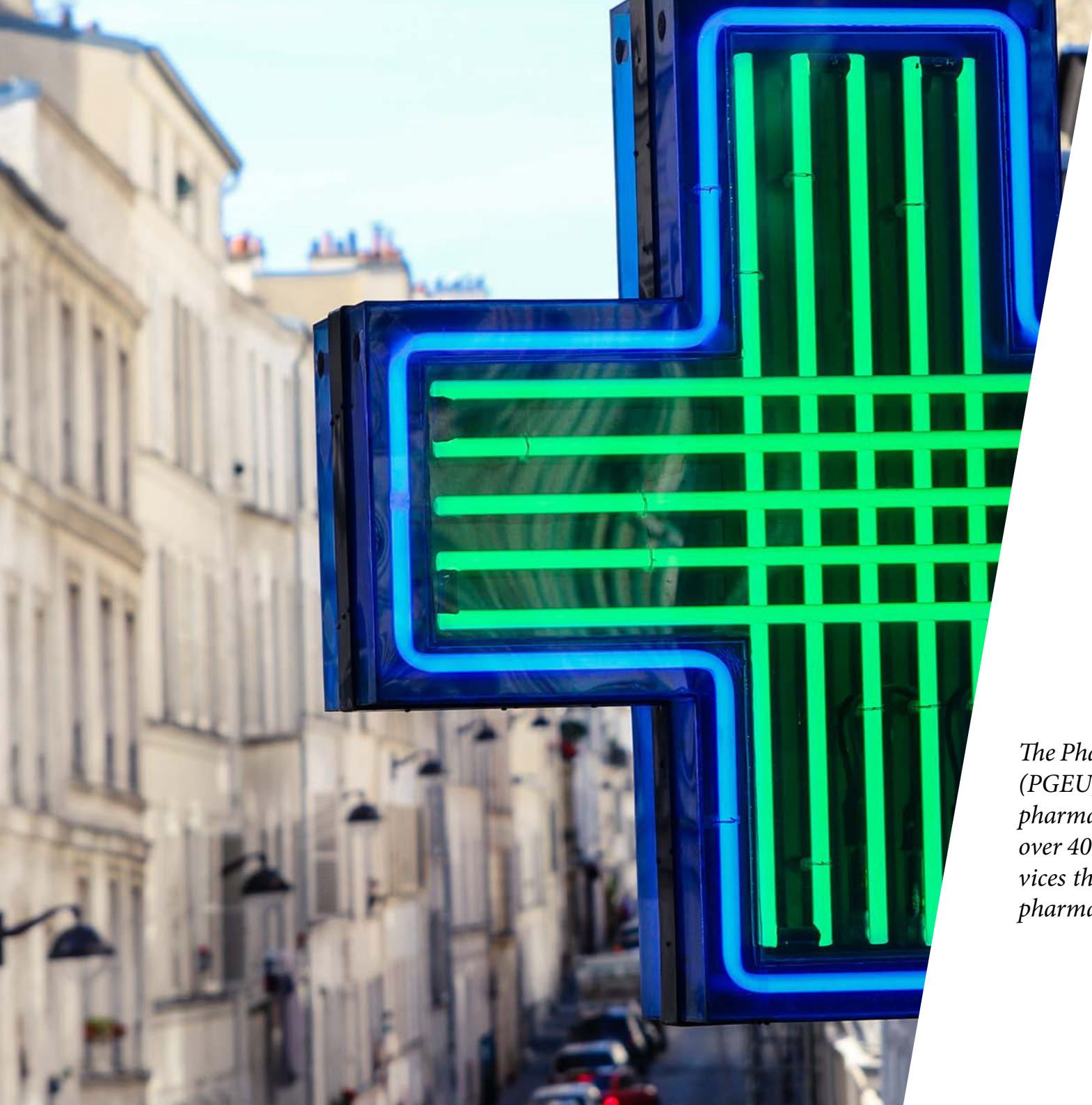
The Community Pharmacy Contribution to Tackling Antimicrobial Resistance (AMR)

Pharmaceutical Group Of European Union
Best Practice Paper

PGEU GPUE



About Us

The Pharmaceutical Group of the European Union (PGEU) is the association representing community pharmacists in 32 European countries. In Europe over 400.000 community pharmacists provide services throughout a network of more than 160.000 pharmacies, to an estimated 46 million European citizens daily.

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Executive Summary

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. In the EU alone, it is estimated that 33,000 people die each year due to infections caused by resistant bacteria.

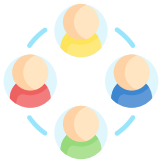
This paper outlines the contribution that community pharmacists can make in addressing antimicrobial resistance (AMR) and encouraging the prudent use of antimicrobials. Community pharmacists play pivotal roles in counselling patients and promoting antimicrobial stewardship. They provide preventative action, screening, referral, disposal, treatment in the pharmacy and constantly strive for quality improvements and innovation in pharmacy practice.

PGEU makes several recommendations to EU Institutions, Member States and the wider public in order to maximise the potential contribution community pharmacists can make in tackling AMR and encouraging the prudent use of antimicrobials. These are as follows:

Structurally involve and support community pharmacists in AMR Action Plans developed at a European, national, regional and local level;

Ensure adequate support for patients to help combatting AMR in primary care by expanding and rewarding community pharmacy services aiming at:

- Integrated infection prevention and health promotion;
- Responsible common ailment management;
- Timely point-of-care testing
- Referral and Rational prescribing, use and disposal of antibiotics.



Support increased collaboration and communication between community pharmacists, other healthcare professionals, regulators, industry, patients and the public on combatting AMR, specifically to achieve the following:

- Greater use of pharmacies to raise awareness for and improve access to vaccination;
- Prescriptions for antimicrobial medicines always clearly specifying the indication;
- Greater use of electronic health and/or shared medication rcords;
- Prescribing and dispensing of antimicrobials in pack sizes ac cording to the duration of the treatment.

Guarantee the security of supply for existing antimicrobials by putting patients' needs first when developing business policies, national laws and strategies that can affect the timely and adequate supply of antimicrobial medicines.

Construct new business models which could stimulate the development of new antibiotics;

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.

