diseases. Pharmacists play a vital role in the delivery of self-care, not only recommending optimal self-care medications but also educating and advising individuals on healthy lifestyle choices and when to seek additional care from a physician or other healthcare provider.

Purpose: The role of self-care has been documented in avoiding HCRU, however no evidence is available on its impact on GHG emissions. This study explores the impact of delivering medications as self-care on healthcare GHG emissions in the UK.

Method: The study focuses on the benefits of self-care vs prescription-based pathways for self-treatable conditions in the UK. A model was developed to estimate GHG emissions from the patient care pathway based on self-care impact on HCRU through two outcomes: primary care (PC) consultations and accident and emergency (A&E) attendances. NHS GHG unitary emission factors were applied to HCRU to measure the associated GHG emissions of self-care adoption for all self-treatable conditions.

Results: Self-treatable conditions represent 25-48 million (M) PC consultations and 5-10M A&E attendances annually in the UK. If all were avoided due to self-care, this would translate into ~2,030-3,930 kilotonnes (kt) of equivalent carbon dioxide (CO₂eq) emissions avoided annually in the UK, the equivalent of 8-16% of the total NHS carbon footprint or the annual emissions of ~390-760 operating theatres.

Conclusion: This study shows how self-care can reduce the NHS carbon footprint thanks to the role of community pharmacists in providing patients with direct advice and access to medication against self-treatable illnesses.

Exploring the phenomenon of purchasing antibiotics without a prescription among community pharmacies in a rural province in South Africa

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Introduction: Previous research highlighted challenges of inappropriate antibiotic dispensing without a prescription across countries, with variable findings from South Africa. Contributing factors include extensive co-payments, high travel costs and long waiting times for healthcare consultations. With an increase in antimicrobial resistance (AMR), inappropriate antibiotic use poses significant public health challenges; hence, it is crucial to understand antibiotic purchasing behaviours.

Purpose: To investigate the prevalence of antibiotic dispensing without a prescription among community pharmacies in a rural South African province; To explore drivers associated with the purchasing of antibiotics without a prescription among patients visiting pharmacies; To pilot test and adapt two questionnaires for use in the main study.

Method: A pilot study was first conducted among chain and independent community pharmacies in a rural setting. Two questionnaires were designed based on extensive literature reviews and insights from co-authors: 1) A self-administered questionnaire completed by pharmacists and pharmacist assistants (pharmacy staff) from independent community pharmacies; pharmacy staff approached at chain pharmacies declined participation in the study, citing that they were too busy to complete the questionnaire. 2) An interviewer-administered 2-part questionnaire was completed amongst patients exiting from independent and chain community pharmacies. For both questionnaires, completion of the questionnaire was followed by a cognitive interview with the participant to evaluate comprehension of questions, allowing

adaptation for the main study. Ethics clearance was obtained for the study, and all participants provided informed consent prior to participation. No personal identifiers were collected.

Results: Among 5 of 9 independent community pharmacies, half (10/21) of the participants (pharmacists and pharmacist assistants) dispensed antibiotics without a prescription in their pharmacies, including therapy for children <12 years. Five of the 10 participants were unable to estimate dispensing frequencies. Patient pressure exacerbated dispensing behaviour. Only a minority of participants, before dispensing antibiotics, recommended suitable over-the-counter medicines. Five of eight patients exiting from community pharmacies were dispensed antibiotics, of whom three patients exiting from independent community pharmacies indicated that they purchased antibiotics without a prescription. Key reasons for self-purchasing of antibiotics included costs and convenience. Concerns about knowledge of antibiotics and AMR were noted amongst all participants. Changes were made to both questionnaires regarding length and phraseology following feedback from participants provided during cognitive interviews.

Conclusion: The pilot study revealed concerns related to antibiotic dispensing without a prescription and knowledge regarding antibiotics and AMR. The main study, which includes robust sample sizes, is currently being done. Results from the main study will be available at the time of the conference. Findings will be used to develop potential strategies tailored to specific contexts to reduce inappropriate dispensing and promote antibiotic stewardship in South Africa and beyond.

Education and training strategy supported by The International Primary Care Respiratory Group (IPCRG) for the community pharmacist in asthma care in the Republic of North Macedonia

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Introduction: Asthma is a chronic inflammatory disorder of the airways and is recognised as one of the most important non-communicable diseases worldwide with increasing prevalence. Community pharmacists have been recognised as

the most available healthcare professionals who could play an active role in the management of asthma. As a part of the reforms in primary care in the Republic of North Macedonia, the implementation of pharmaceutical care services related to asthma patients is expected to give promising results.

The objective of the study is to evaluate the influence of implementing an education and training strategy supported by International Primary Care Respiratory Group (IPCRG) for community pharmacists in asthma care in the Republic of North Macedonia.

Method: In the period May/June 2023, IPSRG Asthma Right Care Teach the Teacher (TtT) conducted education courses in RN Macedonia. These courses aim to establish a solid foundation involving 22 professionals, community pharmacists, academia, and family physicians who will be dynamically involved in further activities to improve asthma care at the national level. Participants of this initiative developed three distinct practical courses: improvement of community pharmacists' knowledge and active participation in asthma care, identification of suspected asthma patients in collaboration with family physicians, education of patients on asthma treatment and improvement of adherence and compliance.

Results: From October to December 2023, the first practical course aimed at improving community pharmacists' knowledge and active participation in asthma care was conducted in the RN Macedonia. As part of the second tier of educational strategy, 16 pharmacists and five family physicians underwent training to run the workshops using the training programme developed by academia. The training included practical exercises with peak flow meters and an asthma slide ruler to recognise the overuse of short-acting beta-agonists (SABA) and the correct inhaler technique. In the third tier of the strategy, 20 regional education workshops were conducted, and 400 community pharmacists were enrolled in the asthma care strategy.

