PHARMACY 2030:
A Vision for Community Pharmacy in Europe
The PGEU vision for the future

Ensuring quality of care & patient safety, by

1. Expanding pharmacy services to include medication reviews and new medicine support, thus maximising the benefits of, improving adherence to, and minimising the inherent risk of using medicines;
2. Ensuring continuity of pharmaceutical care throughout the patient journey as an integral part of collaborating primary care teams, in close cooperation with secondary and tertiary care settings;
3. Continuing to integrate innovative, beneficial ICT and digital health solutions in practice, to complement the existing - and often generations-long - face-to-face patient-pharmacist relationships;
4. Showing leadership in personalised medication therapies by integrating innovations in pharmacogenomics and using validated clinical protocols and real-world data on pharmacovigilance, adherence and effectiveness of medicines in daily practice.

Community pharmacists already make a dynamic and sustainable contribution to the health of the individuals and communities they serve. They are ready to enhance this contribution and to help strengthen Europe’s health systems.

To accomplish this, European community pharmacists commit to:
Improving public health, by

5. Reducing the burden posed by chronic diseases by providing health screening, medicines management, health promotion and education and supporting enhanced self-management for chronic conditions;

6. Identifying public health threats and managing crises, raising public health awareness, contributing to disease prevention and control and supporting self-care. This also includes supporting and advising on environmental health and safety;

Guaranteeing patients can access their medicines and healthcare services, by

7. Ensuring that patients can access treatment close to their home or place of work by offering their full range of medicines in community pharmacies, emergency and home care supply and by preparing personalised compounded preparations when needed;

Contributing to the sustainability of healthcare systems, by

8. Providing innovative and effective pharmaceutical services to reduce burden on other services.
1. Introduction

The Pharmaceutical Group of the European Union (PGEU) is the association representing Europe’s community pharmacists. PGEU members are the national associations and professional bodies of community pharmacists in 32 European countries, including EU Member States, EU candidate countries and EFTA members.

PGEU’s vision is to see community pharmacists recognised as key health professionals delivering a dynamic, sustainable and evolving contribution to the health of individuals and communities while strengthening Europe’s health systems. Europe’s community pharmacists work at the heart of communities, providing high-quality professional advice on the safe, effective and rational use of medicines. Often, they are the first and the last point of contact between the patient and the health system; as such, they make an invaluable contribution to the health of over 500 million people throughout Europe.

This paper outlines the challenges and opportunities facing community pharmacists in the coming years and their role in ensuring quality of care and patient safety, improving public health, guaranteeing access to medicines and healthcare service, and contributing to the future sustainability of healthcare systems.
2. Evolving healthcare systems: challenges and opportunities

Demographic challenges:
An ageing population, with the associated increased demand for health services and shrinking healthcare budgets, is jeopardising the future sustainability of health systems. According to the Organisation for Economic Co-operation and Development (OECD), health expenditure has risen in all European countries, often increasing faster than the economic growth. This has led to an increasing share of national Gross Domestic Product (GDP) being allocated to health. Changes to healthcare systems in order to meet patients’ needs are essential. There needs to be a more efficient, cost-effective and patient-centred care model and a shift from secondary to primary care, treating patients closer to their home.

Healthcare workforce:
The shortage of health professionals in Europe is expected to increase, with the severity of shortage depending on the individual health profession and the country of origin. However, the increasing overlap of professional roles, along with modern health systems that require health professionals to work as a team, mean that healthcare professionals will need to manage the health of patients smarter, using an integrated and multidisciplinary approach. In response to this trend, pharmacists in many European countries are developing more patient-centred roles and expanding the number of primary care services available via community pharmacies.

Burden of chronic diseases:
Improvements in living and educational standards, an increase in sedentary lifestyles and advances in technology and convenience have significantly changed the risk factors for disease in recent years. In most EU countries, obesity rates have increased by an average of 10 percent in the past 20 years. The prevalence of diabetes, chronic obstructive pulmonary disease (COPD) and other chronic conditions has also increased. This is increasing the burden on health systems. It calls for a shift away from treatment to prevention; yet on average only 3 percent of current health expenditure in EU countries is directed to disease prevention.

