ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

EuroDURG

ispe
International Society
for Pharmacoepidemiology

EuroDURG Conference 2023

Sustainability of drug use: equity and innovation

DETAILED PROGRAM

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	TUESDAY 27 JUNE			WEDNESDAY 28 JUNE		THURSDAY 29 JUNE			FRIDAY 30 JUNE		
				SCIENTIFIC PROGRAM PART I		SCIENTIFIC PROGRAM PART III			SCIENTIFIC PROGRAM PART V		
9.00 am				**WELCOME** **PLENARY 1:** Sustainability of drug utilisations – economic, social and environmental aspects **Room A** **Bldg. A**		**T-KL5/OC3** Cross-national comparisons **Room B** **Bldg. A**	**T- KL6/OC4** Drugs & Environment **Room C** **Bldg. A**	**T-KL7/OC5** Methodological challenges in DUR **Room A** **Bldg. A**	**F-OC8** DUR in specific therapeutic areas **Room A** **Bldg. A**	**F-OC9** Different roles of DUR in health policy **Room B** **Bldg. A**	**F-OC10** DUR and safety **Room C** **Bldg. A**
10.30 am				*Coffee break*		*Coffee break*			*Coffee break*		
11.00 am				**W-KL1/OC1** Medication adherence **Room A** **Bldg. A**	**W-KL2/OC2** Impact of COVID-19 on DU **Room B** **Bldg. A**	**T- KL8/OC6** Polypharmacy and Deprescribing **Room A** **Bldg. A**		**T-KL9/OC7** AI/Machine Learning and Big Data **Room B** **Bldg. A**	**PLENARY 3:** Unmet needs in drug utilisations – clinical, patient and drug policy perspective **Room A** **Bldg. A**		
12.30 pm	***Registration in the hallway of Building A***			*Lunch*		*Lunch*			**Closing session** Celebrating 50 years of DUR		
	EDUCATIONAL SESSIONS			SCIENTIFIC PROGRAM PART II		SCIENTIFIC PROGRAM PART IV					
1.30 pm	Welcome to the educational sessions (2.00 pm) **Room A** **Bldg. A**			**W-KL3** The value of the patient perspective in DUR **Room A** **Bldg. A**	**W-KL4** eHealth, digitalization and DUR **Room B** **Bldg. A**	**PLENARY 2:** Globalization of medicines use - Advances in DUR across the globe **Room A** **Bldg. A**					
2.15 pm	**T-ES1** Introduction to DUR **Room A** **Bldg. A**	**T-ES2** Qualitative/ quantitative mixed methods **Room C** **Bldg. A**	**T-ES3** Adherence I (in collaboration with ENABLE) **Room B** **Bldg. A**	**Poster Session I** **Hallway Ground Floor Bldg. A** **Hallway Ground Floor Bldg. B** **Room P Bldg. B** **Room Q Bldg. B**		**Poster Session II** **Hallway Ground Floor Bldg. A** **Hallway Ground Floor Bldg. B** **Room P Bldg. B** **Room Q Bldg. B**					
3.45 pm	*Coffee break*			*Coffee break*		*Coffee break*					
4.15-5.45 pm	**T-ES4** Critical appraisal of statistics in DUR **Room A** **Bldg. A**	**T-ES5** Longitudinal DU studies **Room C** **Bldg. A**	**T-ES6** Adherence II (in collaboration with ENABLE) **Room B** **Bldg. A**	**W-WS1** QIs and sustainable DU **Room A** **Bldg. A**	**W-WS2** Outcome measures in studies on the quality of (de) prescribing in older people **Room B** **Bldg. A**	**T-WS3** Challenges with new medications **Room A** **Bldg. A**		**T-WS4** PROMs: added value for DU **Room B** **Bldg. A**			
	Welcome Ceremony			*EuroDURG general assembly*		*EuroDURG Gala Dinner*					

Legend

ES *educational session*
KL *key lecture*
OC *oral communication*
WS *workshop*

DU(R) *drug utilisations (research)*
QIs *quality indicators*
AI *artificial intelligence*
PROM *patient reported outcome measure*

