



**EUROPEAN FEDERATION OF NURSES
ASSOCIATIONS**



**NURSES ARE FRONTLINE COMBATING
ANTIMICROBIAL RESISTANCE**

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Introduction



The EFN is the independent voice of the nursing profession, representing 36 EU and European Member States and over 3 million nurses in the EU, and up to 6 million in Europe. As such, the EFN believes that nurses have an important and central role to play¹ in informing and motivating the public, and, preventing and managing infections. As nurses have closer and more frequent contact with citizens, patients and carers, and often undertake the role of care coordinator frontline, they are ideally placed to lead infection prevention, antimicrobial resistance (AMR) reduction, antibiotic stewardship and coaching roles. These aspects are all crucial to combat AMR and, in the framework of their implementation, nurse prescribing and medication reconciliation, through eHealth services platforms, represent key solutions to tackle AMR.

The EFN therefore encourages DG Sante and the European Centre for Disease Prevention & Control (ECDC) to embrace nurses' views into the European Public Health Programme and policy designs targeted at combatting AMR.

Nurses, frontline, play a central role in health literacy and education of the public to better use, or not use, antibiotics².

¹ See video from Paul De Raeve, EFN Secretary General: <https://www.youtube.com/watch?v=g8p5Ajz81SM>

² See video from Milka Vasileva (Bulgarian Association of Health Professionals in Nursing): <https://www.youtube.com/watch?v=uFfKITTECNs>

Executive Summary

Antimicrobial resistance represents one of the most current critical concerns of public health. The European Commission estimates that antibiotic-resistant bacteria have been associated with the death of 25,000 people in the European Union (EU) alone; while the extra healthcare costs and productivity losses associated with AMR cost the EU at least €1.5 billion each year.

To tackle AMR frontline, health policies need to be ‘fit for purpose’, national AMR Action Plans need to reflect the nurses voice. However, European initiatives to tackle AMR do not take up in a systematic way the health professionals frontline perspectives, in particular the 3 million nurses throughout the EU, a trend that is not promising for the success of such strategies impacting on the outcomes. In this context, a greater involvement of nurses in initiatives promoting prudent antimicrobial prescribing and management could substantially increase the extent to which these actions can improve health outcomes. In order to fully empower nurses in delivering high quality and safe care, it is crucial to recognise the role nurses play in combating AMR through traditional and advanced roles, such as Link nurses, Stewardship, infection prevention and control nurses and nurse prescribers. In effect, their close relation with the citizens/patient, as well as their role in infection control and hygiene, make nurses, as part of a multi-disciplinary team, one of the most appropriate actors to combat AMR.

The EFN report explores some good practices of nurses addressing AMR, by providing a collection of examples gathered through EFN from National Nursing Associations (NNAs) actively engaged in combating AMR. This frontline reality can be complemented with a range of statements provided by the EFN Members in the occasion of the European Awareness Day on Antimicrobial Resistance³. The experiences collected relate to “Link nurses – Infection Prevention and Control Nurses and Stewardship”, “Frontline engagement in policy design”, and “Nurse prescribing”.

The analysis of such examples shows that the nurses input⁴ to AMR strategies and roadmaps is crucial for the development of “fit for purpose” policies to combat AMR at all levels. As such, the EFN reiterates the importance for EU health policies to reflect the nurse pragmatic approach through a systematic engagement of frontline in the design of measures to combat AMR, from UN to municipally.

³ <https://www.youtube.com/channel/UCHQRZbSeUtHEjH5A3jxUM6g/videos>

⁴ See video from Andreas Xyrichis - AMR expert: <https://www.youtube.com/watch?v=gGH6llcXzaA>

Background

In the modern society, one of the most critical risks to public health concerns the widespread resistance to antibiotics/antimicrobial medicines. Over the past decade, there has been an increase in prevalence of micro-organisms that are resistant to antimicrobial treatment. The achievements reached with the discovery of penicillin



more than 70 years ago are now at risk mainly because of the excessive or inappropriate use of antimicrobials, which has led to the increasing emergence and spread of multi-resistant bacteria. Inappropriate antimicrobial use results in an increased prevalence of healthcare associated infections (HCAs) caused by resistant organisms, that are associated with increased morbidity and mortality, and a longer hospital stay. Without effective action to reverse current trends, the public could face a return to the pre-antibiotic era, with simple wounds and infections causing significant harm and even death and routine clinical procedures becoming very high risk.

Antimicrobial resistance becomes therefore a professional and political concern that has been high on the EU agenda, now moving to the global health agenda (UN-WHO). The European Commission estimates that antibiotic-resistant bacteria are associated with the death of 25.000 people in the European Union (EU) alone; while the extra healthcare costs and productivity losses associated with AMR cost the EU at least €1.5 billion each year.

