PGEU Position Paper on Antimicrobial Resistance

PGEU
European Community Pharmacists

Key messages

Community pharmacists play a key role in antimicrobial stewardship, including counselling and advising on the prudent use of antibiotics and other antimicrobials, as well as their correct disposal.

The revision of the General Pharmaceutical Legislation offers an opportunity to reinforce stewardship programs for antimicrobials.

Pharmacies can be used as healthcare settings for effective public health campaigns on Antimicrobial Resistance (AMR).

Pharmacists are healthcare professionals qualified to perform point of care testing to screen for early signs of infectious diseases and differentiate between viral and bacterial infections.

Community pharmacists have shown that the network of pharmacies spread across the territory offers highly accessible testing services to the population during the COVID-19 pandemic (in at least 12 countries).[1]

Community pharmacists play a fundamental role in pharmacy-based vaccination which is a valuable tool in the fight against AMR.

Integrated clinical pathways available in some countries have shown positive results in protocol-based dispensing of antimicrobials following a test done at the pharmacy.

Community pharmacists' access to electronic health records can be used to increase the early warning systems regarding monitoring shortages of antimicrobials.

[1] (Austria, Belgium, Croatia, Denmark, Estonia, France, Germany, Italy, Netherlands, Portugal, Spain, United Kingdom) – PGEU 2022.

1. Introduction

According to the World Health Organization, **Antimicrobial Resistance** (hereafter **AMR**) occurs when bacteria, viruses, fungi, and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death. As a result of developing resistances, antibiotics and other antimicrobial medicines become ineffective and infections become increasingly difficult or impossible to treat.

The emerging and steady increase of microbes that are resistant to antimicrobial treatments has become a global public health concern that threatens the effective treatment of infectious diseases. The 2016 O'Neill report estimated that, by 2050, as many as 10 million lives a year and a cumulative 100 trillion US dollars of economic output are at risk if we do not find proactive solutions to slow down the rise of AMR.[2] More recently, **the global burden associated with drug-resistant infections in 2019 was an estimated 4.95 million deaths, of which 1.27 million deaths were directly attributable to resistance to medicines.** In other words, if all resistant infections were replaced by no infection, almost 5 million deaths could have been prevented in 2019, whereas if all medicine-resistant infections were replaced by medicine-susceptible infections, 1.27 million deaths could have been prevented.[3] According to the European Centre for Disease Prevention and Control (ECDC), every year 35,000 EU/EEA citizens die from infections with antibiotic resistant bacteria.[4] This results in an annual cost of more than €1.5 billion to EU health systems in terms of healthcare spending and productivity losses.[5]

Because of the cross-border nature of the phenomenon of AMR, European community pharmacists believe the European Union (EU) has a particular responsibility to lead a multi-sectorial response to effectively tackle this public health emergency, putting the efforts of the European Health Union into practice. The development and implementation of National Action Plans to fight this growing phenomenon has taken place at national level, and further stakeholder engagement is needed to curb this so-called "silent pandemic".

[2] Tackling drug-resistant infections globally: final report and recommendations. The review on antimicrobial resistance chaired by Jim O'Neill, May 2016

[3] Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. Lancet. 2022 Feb

[4] European Centre for Disease Prevention and Control (https://www.ecdc.europa.eu/en)

[5] Special Eurobarometer 522 - Antimicrobial Resistance February-March 2022 (https://europa.eu/eurobarometer/surveys/detail/2632)

Reducing pharmaceutical pollution is a key driver for environmental AMR mitigation. **European community pharmacists encourage the development and implementation of adequate disposal of expired or unused antimicrobials, including through pharmacy-led disposal and collection schemes.** The support for these programs is crucial to prevent the inappropriate use or reuse of these medicines.

Community pharmacists play pivotal roles in infection prevention and promoting antimicrobial stewardship through a wide range of professional services. They provide preventative action, screening, referral, disposal, treatment in the pharmacy and constantly strive for quality improvements and innovation in pharmacy practice.[6]

Despite the fact that pharmacies are the settings in which most consultations with patients on the prudent use of antibiotics and other antimicrobials take place, several **European countries still lack structural involvement and support of community pharmacists in National Action Plans on AMR,** and in developing policies to effectively combat this public health emergency.