Community Pharmacists' Action on AMR

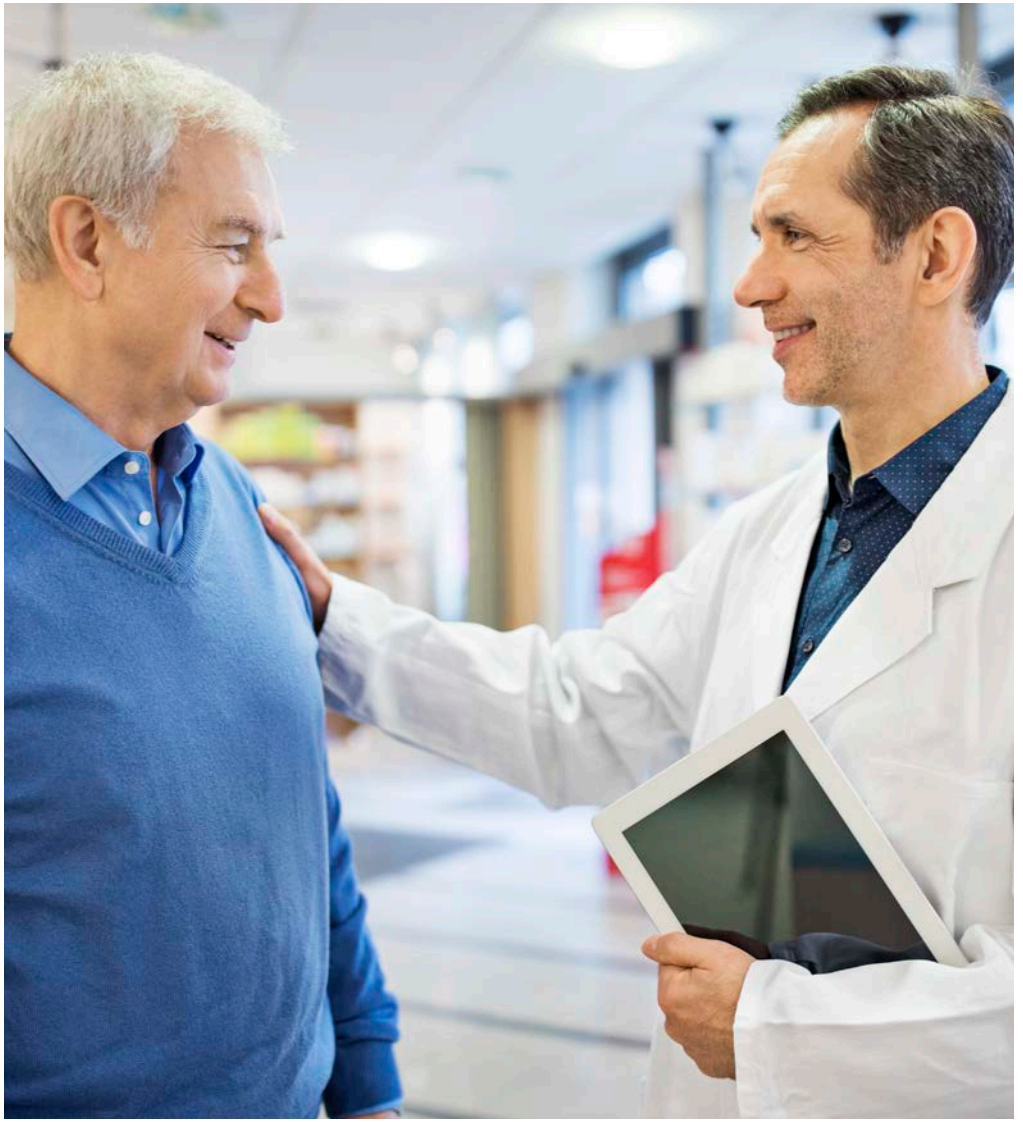
The repertoire of community pharmacy services and interventions continue to expand as the profession evolves and this paper outlines how pharmacists contribute to tackling AMR and encourage the prudent use of antimicrobials.

Counselling and Stewardship

As part of the standard dispensing process, pharmacists provide counselling (advice, information and help) on the safe, effective and rational use of medicines. This applies to both chronic and acute medications, including regimens for antimicrobials, and can include advice on how to take the medication for the most benefit, how to prevent or manage side effects and interactions and the rationale for treatment.

Antibiotic resistance is highly linked to the extent and the way in which antibiotics are used. In human medicine, primary care accounts for the largest part (80-90%) of antibiotic use[1]. It is therefore vital that patients are well educated and supported in responsible self-care behavior and prudent use and disposal of antibiotics. Interventions should therefore aim to address ongoing challenges such as antibiotic-seeking behavior, patients taking leftover antibiotics and not finishing antibiotic courses as prescribed and advised.

As the pharmacist is often the last healthcare professional a patient speaks to before taking a medication, they are ideally placed to improve adherence to antimicrobial therapies and reinforce the need to complete the course of therapies (even if feeling well already), not to share antimicrobials and ensuring that the quantity of antimicrobials dispensed matches the duration of treatment as much as possible in order to reduce the amount of leftover medicines.



According to the European Commission's latest Eurobarometer Survey on antibiotic consumption (2018), around a third (32%) of respondents say that they have taken antibiotics in oral form at any time in the last 12 months. Less than half (43%) of respondents knew that antibiotics are ineffective against viruses whilst one third (34%) of respondents were unaware that antibiotics are not effective against colds (66%). It was shown that consumption decreases as knowledge increases, as well as that knowledge increases among those who have received information on antibiotics[2]. As such, there is an impetus to raise health literacy levels of patients and the public as part of wider patient empowerment initiatives. Community pharmacists are helping to provide relevant information and support for such activities as part of their daily practice and by participating in local or national public health campaigns such as the ECDC's EAAD.

A large survey of healthcare workers' knowledge, attitudes and behaviours on antibiotics, antibiotic use and antibiotic resistance in the EU/EEA conducted by the ECDC in 2019 showed that the responding healthcare workers (> 18.000 responses) had good awareness and knowledge of the absence of the effect of antibiotics in treating self-limiting conditions such as colds and influenza (97% correctly answered this question)[3]. However, there was less knowledge on the link between treatment with antibiotics and an increased risk of antibiotic-resistant infection (75%), as well as whether healthy people can carry antibiotic-resistant bacteria (88%).

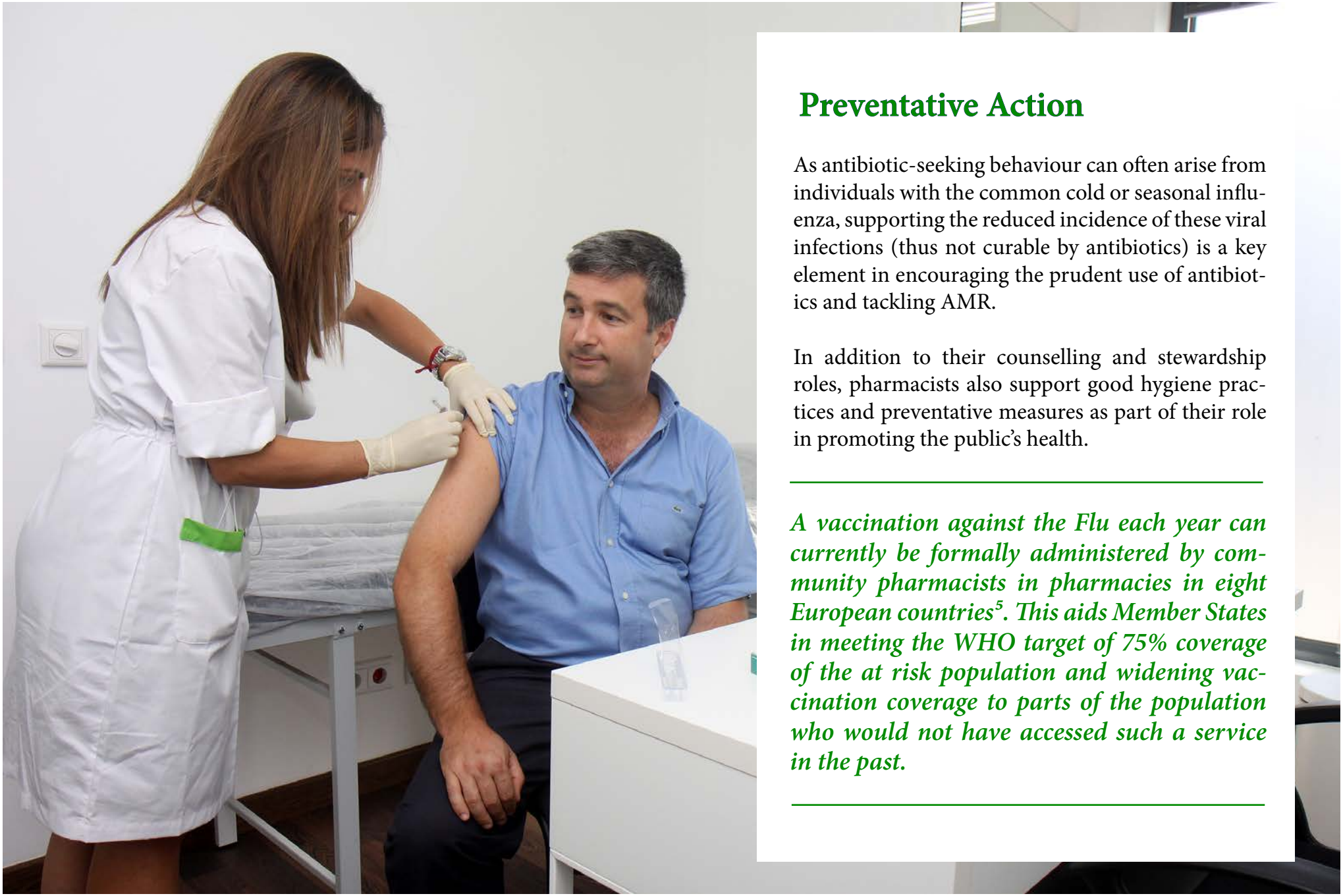
A separate comparative analysis performed by PGEU on the responses provided by community pharmacists in this ECDC survey (n= 1525) highlighted that the community pharmacy is the setting in which respondents with direct patient/public involvement prescribe, dispense or administer antibiotics most frequently (84.2% indicating at least once a week, with 73.2% indicating at least once a day), followed by the hospital (66.5% indicating at least once a week)[4]. It also showed that fewer community pharmacists consider that they have easy access to guidelines needed to manage infections (75.5%) compared to hospital pharmacy colleagues (84.5%) and medical doctors working in community settings (82.1%), with strong differences existing across European countries. Another important finding was that in the majority of responding countries, most community pharmacists seemed to be unsure of/disagree with the statement that there has been good promotion of prudent use of antibiotics and antibiotic resistance in their country, which is in line with the responses of other professions.