In response to this threat, the EU is struggling in tackling AMR, initiating a number of policies, AMR Action Plans being developed setting out road maps to tackle the burden of AMR in Member States. However, in these developments, the European Commission excluded the healthcare professionals from designing these policies and strategies. As such, the EFN is concerned that policies will be unfit for practice, leading to worsening numbers and statistics on AMR.

EU and Global Policy Responses to AMR

AMR is an area stimulating significant political activity at the European and global level. An important input has been provided by the G7 Health Ministers Meeting⁵ in 2015 where the OECD work⁶ on the topic was presented and the issue was taken up in the final Declaration⁷. The subject was taken even further in the declaration⁸ of the G7 meeting in 2016 and concrete actions⁹ were concluded. The political work continuous in the UN, WHO and OECD with quite important publications related to AMR such as *'Low-value health care with high stakes: Promoting the rational use of antimicrobials'* (OECD 2017), indicating a comprehensive set of policy actions' to promote an effective use of antimicrobials, with special emphasis devoted to education and information activities; to organisational changes; and to a broader use of new technologies. Within these three areas, nurses play a central role in moving from recommendation to deployment and long-term implementation.

Furthermore, at the European level the role of the European Centre for Disease Prevention & Control is central to understanding the epidemiology of resistant micro-organisms and their spread. In addition to their management and reporting of surveillance systems, the ECDC supports a number of work programmes to compliment the use of data such as the development of core competencies for infection control specialist practitioners and the development of 'generic' guidelines on prudent use of antimicrobials. These tools have been widely spread within EFN membership. This year, in the occasion of the European Antibiotics Awareness Day, the ECDC has released a toolkit (key messages, checklist for prescribers, factsheets, infographics about antibiotic stewardship, leaflets, etc) for professionals in hospitals and other healthcare settings to facilitate the promotion of their message to the actors mainly involved in the implementation.

Under the Dutch Presidency in June 2016, the Council of the European Union published Conclusions¹⁰ calling upon Member States and the European Commission to develop national and EU Action Plans to address AMR. These conclusions suggested that Action Plans should involve cooperation with all

⁵ <http://www.oecd.org/els/health-systems/antimicrobial-resistance.htm>

⁶ <http://www.oecd.org/health/health-systems/AMR-Presentation-Kapferer-OECD-Berlin-October2015.pdf>

⁷ http://www.bundesgesundheitsministerium.de/fileadmin/Dateien/3_Downloads/G/G7/G7_Health_Ministers_Declaration_AMR_and_EBOLA.pdf

⁸ <http://www.mofa.go.jp/files/000160266.pdf>

⁹ <http://www.mofa.go.jp/files/000160273.pdf>

¹⁰ <http://www.consilium.europa.eu/en/press/press-releases/2016/06/17/epsco-conclusions-antimicrobial-resistance/>

relevant stakeholders and that Member States should strengthen coordination and cooperation between governments and relevant sectors.



It is time to transpose these recommendations into concrete action, so policies and tools become ‘fit for purpose’. Following the Council Conclusions, the European Commission revised its EU Action Plan against the rising threats from AMR¹¹ for which a progress report¹² was made available in early 2015. An evaluation¹³ of the 2011-2016 Action Plan highlighted that there is a clear need to support and assist Member States in developing and implementing national action plans, to foster collaboration across sectors, to improve knowledge of citizens and to strengthen monitoring and surveillance systems. In June 2017, the European Commission has published an updated “European One Health Action Plan against AMR¹⁴”, that aims to support the EU and its Member States in delivering innovative, effective and sustainable responses to AMR, and enable the EU to actively promote global action and play a leading role in the fight against AMR. Next to the One Health Action Plan, the Commission recently launched the European Joint Action on Antimicrobial Resistance and HealthCare-Associated Infections (EU-JAMRAI¹⁵), led by France. The EU-JAMRAI is an EU-funded project that aims to propose concrete steps to reduce the burden of AMR, it worth €4 million. However, the EFN regrets that the Commission and Member States excluded the engagement of all sectoral health professions from the consortium, in order to make deliverables ‘fit for purpose’.



¹¹ https://ec.europa.eu/health/amr/sites/amr/files/communication_amr_2011_748_en.pdf

¹² https://ec.europa.eu/health/sites/health/files/antimicrobial_resistance/docs/2015_amr_progress_report_en.pdf

¹³ https://ec.europa.eu/health/amr/sites/amr/files/amr_final-report_2016_rand.pdf

¹⁴ https://ec.europa.eu/health/amr/sites/amr/files/amr_action_plan_2017_en.pdf

¹⁵ <http://www.jpiaamr.eu/wp-content/uploads/2017/04/EU-JAMRAI-JPIAMR-Inserm.pdf>

EFN Position Statement

Taking into account the EFN Position Statement on Patients' Rights in Cross-Border Healthcare¹⁶, and the input the EFN provided to DG Sanco consultation on Patient Safety and Healthcare Associated Infections (HCAIs), the EFN believes that the Council Recommendations on Patient Safety and HCAIs are a crucial step forward in making healthcare safe for patients and their families:

"Investing in Nurses – Investing in Safety!"

