therapeutic areas based on the DPWG recommendations. In Ontario, Canada, the PRIME study (http://www.open-pharmacy-research.ca/research-projects/prime/)is ongoing, where pharmacists receive a training package on pharmacogenomics and its applied use, with the focus on psychiatric medications. The pharmacists then work in multi-disciplinary teams, using genomic information to find the best medication options for the patients.

This interactive session will demonstrate how the growing science of pharmacogenomics can be brought to clinical practice. What knowledge and skills are needed by the clinicians? What are the opportunities and limitations within this field?

SECTION 5: PATIENT SAFETY AND QUALITY ASSURANCE

PQ1 – Drug related hospital admissions - detection and prevention

Drug related problems (DRPs) contribute to hospitalization in up to 40% of older persons' admissions. In most cases, this concerns adverse drug reactions (normal dose and overdose) but drug therapy failures (e.g. undertreatment) are also common. The fact that an admission is drug related is often un-recognised and even when the causality is acknowledged, this is often not documented in the patient's medical records. Hospital clinical pharmacists, with their extreme focus on medication are perhaps the most suitable profession to detect drug related admissions (DRAs) and can thus play an important role in the prevention of recurrent DRAs. When determining the rate of DRAs it's unavoidable that it is a subjective measure and the results are often produced by experts who may have limited access to patient data. Also, the admissions can be divided into possibly, probably or certainly drug related, with the medication in question contributing to a small or large extent to the admission. Measures to prevent DRAs (and especially re-admissions) have been extensively tried and studied using medication reconciliation and reviews and follow-up phone calls to ensure correct medication management after discharge.

In this interactive session, participants will be introduced to different alternative methods to detect DRAs, including new structured tools, and pros and cons will be discussed. Examples of successful interventions to prevent drug related re-admissions will also be presented and discussed in plenum.

PQ2 – High-alert medicines and risk minimisation of medication errors

Approximately 6% of hospitalized patients experience an adverse drug event (ADE) during their hospital stay. An ADE is defined as "any injury resulting from a drug", including adverse drug reactions (ADRs) and medication errors (MEs). An ADR is a response to a drug which is noxious and unintended and which occurs at doses normally used. An ME is a mistake in the medication-use process caused by omissions or commissions. Around a quarter of medication-related injuries are estimated to be preventable. High-alert medications pose a higher risk for adverse drug events. Errors may or may not be more common with these drugs than with the use of any others; however, the consequences of these errors are more devastating. Anticoagulants and antithrombotics, opioids, insulins and cytotoxic drugs are examples of high-alert medications. How can hospital pharmacists identify unit and specialty specific high-alert medications and try to prevent serious MEs related to these?

An open safety culture, reporting and analysing MEs, structured processes, competence of staff and clinical pharmacy services are essential areas of medication safety and risk minimisation work. Risk minimisation measures aim to optimise the safe and effective use of a medicinal product throughout its life cycle. Planning and implementing risk minimisation measures and assessing their effectiveness are key elements of risk management. While the majority of safety concerns may be adequately addressed by routine risk minimisation measures, additional risk minimisation measures are necessary to manage risks of some medicines, especially post marketing when the medicines are in routine use in practice and taking into account human factors. What is the role of hospital pharmacist in the risk minimisation of these medicines?

PQ3 – Social media and pharmacovigilance 2.0

New drugs are thoroughly studied in clinical trials before they get market access but the limited, selected study population will not express all possible adverse drug reactions (ADR) or side effects of the new drug. Rare ADR will pass the radar and might potentially cause harm to the patient. Patients don't always inform their treating physicians with the minor inconveniences they experience when taking medication. But like it or not, the digital doctor is hot, and patients try to find answers on different forums and chats. They trust everything to social media, from the food they order in the restaurant to the itch they have since using their meds. When we have computers scraping the internet for certain combinations of product names and mesh terms for side effects they come up with a lot of data that can possibly identify rare ADR's. More and more pharmaceutical companies are looking into social listening as a supplemental data source for insight into post-marketing benefit-risk from the patient's perspective as well. But as the internet is a source of fake news and algorithms and posts are not always validated great caution must be required when interpreting and concluding on these data.