The community pharmacy is the setting in which respondents with direct patient/public involvement prescribe, dispense or administer antibiotics most frequently:

84.2% indicating at least once a week

72.2% indicating at least once a day

The results show that despite the fact that pharmacies are the settings in which most consultations with patients on the prudent use of antibiotics take place, there is still insufficient support for community pharmacists in this key area. Several European countries also still lack the structural involvement of community pharmacists in National Action Plans on AMR.



Preventative Action

As antibiotic-seeking behaviour can often arise from individuals with the common cold or seasonal influenza, supporting the reduced incidence of these viral infections (thus not curable by antibiotics) is a key element in encouraging the prudent use of antibiotics and tackling AMR.

In addition to their counselling and stewardship roles, pharmacists also support good hygiene practices and preventative measures as part of their role in promoting the public's health.

A vaccination against the Flu each year can currently be formally administered by community pharmacists in pharmacies in eight European countries[5]. This aids Member States in meeting the WHO target of 75% coverage of the at risk population and widening vaccination coverage to parts of the population who would not have accessed such a service in the past.

Rapid Diagnostic Testing and Referral

Community pharmacists are the most accessible healthcare professionals in Europe, with 98% of the population able to reach a pharmacy within 30 minutes and 58% able to reach one in less than five minutes[6]. As such, pharmacists are often the first healthcare professional the public speaks to.

Pharmacists are trained to respond to symptoms, situations and "red flags" which require referral to another health or social care professional for further treatment, investigation or support. Therefore, as part of the primary healthcare team, community pharmacists are ideally placed to reduce the burden on other healthcare professionals for patients seeking treatment for minor ailments and self-care and refer patients presenting with signs and symptoms of an infection requiring further investigation as appropriate.

Another promising intervention which could help encourage the prudent use of antimicrobials and tackle AMR is the use of adequate rapid diagnostic testing for bacteria within the pharmacy. This ensures that patients with a bacterial infection are appropriately referred for further investigation and treatment, and those without receive support for symptoms and minor ailment management. During the COVID-19 pandemic, additional considerations need to be made for the rapid diagnostic testing for throat infections. Since viral throat infections could indicate an infection with COVID-19, these test results could request appropriate referral according to national protocols.

Treatment in the Pharmacy

Community pharmacies have been an accessible, professional and regulated setting to obtain advice and over-the-counter (OTC) treatment for numerous health issues and minor ailments for hundreds of years. Pharmacists are able to provide treatment and management of symptoms for colds and Flu and support for self-care, thus reducing the burden on other areas of the health service and reducing antibiotic-seeking behaviour.

In addition to this, community pharmacists are increasingly able to offer common ailment services where advice and treatment are provided (please refer to Annex) via the pharmacy for common and minor ailments, including colds and Flu.

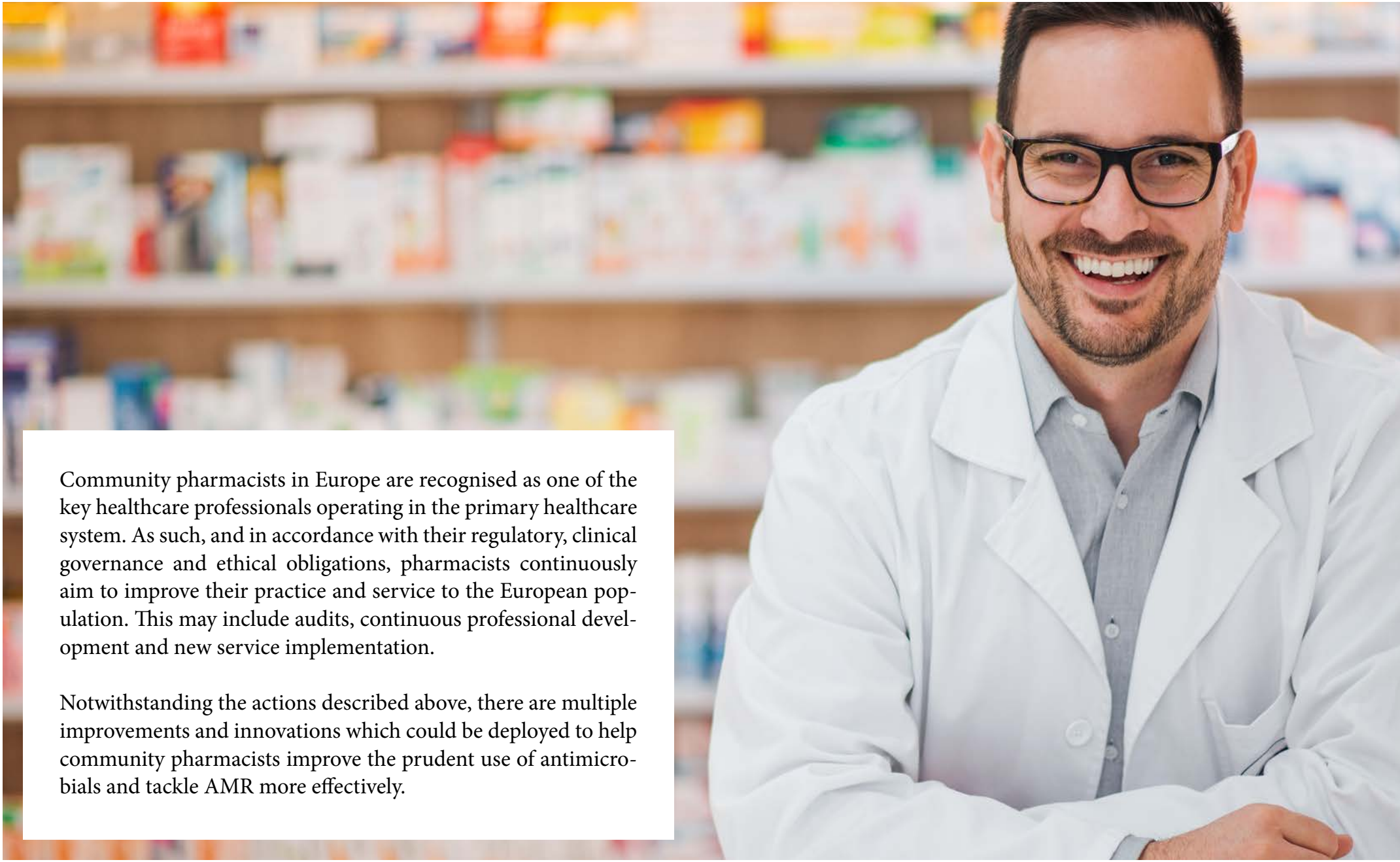
As part of the range of OTC medicines and devices available from a pharmacy, a number of long-standing, safe and effective antimicrobials are available following a consultation with the pharmacist. It is important to recognise that these comprise of antiseptics (e.g. mouthwashes or body scrubs), antivirals (ointments or creams), antifungals (ointments, creams, shampoos and tablets/capsules), anthelmintics (antiparasitic lotions, creams etc) and in some cases antibiotics (e.g. chloramphenicol eye drops or ointment for conjunctivitis or fusidic acid cream to treat impetigo).