[6] The Community Pharmacy Contribution to Tackling Antimicrobial Resistance (AMR) – PGEU Best Practice Paper on AMR

Vaccines are a cost-effective and powerful tool to prevent communicable diseases while also having the potential to limit the spread of AMR infections and reduce the use of antimicrobials. Vaccination acts as a crucial preventive measure, reducing the overall reliance on antimicrobials by preventing infectious diseases.

The use of vaccinations must be promoted, as well as the development of new vaccines, through increasing availability and eliminating barriers to the access to vaccines – for example through pharmacy-based vaccination programs.

Because the use of antibiotics in both human and veterinary health is associated with the emergence of AMR, it is crucial that antibiotics are **prescribed and dispensed responsibly and used correctly.**

Non-adherence to antibiotic therapies may result in AMR, as suboptimal doses of antibiotic therapy can result in insufficient antibiotic exposure for eradicating infectious bacteria and potentially create an environment that promotes antibiotic resistance.

Recent evidence has also shown that longer treatments than necessary can also lead to resistance. Therefore, understanding the correct use of antibiotics and the reasons behind poor adherence to antibiotic therapies (e.g., regimens having several daily doses) is crucial to controlling the developing phenomenon of AMR.

Furthermore, rationalizing antimicrobial consumption, whilst **improving public awareness about antimicrobials and AMR are crucial steps to achieving a high level of human health protection in the EU.**

At the same time, **efforts should focus on developing new antimicrobials** whilst safeguarding the continuous availability of existing therapies to provide healthcare professionals with sufficient therapy options to treat infections in a responsible manner.

Despite the existence of the EU common logo to help patients identify legally operating online pharmacies, it is known that the purchasing of antimicrobials without a prescription from illegal sources online is still a widespread issue that remains largely undressed, with further need on enforcement and prosecution of the operation of illegal online platforms.

2. European community pharmacists' role in tackling AMR

A recent report illustrates that Europeans perceive pharmacists, alongside doctors, to be the most trustworthy sources of such information regarding antibiotics. This makes them well-placed to educate citizens who are less well informed about antibiotics and other antimicrobials, and thus more likely to be using these medicines.[8]

Recent evidence shows that in **24 Member States**, pharmacies receive the highest mention when survey respondents were asked the primary sources of trustworthy information about antibiotics, including:

69%	61%	53%	52%	51%
The Netherlands	Ireland	Belgium	Malta and Slovakia	Austria and Finland

Pharmacies are the third most mentioned source in: Denmark **(44%)**, Sweden **(42%)**, Romania **(23%)**.

Community pharmacists contribute in many ways to the fight against AMR in Europe. PGEU periodically collects best practices from members with regards to the implementation of pharmacy services with added value for patients, some of which are outlined below.

Pharmacy services are public health interventions in:

- Health promotion
- Disease prevention
- Disease/medication management

These services are provided by pharmacists to patients in the community pharmacy setting, aiming at preventing disease, promoting health, and prolonging life, which extend beyond, but do not necessarily exclude, the medication supply role.

Community pharmacists have shown that the network of pharmacies spread across the territory offers highly accessible testing services to the population

- In particular during the COVID-19 pandemic in at least 12 countries (Austria, Belgium, Croatia, Denmark, Estonia, France, Germany, Italy, the Netherlands, Portugal, Spain, the United Kingdom).
- Testing services have been frequently made available by community pharmacies for several common ailments, especially during the COVID-19 pandemic.
- Moreover, screening services to distinguish between bacterial/viral infections are also available in some countries and provide referencing systems for patients.

[8] Special Eurobarometer 522 - Antimicrobial Resistance February-March 2022 (https://europa.eu/eurobarometer/surveys/detail/2632)

3. Examples of PGEU Members' contribution to tackling AMR

Spain

After a consultation with the patient, pharmacists follow a dispensing and minor ailment protocol when assessing the patient's health problem and refer to the doctor when needed.