Hallway – Building A Ground Floor ***Tuesday June 27th, 12.30 pm***

Registration

Room A – Building A Ground Floor ***Tuesday June 27th, 2.00 – 2.15 pm***

WELCOME TO THE EDUCATIONAL SESSIONS

Room A – Building A First Floor ***Tuesday June 27th, 2.15 – 3.45 pm***

T-ES1

INTRODUCTION TO DUR

Trainer: Hege Salvesen Blix

Title: Special focus on classification systems and measurment units

Background
Understanding the importance of conducting Drug Utilization Research (DUR) and the value that the results might bring to the medical scientific community is the cornerstone for a DU beginner researcher. At the same time, conducting DUR comes with many challenges for the researcher and requires expertise in a broad range of research methodologies. In a broad manner, DU research methods can be categorized as either quantitative or qualitative and different study designs can be conducted using various data sources. The DU researcher must select the most appropriate methods for answering the research questions. At the basis of DUR is the presentation, comparison and understanding of drug consumption statistics. A classification system can support this process, an example is the internationally accepted classification system called ATC/DDD methodology, developed, and maintained by the WHO Collaborating Centre for Drug Statistics Methodology. Drugs are classified according to their Anatomical Therapeutic Chemical (ATC) class and are assigned a defined daily dose (DDD).

Aim
To raise awareness of the importance of DUR and the methodological challenges for a researcher and to practice opportunities and pitfalls in using different classification systems and measurement units, with a special emphasize on ATC-DDD.

Target audience
Beginning researchers in the field of DUR with little/no experience in research methods and in using classification systems like ATC/DDD.

Description

- Introducing the importance of DUR
- Basic information on study designs (descriptive/analytical/intervention studies)
- Basic information on data sources (primary data collection/secondary data sources)
- Difference between aggregate and individual level analysis
- Basic information on the ATC/DDD-methodology and other drug classification systems
- Challenges in applying the ATC/DDD-methodology, including how to deal with combination products and the importance of including the correct ATC codes into your research
- Work group and a plenary discussion based on specific examples for DUR data interpretation

T-ES2

QUALITATIVE/QUANTITATIVE MIXED METHODS

Trainers: Petra Denig, Lisa Pont

Title: The added value of doing mixed methods research

Background
This course provides basic theory and practical tips in conducting drug utilization research when required information is not captured in databases or when large databases are not available. Common study designs used to collect data through observations, medical records or questionnaires will be presented and the strengths and limitations of working without large databases discussed. Hands-on experience via a workshop will expose course participants to different study designs and rich discussions on how to answer relevant questions about safety and utilization of medicines in primary and secondary care settings using mixed methods.

Aim
To address the value of mixed methods research and discuss how to include the patient's perspective in DUR.

Target Audience
DUR researcher at different levels with limited experience in using mixed methods (mix of quantitative and qualitative methods).

Description

- Introduction to mixed methods research
- Workshop with discussion of practical examples
- Plenary discussion

T-ES3

ADHERENCE I *(in collaboration with ENABLE)*

Trainers: Monique Elseviers, Enrica Menditto, Cristina Ghiciuc

Title: Medication adherence technologies – opportunities to measure adherence in drug utilization research

Background
Development of technologies for medication adherence has taken big leaps, and numerous technologies are available to measure adherence: monitoring devices, self-report questionnaires in electronic formats, medico-administrative databases. These represent opportunities as well as challenges for obtaining quality data on medication adherence and on the use of digital tools to support medication adherence.

Aim
This workshop aims to give an overview of different methods to assess medication adherence and how it can be measured how patients are using these technologies.

Target audience
Participants in ENABLE training school, conference attendees interested in adherence.

Description
The workshop will begin with a short introduction to digital technologies in medication adherence, mainly to set the scene for attendants that have not been at the training school. Such technologies include, e.g., smart pillboxes/packaging, digital inhalers, audio and vibration-based tracking devices, pill-tracers and e-injection pens, e-Health self-management applications and various applications of big data. Short presentations will follow on primary and secondary data sources when assessing different aspects of adherence (initiation, implementation, and persistence) and how patients are using digital tools. Interactive discussions will be organized including 8-10 people in each group.

- Short presentations (3x10 min):
  - Digital tools in medication adherence - introduction to the session (Enrica)
  - Measuring adherence – an overview of methods (Monique)
  - Harvesting data from the digital tools (Cristina)
- Discussion in groups (45 min):
  - Which technologies are we talking about? People from the training school share experience with conference attendants
  - Pros and cons of different methods when measuring medication adherence?
  - How can we capture who is using digital technologies?
  - Which are the barriers capturing and analysing data from the digital tools?
- Summary of key learnings (15 min): short reports from groups.

T-ES4

CRITICAL APPRAISAL OF STATISTICS IN DUR

Trainers: Monique Elseviers, Mina Tadrous

Background
While performing a literature search, writing a research paper, or reviewing a manuscript for publication, it is not always clear how to appreciate what you are reading and what basic rules you can consider for the presentation of statistical DU results in tables and figures.

Aim
To illustrate how DU data can be presented, visualized, and interpreted using statistical methods.