Amongst numerous other minor ailments, treatment for the humble cold sore (herpes labialis) has been available as an OTC antiviral cream since the 1980's, along with treatment for ringworm (tinea corporis) with an antifungal cream. These medicines are licensed and approved for the safe and effective supply via a pharmacist operating in not only a regulatory framework, but also according to their ethical code and principles of clinical governance. Thus, this vital source of safe and convenient treatment should not be confused with any illegal supply of antibiotics which require a prescription.

Disposal

In addition to several State or government-led disposal and collection schemes for medicines, the majority of the European population can return expired or unused medicines to their community pharmacy[7], including antimicrobials. Encouraging the return of expired or unused antimicrobials for appropriate disposal is crucial in preventing the inappropriate use or reuse of these medicines by persons who were not originally prescribed them, thus helping to encourage their prudent use and tackling AMR.

Quality Improvement and Innovation



Community pharmacists in Europe are recognised as one of the key healthcare professionals operating in the primary healthcare system. As such, and in accordance with their regulatory, clinical governance and ethical obligations, pharmacists continuously aim to improve their practice and service to the European population. This may include audits, continuous professional development and new service implementation.

Notwithstanding the actions described above, there are multiple improvements and innovations which could be deployed to help community pharmacists improve the prudent use of antimicrobials and tackle AMR more effectively.

In Europe, despite the rapid increase in electronic prescribing[8], most prescriptions do not contain information on the indication (i.e. what it was prescribed for) for the medication. Although pharmacists are recognised as the experts in medicines and would immediately recognise what most medications have been prescribed for, many medications have multiple indications, even with the same dose. Including the indication on prescriptions for antimicrobials (and in particular antibiotics), would complement the pharmacist's stewardship role. For example, ensuring that the medication, dose, duration and formulation are appropriate according to the product information (SmPC and package leaflet) and/or locally agreed formularies.

Similarly, the use of shared medication records and access for pharmacists to electronic health records in Europe is not widespread. Advantages of such systems include ensuring the indication matches the medication according to product literature and/or locally agreed formularies, avoiding duplication of therapy and avoiding repeated therapy (i.e. where a different antimicrobial or class of antimicrobial should be used following treatment failure or recent use). Other advantages include allowing effective communication between pharmacists and other healthcare professionals and reducing the number of side effects, adverse drug reactions or interactions (antimicrobials, which are often potent inhibitors or inducers of liver enzymes, are a prime cause of interactions and possible allergic reactions).

In order to reduce the amount of leftover antibiotics it also key that for antibiotics the quantity of medicines dispensed matches the duration of treatment as much as possible, for example by optimising the package size of certain risk medicines.

Finally, despite the existence of the EU common logo to help patients identify genuine and legally operating online pharmacies based in the EU, there are numerous international online pharmacies operating illegally outside of the EU which can supply European patients by post or courier. These online vendors are neither authorised to operate in the EU nor do they adhere to national practices and guidelines, such as by offering the sale of antimicrobials without a prescription.

Recommendations

The PGEU makes several recommendations to EU Institutions, Member States and the wider public in order to maximise the potential contribution community pharmacists can make in tackling AMR and encouraging the prudent use of antimicrobials. These are as follows:

Structurally involve and support community pharmacists in AMR Action Plans developed at a European, national, regional and local level;

Ensure adequate support for patients to help combatting AMR in primary care by expanding and rewarding community pharmacy services aiming at:

- Integrated infection prevention and health promotion;
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- Timely point-of-care testing
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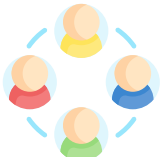
Construct new business models which could stimulate the development of new antibiotics;



Support increased collaboration and communication between community pharmacists, other health-care professionals, regulators, industry, patients and the public on combatting AMR, specifically to achieve the following:

- Greater use of pharmacies to raise awareness for and improve access to vaccination;
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- Greater use of electronic health and/or shared medication records;
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Guarantee the security of supply for existing antimicrobials by putting patients' needs first when developing business policies, national laws and strategies that can affect the timely and adequate supply of antimicrobial medicines.

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.

Annex: Best Practices from Pharmacists

This annex provides an overview of community pharmacy best practices in tackling AMR and encouraging the prudent use of antimicrobials. They show how community pharmacists can be meaningfully involved in National Action Plans on AMR and how their contribution to tackling this global public health threat can be maximised.

Vaccination

France

Pharmacist-delivered vaccination became part of the legal missions that can be carried out by community pharmacists throughout the country in March 2019 following the conduction of a successful pilot project[9]. Figures for the first 2,5 months into the 2019-2020 flu season showed that 2,4 million patients (¼ of vaccinated patients) had gotten vaccinated in a pharmacy.

This activity will allow community pharmacists to contribute to a significant advancement towards the EU target of vaccinating 75% of the older age groups of the population. This service benefits from the convenience and access of the community pharmacy interface, but crucially, depends on the development of network arrangements with other health professionals for its success.

Greece

In 2020, legislation was passed to grant Greek pharmacists professional rights to administer flu vaccinations to the citizens in the pharmacy premises. This will be possible in the context of their operation as Primary Health Care Units after completion of the related education and certification program.

As described to the Ministerial Decree, the education and certification is provided by the University of Crete Medical School's, General Medicine Department in association with the Panhellenic Pharmaceutical Association. The educational program is performed, according to the law, via distance learning by the "Hellenic Pharmacists Institute for professional development and lifelong learning"[10]. The certification is issued to pharmacists after completion of the curricula and successful examination by the Panhellenic Pharmacists Association after confirmation of the results by the University of Crete.

United Kingdom

In the United Kingdom, pharmacists receive training and revalidation to deliver vaccination via the seasonal influenza vaccination service (a nationally commissioned pharmacy service), with re-validation every two years. The supply and administration of a vaccination (a prescription-only medication) was made legally possible through a ***"Patient Group Direction" (PGD)*** which suitably trained pharmacists can use. *Patient group directions (PGDs)* are written instructions to help supply or administer medicines to patients, usually in planned circumstances. PGDs are developed by a multi-disciplinary group including a doctor, a pharmacist and a representative of the organisation who intends to supply the PGD. The number of flu vaccinations administered by community pharmacists under the NHS Advanced service grew by 20% in 2019/20 compared to the previous year, with 1,718,147 administrations being claimed to the end of March 2020[11].

04.

Portugal

In Portugal, pharmacists can administer vaccines not included in the National Vaccination Plan, since 2007. Portuguese pharmacists need to meet a number of requirements and standards, established by the Portuguese Pharmaceutical Society including: mandatory training on vaccination, recertification every five years, evidence of continued activity and 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).

From year to year, Portuguese pharmacies are increasingly recognised by the Health Ministry as an important vaccination points against flu. Since 2017 data from flu vaccination is automatically integrated on the e-Vaccination Bulletin.

The service is available in more than 2300 pharmacies and there are more than 3700 qualified pharmacists. In the 2018/2019 vaccination campaign, there were more than 530 000 flu vaccines administered in the Portuguese pharmacies.

05.

Ireland

New legislation was introduced in Ireland to enable pharmacists to administer the seasonal influenza vaccination (and adrenaline for severe adverse reactions if required) without a prescription since the 2011/2012 Flu season. Numbers[12] from the Irish National Immunisation Office (NIO), have shown that since pharmacists first started vaccinating in 2011, Flu vaccine deliveries have increased overall by 59,5% and, within that, deliveries to general practitioners are up by almost 27%, demonstrating that when pharmacists vaccinate, public awareness increases and vaccination rates increase.

In addition[13], statistics show that provision via Irish community pharmacies increases coverage for people who had never received the vaccination before (one in six), with 99% of patients indicating that they would return to the pharmacy for their next vaccination. Patient satisfaction with the service is very positive with 93% of patients rating the service either 9/10 or 10/10.

