of a medication safety pharmacist's role. What do these medication safety pharmacists do and how have they developed their roles or how have their roles evolved? How do they work multi-professionally to develop patient and medication safety? What kind of medication safety initiatives have they developed and how have these initiatives been implemented? How do these medication safety pharmacists support each other and develop national or international networks? In this session, two pharmacists working within medication safety discuss their experiences.

In Finland, the second medication safety officer (MSO) working at a hospital, providing tertiary care services to nearly one million people, started in 2020. Before starting, the hospital's Safe Medication working group and a survey to stakeholders had been used to identify the main and potential tasks for the MSO. Developing safe medication practices, and related guidelines, were prioritised. Networking and co-operation with healthcare professionals (e.g. doctors, nurses, pharmacists) plays a big role in getting started and to gain an insight into the current medication safety practices. To develop medication safety requires fostering and supporting change in practices: the support and commitment of the hospital management, the chief physician and the chief nurse is crucial.

The Irish Medication Safety Network (IMSN), a voluntary, independent group of hospital pharmacists from around 30 public and private hospitals, with an interest in medication safety, was established in 2007. The network's principal aim is to improve patient safety with regard to the use of medicines. The network promotes the exchange of information on medication safety and facilitates national and global initiatives to help minimize risks to patients.

PSQ2 - Lay involvement in prescribing committees - hearing the patient's voice

There is much value and many benefits of having meaningful lay (patient) involvement in decision-making bodies about medicines. However, the intrinsic benefit of the lay perspective is its ability to ensure decisions are anchored in real life.

There are many ways to gather information about patient and public views to inform decision making on prescribing committees, heath technology assessment or guideline development. These include using research findings and involving people through various methods of engagement to incorporate advice and feedback. In September 2021, the Guidelines International Network (GIN) Public Working Group launched an updated methodological toolkit with practical guidance and best practice examples to support organisations to encourage meaningful lay involvement. This session will showcase the value of lay people as members of these committees and, through case studies, will illustrate the significant advantages of meaningful lay participation beyond the usual guideline development arena.

PSQ3 - Patients as vigilant partners in improving medication safety

To be announced

SECTION 6: EDUCATION AND RESEARCH

ER1 - Patients' individuality: challenges facing hospital pharmacists

Patients respond differently to medications due to many reasons, which can either be intrinsic (age, race, weight, metabolic capacity, genetics) or extrinsic (co-medications, co-morbidities, etc.). These variations may be of pharmacokinetic or pharmacodynamic nature, implying that one dose does not suit everyone. To stratify dosing regimens for each individual patient, addressing the variability is essential. Inter-individual differences in drug's pharmacokinetics are easily observed, well documented and dosing regimens adjustments are required for clinically relevant variations. They imply that patients receiving the same dose of drug have different drug concentrations and/or exposures.

Since drug concentrations at target site are important for the response, relationship between drug's pharmacokinetic and pharmacodynamic profile guide appropriate dosing regimen. Deviations in drug behaviour are observed between patients and healthy volunteers, but also among target patient population (such as age, disease, or other covariate-defined groups). However, in individual patient we may observe multiple factors influencing drug behaviour, and optimizing dosing regimen requires the knowledge of the magnitude of the composite (combination of all factors) variability in individual patient.

Advanced computational methodologies have been developed to study and address the variations in drugs response, as well as to optimize dosing regimen to the patients' needs. Since, clinical pharmacy services of the hospital pharmacists are oriented towards therapeutic decision-making processes, upgrading the knowledge of advanced tools of the covariates-based dosing is important aspect of continuing pharmacists' training.

ER2 - Clinical trials - getting actively involved

Many hospital pharmacists are involved in clinical trials with medicinal products in their hospital. If a pharmaceutical company is the sponsor of the trial, the role of the hospital pharmacist covers mostly the logistics, storage and reconstitution of the investigational medicinal product (IMP). These basic routines, if performed in clinical trials, come with additional tasks regarding the drug accountability, the traceability, or the blinding of the IMP.