Personalised & patient-centred care:
Personalised and precision medicine(s), advances in pharmacogenomics and the increasing emergence of biotechnology offer opportunities for personalised treatment plans. Community pharmacy could provide the entry-point into the health service, with the community pharmacists acting as a preventive care provider (e.g. screening for chronic diseases) and reliable, rapid diagnostic testing (e.g. for the presence or otherwise of bacterial infections). There are also opportunities; community pharmacists could increase their support for managing minor and self-limiting ailments, act as health educators, collaborate more closely with care and / or nursing homes and managing the medication of polypharmacy patients.

Digital transformation of healthcare:
The use of digital health solutions, big data and artificial intelligence are all expanding rapidly in healthcare. These technologies can make pharmacy processes more efficient, making it easier to implement added-value services and allowing community pharmacies to follow up with at-risk patients and monitor their progress during therapy. Community pharmacists acknowledge the potential of appropriately-integrated digital solutions in complementing - but not replacing - practice. They have already invested significant resources in improving their existing current information and communication technology (ICT) infrastructure.
3. The role of community pharmacists: the way forward

3.1 Ensuring quality of care & patient safety

Improving adherence and reducing medication errors
Having pharmacists manage medication both maximises the benefits and minimises the risk inherent in their use. An example of a successful and effective intervention to optimise patient outcomes is the community pharmacist-conducted medication review\(^5,6,7,8,9,10\). From the patients’ perspective, this review improves their knowledge of their treatment and provides them with an opportunity to address any concerns over the medication. From the pharmacists’ perspective, it allows them to provide patients with information on preventing, reporting and mitigating adverse drug reactions (ADRs) and thus increasing adherence to treatment. This consequently improves both clinical and cost effectiveness and reduces medication waste.

Contributing to the patient’s medication journey
Community pharmacists deliver patient care services at all stages of the medication journey. This involves performing a patient’s needs assessment, initiating new therapies, adjusting or discontinuing treatment following consultation with the prescriber and providing support in managing chronic conditions. A major challenge for pharmacists remains service delivery - in collaboration with other healthcare professionals and care settings - that ensure continuity of treatment for patients as part of an integrated care model. A coherent professional interchange with all parties involved in the care of the patient is important in both secondary and primary care; integrated eHealth tools are increasingly useful for coordinating these exchanges.

A trusted source of high-quality information
European community pharmacists provide information on disease prevention and health promotion. Increasingly, they are asked to help patients interpret information they have sourced from elsewhere, such as the media and the internet. With (a minimum of) five years of education and training as well as a life-long commitment to continuous professional development\(^11\), European community pharmacists are uniquely positioned to provide robust and evidence-based information on a wide range of health and medicinal topics.

Community pharmacists have made significant proactive investments in ICT infrastructure over the past three decades. This makes them ideally placed to play a pivotal role in designing, developing, testing, implementing and ensuring the uptake of new ICT innovations and confirming they are fit for practice\(^12\). ICT creates the potential for remote monitoring and care, read-write access to shared medical records, electronic prescription, secure pharmacist advice in online services, secure analyses of big data repositories, registries and other pharmacy-held databases for epidemiological studies to improve health outcomes. It can also allow indications of the medicine on the electronic prescription and two-way eCommunication between pharmacists and other healthcare professionals.
There are numerous examples of innovative ICT services in European community pharmacies, and the profession recognises the complementary support that such innovations offer to pharmacy practice. However, the continuing presence of bricks-and-mortar pharmacies in the heart of European communities ensures that the face-to-face, and often generation-long, patient-pharmacist relationship continues to thrive and bring benefits to local populations.

**Enhancing patient safety**

At the heart of the pharmacists’ day-to-day mission lies their commitment to the **safe, effective and rational use of medicines**. This ensures that the right patient receives the right medicine at the right time, along with the appropriate advice.

Innovations in **pharmacogenomics**, as well as **access to patient records** and **physiological parameters** (such as renal function), offer pharmacists additional tools to conduct complete medication assessments. It allows them to recommend the appropriate medications and doses according to individual patient needs. Based on their expert knowledge of pharmacokinetics and pharmacodynamics, they are ideally-placed to interpret laboratory and pharmacogenetic test results and provide advice on changes to patients’ pharmacotherapy based on the outcome of these tests.