Health Promotion

Europe: European Antibiotics Awareness Day

Since its inception in 2008, PGEU and its member organisations have systematically supported and engaged in the ECDC's European Antibiotic Awareness Day (EAAD) to promote the prudent use of antibiotics. In recent years this has been further enhanced by the use of social media to raise awareness of the issue of AMR and to encourage the prudent use of antibiotics.

In 2013-2014 the PGEU actively contributed to the ECDC's consultation on the development of a toolkit on self-medication of antibiotics in collaboration with the Standing Committee of European Doctors (CPME). This resulted in a suite of materials available in all EU languages which can be adapted as necessary to raise awareness of the dangers of self-medication with antibiotics and their ineffectiveness against colds and seasonal influenza.

Ireland: Under the weather campaign

In order to tackle AMR and encourage prudent use of antibiotics in Ireland, the Irish Pharmacy Union (IPU) has partnered with the HSE (Ireland's Health Service Executive) and other stakeholders for action on antibiotics.

To support the prudent use of antibiotics in primary care, a multimedia campaign entitled **"Under the weather"** targets patients in primary care and the public.

This campaign has a particular focus on parents aged between 20 and 40 due to their high demand for antibiotics and their receptiveness to health messages in "first-time parenting" as well as towards antibiotic prescribers, such as GPs and dentists.

As part of the action, evidence based guidelines[14] for antimicrobial prescribing have been developed and are avail -lable as an online resource which provide a simple aproach to the management of minor winter ailments. Stakeholders have acknowledged that the campaign on prudent use of antibiotics needs to be run over multiple consecutive years in order to have an impact. However, there have already been some improvements in the quality of antibiotic prescribing detected.

Under the weather" is designed to educate patients as to when antibiotics are useful to treat infections and how to safely self-treat common illnesses and non-bacterial infections at home. This campaign uses an initial message with a positive approach to spread advice on how to manage common illnesses, rather than an initial message not to take antibiotics for common illnesses.

All campaign information can be found on the website www.under-the-weather.ie. The main message of the website is simple – Get Advice and Get Better. The website aims to empower people to look after themselves or a loved one through a range of messages covering illness, supporting basic health literacy and how to prevent people from making unnecessary and expensive visits to GP surgeries and emergency departments. The campaign also aims to reduce the demand for unnecessary antibiotic prescriptions and to ensure the public (and young families in particular), are supported to look after themselves at home and to reinforce the message that you do not need an antibiotic to recover from colds, flu and a range of day to day illnesses.

Several GPs and pharmacists from around the country appear in short video clips giving simple self-care tips and when they should seek medical advice. The campaign includes radio advertising, online advertising, promotion on social media, internal communication between healthcare professional organisations, posters, leaflets and door stickers for GP surgeries and pharmacies.

The IPU also provides posters and information materials, such as mouse mats, to pharmacies developed in collaboration with the HSE in advance of the European Antibiotic Awareness Day and World Antibiotic Awareness Week[15].

Portugal: Massive Open Online Courses (MOOC)

A *Massive Open Online Course (MOOC)*[16] on Healthcare Safety was developed by an interprofessional and interdisciplinary team of the Portuguese Pharmaceutical Society, alongside the Quality Department of the Portuguese Directorate-General for Health.

The first MOOC releases related to antimicrobial resistance were *"Safe and Rational Use of Medicines"*, *"Hygiene of the hands in the prevention of infections"* and *"Prevention of Infections and Antibiotic resistance"*. The courses are available in an Online Learning National Platform (NAU Platform Project, a national initiative held by the Portuguese Foundation for Science and Technology), which can be accessed by everyone for free.

The aim of this courses' development was to help the citizen to make more conscious and informed decisions, through a better knowledge of different health themes, as well as being able to improve their quality of life and those that surround them. Since the launch of the health literacy program between June 2019 and April 2020, there were 2718 registrations per course (average) with a conclusion rate of 73%.

Slovak Republic: Awareness campaign on increasing the responsible use of antibiotics

As part of the World Antibiotic Awareness Week, the Slovak Chamber of Pharmacies (SCP) launches each year an awareness campaign aimed at increasing responsible use of antibiotics.

It is one of the educational activities of the SCP dedicated to raising awareness of the proper use of drugs and the role of pharmaceutical care providers. The campaign takes place on social networks and informs the public about the risks of resistance and misuse of antibiotics.

Throughout the week, the SCP brought a series of articles that clearly explained the basic facts about antibiotics and their proper use.

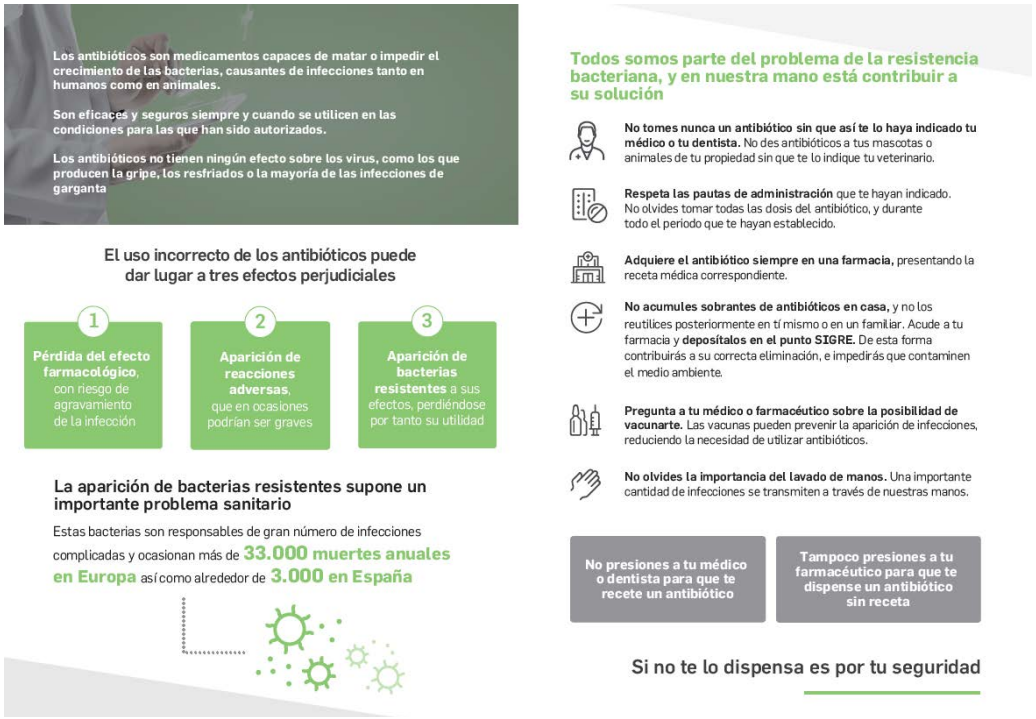
The Slovak Chamber of Pharmacists also regularly publishes information on the correct use of antibiotics in its professional information magazine Lekárnické listy, where it publishes current information on AMR consumption[17] and translates information materials from international agencies such as the WHO.

Spain: National Campaigns & European Antibiotic Awareness Day

For years, Spanish pharmacists have been making great efforts to fight against antimicrobial resistance. In order to achieve this objective, the General Pharmaceutical Council of Spain has been collaborating with the Ministry of Health, the Spanish Agency of Medicines and Medical Devices (AEMPS) and Regional Health Departments. This includes informative programmes for the population and participation in technical programmes and expert committees.

In addition, campaigns focused on the prudent use of antibiotics have been successfully carried out (for example, the campaign "Don't play with antibiotics"). These actions include technical reports to pharmacists and leaflets for the population with indications on how to use antibiotics.

The General Pharmaceutical Council of Spain has signed up to all the healthcare campaigns organised by the Ministry of Health for the fight against antimicrobial resistance. Spanish pharmacists also collaborate in international campaigns, such as the European Antibiotic Awareness Day. Additionally, Spanish pharmacists and pharmacy organisations have participated in over 35 campaigns, initiatives, projects, studies, training courses and programmes focusing on AMR in the past two decades in Spain.



In addition, the General Pharmaceutical Council of Spain has created a separate space[18] on their website called "Prudent use of antibiotics".

