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EDITORIAL

"International Centres of Excellence in Hospital Pharmacy"; a SEFH new initiative; the role of the clinical pharmacist in the hospital antibiotic stewardship in Northern Ireland

"Centros de Excelencia Internacionales en Farmacia Hospitalaria"; una nueva iniciativa de la SEFH; el papel del farmacéutico clínico en la optimización de los antimicrobianos en Irlanda del Norte

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Spanish Society of Hospital Pharmacy (SEFH) includes among its purposes and functions the promotion, fostering and furthering of the performance of all kinds of training programmes and scientific projects, together with research and innovation activities in the area of Hospital Pharmacy. These actions are directed both to their development as well as to their appropriate applications, with the ultimate objective of enabling pharmacists specialised in Hospital Pharmacy to acquire a high level of knowledge, which will impact directly on the improvement of the care of patients' health. For this reason, SEFH has created a new initiative consist of a scientific training exchange programme called *"International Centres of Excellence in Hospital Pharmacy"*. This programme consists of generating an international network which will connect leading-edge hospitals worldwide in the various areas of Hospital Pharmacy.

The collaboration shall be focussed, essentially, on enabling a number of selected pharmacists, currently undergoing specialised training in Hospital Pharmacy in Spain, to have access to a period of training in an international benchmark hospital in order to complete their training on the highest level.

Within this SEFH initiative and thanks to contact of Hospital Universitario Fundación Alcorcón, the first international centre interested in cooperating and joining forces in the scope of the specialised training of postgraduates and in the furthering of research has been the Hospital Pharmacy Service of Antrim Area Hospital in Northern Ireland.

By this agreement, the commitments undertaken by Antrim Area Hospital under the *International Centres of Excellence in Hospital Pharmacy* programme are the following:

– Accept each year up to three residents or pharmacists, selected by SEFH, in a short period of specialised training in the Hospital Pharmacy Service of the Hospital. Each resident shall be able to participate in a different period of the year, establishing the duration of each training period for between 4 and 6 weeks.
– Establish a training programme for the residents or pharmacists beneficiaries.

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– Appoint a mentor to advise residents or staff pharmacists, help them with their integration in the host environment and monitor their training progress.
– Facilitate access by the resident or pharmacist to the centre's resources required for successfully completing their programme.
– Collaborate with the resident or pharmacist in the publication of a project at the end of the training period at the Hospital, if appropriate in the context of the characteristics of the programme.

Likewise the commitments undertaken by SEFH are:

– Include the International Centre in the *International Centres of Excellence in Hospital Pharmacy* network and mention it in the public and scientific communications referring to this programme.
– Select the best candidates as beneficiaries of a training period.
– Guarantee that the Spanish residents or staff pharmacists are responsible for all expenses to make the rotation a success.
– Ensure that the pharmacist candidate has appropriate logistical support concerning travel arrangements, visa and accommodation.
– Facilitate the access of the pharmacists of the International Centre to training periods or rotation in Hospital Pharmacy Services of Hospitals in Spain.

In this context, as a result of the agreement I present the first observership experience carried out in the Hospital Pharmacy Service in Antrim Area Hospital in Northern Ireland within *International Centres of Excellence in Hospital Pharmacy* Programme.

Observership experience

In England, Scotland and Wales, the National Health Service (NHS) provides health care services while local councils provide social care services. In Northern Ireland these services are combined under what is known as Health and Social Care (HSC). The Northern Trust is one of five health and social care Trusts in Northern Ireland which became operational on 1 April 2007. The other trusts are: Belfast Health and Social Care Trust, South Eastern Health and Social Care Trust, Southern Health and Social Care Trust and Western Health and Social Care Trust. The observership took place in the Antrim Area Hospital (AAH) for 4 weeks (6th February to 5th March 2016). Antrim Area Hospital is the main hospital within the Northern Health and Social Care Trust (NHSCT) in Northern Ireland. AAH is a 426 bed district general teaching hospital serving a population of approximately 420 000. The hospital provides all acute, general medical and surgical services, supports a range of outpatient facilities and acts as a centre for the coordination of health service provision throughout a defined geographical area in Northern Ireland.

Antibiotic resistance (AMR) is increasing worldwide and has provided significant challenges to the management of infection in hospitals. Importantly, few truly novel antimicrobials have been developed. This has led to increased pressure on existing antibiotics and greater challenges in treating patients. Inappropriate use of antimicrobials increases the risk to patients of colonization and infection with resistant organisms and subsequent transmission to other patients. Consequently, antibiotic stewardship was developed to tackle the problem of healthcare acquired infections and to improve patient healthcare outcomes, and to reduce additional incurred healthcare costs. The Pharmacy and Medicine Management Department of Antrim Area Hospital has significant experience with integrated medicine management and has worked on several projects to improve the role of clinical pharmacist in the healthcare system aimed at improving patient healthcare outcomes[1,2]. The optimization of the medicines process has led to benefits to patients in terms of morbidity and mortality in addition to a reduction in healthcare resource utilization. The complementary role of pharmacy in the multidisciplinary team in Antrim Hospital has been identified and evidenced[1,2]. In order to assist in this work a novel surveillance system was devised, namely Live Automated Microbiology Pharmacy Surveillance System. The key benefits of this system are to give access to the full archived history of microbiology laboratory data, which can be analysed in real time, and retrospectively to detail changing trends in microorganisms and sensitivities. This system enables much greater optimization of antimicrobial use by the pharmacist and microbiologist[1].