A post-workshop knowledge survey indicated improvements across all participants in knowledge and confidence related to the management of asthma patients, increasing from 27.2% to 68.8% after training. However, the survey also identified the need for further improvement in knowledge regarding adverse event management and updated treatment protocols. In January 2024, the working group of trainers began conducting the second practical course focused on early recognition of asthma using Desk Helper from IPCRG. 13 workshops for pharmacists and general practitioners are planned in the period March-April 2024 in RN Macedonia.

Conclusion: The strategic approach to education and training of community pharmacists for asthma care, supported by the Asthma Right Care initiative - IPCRG, is expected to improve the knowledge and skills of community pharmacists in the implementation of pharmaceutical care for asthma patients. Moreover, it aims to improve collaboration with other healthcare professionals, especially family physicians, with the ultimate goal of providing the best possible outcomes for patients.

Scope of and opportunities for primary care drug therapy pharmacists in South Africa

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Background: Primary Care Drug Therapy (PCDT) pharmacists are commonly known as "prescribing pharmacists" in South Africa. The PCDT supplementary qualification is accredited by the South African Pharmacy Council (SAPC), and there is a growing interest in South Africa in the qualification. Pharmacists who have completed the accredited training are allowed to prescribe medicine from a limited list in a primary healthcare setting. Less than 2% of pharmacists are registered with the SAPC as PCDT pharmacists. Minimal research has been conducted on PCDT pharmacists, with no published reviews or studies available at the time of the study.

Objective: The aim of the study was to identify the areas of need as well as opportunities amongst registered PCDT pharmacists in South Africa, investigate the types of patients consulted, as well as the conditions being treated by PCDT pharmacists.

Method: A mixed-methods study was conducted. An extensive literature review was conducted on the impact that prescribing pharmacists have across the world on the provision of primary health care in developed and developing countries. This was used to develop a questionnaire. The online survey was conducted on all pharmacists who have completed their PCDT training and who were registered as such with the SAPC. QuestionPro[®] was used to administer the questionnaire during January and February 2021. The response rate was 20.7% (n=75). The results of the survey were used to inform the next step of the study, an expert focus group discussion. Ethical approval for the study was granted by the university's ethics committee.

Results: Most PCDT pharmacists were practising in urban settings (55%), with only approximately 30% practising in rural settings where the need was considered the greatest. Family planning, urological conditions and sexually transmitted infections were the most frequently consulted on and treated conditions in urban areas. These conditions may be linked to a certain behavioural "norm" with increased interest in polygamous sexual relationships and a Westernised approach to life. Conditions that were more prevalent in rural areas included gastrointestinal conditions as well as ear, nose and throat conditions. Gastrointestinal conditions could be more prevalent in rural areas due to

sanitation issues as well as the quality of drinking water available. From the focus group discussion, it was concluded that the National Department of Health in South Africa requires the expertise of PCDT pharmacists to provide primary healthcare services in South Africa where the need exists and where healthcare institutions and services are lacking.

Conclusion: The role of PCDT pharmacists in the provision of primary health care in South Africa warrants further study to provide evidence-based data. This is needed for planning purposes towards the implementation of PCDT pharmacists in the National Health Insurance (NHI) programme that South Africa is embarking on. It will also quantify and provide information on the impact PCDT pharmacists have on the South African population.

Belgian pharmacists' first successful vaccination campaign

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Introduction: Since 2021, Belgian pharmacists have been authorised to prescribe influenza vaccines. After a successful debut with COVID-19 vaccinations, they were asked to participate as vaccinators in the influenza vaccination campaign of 2023/2024, aiming to increase the vaccination rates among the Belgian population. This initiative was particularly important in the post-pandemic context characterised by vaccine fatigue, hesitancy and decreased trust, especially among the at-risk younger population. It also aimed to tackle the problem that no at-risk group reached the WHO's vaccine goals, especially as vaccination numbers dropped after COVID-19.

Method: Pharmacists trained to administer vaccines were allowed to vaccinate in their pharmacy. They directly assessed patient risk for flu vaccination and prescribed and administered the vaccine. The cost of the vaccination was covered by a third-party payment by this public health insurance company, ensuring patients were vaccinated free of charge. The administration was registered electronically and shared with other healthcare providers. The data shared with the National Institute for Health and Disability Insurance (NIHDI) was subsequently used for trend analysis.

Result: 67.7% of Belgian pharmacies have already participated, collectively administering at least 292,777 flu vaccines. Pharmacists aim to complement doctor-administered vaccinations by reaching patients who might not otherwise get vaccinated for reasons such as lack of time or not having a general practitioner. Community pharmacies' unique accessibility and broad reach facilitate this. Pharmacists administered 15% of the vaccines they dispensed, with this rate increasing to around 29% in Brussels. In this first campaign of pharmacist-led vaccinations, it's notable that one-third of patients who hadn't picked up a reimbursed vaccine - reimbursement indicates they're in a risk group - from the pharmacy in the previous 3 to 5 years but got vaccinated this year did so at the pharmacy. Remarkably, in the 18-49 age group with additional risk factors, where vaccination rates are traditionally low, this figure was one in two. In Brussels, these percentages are even higher.

When focusing solely on the dispensing of flu vaccines, a 9.5% increase compared to the pre-COVID year of 2019 was observed. After COVID, the numbers dropped but have since normalised and are rising. Yet, for patients under 50 with additional risk factors, the decline has persisted.

Conclusion: The introduction of pharmacists as vaccinators in Belgium represents a significant step forward in increasing vaccination accessibility and coverage, especially in heavily populated areas. Their ability to vaccinate against flu and COVID, along with extended availability and no-appointment-necessary policy, has particularly benefited younger individuals and those with time constraints or without a general practitioner.

The high participation by pharmacies and their focus on at-risk groups show that this approach could effectively widen vaccine access and might enhance overall health.

This first campaign showed that many individuals who had not received a reimbursed vaccine in recent years and chose to do so this year opted for vaccination at the pharmacy. This highlights how pharmacies are reaching those who often miss out on vaccinations, especially in dense urban areas with hard-to-reach populations and a shortage of general practitioners.