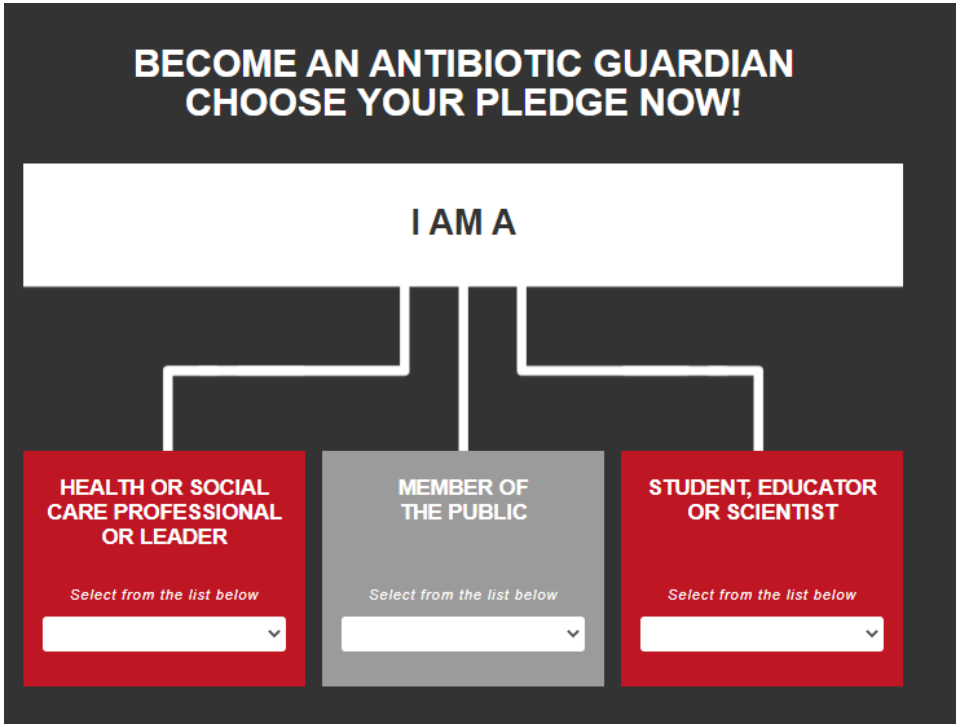
UK: Antibiotic Guardian

"Antibiotic Guardian" was developed in 2014 and is led by Public Health England (PHE) in collaboration with administrations of the UK (Scotland, Wales and Northern Ireland); the Department for Environment Food and Rural Affairs (DEFRA) and healthcare professional organisations with a "One Health" approach[19].

ANTIBIOTIC GUARDIAN

The campaign invites the public, students, educators, farmers, the veterinary and medical communities and professional organisations to become Antibiotic Guardians. Using behaviour change strategies, the campaign was developed to move from awareness to engagement and commitment from healthcare professionals and the public by choosing a simple pledge. To date, over 60.000 people and organisations have made a pledge, the largest profession being pharmacists. The campaign was designed with the help of behaviour change and marketing specialists and tested before its launch. The website includes patient stories explaining how AMR has infected their lives.

Evaluation of the campaign highlighted that it is effective in increasing knowledge and changing behaviour, particularly among members of public. The campaign's webpage also includes resources and toolkits for healthcare professionals and the public. These resources are also available in Dutch, French, Russian, Turkish and Welsh.



Rapid diagnostic testing and referral

France: Rapid Strep Test

Rapid strep tests can help save patients with sore throats a trip to the physician and reduce unnecessary antibiotic prescriptions once most of sore throats are caused by a virus.

In September 2019, the pharmacy unions and the National Health Insurance Fund signed rider n°18 on a Rapid Strep Test service. **Since early 2020, pharmacists are able to perform a rapid strep test on patients complaining of a sore throat, after performing the Mac Isaac test.** Tests are bought by community pharmacies and are **70% reimbursed.**

Pharmacists are paid for a test performed on a patient coming to the pharmacy before consulting a doctor, or a positive test on a patient with a medical prescription for a rapid strep test. Pharmacists will receive an additional remuneration for a negative test performed on a patient with a medical prescription for a rapid strep test since the additional fee remunerates time spent to explain why the prescribed antibiotics are not dispensed.

A specific kind of medical prescription, called the **"conditional prescription"**, is foreseen. The rider foresees the possibility of a future higher remuneration, subject to three criteria: a high uptake of the service in community pharmacies, significant savings achieved through the avoidance of antibiotics dispensing and the assessment of the general cost of the scheme.

Netherlands: Self-tests for sexual transmittable diseases

Several community pharmacies in the Netherlands offer self tests for the sexual transmittable diseases (STDs) Chlamydia and Gonorrhoea[20]. Patients can anonymously access the self test via a dispensing robot accessible from outside the pharmacy.

Portugal: Swab tests for throat and urinary tract

Some Portuguese pharmacies already offer swab tests for throat infections caused by Group A streptococcus bacteria. The Pharmacy staff identifies patients with a sore throat who had signs and symptoms such as fever and/or the absence of cough, and a trained pharmacist examines the tonsils for exudate and palpates for tender cervical lymphadenopathy. For those not requiring antibiotics, the pharmacist will suggest relevant non-prescription products and give advice on how to relieve symptoms. If the swab test is positive, the pharmacist advises the patient to see a physician for further evaluation and a possible antibiotic prescription.

Some pharmacies also provide a urinary test and counselling on cystitis. This service is for women who have symptoms of an uncomplicated lower urinary tract infection (UTI), such as burning pain when passing urine, cloudy urine, or needing to pass urine more often than usual[21].

According to the test result and symptoms evaluation, the pharmacist can recommend relevant non-prescription products and give advice on how to relieve symptoms or the patient can be referred to a physician.

United Kingdom: Scottish Pharmacy First service for treatment and referral of common ailments

Since 2006, Scottish patients can use the pharmacy of their choice as the first point of call for the treatment and referral of common illnesses on the NHS through the Minor Ailment Service (MAS). The service allows patients to go directly to their pharmacist for minor health concerns, helps people to improve their self-care of certain limiting conditions and it is also intended to combat health inequalities. In 2019, independent research[22] demonstrated the high levels of satisfaction, positive perceptions of consultations and trust in the MAS. It showed that almost 90% of participants rated the overall service 10 out of 10 for satisfaction and the overwhelming majority rated their experience of consultations as 'Excellent'.

In July 2020, the Minor Ailment Service has been replaced with the new NHS Pharmacy First Service[23], introducing changes to the remuneration model and widening eligibility for the service in order to increase the overall accessibility to the service.

This new service helps people access the right care in the right place by empowering community pharmacists to provide people with expert advice, treatment or referral for conditions such as sore throats and urinary tract infections[24].

Treatment, counselling and stewardship

Belgium – Point of care dispensing tools

The Association of Pharmacists in Belgium(APB) has been actively tackling the issue of AMR. For a number of years they have spread a consistent message: ***"Take your antibiotic as prescribed by your doctor – do not self-medicate – bring whatever is left after your prescribed therapy back to your pharmacist."***

To deliver the messages, pharmacists attach small stickers to every box of antibiotics that is dispensed as part of their contribution to the European Antibiotics Awareness Day (EAAD) Campaigns.

In order to engage with pharmacists themselves, articles were published in professional press publications and a pop-up alert was installed within pharmacy dispensing software which activates each time an antibiotic was dispensed to remind pharmacists to apply the sticker to the medication.

Pharmacists in Belgium are also involved in the *Belgian Antibiotic Policy Coordination Committee (BAPCOC-platform)* created by the Belgian authorities. This committee developed "Antibiotics guidelines for primary care" in Dutch and French. As part of these guidelines, BAPCOC has developed checklists for pharmacists to check the appropriate treatment and indication when dispensing prescription antibiotics.

As part of the national antibiotics awareness campaigns, pharmacists were provided with branded paper bags for dispensed products, helping to raise awareness of the prudent use of antibiotics to the patient at the point of dispensing and beyond. The main focus of the messages were the length of therapy, the number of doses to be taken each day and the fact that patients should return any leftovers to the pharmacy. In addition, pharmacies were equipped with leaflets and posters to further support the message and initiate dialogue with patients and the public.