Therefore, the EFN believes that the recommendations should:

- Maintain the highest standards of cleanliness, hygiene and asepsis;
- Strengthen a European framework to better prevent the causes of infections so that patients and their families are assured a safe hospital stay in the European Union;
- Promote the development of better information gathering systems in order to efficiently evaluate progress towards reducing adverse events incidents by 20%;
- Acknowledge the important role of link nurses working in the clinical settings (in the Hospital and community sector) and encourage the recruitment of infection control nurses; and,
- Support the multi-disciplinary approach to infection control with teams across a range of settings and professions working together to prevent infection.



¹⁶ <http://www.efnweb.be/wp-content/uploads/2011/11/EFNPositionStatementonthePatientsRightsinCross-BorderHealthcareDirective-EN-final102008.pdf>

Furthermore, there is an important link with the EU Patients' Rights Cross-Border Healthcare Directive¹⁷, in particular article 5, and the European Workforce for Health strategy¹⁸.

Therefore, the EFN believes that:

1. Patients' Rights in Healthcare need to be strengthened by implementing a people-centred approach;
2. Appropriate staffing levels and better management of staff workloads should be just as important as hand hygiene and environmental cleanliness in the battle to recognise and prevent the causes of healthcare associated infections;
3. High Quality of Care and Safety Standards throughout the EU are essential to make progress together with appropriate investment in link nurses and infection control nurses.
4. Investment in infection prevention and control is crucial, emphasising on prevention rather than on a problem-solving approach.

To this purpose, the EFN members have often remarked that national governments and the European Commission should provide the proper investment for more infection prevention and control nurses and frontline link nurses to reduce the risk and burden of AMR.

¹⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:088:0045:0065:EN:PDF>

¹⁸ https://ec.europa.eu/health/workforce/policy_en

Nurses' contribution in tackling AMR



Because of the nature of their profession, nurses are ideally equipped in promoting public health and collaborating with other health and social care professionals; supporting patients and citizens in achieving their health goals and creating a healthier population. From a nursing perspective, the International Council of Nurses¹⁹ (ICN) sees AMR as one of the biggest threats to global health today, which leads to longer hospital stays, higher medical costs and increased mortality.

Initiatives promoting prudent antimicrobial prescribing and management are generally lacking nurses' involvement, which can substantially increase the extent to which these strategies can improve patient outcomes. Nurses leadership and contribution to multi-disciplinary teams adds both impact and balance to the delivery of care and reduction of poor patient outcomes. As nurses have closer and more frequent contact with patients and carers and undertake the role of care coordinator, they are ideally placed to lead antimicrobial resistance reduction and antimicrobial stewardship (AS) programmes. Nurses' impact on AMR is immediately visible in their role as link nurses and advanced nurse practitioners (ANP), that let them acquire a better overview of all the treatments of the patient, which is of special importance in elderly care, when patients are often prescribed too many different medications. As nurses are getting more active in medication prescribing, they can influence clinical decision making related to medication compliance, monitoring prescription decisions, reducing prescribing errors and most importantly taking up medication reconciliation actions²⁰.

According to the European Commission's Eurobarometer Survey on antibiotic consumption²¹, more than 50% of European citizens are unaware that antibiotics are ineffective against viruses and against colds and flu (44%). The survey showed that the use of antibiotics is higher among those with lower levels of education and in worse economic circumstances.

¹⁹ <http://www.icn.ch/>

²⁰ Castledine G. Prescribing is not the only issue for nurses and drugs. *British Journal of Nursing*. 2006;15(15):836–837.

²¹ https://ec.europa.eu/health/amr/sites/amr/files/eb445_amr_generalfactsheet_en.pdf

Additionally, it emerged that the consumption decreases among those who have received information on antibiotics. As such, initiatives to raise health literacy levels of patients and the public become more and relevant in the wider patient empowerment initiatives.

Due to their close relation with the patient and their role in infection control and hygiene, nurses are, as part of a multi-disciplinary team, one of the most appropriate actors to deliver information about antibiotics use and on training patients and their families. However, doctors should be aware of when prescribing antibiotics is appropriate, and should resist the pressure to prescribe it. As such, nurses' role can be crucial in



assisting patients by education to minimise the cultural ideas that medication is the only answer, especially in those countries with a more traditional medical approach.