Blood pressure monitoring in community pharmacy

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Background: Pharmacists are able to contribute to hypertension management by educating patients on the importance of home blood pressure monitoring (HBPM).

Purpose: To propose pharmacist interventions supporting patient empowerment of blood pressure (BP) self-monitoring.

Method: A data collection sheet to assess the practice of BP self-monitoring and an action plan to facilitate patient empowerment were developed and validated. A flowchart explaining correct HBPM techniques was designed. The data collection sheet and the action plan were implemented by means of an interview with 120 participants on antihypertensive therapy recruited from 4 community pharmacies chosen by convenience sampling. During the interview, the researcher measured the participants' BP using a validated automatic upper arm BP measuring device.

Results: Of the total 120 participants, 55% claimed to own an automatic upper arm oscillometric HBPM device. For the participants who self-monitor BP, the researcher identified ways to improve HBPM technique, frequency, and follow-up of BP results. For the participants who do not self-monitor (45%), the benefits of HBPM and the devices available were explained by the researcher. Lack of adequate monitoring frequency was observed: 31.8% self-monitor when they remember. The technique most defaulted was bladder emptying prior to monitoring (79%). Out of the 66 participants who self-monitor, 30 participants were found to have elevated BP. Using the chi-square test, no statistical significance ($p > 0.05$) was found between self-monitoring and BP reading. An action plan was devised for each participant by the researcher depending on the participant's needs, mainly addressing monitoring frequency, BP reading results and the participant's action towards home BP readings.

Conclusion: Interventions required by pharmacists to improve HBPM were identified. Correct BP targets must be better explained to patients by pharmacists, encouraging correct action to be taken by seeking advice from a healthcare professional when home BP readings are not within target. Pharmacists must prioritise those patients with uncontrolled BP despite self-monitoring, identifying reasons and ways to improve HBPM.

Espaço Saúde 360º Algarve health literacy initiative: building bridges within the community to improve the quality of life of the most vulnerable

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Introduction: Health illiteracy impacts the use of health resources, leading to a burden on the national health system due to an increase in the prevalence and severity of chronic diseases and a higher number of hospitalisations; it also favours health inequalities, which are reflected in the citizens' quality of life.

A personalised health literacy program, delivered collaboratively within communities, may have the potential to transform vulnerable citizen's quality of life.

Espaço Saúde 360º Algarve' project (ESA) comprised several health literacy promotion initiatives targeted to vulnerable older citizens in the Algarve region, through a community-based innovative approach, centred on citizens' health needs and supported by local partnerships, including community pharmacies.

Activities were performed by a multidisciplinary team (psychologists, nutritionists, community pharmacists, physical education and yoga teachers, and social care professionals) and included health information and disease prevention sessions, nutrition workshops, health system navigation sessions, adapted physical activity, yoga sessions, cognitive stimulation sessions, meetings with patient associations, psychological sessions, and medicines use review (MUR) service provided by local pharmacies.

The challenge of the ESA project was to increase the quality of life by, at least, 5% for 500 participants aged over 65, with low income and low education levels.

The current study aimed to describe the interventions delivered and to assess the impact of the project on the quality of life of the population enrolled.

Method: The impact assessment of ESA on the participants' quality of life was carried out by an external independent academic partner, considering all the activities developed between September 2020 and June 2023.

A prospective multicenter longitudinal study was conducted within the scope of the ESA project.

Quality of life assessment was carried out through the WHOQOL-BREF quality-of-life scale, administered at the time of recruitment and every 6 months until the end of the project.

Results: A total of 1800 health literacy activities were carried during 30 months, across 7 municipalities of the Algarve region.

Local pharmacies (n=10) conducted 66 MUR services to polymedicated participants (4 or more medicines) who agreed to benefit from the service (one service/participant) during the project period. All participants benefited from the identification of at least one drug-related issue, leading to a pharmaceutical intervention.

The population, consisting of 780 individuals, exceeding the initially proposed 500, achieved a significant increase in their quality of life at the physical level (a 5% increase) right after the first six months.

Participants who remained in the project for 2 years saw all the dimensions of their quality of life increased by more than 10%.

Conclusion: The study showed that personalised health literacy community programmes, like ESA, have a positive impact on increasing the quality of life of vulnerable citizens and that health literacy may have the potential to mitigate economic and social inequalities.

Pharmacies are an asset in these social projects as they can more easily reach vulnerable groups, particularly older adults. This collaborative approach should be considered as a cornerstone strategy for future public health and social policies.

Enhancing the accessibility of reimbursable innovative drugs through community pharmacies in China: A document analysis

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Introduction: The National Healthcare Security Administration in China issued the "Guiding Opinions on Establishing and Enhancing the 'Dual-Channel' Management

Mechanism for Drugs in National Medical Insurance Negotiations" in April 2021, aiming to improve access to high-value and urgently needed innovative drugs. This initiative integrated community pharmacies into the supply chain and insurance payment system for reimbursable innovative drugs. Despite nearly three years of implementation in China's provincial administrative regions to develop corresponding policies aimed at strengthening the role of community pharmacies, few studies have examined the effectiveness and impacts. This study aimed to compare policy differences among Chinese provinces and investigate variations in community pharmacies' access to innovative drugs under policy support.

Method: A document analysis research was conducted using the READ approach to collect and analyse "dual-channel" policy documents released by the official healthcare security administration websites of all 31 provinces, along with related news from People's Daily Online, Xinhua Net, and Phoenix News Network from April 2021 to October 2023.

Results: A total of 185 official documents and 104 news were collected. All provinces actively promoted the dual-channel policy. Most provinces opted to include all newly listed high-value innovative drugs in the dual-channel management, with 18 provinces specifying the list of specific medicines included. However, gaps between policy content and actual practice were identified in some provinces: pharmacists and other health professionals lacked familiarity with operating the medical insurance system, and the number of licensed pharmacists remained insufficient. Among the 31 provinces, only three have provided specific instructions on the pharmaceutical services offered by licensed pharmacists, while the others have only stipulated the required number of licensed pharmacists without additional guidance, resulting in an uneven distribution of pharmacists' proficiency levels and posing challenges in delivering professional pharmaceutical services.