In this session, we will explore the possible use of social listening data for outcomes research primarily within safety and benefit-risk, presenting viewpoints from industry, social media site administrators, data vendors, and regulatory bodies.

W3 – Learning form medication errors

Medication error is defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is under the control of a health care professional, patient or consumer. These errors occur at all stages in medication use: ordering, prescription, dispensing and administration. Medication errors have significant implications on patient safety and their rates have been quoted to be in the region of 5-15 % per hospital admission in the developed world. Error detection reveals those errors and thus, encourages a safe culture. There are multiple tools for error detection given the available resources. For instance, medication errors can be detected by voluntary reporting, direct observation or chart review. Converting the collected data into real system change can be challenging. It´s important to create tools which are accessible to all healthcare workers and facilitate education. Learning from medication errors that occur in the practice is one of the best ways to prevent repeat occurrences. In a culture of safety, all errors should be viewed as learning opportunities, and information gathered from error analyses should be used to improve medication safety processes.

SECTION 6: EDUCATION AND RESEARCH

ER1 – When numbers are small - clinical trials in rare diseases

New therapies for rare diseases are always foreseen. Although clinical research methodology has set its standard since almost 60 years, paradigms for conducting clinical trials in rare diseases are dramatically different, due, by definition, to lack of sufficient numbers of subjects to enrol in order to reach statistically significant results. Hospital pharmacists face the question when new drugs come on the market, and there is the need of their evaluation for inclusion in hospital formularies.

The seminar will approach on one side the issue from the methodological standpoint, e.g. which are the rules and correct ways for conducting research for new therapeutical entities in rare diseases; on the other hand, the issue will be described from the patient standpoint, e.g., which are his/her expectations when they are asked to participate in clinical trials.

ER2 The European Hospital Pharmacist - the future in the making

The Common Training Framework (CTF) is a legal tool to achieve automatic professional qualification recognition across EU countries. It can be used by associations such as EAHP to lower mutual recognition barriers of education and training systems for professionals – such as hospital pharmacists – that can currently not make full use of their free movement rights. Apart from the facilitation of labour mobility, the competency-based approach to training, staff development and assessment of a CTF will improve the effectiveness of those who provide care and the outcome for patients. By harmonising systems and opening the hospital pharmacy profession further to the exchange of best practises patients will have access to the same quality care in every European country. With success comes challenges and with that comes change. Hence, the pathway towards developing competencies required of a hospital pharmacist and applying them across Europe was not always easy. Considerable progress has however been made since 2014 in both countries with an existing specialisation and countries establishing a specialisation with the help of CTF. The dream of a specialisation for hospital pharmacists has thus evolved into a tool that is slowly being widely across Europe.

This presentation will take you on the journey of CTF realisation and showcase the progress made and the challenges faced by both countries that already have a specialisation and those that were using the competency framework developed by EAHP to establish a specialisation.

W4 – Pharmacist-patient relationship in clinical trials

Pharmacist intervention in terms of improving safety in the use of medicines is particularly important when we come to clinical trials, due to the uncertainty in terms of efficacy and safety of investigational drugs. Pharmacist's contribution should start from informed consent administration, to dispensation, drug information and compliance evaluation. The workshop will simulate several scenarios of pharmacist's involvement with patients in the setting of a clinical trial, such as drug information at discharge, side effects and medication compliance. Simulation techniques and scenarios debriefing will be used in order to critically analyse the participants' involvement.

Audio and Video presentations from the Gothenburg Congress are now available via the EAHP web site www.eahp.eu/publications/webcasts

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

24th Congress of eahp

european association of hospital pharmacists

making the difference in medication

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CONGRESS VENUE

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REGISTRATION

Registration Fee **Student | 150 €**
Registration Fee **before 1 December 2018 | 520 €**
Registration Fee **beginning 1 December 2018 | 610 €**
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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. 21% Spanish VAT will be added at the end.

CANCELLATION POLICY

Cancellation of individual or group registrations received before 1 January 2019 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 2019 (less 100 € per registration, bank and administration charges per participant). No refunds can be made after this date but substitution is always accepted. All cancellations or changes must be sent in writing to registration@eahp.eu.
NOTE: PLEASE DO NOT SEND INDIVIDUAL REGISTRATION FORMS FOR GROUPS OF DELEGATES.