Finally, the campaign is supported by national "radiospots" and other media activity.

Netherlands: Pharmacotherapy Audit Meetings (PTAMs) & Surveillance of Out-patient Antibiotic Use

Dutch pharmacists and general practitioners have been meeting on a local level to discuss adherence to prescribing guidelines since 1990. These so called pharmacotherapy audit meetings (PTAMs) are an opportunity to make agreements on pharmacotherapy in line with national guidelines to improve the prescribing and dispensing of medicines in practice. There have also been several modules that address antimicrobial resistance[25], including antibiotic use in children[26] and antimicrobial stewardship in care homes[27]. A study has demonstrated that well-conducted pharmacotherapy audit meetings make a positive contribution to the overall quality of prescribing and in particular lead to the prescribing of more first-choice antibiotics[28].

To map out the out-patient use of antibiotics in the Netherlands, the Dutch Working Party on Antibiotic Policy (SWAB) works together with the Dutch Foundation for Pharmaceutical Statistics (SFK)[29]. The SFK is hosted by the Royal Dutch Pharmacists Association (KNMP) and provides information on systemic antibiotic use (ATC code J01) based on drug dispensations from community pharmacies in the Netherlands. Usage data collected by SWAB and SFK are annually interpreted by the SWAB working group on antibiotic use and published in NethMap[30]. Since 2019, it has been possible to view the antibiotic use per region, the Regional Care Networks Antibiotic Resistance (ARB).

Portugal: Safety in Dispensing and Medicines – MED 180° tool

The aim of MED180° tool is to promote medicines adherence and to reinforce the correct, effective and safe use of medicines through technology. The idea is to help the patient with their medicines (right dosage, when to take it), the time to refill (refill alerts), and provide information about the medicine.

The MED180° is integrated in pharmacy information systems and is supported in a range of communication channels, adjusted to all pharmacies and all users, including posology labels in the pack, dossier summary, e-mails, SMS and the Portuguese Pharmacies app.

The user is free to request the posology sent by any of these channels, according to their preferences. For example, in the case of an elderly person, it is possible to leave the pharmacy with a booklet that summarises the dosage regimens of all the medication purchased, or in the case of a young person, with an e-mail in your inbox with the same explanation with additional scientific information regarding the pathology/medicines.

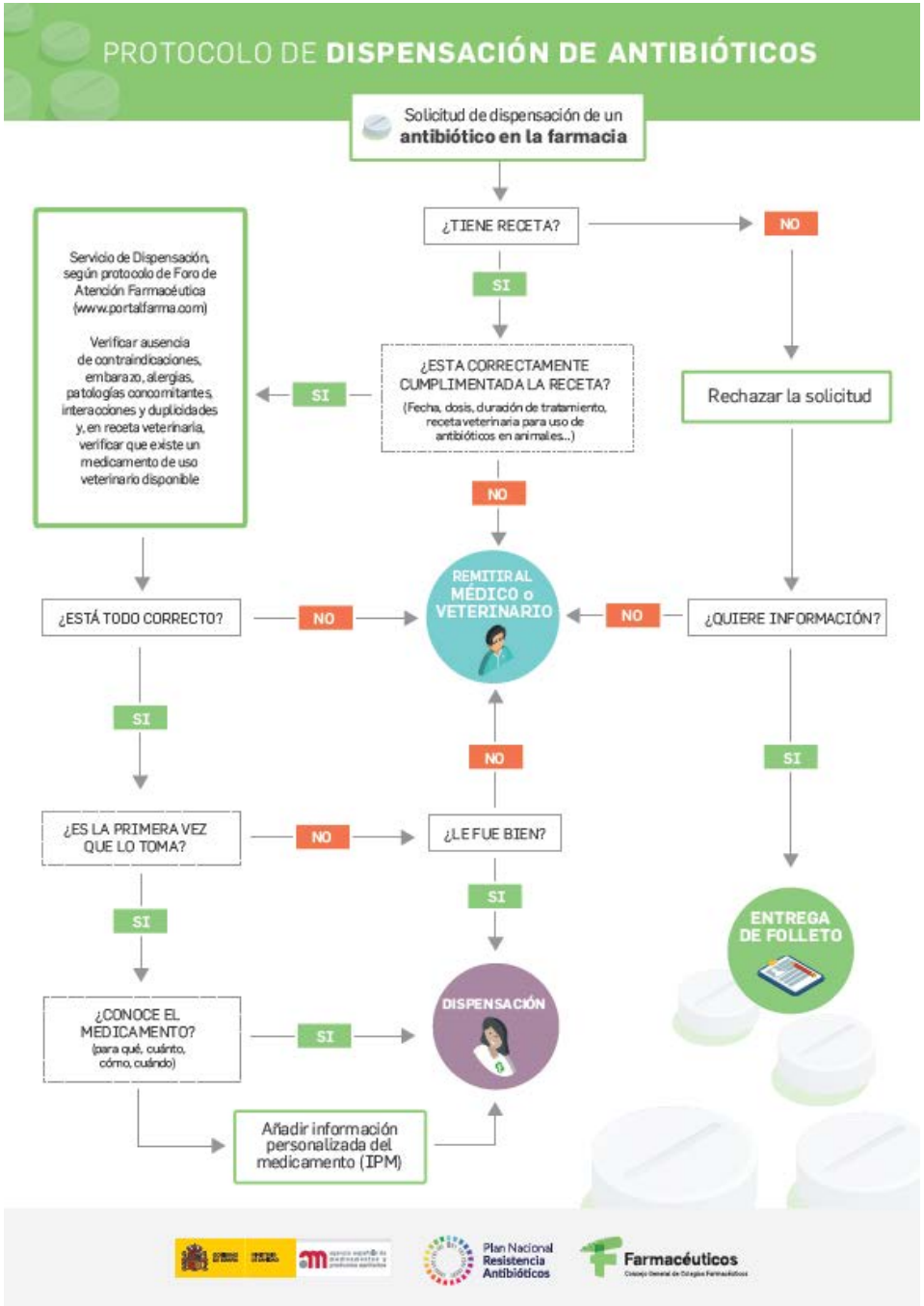
Spain: Standard Operating Procedures for Dispensing Antibiotics

Studies from Spain indicate the crucial role pharmacists play in ensuring adherence to prescribed antimicrobial regimens, in that for example, up to 60% of antimicrobial therapies are not taken according to the physicians instructions. This is particularly relevant in the case where patients stop the course of antibiotics before the course is complete (as they start to feel better), thereby encouraging the colonisation of resistant bacteria (and its spread).

Further studies from Spain provide evidence for the key role pharmacists play in providing information and advice to patients requesting antibiotics without a prescription or self-treating with left-over antibiotics in the reduction of consumption of antibiotics.

The General Pharmaceutical Council of Spain (Consejo) is championing the development and use of Good Pharmacy Practices, one of which is a Standard Operating Procedure (SOP) for dispensing antibiotics at community pharmacies[31]. Pharmacists are equipped with a flow-chart SOP flyer containing key points of information and questions to provide to the patient for the safe and prudent use of antibiotics and information on referral to a medical doctor as necessary.

Pharmacies are also provided with flyers addressed to the public to be handed out at the dispensing of antibiotics or upon refusal to dispense. Additionally, the General Pharmaceutical Council of Spain created recommendations on the use of antibiotics, addressed to pharmacists.