Conclusion: Most provinces in China have made significant efforts to implement "dual-channel" policies, enhancing the accessibility of reimbursable innovative drugs at the community pharmacy level. However, higher requirements are needed for both pharmacists and community pharmacies to sustain this progress.

A preliminary analysis of characteristics and satisfaction of patients on the use of direct oral anticoagulants in community pharmacy

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Background and Objectives: Direct oral anticoagulants have better efficacy, fewer drug-drug interactions, and fewer side effects than traditional anticoagulants; however, it still needs to closely monitor response and side effects after taking these drugs with different characteristics. The objective of this study is to assess the demographics and co-medication use in patients with direct oral anticoagulants.

Methods: The authors collected demographic data and consulted questions by questionnaires while people were getting direct oral anticoagulants from 2023/1/1 to 2023/12/31 in a community pharmacy. All of the results were analysed using descriptive statistics.

Results and Discussion: The authors collected 16 effective questionnaires, and the mean age of responders was 68.3 years old; 50% were female. The majority of education level was college (50%), and 37.5% of them retired from work. The highest proportion of drugs currently with anticoagulants were for antihypertension (75%). The second class were sedatives and sleeping drugs (68.8%). The lowest class was Chinese herbal medicine, and antibiotics accounted for 6.3% of the total. The major direct oral anticoagulant was rivaroxaban (43.8%), and the duration was 12-18 months (56.3%). All of these patients were satisfied with the services provided by community pharmacists.

Conclusion: This study indicated antihypertension drugs had the highest proportion of co-medication with direct oral anticoagulants, and community pharmacists provided satisfied service for people while getting direct oral anticoagulants.

Pharmacist assistants are an essential cadre for universal health coverage

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Background: The need to improve essential medicine supply in primary health care clinics is of paramount importance to ensure that medicines used in treatment regimens are accessible, acceptable, safe, cost-effective and affordable to the population.

Purpose: The study purpose was to assess the medicine availability status in primary health clinics with post basic pharmacist assistants, determine the medicine supply management practices at primary healthcare clinics where there are post basic pharmacist assistants in order to make recommendations that is aimed at improving essential medicine supply management.

Methods: A qualitative exploratory descriptive research design was utilised using semi structured interview guide to collect data from 11 District Pharmaceutical Services Managers together with medicine availability reports review. Data analysis was conducted using Colaizzi steps.

Results: The study found that there is a shortage of post-basic pharmacist assistants in primary healthcare clinics. Post-basic pharmacist assistants' placement in primary healthcare clinics improves medicine availability, and there is a defined role for post-basic pharmacist assistants in primary healthcare clinics.

Conclusion: The study provides evidence that primary healthcare clinics without post-basic pharmacist assistants are more likely to have erratic medicine supply management practices and confirms that post-basic pharmacist assistants play a positive role in the medicine supply management processes in primary healthcare clinics. There should be at least one post-basic pharmacist assistant appointed in each primary health care clinic in order to ensure efficient medicine supply management and consistent medicine availability.

Development of educational videos on inhaler device use: Preliminary findings

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Introduction: Inhalation devices represent intricate pharmaceutical dosage forms, requiring precise guidance for effective usage. Recognising this need, the development of educational videos stands out as a promising strategy to enhance patient comprehension regarding the proper utilisation of inhalation devices.

Objective: To develop educational videos on inhaler device use for the Brazilian population.

Methods: The video production process used the content and structure of the brochures crafted by the Federal Council of Pharmacy of Brazil: how to use the pressurised metered-dose inhaler, how to use the pressurised metered-dose inhaler with spacer, how to use the Turbuhaler®, how to use the Diskus®, how to use the Ellipta®, how to use the Respimat®, how to use the Breezhaler®, how to use the Aerolizer®, how to use the Aerocaps®, how to use the Nexthaler®, how to use the CDM Haler®. The video prototype was developed by the researchers based on principles of accessibility. The videos produced will be evaluated by patients, and at the end of the process, entities will be invited to partner with them and conduct the final validation.

Results: Currently, three videos are in production: "How to use Turbuhaler®", "How to use Diskus®", and "How to use Ellipta®". These videos present the structure of the device in 3D, demonstrations of inhalation techniques through self-administration, audio narration in simple language, translation into sign language and subtitles.

Conclusion: It is expected that the videos will be accessible across a variety of devices, including smartphones, tablets, and computers, aiming for a broad audience. Additionally, it is expected that these videos will reach a diverse range of

audiences, encompassing individuals with varying levels of education, illiteracy, and hearing impairments.

Validation of educational materials on inhalation devices: Final results

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Introduction: The International Pharmaceutical Federation (FIP) has emphasised the need for pharmacists to support patients with chronic respiratory diseases. In Brazil, there are few validated educational materials for patients under these conditions e sobre o uso dos dispositivos inalatorios.

Aim: To validate brochures on inhalation devices for the Brazilian population.

Methods: The validation process started with eight brochures developed by the Federal Council of Pharmacy of Brazil (Homemade spacer for pressurised metered-dose inhaler: how to use the pressurised metered-dose inhaler, how to use the pressurised metered-dose inhaler with a spacer, how to use the capsule-based dry powder inhaler, how to use the Turbuhaler®, how to use the Diskus®, how to use the Ellipta® and how to use the Respimat®.

The brochures were evaluated through the Delphi technique by 18 experts (15 pharmacists, 03 physicians, and 01 linguists). The experts used the Instrument for the Evaluation of Printed Educational Materials with a focus on Health Literacy in Brazil.

Based on expert considerations, a new prototype was developed and submitted for evaluation by the target population through focus groups. At the end of the process, entities were invited to be partners and final validation was carried out.