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CALL FOR ABSTRACTS

The Scientific Committee welcomes the submission of original contributions from all fields of hospital pharmacy. Abstracts submitted must not have been previously published or submitted to another congress except at the congress of their own national association. All abstracts will Show Hidden Characters be accepted for poster presentation only. The poster prize nominees will be requested to give an oral presentation on 27th March during the congress. The abstracts will be reviewed by colleagues from different European countries. Accepted abstracts will be published in the official Abstract Book and will also be available for viewing via the EAHP web site. Presenters are encouraged to have available handouts of their poster when presenting at the congress, and/or to have an e-mail address to allow attendants to ask for "electronic handouts" after the congress. For more information on submission and abstracts, please visit the following website, http://www.eahp.eu/congresses/24th-congress-eahp/abstract.

Deadline for submission : 15th October 2018

*EAHP confirms that Scientific Committee members responsible for the development of the Congress programme have signed and submitted the Conflict of Interest Disclosure forms.

POSTER AWARD

Encouragement prize for investigators.
The best abstracts/posters – with regards to aspects like originality, scientific quality and practical applicability – will be awarded with 3 prizes amounting 750 €, 500 € and 250 €. The Poster prize nominees will be requested to give an oral presentation on 27th March. The winners will be announced at the closing ceremony on 29th March 2018. Winners must be present to win.

KEYNOTE 1 – THE OMICS-APPROACH: THE BUZZ THAT MAKES THE WORLD GO ROUND!

In the last decades, biomedical research has seen many innovations. The publication of the full human genome sequence in 2003 lead the way for "genome" and "genomics" research. In the now so-called "post-genomic" research period, the focus shifted on the role of the genes, biochemical functions of gene products, the control of cellular biochemistry and metabolism. These new research areas are described by a variety of "omic"-terms, for example transcriptomics, proteomics, metabolomics or lipidomics.

The development of these omics technologies vastly impacts on pharmaceutical research, especially when it comes to drug target discovery and validation, drug toxicity assessment and the ever more important personalised medicine. Single omics technologies yield enormous amounts of data that have to be processed and analysed in networks and databases with the help of bioinformatic tools. Together they form the systems biology concept.

Hospital pharmacists need to have a thorough understanding of these technologies, its possibilities and limitations. They furthermore need to be aware of how omics technologies will influence the disciplines of medicine and pharmacy in the future.

KEYNOTE 2 – CLINICAL HUMAN FACTORS – DELIVERING HEALTHCARE UNDER PRESSURE

Delivering healthcare places individuals, teams and organisations under pressure. Staff have to make difficult decisions in dynamic, often unpredictable circumstances. In such intense situations, decision-making can be compromised, impacting on the quality of care, clinical outcomes, and potentially causing harm to the patient.

The principles and practices of Human Factors focus on optimising human performance through better understanding the behaviour of individuals, their interactions with each other and with their environment.

The vision, of the Clinical Human Factors Group puts this as a healthcare system that places an understanding of human factors at the heart of improving clinical, managerial and organisational practice leading to significant improvements in safety and efficiency.

This raises questions; what are Clinical Human Factors? What is their relevance to me and my practice? I am a scientist! isn't this all too touchy- feely?!

This keynote will present an introduction to Clinical Human Factors and how they can impact on my practice.

KEYNOTE 3 – INEQUALITIES IN EUROPEAN HEALTH SYSTEMS – ECONOMICS VERSUS ACCESS

The fact that there are inequalities in health systems worldwide and also in Europe is out of discussion. Reasons for those differences can be the different health care systems (e.g. Bismarck or Beveridge), different drug prices, income of people, environmental circumstances people live in and many reasons more. With this keynote lecture EAHP wants to give an overview on those differences with a focus on the affordability and accessibility of drugs in the different European health care settings.