Target audience
This practical educational session is useful for starting DU researcher to learn how to evaluate results presented in scientific literature and how to present your statistical results in tables and figures. Additionally, the session offers a workable overview of methodological and statistical points to consider while performing a review of a DUR manuscript.

Description
This is an educational session in the format of a workshop. The session will start with an introduction where the papers selected for discussion will be shortly presented (15'). Participants will be divided in working group. Each group will receive one of the published study reports for evaluating the methods and statistics used, followed by a critical appraisal of the presentation of the results in tables and figures (30'). Each group will present their findings for the complete audience (30'). Finally, take home lessons for critical appraisal of published research results in DUR will be summarized (15').

Room C – Building A First Floor ***Tuesday June 27th, 4.15 – 5.45 pm***

T-ES5

LONGITUDINAL DU STUDIES

Trainers: Amanj Kurdi, Per-Jostein Samuelsen, Björn Wettermark

Background
Patient-level data on drug utilization can be used in longitudinal analyses of medication prevalence, trends, persistence, switching and combinations. However, there are several methodological aspects needed to take into account, when planning and conducting these studies.

Aim
To increase the awareness on how to conduct longitudinal analyses of DU data, including repeated measures, switching, combinations, and discontinuation.

Target audience
Researchers and analysts who are interested in conducting or assessing longitudinal DU studies.

Description
The workshop will consist of three presentations addressing various methodological aspects related to the analysing longitudinal DU data.

- Introduction to longitudinal DU studies (Wettermark, 30 min incl questions)
  - Aggregated vs. individual level data
  - Data sources and study designs
  - Key epidemiological measures for longitudinal data
- Analysing discontinuation and switching in dispensing data (Kurdi, 30 min incl questions)
  - Creating treatment episodes
  - How to define discontinuation, persistence, and switching
- Selected study types and methodological challenges (Samuelsen, 30 min incl questions)
  - Repeated measures
  - Quasi-experimental design (interrupted time series)

T-ES6

ADHERENCE II *(in collaboration with ENABLE)*

Trainers: Elisabetta Poluzzi, Carlotta Lunghi, Janette Ribaut

Title: Medication adherence technologies – research designs on effectiveness and safety

Background
Research on medication adherence has heightened, underscoring the prevalence of inadequate compliance and its detrimental effects on health outcomes. In recent times, there has been a growing interest in leveraging digital technology to enhance medication adherence. This trend is reflective of the emergence of new and innovative solutions aimed at supporting individuals in managing their medications more effectively. Research design challenges in studying medication adherence technologies can arise from factors such as sample selection, study duration, technology complexity, real-world context, and ethical considerations.

Aims
To provide an overview of some key challenges involved in designing a medication adherence research study. We will discuss the general steps of validation and outcome research studies in the adherence field, as well as the unique aspects of studying digital technologies.

Target audience
Participants in ENABLE training school, conference attendees interested in adherence.

Description
The workshop will commence with a brief introduction to the research methods used in adherence research, validation studies, and outcome research. The focus will be on the difficulties and challenges of conducting these types of studies when digital technologies are involved. Trainees will examine practical examples and discuss the limitations and challenges of actual studies on medication adherence technologies. The session will conclude with group discussions and a summary of the key findings.

- Introduction to the session and short presentation (20 min): Challenges in designing research on adherence technologies
- Discussion in groups (40 min): groups will discuss the methodological needs to evaluate the effect of technologies to improve adherence and propose a draft of a checklist researchers should follow
- Summary of key learnings (25 min): presentations of discussion outputs (workshop chairs + facilitators)
- Conclusions (5 min): Key points emerged during the discussion will be summarized.

CONFERENCE WELCOME

Elisabetta Poluzzi, Chair of the local committee

Marion Bennie, Past-Chair of the scientific committee

Björn Wettermark, Chair of the scientific committee

PLENARY 1

SUSTAINABILITY OF DRUG UTILIZATION – ECONOMIC, SOCIAL, AND ENVIRONMENTAL ASPECTS

Chairs: Sabine Vogler**,** Fabrizio de Ponti

Keynote Lecturers: Giampiero Mazzaglia, Aukje Mantel-Teeuwisse, Marmar Nekoro

Background
Sustainability can be defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" The term was defined by the Bruntland commission in the late 1980s and United Nations subsequently launched 17 Sustainable Development Goals (SDGs), as a call for action by all countries. It is important to acknowledge that sustainability both relates to economic, social, and environmental aspects. Pharmaceuticals pose a challenge for the future in all these three aspects:

- medicine expenditure is rising more rapidly than health systems can afford
- there are large inequities in DU when comparing different countries and patient groups
- there is an increasing discussion on environmental burden of pharmaceuticals

Aims
To set the scene for the conference through addressing sustainability in drug utilization from the three different perspectives.