In addition, they are also in a key position to facilitate patient referrals for outpatient antibiotic therapy in instances where patient admission to hospital is for extended antibiotic therapy only, thus decreasing their risk of HCAs and associated costs, and enabling the patient to continue treatment in their own environment. However, the exclusion of nurses from decision-making processes regarding antimicrobial therapy limits their chance to influence outcomes, whereas their involvement in the development of national and EU AMR plans would be highly beneficial. The potential contribution that nurses can generate in the management of antimicrobials on the ward still remains under-explored²².



In particular, rounds targeted specifically at reviewing antimicrobial therapy could be opportunities for nurses to make a contribution. Ward rounds can result in cooperative decision making between nurses and other healthcare professionals²³. Antimicrobial prescribing and management choices involve a multidimensional decision-making process

based on a fundamental understanding of the key principles of microbiology and the ramifications of inappropriate antibiotic use²⁴. Nurse involvement in antibiotic ward rounds could strengthen of team work of nurses, physicians and pharmacists, and foster dialogue on the antimicrobial treatment,

22 Edwards R et al (2011) Covering more territory to fight resistance: considering nurses' role in antimicrobial stewardship. *Journal of Infection Prevention*; 12: 1, 6-10.

23 Beuscart-Zephir MC, Pelayo S, Anceaux F, Meaux JJ, Degroisse M, Degoulet P. Impact of CPOE on doctor-nurse cooperation for the medication ordering and administration process. *International Journal of Medical Informatics*. 2005;74(7):629-641.

24 Antibiotic stewardship programmes--what's missing? Charani E, Cooke J, Holmes AJ *Antimicrob Chemother*. 2010 Nov; 65(11):2275-7

indication, and duration, thus further enhancing the multidisciplinary management of antimicrobial stewardship programmes to reinforce best practice.

However, for nurses to truly impact on AMR and HCAs through increasing their profile in antimicrobial stewardship, barriers and facilitators to adopting this enhanced role must be contextualised in the implementation of any initiative²⁵. The importance of recognising the role nurses play in combatting antibiotic resistance through traditional roles as well as advancing roles²⁶ such as nurse prescribing is crucial, together with acknowledging the importance of a team approach to address antimicrobial resistance and promoting the prudent use of antibiotics.

²⁵ Edwards R et al (2011) Covering more territory to fight resistance: considering nurses' role in antimicrobial stewardship. *Journal of Infection Prevention*; 12: 1, 6-10.

²⁶ <http://www.ens4care.eu/wp-content/uploads/2015/12/Final-ENS4Care-Guideline-3-Advanced-Roles-pv.pdf>

Good Practices of nurses addressing AMR



Nurses, infection control nurses in particular, link nurses, lead and manage many quality improvement and patient safety programmes across EU member states including those that address AMR and the prevention of infection. Looking at some of the national best practices collected by the EFN Members, there is evidence that nurses are particularly involved in combatting AMR and their role is greatly beneficial to develop ‘fit for purpose’ policies.

The list below provides an overview the examples collected through EFN from National Nursing Associations (NNAs) actively engaged in combating AMR. This information can be complemented with a range of statements provided by the EFN Members in the occasion of the European Awareness Day on Antimicrobial Resistance²⁷.

Link Nurses - Infection Prevention and Control Nurses and Stewardship

The relationship between nursing and infection control was first identified by Florence Nightingale in 1854. Florence Nightingale was probably the first infection control nurse without actually realizing it²⁸. Anno 2017, Link Nurses and Infection Prevention and Control (IPC) Nurses are a key nursing workforce combatting AMR. However, as new and more complex cases of AMR occur, there will be greater demand for IPC nurses to tackle and control these new bacteria, and to stop the spread of infection. Similarly with AMR, the more complex the HCAI, the more IPC nurse time could be needed to monitor and prevent the acquisition and spread of infection throughout the organisation and to other settings. Factors that could influence demand for IPC nurses especially relate to the services provision incorporated in AMR Strategies developed by EU Member States, resulting in a greater need for IPC nurses to implement the agreed actions. Most strategies build on the proactive approach of IPC teams

²⁷ See video from the Spanish Council of Nurses: https://www.youtube.com/watch?v=q-DWS_B12do

²⁸ Elliott, J. (2004). *The multi-faceted Lady with the Lamp*. Retrieved November 15, 2008, from <http://news.bbc.co.uk/1/hi/health/3943997.stm>

to slow the development and spread of AMR. This includes moves to: improve knowledge and understanding of AMR; conserve and steward the effectiveness of existing treatments; and stimulate the development of new antibiotics, diagnostics and novel therapies.