Results: 11 brochures forms validated during the patient focus groups and the contributions led to other adjustments

in terms of language simplification and content layout at the end of the process, 8 entities linked to scientific societies in the pharmaceutical profession and in the area of pulmonology from the patient safety area and the university validated the educational materials.

Conclusion: It is expected that the validation process of educational materials will result in new versions of brochures with simpler language and structure that are easier to understand by patients, as well as serving as support for the medication use process. It is also expected that the partnership with different entities will help publicise the materials produced.

What do you need to know to care for people with asthma? - Educational needs for the training of pharmacists

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Introduction: Pharmaceutical services have important potential to improve outcomes during the management of chronic respiratory diseases (CRD). However, for pharmacists to provide the best care, training programmes based on local reality are necessary.

Aim: The objective is to evaluate the educational needs of pharmacists for the care of people with asthma.

Methods: This is a descriptive study based on a survey for professionals registered with regional Pharmacy councils in Brazil, addressing the profile of pharmaceutical services, the profile of patients assisted and the educational needs to help them.

Results: 576 pharmacists participated, of which 95.3% reported treating patients with CRD, with asthma being the most mentioned. Most pharmacists (92.9%) reported that patients had questions about their illness and treatment. In

total, 513 pharmacists (89.1%) described at least one need for training to care for patients with CRD, highlighting those related to treatment.

Conclusion: The diagnosis highlighted the real-world demand for training focused mainly on asthma care, allowing the assessment of educational needs, which include doubts and beliefs arising from patients. It also indicated the relevance of the “complementary research” component, proposed by the Trahtenten® method as one of the initial steps in planning training courses so that the learning process is facilitated, the expected professional performance is achieved, and the course is applied nationally.

LIGA-TE à diabetes by KRKA Programme – Management of diabetes type 2 patients at community pharmacy improves their health outcomes

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Growth HealthCare, Lisbon, Portugal

Background: Type 2 diabetes is a chronic disease whose number of cases and deaths has increased due to poor control of the disease and its complications. In this context, pharmacists are essential role players in patient care, and due to their expertise, wide presence and accessibility, they could play a greater role in ensuring medical outcomes.

Purpose: To evaluate the impact of LGDbyKRKA (Connect with Diabetes by KRKA), a pharmaceutical service (care plan) in community pharmacies, on adherence to therapy, prevention and monitoring of diabetes complications. In this context, pharmacists are essential role players in patient care, and due to their expertise, wide presence and accessibility, they could play a greater role in ensuring medical outcomes.

Methods: A prospective study that took place in 76 community pharmacies in Portugal for seven months (May 23-Nov.23) by 129 Portuguese pharmacists. Patients with a clinical diagnosis of diabetes type 2, with and without comorbidities, were included and successfully interviewed in person after informed consent. Three 30-minute in-person interviews concerning their ongoing treatment and lifetime habits were carried out using a standardised form with quantitative and qualitative items. Data of these interventions was informatically registered.

Results: A total of 445 patients (64% with more than 65 years old) were included, totalising 1143 consultations. 54% of patients had unsatisfactory control of blood glucose levels in the 1st person interview. After the pharmaceutical 3rd person interview, 50% of patients had satisfactory blood glucose level control. In the 1st interview, 72% had an

unbalanced diet, and 62% didn't practice any type of physical activity. Pharmacists recommended 580 complementary services, such as clinical nutrition (32%; 188/580), biochemical parameters measurement services (49%; 282/580) and others. 98% of patients were "satisfied" or "very satisfied" with the interventions, and 84% of patients intend to continue in this program.

Conclusion: Pharmaceutical services such as LGDbYKRKA have a great impact, improving adherence to therapy in type 2 diabetics and in patient behaviour as a whole, resulting in better control of diabetes and its complications. Additionally, pharmacists onboard the programme played an important role in connecting with other healthcare professionals who are part of diabetic patients' journeys to support them in improving medical outcomes.

Screening and referral diabetes at Portuguese community pharmacy – The importance of pharmacist integration in diabetes care

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Background: Diabetes cases continue to rise globally. National health systems are finding it extremely difficult to respond to everyone, and the shortage of health professionals is increasing. It is more important than ever to include pharmacists as key members of health teams. This is especially important for individuals with diabetes. Uncontrolled blood glucose levels raise the risk of developing life-limiting complications, including coma, amputation, kidney failure, stroke or blindness, which represent increased health costs.

Purpose: To highlight the pharmacist's role in screening, prevention and referral to other health professionals who are part of the diabetic patients' journey and highlight the pharmacist as a facilitator of communication between different professionals, ensuring effective coordination of care.

Methods: A prospective study that took place in 76 community pharmacies in Portugal for seven months (May 23- Nov 23) by 129 Portuguese pharmacists. Patients with a clinical diagnosis of type 2 diabetes were included and successfully interviewed in person after informed consent. Three 30-minute in-person interviews were carried out using a standardised form with specific instructions on diabetes complications. Whenever a need for referral to another healthcare professional was identified, the pharmacist filled out and sent a pre-made letter template with the signs and symptoms that justify the action.

Results: 326 referrals were made to other professionals in 1143 consultations, including 58% (188/326) to a nutritionist due to being overweight, 23% (75/326) to the nurse due to signs of diabetic foot, 11% (36/326) to the ophthalmologist to prevent vision problems and 8% (27/326) to general practitioner due to uncontrolled glucose blood levels, even after pharmacist's intervention.

Conclusion: In summary, pharmacists are the most accessible healthcare professionals in the community. With the trust of patients in pharmacists, it's possible to detect chronic diseases early and identify unhealthy lifestyles. The presence of the pharmacist in the multidisciplinary health team is essential to guarantee an integrated and quality approach to the care of diabetic patients. Their active involvement contributes significantly to improving clinical outcomes, patient satisfaction and the efficiency of the healthcare system as a whole.