If hospital pharmacists are involved early in the planning of academic clinical trials, their contribution goes far beyond the above-mentioned tasks. Some clinical questions require blinded administration of the drugs being evaluated to ensure an unbiased assessment of effect. Although this fact is recognized by experts in clinical trial methodology, the availability of blinded drugs can be difficult and may require some trade-offs, or may even result in the discontinuation of research projects.

Particularly in the academic setting, pharmacists can make important contributions in developing IMPs tailored to the research question and in determining the appropriate strategy for blinding and emergency unblinding. As specialists for the production of medicinal products, hospital pharmacists also compile the IMP-related documentation for the submission to the competent authorities.

This seminar will provide the basic knowledge to perform these additional tasks and give examples of successful interprofessional collaboration. Besides, it will give insight into the design and realisation of investigator initiated clinical trials (IICTs) in the hospital setting and the challenges investigators and pharmacists may face during planning and conducting clinical trials.

W2 - Patient reported outcome measures – what tools can be used?

To assess the effects of clinical pharmacy interventions, in clinical practice or research projects, various outcome measures are being used. Examples of outcome measures include everything from "soft measures" such as satisfaction with services and health-related quality of life (HRQoL) to "hard measures" such as health service utilisation and mortality. When choosing an outcome measure it is essential to consider whether the intervention can indeed be expected to influence the proposed outcome(s). It has been suggested that the limited proof of effect for clinical pharmacy services such as medication reviews and efforts towards patient -education, -motivation, -partnership is mostly due to a lack of adapted outcome measures. Incidence of readmission is a commonly used outcome measure within the field of pharmacy practice research. This measure is however very multifactorial, affected by many aspects besides medicines optimisation, thus requiring large studies with long follow-up periods – and it remains uncertain to what degree these types of interventions actually influence hospitalisation.

A Patient-Reported Outcome Measure (PROM) is a report by a patient without a clinician's interpretation. PROMs are being used more and more in line with healthcare striving to promote and practice in a person-centred manner. They aim to capture effects that are relevant and important for the individual, rather than the traditional medical and clinical effects.

Health-related quality of life (HRQoL) measures are often used to assess patient-reported outcomes.

These measures, however, have been developed to evaluate the impact of disease burden on patients' life, not specifically the impact of pharmacotherapy. Recently, several outcomes measurement tools have been developed which focus specifically on patient reported drug-related quality of life or drug-related satisfaction. In this workshop you will get familiar with some of them and learn about how they can be used to evaluate your clinical pharmacy services.

Pharmacotherapy session - Safe medication use in patients with cirrhosis

The biotransformation and transport of medication are dependent on liver function. Hence, impaired liver condition can influence the pharmacokinetics and pharmacodynamics of medicines, especially of medication with a high hepatic extraction such as some analgesics, antidepressants and antihyperlipidemic medication. In 2013, it was estimated that 29 million persons were suffering from a chronic liver condition in the European Union. One common liver condition is cirrhosis.

Cirrhosis is a slowly progressive disease and results from ongoing inflammation of the liver. Liver architecture is changed into structurally abnormal nodules, fibrosis and subsequently loss of hepatocyte density and function. The severity of cirrhosis is classified with the Child-Pugh score. Precautions in medication use with cirrhosis are often included as warnings in the Summary of Product Characteristics (SmPC) without detailed advice on when to adjust dosage exactly or when to avoid certain medications. Studies show that in patients with cirrhosis, dosages of medication are incorrect and many patients experience adverse drug reactions.

For hospital pharmacists it is essential to understand when to intervene to prevent adverse drug reactions and toxicity. In this pharmacotherapy session, the characteristics of cirrhosis are highlighted together with practical advices on safe medication use in patients with cirrhosis.

Young Professional Career Centre

To be announced

The European Association of Hospital Pharmacists (EAHP) is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

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Registration Fee Student | 150 €
Registration Fee before 1 December 2022 | 520 €
Registration Fee beginning 1 December 2022 | 610 €
Registration Fee beginning 1 February 2023 | 695 €
Registation Fee Young Professional at 50% of the regular rate

Registration fee includes access to all sessions, the opening reception, the exhibition, lunches on Wednesday and Thursday and coffee/tea during official breaks.