My observership experience is presented considering the aforementioned context, i.e. the importance of hospital antibiotic stewardship alongside Antrim hospital significant experience in this area.

Antimicrobial stewardship (AMS) is an important element of both the 2011 Chief Medical Officer report[3] and the UK Five Year Antimicrobial Resistance Strategy[4]. Antimicrobial stewardship can be described as a package of measures designed to ensure the optimal selection of therapy for patients for the best clinical outcome while minimising toxicity[5]. This involves choosing the right antibiotic for the right patient, at the right time, with the right dose, and the right route, causing the least harm to the patient and future patients. The aims of such stewardship initiatives are to improve the safety and quality of patient care and to contribute significantly to reductions in the emergence and spread of AMR. For this reason, national antimicrobial stewardship toolkits for primary and secondary care have been published to assist organizations in the UK in fulfilling their obligations with regards to antimicrobial resistance[6]. These aims are ultimately achieved by improving antimicrobial prescribing through establishing a formal antimicrobial management program in which pharmacist have an important role.

The role of the specialist pharmacist will vary from one country to another and indeed from one organization to another. Over several years, the role of clinical antimicrobial pharmacist in Antrim hospital was developed to significantly contribute to the establishment and implementation of hospital antibiotic stewardship. The value of the latter was demonstrated through several leading research projects that aimed at improving antibiotic prescribing practice and decreasing the use of both high risk antibiotics and subsequently healthcare acquired infections[7-10]. These have shown the positive impact of having pharmacists as part of antimicrobial stewardship teams. Table 1 provides an outline of the roles and duties of the clinical antimicrobial pharmacist in Antrim Area Hospital.

In conclusion, the clinical antimicrobial pharmacists in Antrim hospital have been shown to have a key role in the Antimicrobial Management Team, providing education to different healthcare staff, creating antimicrobial policies, measuring local resistant patterns, providing alternative treatment options, auditing antimicrobial use and researching different approaches to try and decrease healthcare acquired infections. The present observership experience is of great value as it would allow pharmacists in Spain to improve patient healthcare outcomes through following the role of the pharmacist in antimicrobial stewardship, that was developed in AAH. The translation of the latter experience into Spanish hospitals can also contribute to establishing and improving the role of the clinical pharmacists within the Optimization Antimicrobial Use Program (PROA), emphasising the importance of the pharmacist contribution to better clinical practices. Furthermore, working in a country with an experience of integrating the pharmacist as part of the multidisciplinary team has been a very positive and enriching experience that provided me with insights to develop my professional career aiming at delivering better healthcare service to our population. It was also a great opportunity for networking and establishing links with the Antrim Area Hospital that would allow for several potential activities to take place, with the support and facilitation of the Spanish Society of Hospital Pharmacy (SEFH) under the *International Centres of Excellence in Hospital Pharmacy* Programme, for example, residents exchanges and observership, and research collaborations, which have been initiated thanks to the Hospital Universitario Funda-

Table 1. *Roles and duties of the antimicrobial pharmacist in Antrim Area Hospital*

Developing and implementing an antibiotic policy and standard treatment guidelines ("Empirical Antibiotic Therapy in Hospitalised Adults")
Identification of gaps and research priorities
Monitoring, auditing and review of policy
Determining compliance, adherence and appropriateness with the policy
Performing a point prevalence survey of antibiotic use utilizing the European Surveillance of Antimicrobial Consumption (ESAC)
Developing and monitoring Live Automated Microbiology Pharmacy Surveillance System
Developing educational programmes for both healthcare workers and the public
Implementing a hospital infection control programme
Establishing collaboration with international organizations
Performing multidisciplinary antibiotic review rounds
Attending ward rounds on specialties with high antibiotic use
Attending Trust infection prevention and control committee meetings
Modelling the impact of antibiotic use and infection control practices on the incidence of hospital-acquired infections through time-series analysis
Developing new methods for measuring antibiotic use in healthcare settings
Improving and maintaining adherence with hospital antibiotic policy
Suggesting for ordering additional laboratory testing and formal educational events
Monitoring and providing feedback regarding antibiotic resistance
Being available for referrals/advice asked by other healthcare staff
Monitoring and surveillance of antimicrobial usage (providing quarterly reports)
Consultation and patient review
Maintaining antibiotic management programme (i.e. Dashboard program) up-to-date
Managing the implementation/introduction of new agents across the Trust
Outpatient parenteral antimicrobial therapy (OPAT) services
Contributing to achieve quality targets as set by the antimicrobial management team
Providing advice on antimicrobials to be included within the hospital formulary

ción Alcorcón. This has been reflected and strengthened in the signed collaboration agreement between the Spanish Society of Hospital Pharmacy and the Antrim Area Hospital that was achieved during my observership.

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