SECTION 1: INTRODUCTORY STATEMENTS AND GOVERNANCE

IG1 – Implementation science - the inside story

Clinical guidelines even if created interdisciplinary with a high degree on consensus are often found not to be applied in the clinical routine. The subject of implementation science tries to bring light into the reasons behind the non-adherence to guidelines. Hospital pharmacists should know about the different barriers of implementation and the different methods to overcome those.

Those methods could be find in the field of dissemination, education and training, social interaction, decision support systems and others. Implementation of guidelines should follow a structured way and the possible barriers to implementation of guidelines should be analysed in advance.

IG2 – May I please speak with my hospital pharmacist?

The role of the hospital pharmacists in their patients' health care is rapidly expanding in various settings due to our expertise, accessibility, and shortage of other health care providers. Currently, some of the hospital pharmacists' roles include prescriber, disease treatment manager, patient safety manager, pharmaceutical care communicator, and educator. Patients' needs may be better understood by hospital pharmacists and therefore better solutions and information can be provided. Good examples of pharmacist-patient relationships may serve as inspiration for colleagues to self-develop services to establish a closer collaboration with patients.

In this interactive session successful partnership projects and initiatives will be presented, and methods for involving the patient in your everyday hospital pharmacy practice will be explored. These projects may be considered as leading examples, and success factors can be derived from them. Furthermore, barriers for establishing a functioning collaboration between the hospital pharmacist and the patient will be explored.

IG3 – Clinical human factors - the science of the effective hospital pharmacist

Clinical human factors have been defined as enhancing clinical performance through an understanding of the effects of teamwork, tasks, equipment, workspace, culture, organisation on human behaviour and abilities, and application of that knowledge in clinical settings.

Teamwork, working with colleagues is not a skill that comes equally easily to all of us. We perceive the world around us differently reach conclusions differently have different reactions, values motivations priorities.

How does the hospital pharmacist make sense of the behaviour of colleagues, [indeed their own reactions!] whether they are pharmacists or other healthcare professionals? To do so will impact positively on their ability, to manage staff and to engage with multidisciplinary teams.

Other benefits include enhancing their ability to negotiate, improve communication skills and impact on designing processes to improving patient safety.

W1 – Human factors in practice

In this workshop the themes introduced in keynote KN2 and expanded upon in seminar IG3 will be developed through the medium of hands on exercises. Giving participants the opportunity to experience first-hand elements of human factors and the relevance to their own personal professional practice. An appreciation of personality types contributes to improved communication, team working and leadership. Understanding how individuals process information and what their personal strengths and weaknesses maybe improves collective efficiency and outputs.
There are many personality type indicators such as Myers-Briggs; Belbin, Hartman colour personality profile are such examples. In this workshop one such system will be explored and how it impacts on team working.

SECTION 2: SELECTION, PROCUREMENT AND DISTRIBUTION

SPD1 – Health technology assessment – one step further!

New drugs are coming to the market with promise of better care for patients in serious diseases, but with soaring prices that may endanger the access of patients to them.

On the other hand, the regulators are under some criticism for facilitating the approval of drugs with weak evidence of relevant clinical efficacy. A published study (1) states that "From 2009 to 2013, the EMA approved the use of 48 cancer drugs for 68 indications. Of these, eight indications (12%) were approved on the basis of a single arm study. At the time of market approval, there was significant prolongation of survival in 24 of the 68 (35%). The magnitude of the benefit on overall survival ranged from 1.0 to 5.8 months (median 2.7 months). At the time of market approval, there was an improvement in quality of life in seven of 68 indications (10%)." Thus, Health Technology Assessment after-market authorisation is becoming widespread practice in Europe, because healthcare providers have to choose carefully where they spend their money. Also, pan-European initiatives are ongoing, from the EunetHTA group, and also in cooperation with EMA in an attempt to coordinate member states, industry and EMA to achieve approvals based on data useful for the healthcare provides decision.

In this seminar, we will review concepts such as PICO (Patients, Intervention, Comparison, Outcome), added value, and willingness to pay. We will focus on the reasons why regulatory approval is not enough and why HTA is needed. We will also describe the EuneHTA/EMA efforts and other coordinated initiatives in Europe, such as the "La Valetta" group.