Increasing patients' awareness about type 2 diabetes prevention - Pharmacist as a promoter of healthy lifestyles in Portugal

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Background: In 2020, the world reached the number of diabetes cases expected for 2030. It is estimated that one in two people with diabetes is undiagnosed due to the absence of symptoms. Prevention through health promotion and screening is essential to prevent complications associated with the disease and increase allocated healthcare costs. Pharmacists are in a unique position to make people aware of the importance of preventing type 2 diabetes.

Purpose: To explore the attitudes and beliefs of Portuguese community pharmacy consumers regarding diabetes, knowledge of risk factors associated with the development of the disease and the role that community pharmacists can play in supporting people living with and without the disease through community education.

Methods: Integrated in a Portuguese national pharmacy programme - LGDbYKRKA (Connect with Diabetes by KRKA, care plan), pharmacies organised Diabetes Ateliers for seven months (May.23-Nov.23). Pharmacies carried out health educational and promotion activities, using materials made available by the program, like presentations and flyers, focused on promoting health literacy on diabetes prevention. Among the different educational activities, some of them took place in senior schools or universities, with presentations and informative material about risk factors and how to prevent the progression of the disease. Walks, show

cooking, or screening sessions are also part of community pharmacy interventions.

Results: 51 Diabetes Ateliers were carried out, impacting a total of 5576 people regarding the need to prevent diabetes. 53% were health promotion activities, with 4103 people of all ages participating, with and without a clinical diagnosis of diabetes. 47% were health education activities, mostly for patients with a clinical diagnosis of diabetes, with 1,473 people impacted.

Conclusion: Pharmacists have a leading role in increasing health literacy in patients with diabetes and prediabetes through the promotion of a healthy lifestyle with health education activities, particularly in terms of balanced diets, adequate physical activity and a healthy body weight promotion. Furthermore, carrying out these activities promoted the collaboration of pharmacies and pharmacists with other healthcare professionals, as well as with other players in the local pharmacy ecosystem.

Right person, right place, right time – Pharmacist prescribing in community pharmacy in Great Britain

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Background: The NHS in Great Britain is under immense pressure. As demand increases, the authors are looking at new ways for patients to access the care and treatment they need. With the changing role of pharmacists and their qualifications as prescribers, fully utilising these skills is one way to change the way people access healthcare.

Services were developed in all three countries which allow pharmacists to consult with, assess, diagnose and treat, where appropriate, common clinical conditions they might be presented with in their pharmacy. Pharmacists were encouraged to undertake additional clinical examination skills and to ensure they were confident and competent to offer the service. Support was provided to help get pharmacists to the level needed in a variety of ways.

Purpose: People often attend their community pharmacy for support, advice and treatment. Until recently, pharmacists were limited in what they could supply to patients to treat their presenting complaints. This often led to referral to the GP or out of hours services, moving the problem down the line and increasing pressure on these stretched services.

Method: The authors now have three services, one each in England, Scotland and Wales.

Scotland launched NHS Pharmacy First in July 2020. Wales rolled out a new national clinical service in April 2022 to ensure consistent service provision. Pharmacy First in England started on 31st January 2024. These new services allow access to medicines which are prescription only and typically were only prescribed by GP's without an appointment at a time and place that suits the patient.

Results: In Wales in 2022-23, the authors reached more than 190,000 patients who accessed almost 240,000 consultations as part of the Common Ailments service from community pharmacies. This is an increase of almost 74% from 2021-2022.

In Scotland in 2021-2022, almost a quarter of the population (23%) accessed Pharmacy First Scotland at least once. This covers all levels of deprivation, but 45% of these patients lived in the two most deprived quintiles. The data on outcomes shows that 86% received medicine, 10% were given advice only, and 4% were referred to another healthcare professional.

Pharmacy First in England launched on 31st January 2024, with more than 93% of contractors in England signing up to deliver the service. In the first three days, around 3000 consultations took place.

Conclusion: With all pharmacists in Great Britain qualifying as prescribers in 2026, these services will serve to allow greater access to patients to a prescribing healthcare professional at a time and place that suits them. The data shows that patients are making increasing use of these services, and they reach those who need them most. Pharmacists in the community are highly skilled, accessible, and competent in delivering enhanced prescribing services to change the way people access healthcare and improve outcomes.

Community pharmacy-based HbA1C screening for early detection of diabetes and pre-diabetes

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Introduction: Diabetes continues to affect an increasing number of Canadians each year and threatens the sustainability of the healthcare system. Early detection is key to improved health outcomes, yet access to testing was limited during the global pandemic. Point-of-care HbA1C screening technology allows for the detection of diabetes and pre-diabetes in the community pharmacy setting. The

purpose of this study is to evaluate the effectiveness of a standardised community pharmacist-directed point-of-care HbA1C screening program and to identify the prevalence of diabetes and pre-diabetes in previously undiagnosed patients.

Methods: Patients 40 years or older with no diabetes diagnosis or HbA1C result in the last six months were offered a complimentary HbA1C test across 40 community pharmacies in Alberta (15) and Ontario (25). They provided a sample of peripheral blood via finger-prick, and HbA1C and lipids were reported by a point-of-care testing device (Abbott Afinion 2™ analyser). Once results were available, the pharmacist conducted a comprehensive review with the patient and recommended certain follow-up actions if appropriate.

Results: 9041 participants were screened over a 13-week period between June 18 and Sept 15, 2023. 6% of patients were identified with undiagnosed diabetes (HbA1C value equal to or greater than 6.5%), while 13% presented with HbA1C values consistent with pre-diabetes (HbA1C value between 6.0%–6.4%). Pharmacists conducted Framingham® risk assessments revealed 24% of patients at moderate to high risk of a cardiovascular event over the next ten years. Of those screened, 62% were attached to a regular primary care physician, and 38% were unattached. The detection rate for pre-diabetes and diabetes was 18.2% in attached patients and 18.5% in unattached patients.

Conclusion: These results illustrate the prevalence of abnormal glycemic control among undiagnosed- community pharmacy patients. Pharmacists, as the most accessible healthcare practitioners, are ideally positioned to utilise novel point-of-care technologies to improve access to HbA1C screening and increase awareness around the importance of early detection of diabetes.