In Cyprus, in each Public Hospital there is at least one Infection Control Nurse (ICN) appointed by the Nursing Management. The nurse collaborates mostly with the microbiologist, since much of the infection and epidemiology recording and control is closely linked to the microbiology laboratory. The ICN is mainly in charge of detection and monitoring and recording of infections and infectious agents (including data on Multi drug resistance Microbes). In Denmark, hygiene nurses are responsible for clinical infectious hygiene nursing, for quality development, teaching and guidance, as well as for coordination, interdisciplinary and cross-sectoral cooperation. In Finland, healthcare-associated infections are monitored at national level under SIRO, the Finnish Hospital Infection Programme²⁹. In its framework, infection control nurses are involved in surveillance of nosocomial bloodstream infections and clostridium difficile infections through laboratory based case-finding.

Nurses' role is also crucial in the team work required to deliver AMR solutions, as is the role of the Link nurses on antimicrobial stewardship to motivate the entire ward team combatting AMR and keep the team alerted, including on hand hygiene. The UK is an example of such inter-professional collaboration, where the Royal College of Nursing (RCN) has piloted and evaluated a bespoke Political leadership programme for antimicrobial stewardship³⁰ in collaboration with the Royal Pharmaceutical Society and Public Health England. This programme brings together nurses, pharmacists and health protection staff whose role includes responsibility for antimicrobial stewardship. Its aim is to develop health care workers with common responsibilities with political leadership skills to support systems leadership and engagement to deliver the local and national AMR strategies³¹. Furthermore, the RCN has been very sensitive in promoting hand hygiene to foster infections control. In 2015 they launched a guide to effect hand washing³², seen as the most important measures for infection prevention. Likewise, the Chief Epidemiologist for Iceland has recently published a guideline to promote hand hygiene³³.

²⁹ <https://www.thl.fi/en/web/infectious-diseases/surveillance/healthcare-associated-infections>

³⁰ <https://www.rcn.org.uk/clinical-topics/infection-prevention-and-control/antimicrobial-resistance>

³¹ <https://www.gov.uk/government/publications/uk-5-year-antimicrobial-resistance-strategy-2013-to-2018>

³² <https://www.rcn.org.uk/news-and-events/news/new-rcn-guide-to-effective-hand-washing>

³³ [https://www.landlaeknir.is/servlet/file/store93/item30977/Hand Ensk 3500 103.pdf](https://www.landlaeknir.is/servlet/file/store93/item30977/Hand%20Ensk%203500%20103.pdf)



Whatever action, education is central in the equation of success. In Cyprus, nurses are responsible for training of staff and visitors (e.g. on Universal Precautions), counselling and detection of Potential Outbreaks. Moreover, the ICN provides clinical advice and support to nurses, midwives, health visitors and other non-clinical staff on infection

control issues. The Infection Control Nurse collects relevant information on behalf of the Working and Intervention Team (WIT), cooperates with the WIT to identify, investigate and control infections, plans and implements a staff immunization program for Hepatitis, Influenza, etc., provides and shares information on legal issues related to hospital infections. They also provide lectures each month to doctors and nurses and circulate information on guidelines provided by the ECDC on prevention (e.g. UTIs, Surgical Site Infection, Blood Stream Infection).

In parallel, two standard campaigns are organized in collaboration with the CYNMA³⁴ (a branch of Infection Control Nurses) on each May 5th (International Day for Hand Hygiene) and each November 18th (European Antibiotic awareness Day) where the ICN are sharing information to the public through Broadcasting programs and hospital visits.

Finally, as explained by Martina Harkin-Kelly³⁵, President of the Irish Nurses and Midwives Organisation (INMO), in order to create awareness for the AMR Awareness Day, INMO will use diverse portals (INMO magazine page, website, etc) to promote prudent use of antibiotics from nurses in Ireland.



Substantially Engaging Frontline in Policy Design

In Cyprus, Infection Control Nurses are involved in policy development of AMR initiatives. In Norway, the Norwegian Nurses Organisation has contributed on the national level in relation to several consultation responses and participating in national working groups. The inputs have focused on the nurses' role in the AMR work, such as: nurses' contribution to infection control and infection protection is essential to prevent and reduce AMR.

³⁴ See video at: <https://www.youtube.com/watch?v=W2V2BwYNYq0>

³⁵ See video at: https://www.youtube.com/watch?v=Vn9yY4Y_6Ws

In Sweden, nurses are involved in the main arenas where AMR is discussed and planned. For instance, they participate in STRAMA³⁶ – the Swedish strategic programme against antibiotic resistance, that plays a central role in AMR policies, having a huge political support and commitment, became an advisory body to the Public Health Agency of Sweden. The Public Health Agency of Sweden works according to an interdisciplinary, locally approved model by ensuring involvement of all relevant stakeholders including national and local authorities and professional and non-profit organisations. In 2012, the Swedish intersectoral coordinating mechanism was formed, a forum of 20 government agencies active in efforts against antibiotic resistance to strengthen action in the field.