SPD2 – Managed entry agreements - risk sharing and beyond

Managed entry agreements (MEAs) are mechanisms, which have been developed to limit the reimbursement of medicines, facilitate access to the market and to generate further clinical evidence of innovative, expensive drugs.

A variety of MEAs exist, and they may be categorized into "economically based agreements" (EBAs) and "performance-based agreements" (PBAs). EBAs, such as price-volume based agreements and capping agreements, are based on drug use at an aggregated level, while PBAs, such as risk sharing agreements, are based on use of the drug at patient level. The agreements require close monitoring of the drug use to ensure correct reimbursement of the drugs. In particular, PBAs may be challenged by the level of information needed for monitoring. Predefined, objective, clinical criteria to measure effect of the drug need to be available – preferably through clinical databases – and data should to be valid and quickly accessible for reimbursement. Otherwise it may be necessary to provide clinicians or hospital pharmacies with an administration burden to ensure availability of data. The MEAs require an agreement between the payer and the industry, which may be difficult, since the various types of MEAs may not seem to have a balanced benefit for both parties. However, some European countries have gained some experience with MEAs during previous years.

SPD3 – Inaccessibility of the right drugs

Vulnerabilities of the supply chain are mapped by several publications and cover the most current sources of disruptions. This overview is an important basis for all further considerations of improvement approaches. To evaluate the most promising coping strategies, the criteria to focus on will be to assess the degree of dependencies from third parties. Coping strategies with a low degree of dependences might be the option of choice to improve the availability of vital medicines. Unavailability is current for new medicines not yet marketed. The availability might be opened by compassionate use and early access.

Astonishingly, for coping strategies, the hospital pharmacy production is not figuring among the most favoured ones. Light is shed on the comparison of identification of worldwide available sources and the quality requirement for hospital pharmacy production, mainly in case of rare orphan drugs.

This seminar focuses on options to reduce the hospital pharmacist's dependence on third parties of the supply chain with a particular evaluation of the traditional hospital pharmacy production.

W2 – To make or to buy?

Since centuries pharmacists are the sole providers of drugs. It all started with the fine art of compounding and pharmacognosy. Nowadays most common therapies are commercially available from pharmaceutical companies. Nevertheless, some patients need custom made medication (e.g. paediatrics, rare disease patients, specific routes of administration) and there's a continuing evolution towards the dispensing of ready-to-administer medication from the hospital pharmacy.

To ensure that the scarce resources are used in the most effective way and to guarantee optimal therapy and safety to the patient the hospital pharmacist must evaluate each new request for compounding for appropriateness (Is the prescribed therapy right for the patient?). When the therapy is appropriate it can be compounded in the hospital pharmacy or outsourced to a compounding company or bought if commercially available. To decide on this the hospital pharmacist must do a "make-or-buy" analysis. A make-or-buy analysis takes into account all (hidden) costs of compounding such as raw materials, labour time, cost of equipment and building, administration, warehouse costs, costs of analysis, opportunity cost. As the analysis has many pitfalls it is necessary to know about different techniques, tips and tricks.

In this workshop several pitfalls and techniques will be presented and applied interactively in a real case.

SECTION 3: PRODUCTION AND COMPOUNDING

PC1 – Individual preparations - time to change the law?

Pharmacy preparation is the art and science of preparing personalized medications for patients. Pharmacy prepared medications are made based on a practitioners prescription in which individual ingredients are mixed together in the exact strength and dosage form required by the patient. This method allows the pharmacist to work with the patient and the prescriber to customize a medication to meet the patient's specific needs. Extemporaneously prepared medicines (also known as extemporaneous preparations, compounded preparations, pharmacy preparations) are unlicensed medicines and have not generally been assessed for safety and efficacy. Extemporaneously prepared medicines are used in pediatric, geriatric, and special needs patients. Special prepared dosage forms like RTA's (Ready To Administer) improve safety. New technical developments are coming into practice and require knowledge of e.g. ATMP's (Advanced Therapy Medicinal Products). From time to time pharmacy preparations also may play a role in case of shortages.