Belgian community pharmacists compound tapering schemes for long-term benzodiazepine users

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Introduction: The use of sleep medication (benzodiazepines and Z-drugs) in Belgium remains high. About 1.1 million doses per day were dispensed in Belgian pharmacies in 2021; that's, on average, one daily dose for every ten citizens. Long-term use is associated with multiple side effects, such as increased sedation, fall risk, and risk of dependency and abuse. Ideally,

treatment should be avoided altogether or discontinued shortly after initiation. However, for patients who have been utilising benzodiazepines for over three months, a deprescribing strategy should be adopted. Abrupt cessation, especially in cases of high doses, may lead to severe withdrawal symptoms. It is recommended to gradually taper the dosage over several months to mitigate these risks.

Pharmacy compounding allows to prepare and dispense individualised dosages to patients. Prescribing dose reduction schemes for patients motivated to taper off has always been possible; but this came at a high cost for patients because benzodiazepines are not reimbursed in Belgium.

Method: The National Institute for Health and Disability Insurance (NIHDI) is responsible for Belgium's national health insurance. As of February 1st 2023, the NIHDI proposed a reimbursement scheme when tapering off benzodiazepines prescribed to treat insomnia. The patient-GP-pharmacist triangle is at the core of the scheme:

- Pharmacists raise awareness when dispensing prescribed benzodiazepines and motivate patients to enter a withdrawal program.
- General Practitioners (GP's) co-motivate patients and prescribe the program.
- Patients engage in a tapering path and are intensively followed and motivated by the GP and the pharmacist.

Once the program is initiated, pharmacists prepare and dispense individually dosed capsules and hold two counselling sessions, one at initiation and one as a follow-up interview.

Results:

When the new service was launched nationally, extensive communication and information campaigns towards doctors, pharmacists and patients were organised. In the first 12 months of the pilot project, more than 5000 patients have initiated a tapering program, clearly indicating the societal need for the service. More than half of these long-term users opted for a 10-step reduction program, where pharmacists compounded ten different dosages (at 100%, 90%, 80%, etc.). Each dosage step was held for 10, 20 or 30 days. The total duration of the tapering schemes varied between 50 and 360 days. Lormetazepam, zolpidem, alprazolam and lorazepam were used in most of the programs. In terms of the efficacy of the tapering programs, an initial/preliminary analysis realized with a relatively small sample of patients shows that between 40 and 65% of patients who have completed a program remain off benzodiazepines the following months. Detailed results will be available and presented in September 2024.

Conclusion: Pharmacists collaborating with physicians to provide deprescription and tapering options for individuals with long-term benzodiazepine use represent a significant advancement in enhancing the scope of responsibilities within the community pharmacy setting. Key determinants of success in these initiatives include the patient's intrinsic motivation, the establishment of a therapeutic contract

involving all three parties (patient, prescriber, and pharmacist), the absence of financial repercussions for patients, and effective communication between the physician and the pharmacist.

Minor ailments: Early findings from an integrated common ailment record in Portuguese community pharmacies

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Introduction: Community pharmacies are strategically positioned to respond to the population's needs in managing common ailments. Despite this, in Portugal, pharmacies did not keep structured records of their intervention in these situations, making it impossible to characterise the population's health needs, as well as to assess the effectiveness and economic impact of their work on common ailments. With this objective, the Portuguese National Association of Pharmacies (ANF) developed a structured common ailment record tool to integrate within the pharmacy software of its affiliates.

This study aims to describe the common ailment record tool developed and present findings from the first months of its implementation in the Portuguese community pharmacies affiliated with ANF.

Method: The common ailment record tool was developed to be integrated in the software used by the affiliated pharmacies of ANF (Nova Solução Sifarma, Winphar, and 4DigitalCare). A web-based form was also created for the pharmacies that don't use either software, in order to encourage maximum adherence.

When delivering the intervention, the pharmacy can register information about the patient (sex and age group), the common ailment presented, what triggered the intervention (symptoms and/or complaints from the patient; request for a specific drug or health product; other), as well as the intervention delivered (pharmacological, non-pharmacological measures and/or referral to a doctor's appointment). These records can be added to the patient's personal records (in case there are any available) at the

pharmacy. The data collected by the different software houses were combined and analysed for the purposes of this project.

Results: Since the launch of the common ailment record tool from December 2023 until February 2024, a total of 14,793 records were created (December 2023: 1,178; January 2024: 5,278; February 2024: 8,336). Around 60% of individuals were female, and 65.4% were aged between 19 and 65 years old. In 72.4% of the cases, the pharmacist intervention was prompted by an individual presenting a set of symptoms or complaints. Cough (24.9%), cold (17.6%), musculoskeletal pain (8.6%), and acute oropharyngeal infection (8.3%) were the most frequent common ailments registered. In 25.6% of the cases where a specific drug or health product was requested, the pharmacy ended up dispensing a different product after assessing the case. Around 5% of the patients were referred for a doctor's appointment.

Conclusion: Community pharmacies appear to be gradually adopting the common ailment record tool, and the most frequent common ailments found are consistent with the data collection season (winter). Identifying and characterising the population's health needs regarding common ailments is essential to establish the most adequate health services response, improve health outcomes, and optimise resources, both at the pharmacy and population level. The goal is to, ultimately, transform this common practice in Portuguese pharmacies into a contracted and protocolised service.

Community pharmacists in conflict zones: Providing care for patients with non-communicable diseases in conflict affected areas in Northern Syria.

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Background: Access to affordable and quality-assured medicines is critical for strengthening and achieving successful primary health care (PHC), but conflicts affect the functioning of health systems, including the performance of pharmaceutical systems and access to essential medicines. Morbidity and mortality related to the collapse of health systems and lack of access to care, including essential medicines, are often significantly higher than morbidity and mortality directly caused by the conflict, including violence. During humanitarian crises and conflict, healthcare and health research typically focus on acute conditions, such as infectious diseases, with lower priority accorded to non-communicable diseases (NCDs). Under these circumstances, pharmacists can play a critical role in the management and

prevention of NCDs, but little is known about the changing role of pharmacists at the PHC level during conflicts for the supply of - and access to - essential medicines.