Additionally, community pharmacists have a crucial role to play in **avoiding, reporting or mitigating medication errors** in practice; they have legal obligations to report ADRs to regulatory authorities and implement risk minimisation measures in practice. This contributes to the EU pharmacovigilance system and improves the knowledge base of the safety of medicines on the market, including when medicines are provided at a distance or online. Integrating **real-world data on pharmacovigilance, adherence and effectiveness of medicines** into practice, to improve safeguarding and advice on the safe use of medicines for each individual patient, is widely welcomed by community pharmacists. Community pharmacists should therefore be better integrated and consulted to implement **risk-minimisation measures**.

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3.1 Examples

**FRANCE**
In France, the ‘Dossier Pharmaceutique’ ('Pharmaceutical Record') is a confidential electronic medication record of the patient’s recent medications (prescribed or over the counter). It is managed by community pharmacists, and can be accessed by other community pharmacists and authorised healthcare professionals. This helps prevent medication- and disease-related problems such as interactions, medication abuse, therapy duplication, adherence monitoring, pharmaceutical care provision and managing medication recalls and safety alerts.

**BELGIUM**
In Belgium, the Association of Pharmacists in Belgium (APB) makes product-specific, relevant pharmacovigilance information available at the point of dispensing. An integrated webservice in the pharmacy dispensing software alerts pharmacists if a medication is subject to additional monitoring. It also indicates existing information and educational materials as part of the risk management plan.

**DENMARK**
In Denmark, the Compliance Service was introduced in pharmacies for patients with chronic diseases that have problems with compliance. This service provides a private consultation between the pharmacist and a patient that has been taking a medicine for a chronic condition for more than 12 months and is experiencing problems with compliance. The purpose is to achieve better therapy compliance for patients by proving them with information and advice on the safe, effective and rational use of their medicines while also addressing healthy lifestyle measures. In the long term, the service empowers patients and increases the effectiveness of their treatment.

**THE NETHERLANDS**
In the Netherlands, the Royal Dutch Pharmacists Association (KNMP) initiated a pilot in community pharmacies with the aim of demonstrating the impact of Pharmacogenomics (PGx) testing by community pharmacists on individual patients. Following development of evidence-based guidelines and having undergone appropriate training, pharmacists collected and interpreted PGx test results, discussed therapy optimisation with other healthcare providers and advised on changes to patients’ pharmacotherapy. This lead to interventions such as dose adjustments and therapy switches.

**SPAIN**
In Spain, a hub for pharmaceutical digital services - ‘nodofarma’ - has been established. This opens up new possibilities for integration and interoperability and offers support for pharmaceutical professional services, integrating them in a secure and flexible way with potential for development in the future.
3.2 Improving public health

The public health mission of community pharmacists extends far beyond simply the use of medicines. It forms part of a broader public health strategy that aims to improve the health status and quality of life in the communities they serve.

**Healthcare at the heart of the community**

Community pharmacists are at the heart of local society, providing a wide range of professional services aimed at improving the health and wellbeing of patients and the public. Because of the way in which community pharmacies are distributed, often through conscious planning, most people have convenient access to at least one pharmacy - often two or more - near to where they live and work. This makes the community pharmacy uniquely placed to support patients and help improve public health.

**Supporting self-care**

Community pharmacists provide advice on common and self-limiting ailments such as coughs and colds, pain, skin conditions and digestive problems and are the primary source of advice of medicines available without prescription ('over-the-counter' medicines). They offer a broad spectrum of services to help patients tackle obesity (weight management programmes), smoking, alcohol consumption and other substance misuse, including medicinal products. They are also excellently located to promote safe sexual health and family planning, including dispensing emergency hormonal contraception. Community pharmacists play an essential role in health education and in ensuring effective and safe self-care.

**Chronic disease management**

People with chronic diseases managed by medication visit their community pharmacists more frequently than they visit any other healthcare professional. Community pharmacists help empower patients in making decisions about their health and play a prominent role in health promotion, disease prevention and chronic disease management. In addition, patients with undiagnosed chronic conditions will often visit their pharmacy for other reasons. This puts community pharmacists in an ideal position to detect early signs or changes in a condition, to assist patients in self-managing their disease and to signpost or refer more serious or new cases to a physician.
3.2

Detecting public health threats and managing crises
Pharmacists are uniquely positioned to identify emerging public health problems in the community. They would also play a significant role in national crises response strategies. The community pharmacy network frequently serves as a convenient information dissemination point for citizens. This can readily be adapted to provide necessary pharmaceutical services, for example during a pandemic or a humanitarian crisis or following a natural disaster.