Description
The session starts with three short welcome talks, presenting the conference and the EuroDURG. It will be followed by three keynote presentations about sustainability, each one 20 min + 10 min questions in the end.

W-KL1/OC1

MEDICATION ADHERENCE

Chairs: Gabriel Sanfélix-Gimeno**,** Enrica Menditto

Keynote Lecturer: Alexandra L. Dima

Background
Medication adherence is unarguably a key aspect to improving chronic disease outcomes and reducing health care costs. Digitalisation is part of the future of drug utilization research and, specifically, in adherence research digitals tools will have an important role, for both measuring or monitoring adherence and for supporting patients' adherence by different actors at different levels (individual and healthcare system levels). Despite the opportunities offered by digital tools, they are not the unique solution, and some limitations exist.

Aims
To give an overview of digital tools for adherence measurement and for adherence support interventions, advantages, and disadvantages on using them, and some practical recommendations for researchers. To discuss other aspects of interest in the medication adherence field.

Description
The session will begin with an introduction to the use of digital tools for adherence research from an invited speaker. Different aspects of adherence will be discussed by contributors, followed by an open discussion with the audience. Oral presentation of 4 abstracts discussing different papers on the topic (15 mins each).

Keynote lecture
Digital tools for adherence research: opportunities and challenges for measurement and intervention.

Oral contributions

- Laura Mortelmans (University of Antwerp, Antwerp, Belgium), Evaluation of methods measuring medication adherence in patients with polypharmacy: a longitudinal and patient perspective.
- Lynn Elsey (Manchester University NHS Foundation Trust, Manchester, United Kingdom), Digital Adherence Monitoring of Controller Therapy among Patients with Severe Asthma enrolled in a 6-month Service Evaluation.
- Marie Ekenberg (Uppsala University, Uppsala, Sweden), Socioeconomic factors associated with low initiation rates of treatment for patients with type 2 diabetes.
- Sara Mucherino (Federico II University of Naples, Naples, Italy), Medication Adherence Trajectories to Oral Antidiabetics and Clinical Outcomes in Type2 Diabetic Patients.

W-KL2/OC2

IMPACT OF COVID-19 ON DU

Chairs: Ana Tomas Petrović, Francesco Trotta

Keynote Lecturer: Mina Tadrous

Background
The novel coronavirus (COVID-19) pandemic caused a large shift in the delivery of health care, including drugs. This should be of consideration for anyone conducting future DU studies. During the pandemic, measures to tackle it varied, as did policies introduced to manage some of the issues (i.e. drug shortages) that occurred during the pandemic. Health-care systems were under severe pressure, which impacted management of chronic conditions, including the use of drugs. The pandemic was accompanied by a massive wave of false and misleading information, with potential impact on drug utilization, safety concerns and slowing down the implementation of recommended preventive measures.

Aim
Bring light to the key changes observed in drug utilization during and following the pandemic from a global perspective.

Description
The session will begin with an introduction from an invited speaker. Observed challenges in drug distribution and use, as well as potential national, regional, and local solutions for the problems associated with the pandemic will be covered, as well as implications for future research considering the intricate changes observed. This will be followed by 4 oral submitted presentations.

Keynote lecture
Impact of COVID-19 on drug utilization: A Global perspective.

Oral contributions

- Guiling Zhou (University of Groningen, Groningen, Netherlands), Community Repurposed Drug Use Before and During COVID-19 Pandemic in the Netherlands: A Drug-utilization Study.
- Beatriz Santos (University of Lausanne, Geneva, Switzerland), Impact of Covid-19 pandemic on medication adherence and management in chronic patients: A cross sectional online survey in Geneva.
- Ana Tomas Petrović (University of Novi Sad, Novi Sad, Serbia), Impact of COVID-19 pandemic on initiation of antihypertensives in Sweden- An interrupted time series study.
- Helga Hambalek (University of Szeged, Szeged, Hungary), Impact on COVID19 pandemic on national outpatient antibiotic use.

W-KL3

THE VALUE OF THE PATIENT PERSPECTIVE IN DUR

Chair: Anna Birna Almarsdóttir

Keynote Lecturer: Tommasina Iorno

Background
Patient perspective in healthcare decisions is increasingly gaining more attention in health care, in order to improve inappropriate use of medicines, which can affect patient's health and impact healthcare costs. Various terms are used for the patient perspective, such as patient insights, patient involvement, patient engagement, citizen-centeredness, and shared decision making. Good collaboration between patients, healthcare professionals and other relevant stakeholders, based on appropriate tools and techniques, is essential to successfully integrate the patient's perspective into decisions about medicines use. Qualitative data research exploring the patient perspective and quantitative measures that have high validity for patients' lives strengthen this process.