Some non-prescription medicines (NPM) may be dispensed under this minor ailment protocol to alleviate patients' symptoms. In some cases, this may be sufficient (thus avoiding the hypothetical dispensing of an antibiotic and the occurrence of AMR), in other cases a referral is made directly to the physician based on the symptoms that pharmacists see at the pharmacy. In all cases, the pharmacist carries out an assessment. In the absence of a prescription, no antibiotics are dispensed.

In February 2018, the General Pharmaceutical Council of Spain (CGCOF) signed a collaboration agreement with the Spanish Medicines Agency (AEMPS) aimed at promoting the responsible use of antibiotics and thus combating antimicrobial resistance.

This agreement included the possibility of collaborating in the exchange of information of interest and jointly developing scientific and technical activities that promote objective and rigorous information on medicines and contribute to their more responsible use. AEMPS and the CGCOF collaborate in the development of actions within the National Plan against Antimicrobial Resistance, including health education campaigns.

Results of this collaboration include the development of an information campaign among the population, carried out in 2021, in which a series of messages were conveyed from community pharmacies to reduce the consumption of medicines and optimize their rational use, using materials developed jointly by both institutions.

Sweden

The service with rapid diagnostic tests for Group A streptococcus infection was a part of the collaboration between pharmacies and digital health care providers ("e-doctors") where tests could be performed by pharmacists in community pharmacies as a part of a teleconsultation with a doctor.

Collaborative models currently encompass the existence of a "doctors' mini-clinic" located in the pharmacy premises and staffed mainly by nurses.

Nurses can provide health services, including vaccines, and can also arrange video meetings with a doctor.

Pharmacists provide assistance when there is a need for pharmaceutical advice.

Ireland

In Ireland, pharmacies offer point of care testing to support differentiation of viral and bacterial infections. Both C-reactive protein (general infection) and Group A Beta Hemolytic Streptococcus (specific sore throat) testing is a feature available for the early identification of bacterial infection.

The service involves a clinical symptoms assessment (Centor Criteria or FEVERPAIN score), followed by a point-of-care test for Strep A. Cases of viral infections are recommended with over-the-counter medicines. In case of an identified bacterial infection, patients are referred to the doctor.

Pharmacists are structurally involved and participate in local or national quality improvement audits for antimicrobial use. Examples of national work include surgical antibiotic prophylaxis duration, review of urinary tract infection prophylaxis, review of azithromycin prophylaxis, among others.

Locally, pharmacists monitor antimicrobial use in residential care facilities and provide feedback and reporting.

Serbia

Since January 2022, pharmacists provide a standardized service when dispensing antibiotics.

This service includes oral and written information regarding dosage, administration, duration of therapy, interactions, adverse reactions, among others.

Currently 570 Masters of Pharmacy from 400 public pharmacies throughout the territory of the Republic of Serbia are participating in a special AMR-related program.

So far 297 pharmacists have met the appropriate criteria regarding the number of services provided and earned the title of "Antibiotic Advisor", and over 11,000 provided services have been recorded through the Application for Pharmaceutical Services for Pharmaceutical Services.

France

In France, pharmacists are allowed to perform an oropharyngeal Rapid Diagnostic Test (RDT) of Group A streptococcus infection (that causes acute pharyngitis / upper respiratory tract infection). The service must take place in a pharmacy and be performed by a pharmacist.

Community pharmacists are authorized to perform RDTs to control antibiotic resistance and simplify patient care. Compulsory training for community pharmacists carrying out the RDT is required, provided by a training organization independent of companies manufacturing or distributing health products.

Pharmacists identify patients with an inclusion criterion: the patient arrives spontaneously to the pharmacy with symptoms suggestive of acute pharyngitis, without prior medical consultation; or the patient is referred by the doctor to the pharmacy with a prescription for the conditional dispensing of antibiotics for the suspected group A streptococcal bacterial infection.

Upon a positive result, pharmacists are able to dispense the correct antibiotic and provide pharmaceutical care under specific conditions.

Similarly, pharmacists may now suggest a test in case of urinary tract infections, and, only where the test is positive, dispense the right antibiotic. This comes against a background of routine practice by French pharmacists to raise public awareness about the rational use of antibiotics, the importance of vaccination and the collection of unused medicines in pharmacy - all these supported by information material for patients including leaflets, displays and videoclips called the “Minute for Public Health”.