The registration fee does not include VAT. 23% Portuguese VAT will be added at the end.

PAYMENT TERMS

Cheques will NOT be accepted.
Only payments made in Euro will be accepted.
As confirmation of registration, an invoice will be issued after receipt of the Registration form.

CANCELLATION POLICY

Cancellation of individual or group registrations received before 1 January 2023 will be refunded (less 100 € per registration, bank and administration charges per participant).

For groups a maximum of 15 % of the Registrations may be cancelled before 1 January 2023 (less 100 € per registration, bank and administration charges per participant). No refunds can be made after this date but substitution is always accepted.

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NOTE THAT ALL HOTEL BOOKINGS WILL BE MADE THROUGH THE EAHP WEBSIE VIA THE LINK TO THE HOUSING BUREAU.

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Audio and Video presentations from the Virtual Congress are now available via the EAHP website www.eahp.eu/publications/webcasts

PROGRAMME SCHEDULE

KEYNOTE 1 - Personalised medicine - opportunities for hospital pharmacists in clinical practice

The EU Health Ministers define personalized medicine as "A medical model using characterization of individuals' phenotypes and genotypes (e.g. molecular profiling, medical imaging, lifestyle data) for tailoring the right therapeutic strategy for the right person at the right time, and/or to determine the predisposition to disease and/or to deliver timely and targeted prevention" (1).

New technologies are developing to determine the individual patient's genetic information, often referred to as "omics", which assist in identifying the risk of developing certain diseases as well as selection effective medication treatments and avoiding medication side effects. This omics information combined with the patient's age, organ function, comorbidities, existing medication treatment, diet and allergies provide the basis for selecting the best medication treatment for the individual patient. This information should be combined with the patient's preference of medication treatment.

Indeed, a core part of the hospital pharmacist's function is to individualise patient treatment based on objective data in collaboration with physicians and patients, hence the concept of personalized medicine provide ample opportunity for the hospital pharmacist in daily practice.
1:https://ec.europa.eu/health/medicinal-products/personalised-medicine_en

KEYNOTE 2 - Improving the communication of risk and benefits to patients

Choosing a treatment, deciding whether or not to have a surgical procedure or interrupting a treatment are all scenarios which can be influenced by how we present risks and benefits to patients.

A clear example is the recent case of the Astra Zeneca Covid vaccination, which was linked to an increased risk of developing thromboembolism. This risk was poorly communicated in many cases, leading some people to fear vaccination. Communicating risks and benefits is not straightforward; it is not simply about presenting the numbers you have to hand. It requires a series of strategies to ensure that these numbers have context, are only as precise as they deserve to be, are balanced, and are understandable.

The Winton Centre for Risk and Evidence Communication at the University of Cambridge, alongside other institutions, has researched closely with clinicians and patients to understand how risks and benefits are currently communicated in based on information they can understand, as well as taking into account their own values and preferences and attitude towards risk.

This keynote will address the issues around the conventional 'persuasive' approach so often taken in risk communication to 'maximise compliance', and the importance of moving towards an informative style which clearly communicates risks and benefits. The keynote will cover crucial strategies that pharmacists can put in practice any time they communicate risks and benefits of treatments to patients. Some of these strategies are:

never using just relative risks but adding absolute risks too; considering the format of how numerical information is presented; providing balanced information where consistent framing is essential; giving context to each situation; and, the use of visual aids and decision support tools. These points will be explained through examples on risks around medicines as well as other everyday examples of life. The audience will obtain practical advice for the next time they communicate risks and benefits, whether they talk about pain medicines, antibiotics or chemotherapy.

KEYNOTE 3 - Patient involvement in pharmacy practice research: no decision about me without me

To be announced

SECTION 1:
INTRODUCTORY STATEMENTS AND GOVERNANCE

IG1 - Hospital support for pharmacy research activities

A symbiosis between hospital pharmacy practice and research should provide synergy in both disciplines with the aim of benefitting patient treatment, but how do we provide a research friendly setting in the hospital pharmacy?