Aims
To raise awareness of the importance of exploring and integrating patient perspective on medicine use into DUR and to address different areas of research where patient perspective is increasingly needed and integrated.

Description
This session will focus on the importance of patient perspective in DUR, the importance of evaluating the patient perspective and using qualitative methods, and as it is expressed in quantitative ways through PROs, PROMs, and PREMs. The discussion will be followed by an interactive example: participants have to think about a study design to evaluate the reasons why patients or healthy people use certain medications. The rest of the session will be dedicated to the patient perspective from two different angles: the research, which is conducted *on* patients (patients as data providers), and the research *with* patients (the involvement of patients in defining research priorities, designing studies, etc.).

W-KL4

eHEALTH, DIGITALIZATION AND DRUG UTILIZATION RESEARCH

Chairs: Seán MacBride-Stewart, Katarina Gvozdanović

Keynote Lecturers: Lorenzo Chiari

Background
Advances in eHealth have significant impact both on drug utilization and on drug utilisation research. Increasing implementation of different eHealth IT solutions in healthcare influence the way medicine are prescribed, dispensed and used generally allowing better control of the process and more timely and relevant measurement of the key performance indicators. Due to digitalisation large amount of data is being electronically captured, many of it suitable for the research and clinical/policy decision-making purposes. Possibility of data linkage but also methodological advances in data analysis such as use of machine learning or AI allow us to combine and reuse the data to extract new knowledge more than ever before in history. In addition, eHealth prompts standardisation and accuracy of data leading to easier comparison and benchmarking of the drug use process within different hospitals, regions or countries.

Aims
To provide examples of some eHealth solutions implemented in Europe and their impact on drug utilisation research.

Description
The session will begin with a general introduction to eHealth, new types of data that might become more readily available with digitalisation of healthcare and how this can be used to improve drug utilisation research. The introduction will be followed by an open discussion on examples of the use of richer datasets for different types of drug utilisation research.

POSTER SESSION 1

Hallway - Building A Ground Floor

DRUG UTILIZATION RESEARCH AND SAFETY – QUALITY OF MEDICINE USE

Corridor - Building B Ground Floor

LATE BREAKING CONTRIBUTIONS

Room P - Building B Ground Floor

SPECIFIC THERAPEUTIC AREAS (CARDIOVASCULAR, CANCER, ANTIBIOTICS ETC.)

Room Q - Building B Ground Floor

SPECIFIC THERAPEUTIC AREAS (CARDIOVASCULAR, CANCER, ANTIBIOTICS ETC.) – SPECIFIC POPULATIONS (AGE AND GENDER DIFFERENCES, SOCIO-ECONOMIC IMPACT ON DRUG UTILIZATION, ETC.)

W-WS1

QUALITY INDICATORS AND SUSTAINABLE DRUG UTILIZATION

Facilitators: Björn Wettermark, Indrė Trečiokienė, Kristina Garuoliene

Background
When assessing the quality of medicine use, the focus is often on medication prescribing and dispensing or on medication taking. For explicit assessment, many tools, and quality and safety measures -also called quality indicators- have been developed, usually derived from literature reviews or guideline recommendations. A quality indicator is a measurable element of practice or performance for which there is evidence or consensus that it can be used to assess quality and thus in changing the quality of care provided. Sustainability in terms of equity, economy and environment has not been that well explored.

Aims
To describe different types of explicit indicators to assess quality use of medicines. How framework of quality indicator could be applied in measuring sustainable use of medicines.

Description
The session will begin with the general introduction to concept of quality indicators in drug utilization. The introduction will be followed by discussions in groups on different types of indicators with different sustainability perspectives and discussion with audience.

Target audience
Both academic and people in the health sector interested in rational use of drugs.

Schedule

Introduction 15’

Workshop part 1 30’. Different disease areas.

- Short presentation around the group - setting and the type of data you have access to
- What is the goal you want to achieve? What is problem/the area for improvement?
- Discuss on sustainability perspective (economic, equity and environment)
- Brainstorm potential indicators applicable to use with your data

Presentation of potential indicators 15’

Workshop part 2 15’:

- Select an indicator and complete the template on Padlet

Discussion and wrap up 15’

W-WS2

OUTCOME MEASURES IN STUDIES ON THE QUALITY OF (DE)PRESCRIBING IN OLDER PEOPLE

Facilitators: Lisa Pont, Petra Denig, Monique Elseviers

Background
Suboptimal medication prescribing in older people has been a concern for many years. Several instruments, such as the STOPP/START criteria, have been developed to address overprescribing and underprescribing in this population. Recently, deprescribing has received a lot of attention, balancing the risks and benefits of long term use of chronic medication in frail older people. Many drug utilization studies are conducted to explore appropriate or inappropriate medication (de)prescribing, and also develop and evaluate interventions. There are, however, specific methodological challenges in this area. Of particular concern in any study is the choice of the outcome measures.