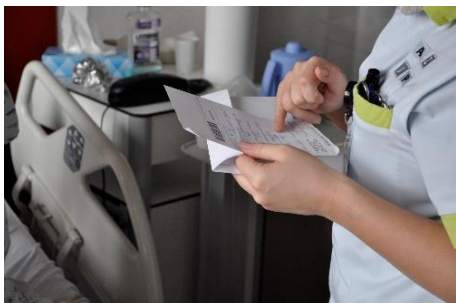
The STRAMA work is characterized by a cyclical process with continuous communication with prescribers, and the regional STRAMA groups play a crucial role in communicating data and results to prescribers, in order to demonstrate current developments and decide how to direct local interventions. Networking and interaction are key elements in the STRAMA work: from the early identification of a problem, through the analysis of possible interventions, to implementation and follow-up.

AMR roadmaps are part of an effective policy design and implementation. In Denmark, a new national quality program³⁷ has been introduced. The core of the new quality program is the ambition to constantly lift the quality of health care services, in order to create the greatest possible value for the patients. The program focusses on few ambitious goals: value for the patients and improvement and learning in the clinical practice. One of the programme's branches is "Rational use of antibiotics". Although nurses are not involved yet in its design, they are key players in local teams working with the implementation. In Estonia, the national Act "Policies in Place for prescribing antibiotics and infection control requirements in Healthcare settings" is currently being updated which will lead to an extent of nurses' rights to prescribe.

³⁶ <http://strama.se/>

³⁷ <http://www.efnweb.be/wp-content/uploads/Danish-new-national-quality-program.pdf>

Nurse Prescribing



The main objective of the nurse Prescribing is to improve patient and drug safety and to make prescribing and dispensing of medicines easier and more efficient, slowing down the rise in demand for physicians. The EFN developed EU guidelines on eHealth Services³⁸ in nursing and social care³⁹ with specific attention to e-prescribing. A wide range of evidence is available on the content, planning and delivery of nurse prescribing education, which must be considered by the EU and Member States when combatting AMR. The EFN members show clear evidence for the benefits that nurse prescribing can bring for patients⁴⁰, nurses, the wider health service and other health care professionals. The benefits attributed to patients include timely treatment, reduced waiting times and continuity of care with patients generally being in favour of nurse prescribing. There is also evidence for nurse prescribing leading to improved nurse-patient relationships, longer consultations, improved quality of care and increased patient choice. Further evidence suggests that nurse prescribing enables nurse innovations, especially in relation to nurse-led clinics and advanced roles in primary and community care. There is clear evidence showing that nurse prescribing in a community setting improved team working because it freed doctors up to see more complex patients and less patients with minor complaints.

In Ireland, primary legislation for nurse and midwife medicinal product prescribing was introduced in 2006. Nurses and Midwives have been prescribing since 2008. In Ireland all nurses and midwives can undertake prescribing once undertaken an education programme and meet certain conditions. There are now more than 453 nurses and midwives with prescriptive authority employed in the public health services. In total, 800 nurses and midwives have been funded to undertake the education programme. The candidates going through the education programme and Registered Nurse Prescribers (RNPs) in practice are from 86 different clinical areas and 165 health service providers (49 acute hospitals and 116 primary and community services) across



³⁸ ENS4Care guidelines are available online: <http://www.ens4care.eu/guidelines/>

³⁹ See list of the project partners at: <http://www.ens4care.eu/partners/>

⁴⁰ See video from Grazyna Wojcik (Polish Nurses Association): <https://www.youtube.com/watch?v=zb6FH1thKfY>

Ireland. This has real potential to enhance the efficiency and responsiveness of the health services for patients and service users. The initiative endorses the Government's policy for the expansion of nursing and midwifery roles.

Recognising the need for robust monitoring of the new service a National Nurse and Midwife Prescribing Minimum Dataset for Ireland was agreed. The minimum dataset contains twelve items of information that are collected in a standard way on every prescription written by a RNP/RMP.

The Nurse and Midwife Prescribing Data Collection System⁴¹ is used by individual RNPs; prescribing site coordinators and directors of nursing and midwifery; and relevant staff at national level. At any time, standardised reports or ad hoc queries can be prepared by system users at: local health service provider; HSE area; or national level.

In Spain, nurse prescribing is regulated through Law 28/2009⁴², of December 30th, and the amendment of Law 29/2006⁴³, of July 26th, on guaranties and rational use of medicines and healthcare products. Their prescribing rights mainly consist of:

1. Autonomous prescribing: all drugs not subject to medical prescribing; all healthcare products;
2. Collaborative prescribing: drugs subject to medical prescribing through guidelines and protocols devised jointly by the Ministry of Health and the regulatory bodies of physicians and nurses;
3. Accreditation model established jointly by the Ministry of Health and the regulatory bodies of physicians and nurses.