Close collaboration with a university may provide a natural research environment for undergraduate and post graduate students as well as for PhD students and senior researcher. Also, a university hospital may accommodate research within many disciplines, which fertilizes multidisciplinary research projects.

However, some hospital pharmacies are not affiliated with a university, which may course difficulties or maybe opportunities when starting and maintaining a research culture.

Core elements in a successful research culture include hospital management support, funding possibilities, networking opportunities and continued research support like access to a library including scientific journals. This session will give examples of how to achieve a successful research environment in a hospital pharmacy setting.

IG2 - The road to E-hospital pharmacy - are we there yet?

The provision of healthcare services supported by Information and Communication Technology (ICT) – such as computers, mobile phones, and satellite communications - is known as e-health. This same definition can be applied to pharmaceutical services provided in hospitals in order to speak about e-hospital pharmacy.

In 2017, EAHP developed the "EAHP Position Paper on eHealth and mHealth", referring to electronic and mobile health, urging national governments and health systems across Europe to take action towards:

- systematic and EU-wide achievement of electronic prescribing, administration and use of electronic medical records;
- ensuring barcoding of medicines to the single units in primary packages to enable more widespread take up of bedside scanning in European hospitals, thus improving patient safety;
- appropriate regulatory oversight mechanisms for mHealth applications to ensure that they have a positive impact and adequately protect patient data;
- provision of appropriate eHealth/mHealth training opportunities to healthcare professionals and promotion of digital health literacy;
- and involvement of hospital pharmacists in the design, specification of parameters and evaluation of ICT within the medicines processes.

Six years have gone by and much has been achieved, but we are constantly facing innovation and changes in healthcare.

Now the horizon is broadening, and we hear more and more about Digital Health, a term that includes not only e-health, but also developing areas such as the use of advanced computer sciences in fields such as "big data", genomics and artificial intelligence. Learning how these advances are being applied in hospital pharmacy and what else is in the horizon will let us know if we are at the end of the road...or just at the beginning.

IG3 - How the pandemic changed hospital pharmacy management

During the last decade health care systems have survived different crises: economic, epidemiological (Covid-19 pandemic) and political (war in Ukraine and in other countries), which have influenced the capability of health care systems in general and hospital pharmacies in particular.

Traditional approaches, which have focused on identifying system failures, and understanding the causes of incidents, are still important. But such an approach may not be sufficient to assess the situation.

The concept of resilience has been advocated since the last decade as a new way for safety management in different systems including health care. It has been described as the ability of either organizational or larger systems and individuals to return to some "normal" state of functioning after a disaster and being able to function without compromising system performance. This means that both health care systems and hospital pharmacies must be flexible or ready to adapt to a new normal situation, where health care system or hospital pharmacy functioning is reorganized or enhanced in some way in response to the disruption they face especially because hospital pharmacies are often at the back of the queue of all hospital needs.

What hospital pharmacists have learned from previous crises?

What options are there to continue the development of hospital pharmacies and implement the European Statements of Hospital Pharmacy into daily life?

SECTION 2:
SELECTION, PROCUREMENT AND DISTRIBUTION

SPD1 - Medicine procurement and distribution

The immediate concern of any hospital pharmacist is to ensure that every patient within the hospital receives the medications they need. For this reason, hospital pharmacists have a direct stake in the efficient functioning of the medicines supply chain. Pharmaceutical tendering is a complex process that involves different stakeholders and steps that are regulated at national level leading to diverse solutions in the different European countries.

Differently from medical devices, usually public tenders for medicines relies mainly on drug price and not on quality characteristics of the product, or on any supplemental service offered by the applicants. Some examples could be a more practical packaging, ease of mode of conservation, etc. With the advent of telemedicine, the offer could take into account additional services, i.e. home delivery, home administration etc.

In all this process the voice of the patient is fundamental, but barely taken into account.