Pharmacy preparation is a unique compentency reserved to pharmacists within healthcare establishments. According to the European law preparation is restricted to own patients of a pharmacy. However, in some European countries delivery between pharmacies is allowed. Norms established by the Council of Europe for quality assurance and safety of medicines prepared by pharmacies specialised in preparation have been enshrined in Resolution CM/Res(2016)1 on quality and safety assurance requirements for medicinal products prepared in pharmacies for the special needs of patients (Succeeding Resolution CM/ResAP(2011)1 on quality and safety assurance requirements for medicinal products prepared in pharmacies for the special needs of patients). The resolution is major breakthorugh in protecting patient safety and in preventing gaps in quality and safety between medicinal products prepared in pharmacies and those made in industrial setting. National legislation should be adapted in accordance with the resolution.

PC2 – Preparation for neonates - a sensitive population

To minimise the risks in the reconstitution of medication preparations to neonates in clinical areas there is an EU resolution for i) risk handling, ii)handling requirements and iii) responsibilities (reference below). When considering the formulation of the medication, availability of suitable administration forms and concentration as well as appropriate osmolarity must be considered. Despite widespread use of different excipients in medicines for neonates, there is a lack of detailed description regarding the extent of such use in neonatal medicines, the pharmacokinetics and safety of many of these agents (e.g., ethanol, benzoates) are still not well described. Although excipients should have limited pharmacological activity, there is an increasing number of adverse reports in a paediatric population. This is mainly because pharmacokinetics and pharmacodynamics of excipients in neonates may have different activity if to be compared with adults and therefore could create adverse reactions.

PC3 From gene therapy to cell therapy - what about hospital pharmacy?

The so-called "advanced therapies" are not the future anymore. Gene therapy products such as T-VEC for melanoma are already in the market, and FDA has approved CAR-T cell therapy, a cell-based gene therapy, to treat adults with certain types of large B-cell lymphoma.

So, what's in it for hospital pharmacist? What new management strategies and processes must we implement for these products. What new skills, equipment and facilities must we have? What are the legal and regulatory constraints?

In this seminar we will describe the existing and upcoming gene and cell therapy products, and discuss management, skills and facilities needed to handle them, as well as the legal and regulatory framework applicable.

PC4 – Radiopharmacy - does it glow in the dark?

Radiopharmacy requires the expertise of pharmaceutical preparation and the skills to handle radioactive substances. Their clinical use, however, is associated with a risk deriving from radiation exposure and possible contamination during radiopharmaceutical formulation by chemical, biological and microbiological impurities. This is particularly important since the majority of radiopharmaceuticals are administered intra-venously. A thorough quality assurance (QA) programme should, therefore, be in place before administration to the patient. The responsibilities of a Radiopharmacist or Radiopharmaceutical Scientist includes the preparation of radiopharmaceuticals paying particular attention to safety and efficacy considerations. A working knowledge of pharmaceutical sciences including microbiology, chemistry, physiology/pharmacology together with some radiation physics provides essential underpinning knowledge. In addition a knowledge of analytical techniques including chromatography, gel filtration and electrophoresis is useful in relation to quality control, would be useful. All radiopharmaceuticals are, by definition, radioactive, so that radiation protection forms an integral part of the job.

It goes without saying that radiopharmacy is highly regulated, and it is necessary to be aware of proper procedures, taking into account the dual nature of radiopharmaceuticals as both medicines and radioactive products. Production of radiopharmaceuticals in hospitals is permitted in two ways. Firstly, materials are prepared under the terms of a Manufacturing Licence, issued by the Production Manager and a Quality Control Manager, one of whom is usually a pharmacist. In the second instance, materials are prepared under the so-called "section 10 exemption" and in this case supervision of the procedure has to be by a pharmacist.

This seminar will provide practical assistance to nuclear medicine centres in setting up and running a hospital 'hot laboratory' or radiopharmacy service. It also provides clear boundaries for different levels of radiopharmacy operations with a view to providing more information on staff qualifications, training, facilities, equipment, types of procedures, record keeping, QA and QC essential at that level.

SECTION 4: CLINICAL PHARMACY SERVICES

CPS1 - Responding to individual metabolism by genomics and metabolomics

Therapeutic Drug Monitoring (TDM) is expanded by omics technology in a way that drug selection and dose adaption can be justified on a scientific basis of genes, enzyme activities, and metabolites.