All nurses must be accredited to perform nurse prescribing, both generalist nurses and specialist nurses. The Spanish General Council of Nursing, EFN member, has implemented an education and training process aimed at all nurses throughout the Spanish State that began in September 2010. Currently more than 100.000 Spanish nurses have undergone this education and training process.

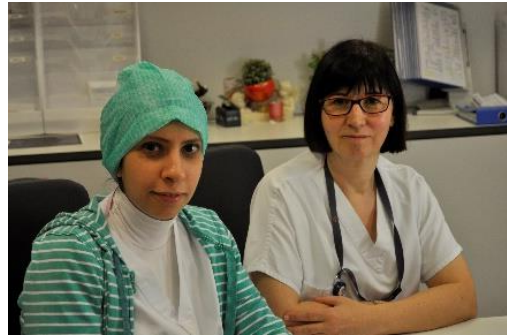
⁴¹ Accessible at <https://www.nurseprescribing.ie>

⁴² <https://www.boe.es/buscar/doc.php?id=BOE-A-2009-21161>

⁴³ <https://www.boe.es/buscar/doc.php?id=BOE-A-2006-13554>

Alongside the implementation of this education and training process, access has been provided to all nurses to the IT platform that includes the prescribing of medicines and healthcare products as well as the nursing language and knowledge and a repository with more than one thousand clinical and healthcare provision guidelines and protocols.

In the UK there are two types of nurse prescribers. The first, Community Practitioner Nurse Prescribers (CPNPs) are nurses and midwives who can prescribe the majority of dressings and appliances, and a limited range of prescription-only medicines. The second are Nurse Independent Prescribers (NIPs). These are nurses and midwives who are trained to make a diagnosis and



prescribe the appropriate treatment. They may also, in cases where a doctor has made an initial diagnosis, go on to prescribe or review the medication and change the drug, dosage, timing or frequency of the medication as appropriate (supplementary prescribing). NIPs can prescribe all prescription-only medicines and all medication that can be supplied by a pharmacist or bought over the counter. As of April 2012, NIPs are also able to prescribe schedule 2-5 of controlled drugs for any medical condition (but cannot prescribe cocaine, diamorphine and dipipanone for the treatment of addiction), provided they prescribe within their clinical competence.

Both CPNPs and NIPs can prescribe via an e-health prescribing software system mostly used in acute hospital settings and general practice. There are nearly 60,000 nurse prescribers registered in the UK, although not all of them will be e-prescribers as this would depend on the setting they work in. Nurse prescribers can work in any clinical setting. Nurse prescribers working with a compliant system in the community, approved by the NHS can send electronic prescriptions to a community pharmacy and dispensing appliance contractor of the patient's choice.

In Norway, nurses administer and distribute antibiotics to patients who are unable to do it autonomously, and they also help with the training of both patients and families.

From EFN members evidence, it becomes clear that there is an increasing consciousness across the Member States on the relevance of having nurses, allowed to prescribe medicines. The evidence shows that healthcare systems with nurse prescribers are more cost-effective and patient receive faster treatments with specific attention to continuity of care.

Conclusion



The EFN policy input towards the EU institutions is mainly focussed on concrete frontline actions to “put flesh on the bones!” of EU Council recommendations and actions, including AMR. As the nursing profession is the largest occupational group in the health ecosystem, providing up to 80% of healthcare services, health policies coming out of the EU institutions, especially DG Sante, should reflect the nurses pragmatic approach. If not, policies and tools will stay on the book shelves. Instead, the EU institutions and their connected agencies, such as the ECDC, should design more “fit for purpose” policies, enabling change at the “bedside”. As such, tackling AMR frontline contributes to building sustainable health and social care services reducing the unacceptable AMR statistics (OECD,2016). Although policy-makers, politicians and physicians repeatedly stating that “*nurses are very important!*”, there is an urgent need to put these nice words into policy design practice! Politicians and policy-makers at all levels should engage nurses in policy designs as they will make change happen, being at the patients’ bed side and close to the citizens 24 hours/day, 7 days/week, 365 days a year! Policy-makers and politicians have a golden opportunity to redesign health and social care systems in the EU by recognising the power of women, the power of nurses.