Raising public health awareness
The breadth of the community pharmacy network improves the outreach of public health campaigns. In all European countries, community pharmacies take part in health campaigns developed by community pharmacists themselves and/or in collaboration with public authorities or other public health partners. These can address key issues such as the global threat of antimicrobial resistance, cancer screening, healthier lifestyles, and nutrition.

Participating in disease prevention and control
Many pharmacies are equipped to carry out health checks and contribute to the early detection of diseases and referral to the most appropriate healthcare provider/service when needed. They are a unique gateway for signposting, accessing and providing services and information on health issues to a broad spectrum of the population. This is particularly valuable in reaching people that may not be frequent users of other health services.

Community pharmacists are also an important component in national vaccination strategies. Their involvement varies from participating in immunisation awareness activities to, in some Member States, specially-trained pharmacists administering vaccines, thus reducing vaccination hesitancy and increasing vaccination coverage.

Environmental health and safety
Dealing with expired or unwanted medicines and medical devices is important for environmental health and safety. Community pharmacists can advise patients on appropriate handling and disposal. Additionally, as manufacturers increasingly produce ‘greener’ pharmaceuticals, community pharmacists are ideally placed to provide information to patients and consumers on the availability of such medicines where such information is available.

Community pharmacists are an important component in national vaccination strategies
In Alberta, Canada, community pharmacists are offering medication management programmes for patients with one or more chronic diseases. These programmes involve assessment, setting clear health goals, monitoring and managing medications (including independent pharmacy prescribing) and helping patients to manage their medical conditions more effectively. These services have demonstrated cost-effectiveness and have improved patient outcomes.

In Portugal, pharmacists can administer the seasonal influenza vaccination, as is the case in some other countries. To provide this service, Portuguese pharmacists need to meet a number of requirements and standards, including:

1. Mandatory training on vaccination;
2. Recertification every five years;
3. Evidence of continued activity;
4. Certification on basic emergency resuscitation.

In addition, pharmacies must have a suitable room for administering the vaccination with all necessary equipment. They must also be able to adequately manage any anaphylactic event (for example, adrenaline administered by the pharmacist).

In Italy, during International Diabetes Week, pharmacists – in collaboration with other stakeholders – provide a diabetes screening campaign in pharmacies. This includes assisting patients with blood glucose testing and in completing a validated Diabetes Risk Score test (FINDRISC), as well as giving advice on diabetes risk factors and prevention.
3.3 Guaranteeing access to medicines and healthcare services

Procurement and quality of products

Community pharmacies are the most accessible healthcare facility available to the public

Community pharmacists source the medicines patients need and take responsibility for their safe and appropriate storage. This includes products that need special storage conditions, such as cold chain products that require refrigeration. They guarantee the quality and integrity of all products in the pharmacy and also ensure that essential lifesaving medicines are held in stock at all times. On occasions that medicines are not available in the correct dose or form for every patient - for example children or infants - or adults requiring a titrated or adjusted dose. Community pharmacists bridge this gap, providing patients with custom-made medicines, expertly prepared according to a national or European pharmacopeia. In addition, in a number of European countries community pharmacists prepare individual, single-dosage delivery systems in the pharmacy for patients with complex treatment regimens.

Community pharmacists work with national authorities, manufacturers and other stakeholders nationally and on a European level to strengthening the medicines supply chain and prevent falsified medicines reaching the hands of patients. In addition, community pharmacists regularly go to great lengths to ensure continuity of treatment by mitigating issues caused by medicines shortages. In 2018, all community pharmacies experienced shortages, spending on average almost an hour a day working to mitigate and resolve issues related to medicines shortages. Measures include alternate sourcing or dispensing a magistral / extemporaneous preparation in emergency situations. Community pharmacies also provide a location for patients and the public to be supplied, obtain, or use high-quality medical devices and other health products.

Furthermore, the range of medicines supplied through community pharmacies across Europe is increasing. Community pharmacists dispense, advise on and even administer a range of different high-value, complex and biological medicines (for example, HIV treatments and administration of vaccinations).