A response of a medicines as expected for an average patient group depends on normal functions of enzymes on the pharmacokinetic pathway and on normal structures of the receptors. Genomics gives the answers on whether inherited inborn errors afford a specific kind of treatment. Today's TDM still consists of snapshots representing the status at the moment of the blood sampling. Continued monitoring is needed to assess the adequate plasma level of a physiological or xenobiotic intermediate or metabolite. To be correctly interpreted, and for legal reason such as in doping scenarios, not only an accurate value is needed, but sometimes more information such as a genetic profile of the patient or the athlete, in order to assess precisely if a high plasma level of hormones or their metabolites is genetically explainable or not.

This seminar focuses on the analytical techniques followed up by interpretational challenges encountered in today's pharmacotherapy, sports and black-market scenes.

CPS2 – Medicines optimisation in paediatric patients

Medicines play an essential role in curing disease. However, there is a growing number of reports that shows us that many patients do not use medicines as prescribed or do not receive as much information as they need. Medication noncompliance (adherence) remains a pervasive medical problem not only in adult population but also in children. Multiple variables contribute to nonadherence negatively affecting treatment outcomes, for example, children's medication related beliefs and problems related to medicine use which may be considered as noncompliance: dose omissions, incorrect dosage, improper dosing intervals patients' unwillingness to use medications, etc. Medication compliance in paediatrics is unique because not only compliance of the child but also parents must be taken into account. There is no uniform agreement what degree of compliance is required for an adequate therapeutic outcome in paediatric patients. At the same time the extent to which any patient adheres to a medical regimen is an essential determinant of clinical success. Many problems potentially generating noncompliance might be prevented, if children would be empowered as medicine users. Communicating with children taking into account their cognitive development is one important way to prevent noncompliance problems.

Medicines optimisation focuses on improved outcomes for patients, e.g., helps patients to take their medicines correctly and to improve medicines safety.

CPS3 – Optimising medication adherence

Communication skill of a healthcare professional is one of the most important factors that influence the extent to which patients adhere to treatment recommendations. Information is often provided to patients in a disease-centred or drug-centred rather than patient-centred way and information alone does not guarantee that patients will follow medical or pharmaceutical advice. Successful collaboration with patients requires tailoring services to individual patients rather than basing communication on general assumptions. Providing patients with information is not, necessarily, patient teaching, and information acquisition by patients is not, necessarily, education. Patient coaching is an active process of communication by which learning is made possible and built on a partnership between the healthcare professional and the patient and is based on mutual trust and respect. Identifying and including individual patient variables regarding healthcare (previous experience and beliefs, attitudes, perspectives, and concerns) into patient coaching provide tailored and relevant insight into the individual needs of a patient. Hospital pharmacists should be aware of the complexity of adherence and be more active in providing tailored and relevant information to help patients make informed choices to optimize medication adherence and to achieve optimal health outcome.

INT1 – The role of pharmacogenomics in medication optimisation

Pharmacogenomics is the study and clinical application of the genetic determinants of drug response. Pharmacogenomics represents one of the cornerstones of personalized medicine in which drugs and drug combinations can be expected to be tailored to a patient's unique genetic profile. The availability of genomic testing is growing, and patients may present today with genetic profiles that they have acquired in various ways. Information from genomic testing may be used in clinical practice to inform drug and dose selection to improve treatment efficacy, reduce adverse drug effects, reduce polypharmacy, and eventually improve clinical outcomes.

Over 200 US Food and Drug Administration (FDA)-approved drugs now contain pharmacogenomic information within their product label. Importantly, clinical guidelines providing therapeutic recommendations for over 40 well-known gene-drug pairs have now been produced by the US Clinical Pharmacogenetics Implementation Consortium (CPIC) and/or Dutch Pharmacogenetics Working Group (DPWG). In Europe, the Ubiquitous Pharmacogenomics (U-PGx) international consortium is conducting the PREPARE implementation multicenter prospective study to assess the clinical utility of pre-emptive genotyping to optimize the prescribing for multiple drugs across a range of