References

- 3rd Health Programme 2014-2020 Joint actionJA -04 -2016 – Antimicrobial resistance and HealthCare Associated Infections.* (2016). Retrieved from <http://www.jpiamr.eu/wp-content/uploads/2017/04/EU-JAMRAI-JPIAMR-Inserm.pdf>
- Beuscart-Zephir MC, Pelayo S, Anceaux F, Meaux JJ, Degroisse M, Degoulet P. (2005). Impact of CPOE on doctor-nurse cooperation for the medication ordering and administration process. *International Journal of Medical Informatics*, 74(7):629–641.
- Charani E, Cooke J, Holmes AJ. (2010 Nov). Antibiotic stewardship programmes--what's missing? *Antimicrob Chemother*, 65(11):2275-7.
- Commission, E. (2011). *Action plan against the rising threats from Antimicrobial Resistance.*
- Commission, E. (2015). *Progress report on the Action plan against the rising threats from Antimicrobial Resistance.*
- Commission, E. (2016). *AMR - general factsheet.* Retrieved from https://ec.europa.eu/health/amr/sites/amr/files/eb445_amr_generalfactsheet_en.pdf
- Commission, E. (2016). *Final Report on Action plan against the rising threats from Antimicrobial Resistance.*
- Commission, E. (2017). *A European One Health Action Plan against Antimicrobial Resistance (AMR).*
- Edwards R et al . (2011). Covering more territory to fight resistance: considering nurses' role in antimicrobial stewardship. *Journal of Infection Prevention*, 12: 1, 6-10.
- EFN. (2011). *EFN Position Statement on the patients' rights in cross-borderhealthcare directive .*
- EFN. (2015). *EFN Policy Statementmoving Care To The Community.* Retrieved from <http://www.efnweb.be/wp-content/uploads/EFN-Policy-Statement-on-Moving-Care-to-the-Community-Final042015.pdf>
- EFN. (2015). *EFN Position Paper On Moving Care To The Community.* Retrieved from <http://www.efnweb.be/wp-content/uploads/EFN-Position-Paper-on-Moving-Care-to-the-Community-Final042015.pdf>
- EFN. (2015). *Evidence Based Guidelines for Nursing and Social Care on eHealth Services.* Retrieved from <http://www.ens4care.eu/wp-content/uploads/2015/12/Final-ENS4Care-Guideline-3-Advanced-Roles-pv.pdf>
- Elliott, J. (2004). *The multi-faceted Lady with the Lamp.* Retrieved from <http://news.bbc.co.uk/2/hi/health/3943997.stm>
- Estado, J. d. (2006). *Ley 29/2006, de 26 de julio, de garantías y uso racional de los medicamentos y productos sanitarios.* Retrieved from <https://www.boe.es/buscar/doc.php?id=BOE-A-2006-13554>
- Estado, J. d. (2009). *Ley 28/2009, de 30 de diciembre, de modificación de la Ley 29/2006, de 26 de julio, de garantías y uso racional de los medicamentos y productos sanitarios.* Retrieved from <https://www.boe.es/buscar/doc.php?id=BOE-A-2009-21161>

EU, E. p. (2011, March 9). *DIRECTIVE 2011/24/EU on the application of patients' rights in cross-border healthcare*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:088:0045:0065:EN:PDF>

G., C. (2006). Prescribing is not the only issue for nurses and drugs. . *British Journal of Nursing*, 15(15):836–837.

Laki sähköisestä lääkemääräyksestä. (n.d.). Retrieved from <http://www.finlex.fi/fi/laki/ajantasa/2007/20070061>

Leaders, G. (2016). *G7 Ise-Shima Leaders' Declaration*. Ise-Shima.

Leaders, G. (2016). *G7 Ise-Shima Vision for Global Health*. Ise-Shima.

Ministerio de Sanidad, P. S. (2010). *Real Decreto 1718/2010, de 17 de diciembre, sobre receta médica y órdenes de dispensación*. Retrieved from <https://www.boe.es/buscar/act.php?id=BOE-A-2011-1013>

Ministers, G. H. (2015). *ANTIMICROBIAL RESISTANCE IN G7 COUNTRIES*. Berlin.

Ministers, G. H. (2015). *Declaration of the G7 Health Ministers*. Berlin.

(2017). *Minutes of the 12th meeting of the Working Group on Indicators on AMR and antimicrobial use*.

OECD. (n.d.). *Antimicrobial resistance is a growing health and economic threat requiring a multipronged response*. Retrieved from <http://www.oecd.org/els/health-systems/antimicrobial-resistance.htm>

Strama – Samverkan mot antibiotikaresistens. (n.d.). Retrieved from <http://strama.se/>

Union, C. o. (2016). *Council conclusions on the next steps under a One Health approach to combat antimicrobial resistance*. Brussels.

Welfare, F. N. (n.d.). *Healthcare-associated infections*. Retrieved from <https://www.thl.fi/en/web/infectious-diseases/surveillance/healthcare-associated-infections>