Emergency supply

Community pharmacists are the most accessible healthcare professionals in Europe. They see patients during extended opening hours and without prior appointment. They offer an emergency on-call service 24 hours a day, 365 days a year. Almost two-thirds of Europeans can access a pharmacy within five minutes, while 98 percent can do so within 30 minutes.
3.3 Examples

SPAIN

In Spain, there is a communication system called CISMED. This is a platform where more than 6,000 pharmacies report the medicines that they could not order - on a daily basis - to their pharmacy chamber. This information helps identify generalised situations of irregular supply of medicines to the pharmacy that is subsequently sent to the competent authorities.

PORTUGAL

In Portugal, a pilot was recently established for HIV+ patients to receive their antiretroviral medicines via community pharmacies as an alternative to a hospital visit. The aim of this pilot is to demonstrate the value to both patients and the health system of increasing accessibility of HIV medicines and support for HIV+ patients in the primary care setting.

ENGLAND

In England, the National Health Service ‘NHS Urgent Medicine Supply Advanced Service’ (NUMSAS) aims to manage referral requests for urgent medicine supplies, reduce demand on the rest of the urgent care system, resolve problems that lead to patients running out of their medicines and increase patients’ awareness of electronic repeat dispensing.
3.4 Contributing to the sustainability of healthcare systems

Each Member State wants to offer its population an efficient, high quality healthcare system that fulfils the needs of its citizens. However, during economic crises, when health budgets are under severe pressure, effectiveness, efficiency and cost-containment become key policy drivers for governments.

Contribute to evidence-based health policy

Community pharmacists collect and generate real world evidence that can contribute to evidence-based health policy and best practices in patient care. For example, data collected during practice audits, service evaluation, cost-effectiveness analyses, post-marketing authorisation safety studies, non-interventional trials and post-marketing authorisation efficacy studies can demonstrate the value that pharmacy services provide in terms of better outcomes and reduced costs for health services.

Ensuring availability and accessibility of healthcare services

Community pharmacies are the most accessible healthcare facility available to the public. They can usually be accessed without prior appointment and during extended opening hours. Consultations dealt within the pharmacy free up the physicians’ time, which can then be used to deal with more complex cases. The community pharmacy is often the public’s first point of contact in a country’s health system, including for the most vulnerable in society and those with the least means. The accessibility, availability and the familiarity of community pharmacies are a significant factor in ensuring that health systems are more accessible, patient-centred and focused on the needs of the community.

Cost effectiveness of services and financial stability of the healthcare system

Pharmacies help to reduce the burden on other healthcare services by providing a wide range of health services and by contributing to improving public health. A number of studies across Europe have demonstrated the overall cost-saving impact and opportunities of community pharmacist-based interventions. In addition, the effectiveness of pharmacy services has been demonstrated for specific services such as managing chronic diseases, minor ailments, vaccination, new medicine services and medicines use reviews.

In addition, community pharmacists play an important role in controlling healthcare costs, for example when promoting greater use of generic and biosimilar medicines where it is appropriate. Pharmacists will also detect and avoid potential harm (such as contraindications, adverse drug reactions (ADRs), prescribing errors, etc.) before dispensing any medicine. Thus, they not only save resources for health services by offering a more cost-effective formulation where appropriate but also prevent excessive or over treatment or follow-up costs associated with potential complications arising where medicines are not taken properly.

Community pharmacists also pre-finance prescribed medicines and medical devices with their own resources to maintain adequate stock. This means that patients do not need to prepay for their medicines or only need to pay for their co-payment share at the time of supply. In addition, community pharmacies facilitate billing and payment for medicines by patients or the health system. However, some measures, currently under discussion at national level, include increasing commercialisation in the sector. This may negatively impact the sustainability of the pharmacy network and thus overall health systems quality. Ultimately, this will increase costs, so it is crucial that community pharmacies remain financially sustainable to maintain the resilience of health systems.
3.4 Examples

ITALY
In Italy, Medicines Use Reviews (MURs) for asthma patients are performed as a structured, face-to-face, systematic consultation with a pharmacist. It covers medicines used, symptoms, attitudes towards adherence and medicines and includes pharmacist-identified pharmaceutical care issues. In a recent cluster-randomised control trial, this approach demonstrated both effectiveness and cost-effectiveness and has subsequently been implemented as a pharmacy service.