Aim
Exploring and discussing issues of outcome measures when studying quality of medicine prescribing in older people.

Target audience
Experienced researchers and newcomers to the area, as well as people involved in improving outcomes such as policy makers.

Schedule

Introduction 30'

- Measuring deprescribing
- Measuring burden including patient reported outcomes
- Measuring inappropriate drug prescribing (in databases)

Workshop 45'

- Work in groups of 8-10 participants
- Choose one of the research scenarios and discuss the outcome measures you want to select. Questions include: how to validate the outcome measure, limitations of the outcome measure, operationalization, analytical issues. Prepare a short pitch of max. 2 min to present your choices to the others.

Presentation of the pitches, plenary discussion and wrap up 15'

T-KL5/OC3

OPPORTUNITIES AND CHALLENGES FOR COMPARISON OF DRUG UTILIZATION ACROSS COUNTRIES

Chairs: Luciane Cruz Lopes, Seán MacBride-Stewart

Keynote Lecturer: Monique Elseviers**,** Indrė Trečiokienė

Background
During previous EuroDURG and ISPE conferences, cross-national comparison (CNC) research gained attention. On the one hand, based on European experience, problems related to performing qualitative CNC studies were investigated and CNC Guidelines were presented. On the other hand, in many countries worldwide, the problem of availability and accessibility of DU data was identified and actions for improvement were worked out. Despite these differences CNC offers a wide range of opportunities to improve rational prescribing if taking into account the specific challenges related to this type of study designs

Aims
What are the opportunities and limitations to perform CNC studies anno 2023 and what are the future perspectives in this field?

Description
This session will start with a key note lecture (30'). First, an overview will be presented about the topics that can be handled in CNC studies in relation to the data sources available at the national level. Second, the methodological challenges of CNC studies will be highlighted offering tools to limit the validity of the comparison. Mention the guidelines. Third, future developments in the field of CNC research will be presented. The keynote lecture will be followed by the presentation of 4 selected abstracts in the field of CNC research (4x15').

Keynote lectures
Monique Elseviers: Opportunities and limitations to perform CNC studies anno 2023
Indrė Trečiokienė: DURDAM: a future development measuring the maturity of a DU database

Oral contributions

- Alva Gyllenhammar (Uppsala University, Uppsala, Sweden), Utilization of opioids in Sweden and Lithuania – A cross-national comparison.
- Marteen Lambert (University of Groningen, Groningen, Netherlands), Auditing Antibiotic Dispensing Practices in Community Pharmacies in 5 EU Countries.
- Carlotta Lunghi (University of Bologna, Bologna, Italy), Prevalence of antidepressant drugs utilization among adults and older adults: results from a systematic review and meta-analysis.
- Ippazio Cosimo Antonazzo (University of Milano-Bicocca, Monza, Italy), Essential Tremor and medications use: a retrospective cohort study by using UK and France primary care data.

T-KL6/OC4

DRUGS & ENVIRONMENT

Chairs: Tanja Mueller, Francesco Barone Adesi

Keynote Lecturer: Marmar Nekoro

Background
Global increase in use of pharmaceuticals brings many challenges, including environmental issues associated with medicine production, dispensing, use and disposal as pharmaceuticals and their residues reach the environment throughout drug life cycle. This is not limited to human use, but also includes veterinary drugs. Detrimental environmental effects are known for number of pharmaceutical products, with different strategies to tackle this issue. Environmental DUR studies can bring to light issues that can help guide decision-making processes focusing on strategies contributing to health, environment, and sustainability goals. Increasing availability of compiled information on concerns related to drugs in the environment brings opportunities for environmental DUR.

Aims
Describe contemporary advances in pharmacoenvironmentology and how DUR fits this bigger picture.

Description
Keynote lecture covering contemporary advances in eco-pharmacovigilance and pharmacoenvironmentology, covering broadly pathways of pharmaceuticals to the environment, their effects and holistic approach needed in tackling complex issue. Followed by 4 selected oral presentations.

Keynote lecture
Reducing environmental risk from pharmaceuticals - examples from Sweden.