SPD2 - The shortage pandemic - why we haven't succeded yet

After many years the occurrence of medicines shortages still constitutes a steady challenge for hospital pharmacists in terms of various shortages' management aspects. For example, when it comes to suggesting and sourcing therapeutic alternatives and accompanying the transition of medicines in various setting with expertise, information and education. If applied mitigation strategies fail, this challenge expands and escalates to other health care professionals and patients. The availability of therapeutically equivalent therapeutic options is considered a best-case scenario, whereas lack of adequate alternatives and resulting consequences (e.g. therapeutic delays) can be seen as a worst-case scenario.

In the past years, several different initiatives and projects, involving different stakeholders and other parties, were established, investigating causes and developing counteracting measures. Research on medicines shortages is conducted, as illustrated by many publications on various management aspects. On a political level, the problem of shortages is accepted as an essential and important one.

In 2020, the COVID-19 pandemic dramatically proved how fragile and susceptible supply chains of medicines still are and how quickly apparently stable situations can aggravate. After all achievements in the context of medicines shortages' management prior to COVID-19, enormous efforts are still needed to counteract shortages and stabilize drug supply sustainably. Is it realistic to consider shortages an unsolvable problem? Did shortages come to stay?

SPD3 - Green hospital - the role of Hospital Pharmacists

We all know about the benefits medicines can provide to our patients. This benefit is the highest priority in any decision we make around purchase and supply of medicines. Availability of the drug is the key for any drug treatment. Other priorities in the decision to put a drug in the formulary have always been safety issues and pharmacoeconomical reasons. But we are not living on an island and can just focus on the outcome of our patients alone. Climate change is a fact and we had to learn that health systems and so also hospitals have a great impact on climate change in producing a carbon footprint which is big. Discussions about carbon footprints are still controversial. It is always some kind of „what can we do if others do nothing or do worse". We have to overcome those points and just take action in our own field. To be able to act we have to know the facts around carbon footprint of hospitals, hospital pharmacies, medicines, to name a few. When we put the carbon footprint issue in our basis for decision-making the first step into a green medicines supply chain management is done. Another point where practice can influence the carbon footprint of hospitals is just pure logistic. This does not only focus on the in-hospital supply chains but also the ordering process of hospital pharmacies at pharmaceutical industry and the out-hospital supply chains and logistics. The speakers will give an overview about the impacts of different contributions to the carbon footprint of health systems and how we could include those in our decision-making process with the goal to positively influence the impact of hospitals to climate change. They will also show the role hospital pharmacist can take in this process and how to develop green practices around medicines.

SECTION 3:
PRODUCTION AND COMPOUNDING

PC1 - Advanced therapy medicinal products (ATMPs) - challenging opportunities for hospital pharmacy

With the release of Regulation 1394/2007, a new framework for gene and cell therapy medicinal products and tissue-engineered products was established in the European Union. Advanced therapy medicinal products (ATMPs) are a dynamic and current topic for healthcare systems, with new products progressing to market at an increasing rate.

Advanced therapy medicinal products (ATMPs) are medicines for human use that are based on genes, tissues or cells. They offer groundbreaking new opportunities for the treatment of disease and injury. ATMPs can be classified into three main types:

- gene therapy medicines: these contain genes that lead to a therapeutic, prophylactic or diagnostic effect. They work by inserting 'recombinant' genes into the body, usually to treat a variety of diseases, including genetic disorders, cancer or long-term diseases. A recombinant gene is a stretch of DNA that is created in the laboratory, bringing together DNA from different sources;
- somatic-cell therapy medicines: these contain cells or tissues that have been manipulated to change their biological characteristics or cells or tissues not intended to be used for the same essential functions in the body. They can be used to cure, diagnose or prevent diseases;
- tissue-engineered medicines: these contain cells or tissues that have been modified so they can be used to repair, regenerate or replace human tissue;

In addition, some ATMPs may contain one or more medical devices as an integral part of the medicine, which are referred to as combined ATMPs. An example of this is cells embedded in a biodegradable matrix or scaffold.