PORTUGAL
In Portugal, current community pharmacies services provide an estimated gain in Quality of Life (QoL) of 8.3 percent and an economic value of €879.6 million. This includes €342.1 million in unremunerated pharmaceutical services and €448.1 million in unnecessary expense in health resource consumption. Potential future community pharmacies services may contribute a further 6.9 percent increase in QoL associated with an economic value of €144.8 million; €120.3 million in unremunerated services and €24.5 million in potential savings in health resource consumption.

ENGLAND
In England, patients commencing a new therapy can receive the ‘new medicine service’. This provides support for those patients that have been newly-prescribed a medicine for a long-term condition and is intended to improve adherence. Within two weeks, the patient will have either a face-to-face consultation in pharmacy or a telephone consultation where the pharmacist conducts a semi-structured interview to identify any problems, side effects, concerns or non-adherence to the new medication. Under these circumstances, the patient can be referred to her/his doctor if required or provided with appropriate advice by the pharmacist. They then agree a date for a final consultation within a two-week period. The service is reimbursed by the National Health Service.

SWITZERLAND
In Switzerland, primary care physicians and community pharmacists work together to provide care through the pharmacy in the ‘netCare’ service. Initial triage takes place in the pharmacy by the pharmacist using a decision tree. Subsequently, the patient is either treated by the pharmacist, has a video consultation in the pharmacy with a physician or referred to a physician for a traditional consultation or to acute care. The decision tree algorithms are validated by physicians, and patients receive a follow-up call three days after treatment to evaluate the service. Pharmacists in the netCare project undergo specific training to learn how to use the decision trees before providing the service. A study to evaluate the efficiency, safety and efficacy according to the law on health insurance in Switzerland was undertaken. Results showed that 73 percent of cases were dealt with by the pharmacist, 20 percent by the teleconsultations with physicians and the remaining 7 percent referred for acute care or a face-to-face consultation with a physician. The service is reimbursed by health insurers.
Our recommendations for the future

To meet the needs of both patients and public and make valuable contribution to sustainable and resilient European health systems, our Vision for Community Pharmacy 2030 makes ten key recommendations:

1. **Maximise the benefits of the community pharmacist’s intervention for patients and healthcare system by systematically undertaking pharmaceutical services** aimed at improving therapy outcomes and adherence and minimising the risks related to using medicines.

2. **Involve community pharmacists closely in collaborative care models.** Achieving truly integrated care should combine the strength and competences of each member of the healthcare team.

3. **Grant community pharmacists access to all relevant patients’ health information and the list of medication they are taking.** For example, this can be via shared electronic health records, while respecting data protection and privacy rules. This will guarantee the continuity of pharmaceutical care, including during patient transitions between secondary and primary care settings.

4. **Consult end-users** - particularly community pharmacists - on the pragmatic development, integration and user-friendliness of new ICT solutions in healthcare.

5. **Allow pharmacists to help progress the safe digitalisation of healthcare** (ePrescription and shared electronic health records, mHealth, etc.) as trusted sources for health information and daily ICT users while maintaining their invaluable personal connection with patients.

6. **Support pharmacists in integrating pharmacogenomics, validated clinical rules and real-world data** in their daily practice. This will improve patient safety and increase the benefits of pharmacotherapy. Pharmacists should also be better-integrated and consulted in implementing risk-minimisation measures.
Public health

7. Support community pharmacists in offering health screening, medicines management, health promotion and education to help reduce the overall burden of chronic diseases and ultimately support enhanced self-management of chronic conditions.

8. Establish regulatory frameworks - where needed - to allow and support community pharmacists in playing a more prominent role in public health and prevention interventions. This will maximise the value of the highly-accessible community pharmacies network to the communities they serve.

Access to medicines and healthcare services

9. Help pharmacists ensure that patients can access full treatment close to their home or place of work, by empowering them to:

a) Provide the full range of medicines in community pharmacies;
b) Deliver medicines to care homes and patients’ homes;
c) Assist patients with the management of complex treatment regimens;
d) Offer a wider range of medical devices in community pharmacies;

Sustainability of healthcare systems

10. Ensure that renumeration for community pharmacists properly reflects their contribution to improving pharmaceutical care, reducing the burden on other health services and supporting the sustainability and resilience of European health systems.
References


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