Oral contributions

- Agnese Cangini (Agenzia Italiana del Farmaco, Rome, Italy), The antibiotics consumption in Italy according to the AWaRe Classification.
- Johanna Villén (Uppsala University, Uppsala, Sweden), Environmental burden and utilization of analgesics around Lake Mälaren, Sweden's largest drinking water source.
- Valentina Giunchi (University of Bologna, Bologna, Italy), Assessing environmental risks of pharmaceuticals included in the European Watch List using drug utilization data.
- Abdullah Jazzaa (Uppsala University, Uppsala, Sweden), To which extent are future doctors and pharmacists in Sweden educated about the environmental impact of pharmaceuticals?

T-KL7/OC5

METHODOLOGICAL CHALLENGES IN DUR: ITALIAN INPUTS

Chairs: Hege Salvesen Blix, Rosa Gini

Keynote Lecturer: Giuseppe Roberto

Background
Nowadays, healthcare generates almost a third of the world's data volume and this will continue to increase, opening many opportunities for DUR, but also bringing many challenges in planning and conducting DUR studies. In such context, development and dissemination of methodological standards is paramount to foster study quality, promoting transparency and reproducibility, and ultimately facilitate interpretation of results across different studies.

Aims
To provide insights into the experience of development and application of non-conventional approaches to leverage information stored in large electronic healthcare databases to generate real-world evidence on drug utilization.

Description
The session will start with a keynote lecture that will focus on the initiative of the Italian Working Group on Defined Daily Doses (DDDs) aiming at creating a publicly available list of ATC/DDDs pairs including ATC codes with no DDD assigned by WHO. The lecture will be followed by four oral contributions from Italian DUR centres which will focus on the use non-conventional methods in DUR, i.e. trajectory-based models for monitoring adherence to drug treatments, state sequence analyses for drug utilization pattern discovery, and the use of large multi-database study to identify populations of patients using biologics that were excluded from RCT to prioritize post-marketing surveillance.

Keynote lecture
Developing and sharing a comprehensive list of ATC/DDD pairs to foster drug utilization researche

Oral contributions

- Sabrina Giometto (University of Pisa, Pisa, Italy), Adherence to riluzole therapy in patients with Amyotrophic Lateral Sclerosis in three Italian regions - The CAESAR study.
- Alessandro Rosa (ASL Roma 1 - Lazio Region, Rome, Italy), Implementation of a novel approach to monitor exposure to lifelong therapies: the use of state sequence analysis (SSA) to assess maintenance immunosuppressive therapies after solid organ transplantation.
- Ylenia Ingrasciotta (University of Verona, Verona, Italy), Comparison of biological drug use for the treatment of immune-mediated inflammatory diseases in pivotal clinical trials vs. real-world setting: an Italian population-based study from the VALORE project.
- Giorgia Pellegrini (University of Verona, Verona, Italy), Adherence trajectories to biological treatments in patients with inflammatory bowel diseases: a pilot study from Sicily region.

T-KL8/OC6

DEPRESCRIBING: GUIDELINES, IMPLEMENTATION AND DUR

Chairs: Anna Birna Almarsdóttir, Alessandro Mugelli

Keynote Lecturer: Gianluca Trifirò

Background
Deprescribing is currently a hot topic in an ageing society with a rising prevalence of patients with multimorbidity and polypharmacy.
Polypharmacy has been defined in many ways, but most definitions concentrate on the number of drugs used by the patient as for example the use of five or more drugs. Polypharmacy is not necessarily an indicator of irrational use of medicines and therefore, a few tools are used to help deduce whether there the drugs are potentially inappropriate for the patient. This information on potentially inappropriate medicines has led to the emphasis on deprescribing. For years, polypharmacy has been and still is a very important area within DUR.
The concept of deprescribing relates to an active process with the goal of reducing the number of drugs taken by the patient and involves withdrawing inappropriate medicines in order to improve outcomes. It is important to take the view of the patients and their carers into account – that the patients use only the medications that they want and need. It is important to understand how deprescribing is implemented through guidelines into clinical practice, and to showcase the role of DUR in developing the concept.

Aims
First, to highlight how deprescribing as a process starts with the writing of evidence-based guidelines and is then implemented into practice. Second, to show the state of the art in DUR research on the concept of deprescribing.

Description
The session will begin with an introduction to a topical issue within the field from an invited speaker. Different aspects of deprescribing will be discussed by contributors, followed by an open discussion with the audience.

Keynote lecture
Challenges and opportunities for deprescribing in routine care.