Portugal

In Portugal, pharmacists in some pharmacies are able to perform different RDT that can indicate bacterial infections and follow-up with appropriate actions.

Uncomplicated Urinary Tract Infections can be screened at the community pharmacy through a simple rapid diagnostic test. Upon the result of the test, pharmacists are able to perform pharmaceutical care and counsel in case of a negative result or recommend a visit to the doctor in case of a positive result.

Acute oropharyngeal infection caused by Group A Streptococcus can be tested at the community pharmacy. Upon performing a Rapid Diagnostic Test, pharmacists register in the pharmacy software the outcome of the test. In case of a positive result, pharmacists refer to the doctor. If the result is negative, pharmacists provide counselling and pharmaceutical care.

Moreover, the nationwide electronic prescription system provides a standardized and efficient approach to prescribing medications, ensuring appropriate and thoughtful use of antibiotics.

In Portugal, around 77% of pharmacies employ pharmacists qualified to administer vaccines (pharmacy-based vaccination dates back to 2008 in that country).

4. Policy Recommendations

PGEU calls on policy makers, at national and European level, to act to reduce antimicrobial resistance by supporting the implementation of the following policy recommendations:

Pharmacy Practice

- **Expand and reward community pharmacy services aiming at referral and rational prescribing**, use and disposal of antibiotics, thus ensuring adequate support for patients to help combatting AMR in primary care.

- **Support the development of pharmacy practice**, through adequate remuneration of pharmacy services aiming at timely point-of-care testing for screening of microbial infections.

- **Develop new pharmacy services and protocols on responsible common ailment management**, to avoid unnecessary doctor visits and release pressure in emergency rooms.

- **Expand pharmacy-based vaccination services**, as a way to abolish barriers on access to vaccination, focusing on integrated infection prevention and health promotion.

- **Strengthen education and training of pharmacy students and continuous professional development programs** on antimicrobial resistance and infection prevention as part of a One Health approach.

- **Implement, review, and maintain infection prevention and control measures in the community setting** with a view to limiting the spread of antimicrobial resistant agents through appropriate training programs for community pharmacists.

- **Ensuring that pharmacy-led disposal and collection schemes,** where implemented, are appropriately funded.

Avoiding and Managing Shortages of Antimicrobial Medicines

- **Introduce measures at the national level granting community pharmacists greater flexibility** in finding appropriate alternatives when a medicine is not available.

- **Guarantee the security of supply for existing antimicrobials**, through timely and adequate supply of antimicrobial medicines, including dynamic stockpiling schemes at national and European level.

- **Combat extra-EU online sales of antimicrobials** by encouraging the use of “bricks and mortar” pharmacies and better promotion of the EU common logo for online pharmacies.

Prescribing and packaging

- **Promote the necessary legislative changes and adaptation of practice standards** so that prescriptions for antimicrobial medicines always clearly specify the indication.

- **Streamline and harmonize prescribing and dispensing of antimicrobials** in pack sizes according to the duration of the treatment.

- **Promote the responsible and rational use of antimicrobials** through health promotion campaigns in community pharmacies.

Communication

- **Implement the use of electronic health and/or shared medication records**, namely through the European Health Data Space, including pharmacists' access to electronic health records.

- **Implement, at EU level, electronic prescription, and electronic dispensing to facilitate collecting data** on prescription and dispensing of antimicrobials in humans, allowing for proper monitoring of antimicrobial use.

- **Continue to involve and support community pharmacists in AMR Action Plans** developed at a European, national, regional, and local level.

- **Increased collaboration and communication between community pharmacists and prescribers, as well as other healthcare professionals, regulators, industry, patients, and the public on combatting AMR,** specifically to achieve greater use of community pharmacists in raising awareness for and improving access to vaccination.

Innovation

- **Construct new business/incentive models which could stimulate the development of new antibiotics**, namely through push and pull incentives, public-private partnerships, enabling funding for start-up research companies and appropriate scale-up.

Pharmaceutical Group of the European Union

Rue du Luxembourg 19, 1000 Brussels, Belgium
T: +32 (0)2 238 08 18
Transparency register number: 00086317186-42