ATMPs are medicines and so by definition, they fall under the responsibility of the hospital pharmacist. The hospital pharmacist should therefore be involved in procurement, production in the hospital, reconstitution, quality control and logistics. European Association of Hospital Pharmacist (EAHP) requires in EAHP Position Paper on Pharmacy Preparations and Compounding that management of ATMPs, as licensed medications, remains the responsibility of the hospital pharmacist. Pharmacists play an important role in the safe implementation of ATMPs. Wherever possible pharmacist advocate that medicines are issued to the clinical area in a ready to administer presentation. Some ATMPs arrive ready to administer but some require a preparation step to make them ready to administer to patients. The seminar will discuss the optimal location in which any preparation should be undertaken. It will discuss that this may vary depending on the type of ATMP and will ask whether pharmacy training is currently sufficient to safely handle cell or tissue-based products. Where preparation occurs in areas other than pharmacy aseptic suites it will discuss the oversight role of pharmacist who ensures, from a governance perspective, that the medicine is being handled in line with the Summary of Medicinal Product Characteristics or the Clinical Trial Protocol.

PC2 - Quality assurance of pharmacy preparations - a key for treatment success

The market for pharmaceutical products has been successively regulated as a result of several incidents that have caused hundreds of deaths and malformations. All the guidelines successively created about raw materials, drugs, medical devices, constitute one of the most complex and robust regulatory networks aimed at obtaining, safe and effective pharmaceutical products.

Good manufacturing practice (GMP) describes the minimum standard that a medicines manufacturer must meet in their production processes, and can be adapted to the hospital reality through the Guide to Good Practices for the Preparation of Medicinal Products in Healthcare Establishments – from Pharmaceutical Inspection Convention Pharmaceutical Inspection Co-Operation Scheme (PIC/S). Many parameters need to be mastered and monitored to ensure the quality of the products. In fact, the direct environment of the preparations should be controlled (quality of air, chemical and microbiological contaminations) and the skills of the technicians should be assessed. The European Medicines Agency (EMA) coordinates inspections to verify compliance with these standards and plays a key role in harmonising GMP activities at European Union (EU) level.

The available drugs for use in European hospitals have evolved in number and complexity and it is anticipated in the near future that new delivery systems (e.g. inactivated virus, microchips; lipid-based nanoparticles, etc) may be used in our patient's treatments. On the other hand, numerous medicines considered fundamental or very important for the treatment of multiple diseases are subject to increasingly frequent shortage or out-of-stock situations.

The hospital pharmacist is responsible for the quality of drug products and medical devices used in the wards, so quality assurance systems must keep up with these new realities, ensuring the ultimate goal to patients' drug treatments: to exist, to be effective and safe.

W1- Is compounding (always) the answer to drug shortages?

Since years drug shortages are the new reality in the pharmaceutical sector and will not disappear from the scene again. They may have their origin in increased demand, falling prices, lack of raw materials, logistical problems, administrative formalities, closed borders or even a pandemic. And they always cost hospital pharmacies hands full of money and personnel to manage. But even with extra staffing, it is not always possible to buy or to import a valid alternative to guarantee the continuity of therapy and pharmaceutical care.

Sometimes a registered drug is available on the market but at such a high price the healthcare payer cannot afford it, resulting in a practical shortage.

Fortunately, hospital pharmacists were trained in the art of compounding and can offer a way out of long term shortages of critical products. But is everything possible or are there limits to this solution?

In this workshop we will present different cases to discuss all possible hurdles and learn from best practices. Availability of raw materials, technical feasibility, operator safety, quality control, economic aspects, scalability and different legal requirements per country have impact on the equation.

SECTION 4:
CLINICAL PHARMACY SERVICES

CPS1 - Pharmacogenomic testing to optimise therapy

Over the past decade it has become increasingly apparent that genetically controlled variations in drug disposition and response are important factors for drug efficacy and safety. Testing patients for pharmacogenomic variants allows healthcare providers to provide their patients with a more personalized drug therapy and thus achieving the optimal therapeutic response, avoiding therapeutic failure and minimising side effects and toxicity.