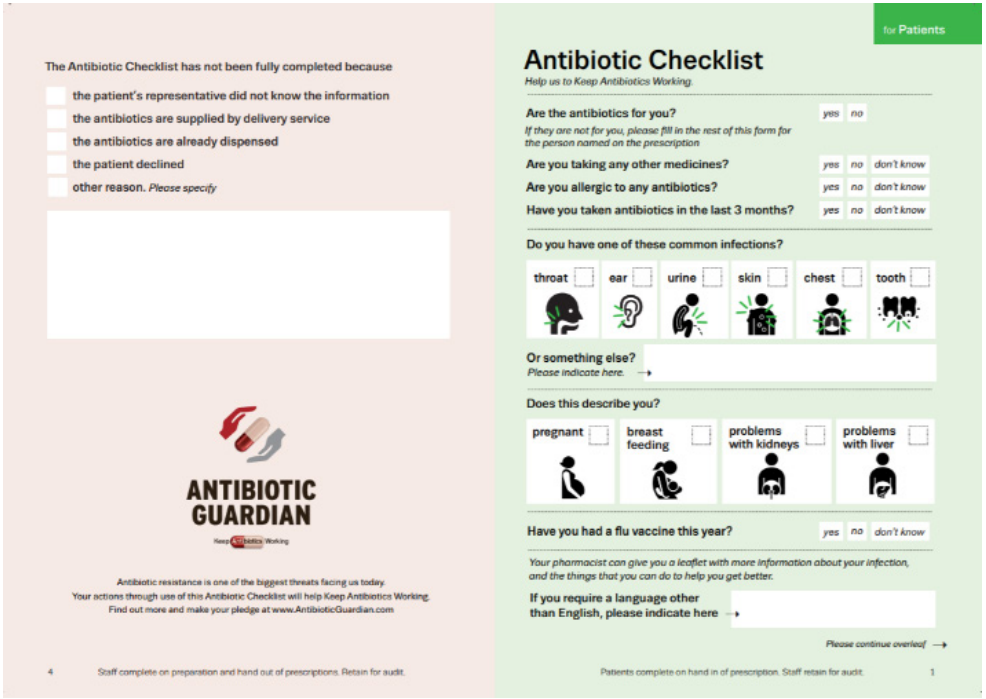
United Kingdom: Antibiotic Checklist and Educational Webinars for Pharmacy Teams

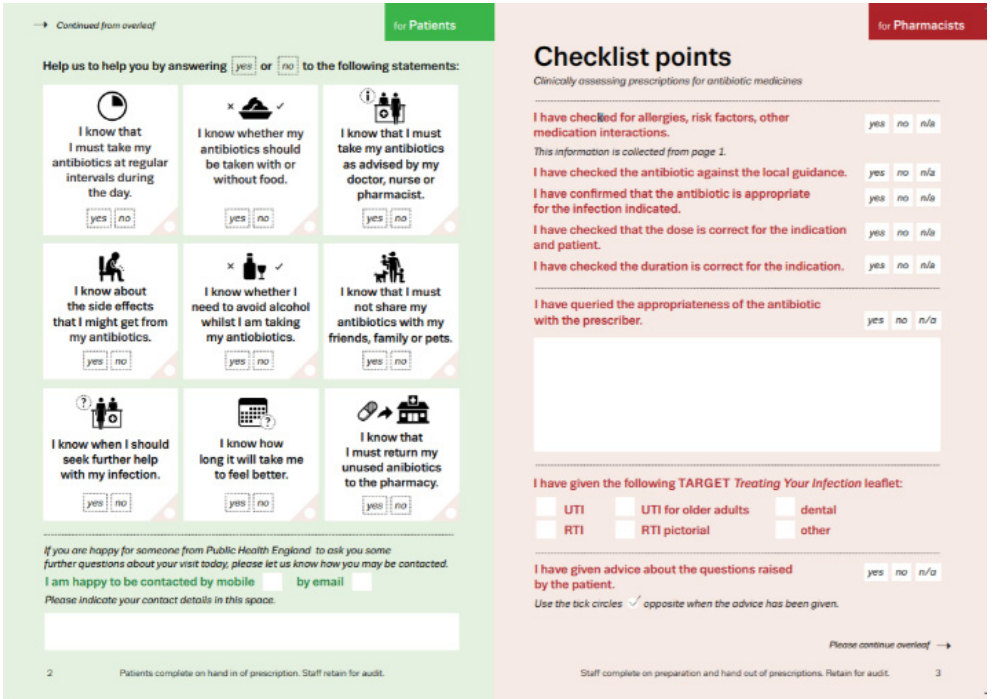
In England an antibiotic checklist[32], to be completed by patients and pharmacists, has been designed to follow the antibiotic prescription journey and to facilitate individualised advice to the patient. The checklist was developed according to the COM-B model, which postulates that in order for a behaviour to occur, a person needs to be capable, have the opportunity and be motivated to perform the behaviour, in this case to give compliance and self-care advice to patients presenting with an antibiotic prescription in the community setting.

In addition to the checklist, an educational webinar for pharmacy teams was developed and they were piloted together in 12 pharmacies in Gloucestershire as part of the Keep Antibiotics Working campaign[33]. The Antibiotic Checklists were kept by the counter for patient/carer to complete when they handed-in an antibiotic prescription, and followed the prescription script journey through the pharmacy to the pharmacist dispensing the antibiotic, back to the staff member handing out the antibiotic prescribed with appropriate patient tailored self-care and compliance advice. The intervention also included other materials to promote the messages highlighted in the pharmacy checklist, so that pharmacy staff could put their learning and behaviour change into action.

During the pilot project, 43 pharmacy staff watched and evaluated the educational webinar, and 931 Antibiotic Checklists were completed, in just over four weeks. Community pharmacy staff reported that the webinar increased understanding, confidence, commitment, intention to use the tools provided to give adherence and self-care advice to patients/carers collecting antibiotics.

Although 60% of patients reported that they knew all the facts, there were a significant percentage who reported not knowing information covered on the RPS pharmacy checklist. Patients were the least knowledgeable about how long it would take them to feel better (20%), when to take the antibiotic in relation to food (17%), side effects they might get (17%), whether to avoid alcohol (11%), and returning the antibiotics to the pharmacy (10%). On follow-up, patients reported that they had taken antibiotics at regular intervals, as their pharmacist/doctor/nurse advised, and no-one reported sharing their antibiotics with friends, family or pets. Pharmacy staff reported that following the webinar and using the checklist, they were more able to clinically assess the appropriateness of the antibiotic prescribed, give adherence advice and self-care advice.





Disposal

In addition to several State or government-led disposal and collection schemes for medicines, the majority of the European population can return expired or unused medicines to their community pharmacy, although the organisation and financing of these schemes vary.

Europe: #Medsdisposal campaign

PGEU is one of the founding partners of the pan-European interdisciplinary stakeholder collaboration "medsdisposal"[34].

#medsdisposal *is a campaign to raise awareness on the appropriate disposal of expired or unused medicines in Europe and includes associations representing European healthcare, industry and student organisations. Crucial to this project's relevance* ***is an interactive map of Europe with direct links to the official websites providing information on the appropriate way of disposing medicines in each country in the national language(s).***

In order to increase awareness of this website, social media is used extensively to guide members of the public to the resources on the campaign's website[35].

Portugal: "Medicines use – we are all responsible" campaign and VALORMED

The main goal of the campaign "Medicines use – we are all responsible" [36] is to inform, promote best practices and raise awareness among the general population, healthcare professionals, and policymakers about the responsible use of medicines. The campaign, besides a strong presence of different communication channels, organised several multidisciplinary debate sessions, where renowned healthcare professionals participated together with policymakers, representatives from patient and consumer associations and citizens. The Portuguese Pharmaceutical Society also developed campaign materials, like a video[37] and brochures[38] , which were handed out to patients during their visits to over 2,900 pharmacies. The responsible use of antibiotics and the safe and eco-friendly elimination of medicines were some of the main topics addressed in this campaign.

VALORMED is the company responsible for waste management concerning medicines in Portugal. Pharmacies assume the responsibility for the reception of waste packaging of medicines on their own premises as well as the information to citizens. The level of rigor of the procedures for the reception of waste is equivalent to the recognised level of rigor of the procedures for dispensing medications to the public, ensuring that: the reception and storage of waste collected in fully safe conditions in containers VALORMED unequivocally identified and the total "isolation" of packaging waste and unused medications, preventing any contamination or improper access to waste collected.

The success of VALORMED is estimated by the participation of almost all pharmacies that fully cover the national territory (98%).

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