Purpose: To describe the role of pharmacists at the PHC level in providing care for patients with non-communicable diseases during the ongoing conflict in Northern Syria.

Methods: This was an explanatory qualitative study. Data were collected remotely through semi-structured interviews with patients and pharmacists. Interviews were conducted in Arabic until saturation, recorded, transcribed, and translated into English. Following the thematic content analysis approach of Braun and Clarke, data were coded and categorised, and themes and subthemes were identified.

Results: Fourteen NCDs patients and seven pharmacists were interviewed between May and August 2023. Two main themes representing the role of pharmacists in providing access to NCDs medicines were identified: a) maintaining access to medicines in the absence of national authorities that regulate the pharmaceutical sector. This included sub-themes of supply of essential medicines to prevent shortages, navigating the market for fair prices, and investigating reliable sources to procure quality-assured medicines. b) providing healthcare services beyond access to medicines. This included sub-themes of measuring blood pressure, measuring blood glucose levels, following up with patients of NCDs and reviewing their treatment regimens, and other services beyond the classical scope of community pharmacists in this region.

Conclusion: Overall, this study highlights the enhanced role of community pharmacists in regions affected by conflict, where regulatory and supply systems are severely disrupted. It underscores the importance of collaboration between national and international humanitarian organisations operating in conflict zones and local community pharmacists to optimise health service delivery. Furthermore, there is a pressing need for additional training for community pharmacists in conflict settings to equip them with the necessary skills to deliver pharmaceutical care services tailored to the unique challenges of such settings.

Screening and quality use of medicines in kidney disease through community pharmacies: Findings from a large cluster randomised trial

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Introduction: Chronic kidney disease (CKD) is a growing public health problem which affects over 10% of the adult population worldwide. CKD is defined as sustained kidney

damage (e.g. proteinuria) and/or reduced kidney function (estimated glomerular filtration rate (eGFR) of <60 mL/min/1.73 m²) lasting for ≥ 3 months). In Australian primary care, approximately 35% of patients are prescribed potentially inappropriate medications (defined as contraindicated/higher than recommended dose) based on their kidney function. Inadequate recognition of CKD in primary care is one factor that can contribute to the increased risks of inappropriate prescribing. Despite mounting evidence to support pharmacists' involvement in disease screening and medication management, community pharmacists in Australia currently have limited role in CKD care. Hence the main aim of this study was to evaluate the effectiveness of pharmacy-led screening in enhanced detection of previously unknown CKD and quality use of medicine (QUM) intervention in optimising medication use for patients with CKD.

Methods: This cluster randomised controlled trial (CKD-QUM Trial) is being conducted in 4 Australian states: New South Wales, Victoria, Queensland, and Australian Capital Territory. Community pharmacies (clusters) were the unit of randomisation, and patients were the unit of analysis. Community pharmacies were selected from geographical groups of co-located postcodes to form clusters within the top 50 kidney disease hotspot areas identified by Kidney Health Australia. The intervention included screening for the risk of developing CKD using the QKidney[®] risk calculator followed by a point of care creatinine test (Novo Max Pro Creatinine meter) for eGFR in people with moderate to high risk as per the Qkidney[®] risk calculator (a score of ≥ 3). Patients with reduced eGFR or inappropriate medications were referred to the general practitioner (GP) for further evaluation and management.

Results: The CKD-QUM Trial has now enrolled 140 pharmacies from across the four regions in Australia, which collectively have recruited 1,050 patients (51.6% vs 48.4%; Intervention and Control groups, respectively). The mean (SD) age of participants was 63 (13) years, with over half (54%) of them females. Out of the 527 analysable interim patient data, 256 of them had a moderate risk of CKD over five years (QKidney[®] Score of 3 -14.6), while 90 participants had high-risk (Qkidney[®] score 15.3-94.5). Based on point-of-care testing data from 247 participants, more than half (n=130) had reduced kidney function (eGFR <90 mL/min/m²), which includes 15 patients with <60 mL/min/1.73m². A total of 66 participants have been referred to their respective GPs due to either having low kidney function (<60 mL/min/1.73m²) or inappropriate medicines. Nine referral outcomes have been received from GPs on additional tests and medication changes made based on the referrals by the pharmacists.

Conclusion: While the complete findings will provide a more holistic picture, early findings from the CKD-QUM Trial are indicative of the fact that, with adequate training and preparation, it is feasible to implement a CKD screening and QUM service within community pharmacies. Further findings with more patient data on screening and the cost-

effectiveness of the approach will inform future practices in pharmacist-led kidney disease care and prevention.

Direct dispensing of antibiotics by community pharmacists in France (cystitis/strep throat)

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In the past few years in France, a number of measures have been taken to enlarge the role of community pharmacists in the field of strep throat and cystitis via cooperation protocols in a coordinated practice structure (with a doctor who delegates the prescription to the pharmacist), or "conditional prescriptions" (written by the doctor subject to a positive test result). In 2023, 10,000 of the 20,142 French community pharmacies carried out at least one rapid strep test for a sore throat in 2023, compared with 6,000 in 2022.

These measures have not been widely implemented due to various obstacles.

The Health Insurance 2024 Budget Law introduced an ambitious measure allowing community pharmacists to dispense directly antibiotics after performing a rapid strep test for cystitis and strep throat, outside a cooperation protocol and without the condition of coordinated practice.

This short oral presentation or poster will describe this measure and its implementation. A number of regulatory texts are expected shortly, setting out the drugs concerned, the associated indications, the rapid strep tests to be performed and the results required to dispense the necessary treatments without a prescription, as well as the remuneration conditions.

This is a major development in France, in line with the FIP statement on point of care testing.