Two broad approaches of pharmacogenetic testing can be taken: a point of care testing in which genotyping for specific variants is undertaken at the time of drug prescription, and a pre-emptive approach in which pharmacogenetic testing is performed for multiple variants that are thought to affect drug response. The information is then archived for later use when a target drug is prescribed. For drugs with known pharmacogenetic variations guidelines have been developed in order to help clinicians understand how available genetic test results could be used to optimize drug therapy.

Despite clinical and scientific advances of pharmacogenetic testing, its application into routine clinical practice remains limited. Potential barriers that need to be overcome may include cost-effectiveness of the testing, ethical concerns over the use of DNA and lack of education.

During this seminar we will address the current state of implementation of pharmacogenetic testing, the rationale for both approaches, impact on the cost-effectiveness and obstacles that must be overcome.

CPS2 - From benefit to burden - safely discontinuing medicines at the end of life

The burden of polypharmacy can represents an increased risk of adverse events, which can be particularly problematic at or near the end of life. Together with multimorbidity, the use of multiple medicines is common in Palliative Care. As conditions progress and the clinical context changes, the risk benefit ratio for medicines changes with some medicines moving from benefit to burden. When there is no or a limited evidence base for stopping medicines, a pragmatic and safe approach is needed. There is a need to explore the clinical reasoning that occurs, the barriers to deprescribing and conversations that take place.

INT1 - The expanding role of the hospital pharmacists in the care of pre and post renal transplant patients

Renal transplantation is the treatment of choice for end-stage renal failure as it has been shown to reduce the high mortality observed in these patients. Both the perioperative medication management and the post-transplant long term medication management are crucial for the wellbeing of the renal transplant patients. Soon after the transplant these patients are commenced on multiple immunosuppressant medications which are characterized by a narrow therapeutic index, are responsible for frequent adverse drug events as well as drug-drug interactions. Thanks to the renal transplant, patients now live longer and inevitably they are exposed to immunosuppressants for a longer period of time. This prolonged exposure can potentially cause additional threats to the transplant patients, such as infections, malignancies, metabolic disorders, and hypertension. It follows that, in addition to the immunosuppressant agents, renal transplant patients require also non-immunosuppressant medications, not only to counteract the side-effects of the immunosuppressants but also to treat the complications caused by them. The combination of complex immunosuppressants and non-immunosuppressants medication regimes exposes the renal transplant recipients to an increased risk of experiencing adverse drug events as well drug-drug interactions.

This seminar will focus on medication management strategies the hospital pharmacists (HP) uses to optimize the care of renal transplant recipient patients and improve patients safety.

INT2 - The art of estimating renal function in adult patient groups

Hospital pharmacists review patients' medication daily and assess risk factors to reduce patient harm. One of those risk factors is the renal function. Pharmacist advice physicians on dose-adjustments of renally excreted medication or on the discontinuation of medication that could further decrease renal function. Before the introduction of formulas to estimate GFR (glomerular filtration rate), the most commonly used measure was the serum creatinine concentration. However, the serum creatinine is not only determined by glomerular filtration, but also dependent on many other factors such as muscle mass, meat consumption, medication use and malnutrition.

The formulas to estimate GFR use serum creatinine concentration and take into account several variables such as age, gender, weight and race. The most commonly used formulas in daily practice are the Cockcroft-Gault formula, the Modification of Diet in Renal Disease (MDRD) formula and the Chronic Kidney Disease Epidemiology collaboration equation (CKD-EPI). These formulas have been developed in populations with specific characteristics, which hamper their use in various populations with a wide range of renal function. It is essential to understand the pitfalls of these formulas to allow correct interpretation of their results in adult patients.

In this interactive session the characteristics of the several formulas are discussed. Also, the interpretation of these formulas in different patient groups - such as patients with obesity or older patients – is addressed.

SECTION 5:
PATIENT SAFETY AND QUALITY ASSURANCE

PSQ1 - Become a medication safety pharmacist!

Medication errors, such as administering a wrong medicine to a patient, are common worldwide. Tackling this problem requires seeking for systems based risk management approaches in healthcare. Co-ordinating and promoting medication safety is an important part