Oral contributions

- Simon Hand (University of Leicester, Leicester, United Kingdom), A pharmacologically stratified model of multiple drug treatments in polypharmacy.
- Marc Simard (Université Laval, Québec, Canada), Ten-year trajectories of multimorbidity and impact on health services and polypharmacy in older people.
- Ali Alghamdi (University of Groningen, Groningen, Netherlands), A Cross-sectional Study on Polypharmacy and Co-medications in Alzheimer's Disease.
- Emma Bjørk (University of Southern Denmark, Odense, Denmark), Polypharmacy's association to mortality: A methodological case study.

T-KL9/OC7

MACHINE LEARNING FOR DRUG UTILIZATION ANALYSIS

Chairs: Gisbert W. Selke, Ursula Kirchmayer

Keynote Lecturer: Maurizio Sessa

Background
In drug utilisation research at the population level, the number of data points is often in the multi-million range, especially in secondary data research. While these data troves are being studied using the methods of classical statistics, the volume of data opens new possibilities for analysis. This involves, e.g., advanced ways to identify groups and clusters, to identify patterns, and to predict future events. For instance, machine-learning methods have been used to predict adherence, side effects of poly-medication, and likelihood of hospitalisation. On the other hand, results gained through machine-learning may be difficult to interpret intentionally, and there are also inherent dangers, e.g., through unintentional propagation of prejudices.

Aims
To map the potential application and the challenges of machine learning and artificial intelligence methods in drug utilisation research.

Description
The session will begin with an introduction to a topical issue within the field from an invited speaker. Different aspects of the topic will be discussed by contributors, followed by an open discussion.

Keynote lecture
Artificial Intelligence in Drug Utilization Research.

Oral contributions

- Kate Preston (University of Strathclyde, Glasgow, United Kingdom), Assessing the needs of clinicians working in adult critical care in Scotland for a sepsis fluid management Artificial Intelligence tool.
- Giorgio Limoncella (ARS Toscana, Firenze, Italy), Extracting pregnancies from heterogeneous data sources in Europe: a novel algorithm in the ConcePTION project.
- Clara Rodríguez-Bernal (FISABIO-HSRP, Valencia, Spain), The PREGVAL cohort. A dynamic population-based cohort of over 600,000 pregnancies from electronic health records in the Valencia Region.
- Tanja Mueller (University of Strathclyde, Glasgow, United Kingdom), Using record linkage of routinely collected electronic health care data to describe and evaluate systemic anti-cancer treatment: experiences from the Cancer Medicines Outcomes Programme in Scotland.

PLENARY 2

GLOBALIZATION OF MEDICINES USE: ADVANCES IN DUR ACROSS THE GLOBE

Chairs: Marion Bennie, Gisbert Silke

Keynote Lecturers: Lisa Pont, Claudia Osorio, Amanj Kurdi

Background
Medicines use is global and thus so is DUR. However, the development of DUR globally is in part a consequence of the data resources being generated through the clinical care of patients within health systems but also the access to these data and the workforce resources and skills focused on using these data to inform health policy, generate new evidence and support improvements in service delivery.

Aims
To present the range and diversity of DUR across the globe, consider the challenges facing the field of DUR and the opportunities for evidence generation on a global scale across our communities.

Description
The session will set the scene of the extent and scope of DUR across the globe, informed and drawn from the globalization section in the second edition of our DUR Methods and Applications book, this will be followed by an account from two regions of the world to illustrate the range and depth of DUR and consider opportunities for collaboration on the global stage.

Schedule
Lisa Pont - "DUR across the globe"

Introducing the global landscape, informed by the DUR Book Global section - the overview (15-20 mins)

Claudia Osorio - "Region South-Central America: our highlights, challenges and opportunities"

Amanj Kurdi - "Region Africa: our highlights, challenges and opportunities"

The speakers will present a summary for a region of the world on the range and scope of DUR and opportunities for cross national studies - moving from local to national to international (2 x 10 mins)

Questions (5-10 mins)

POSTER SESSION 2

Hallway - Building A Ground Floor

DRUG UTILIZATION RESEARCH AND HEALTH POLICY – POLYPHARMACY AND DEPRESCRIBING

Corridor - Building B Ground Floor

METHODOLOGICAL ADVANCES IN DRUG UTILIZATION

Room P - Building B Ground Floor

CROSS-NATIONAL COMPARISON – DRUG UTILIZATION RESEARCH AND PANDEMICS – INTERVENTIONS AND IMPLEMENTATION

Room Q - Building B Ground Floor

PATIENT PERSPECTIVES – MEDICATION ADHERENCE

T-WS3

CHALLENGES WITH NEW MEDICATIONS

Facilitators: Björn Wettermark, Sabine Vogler

Background
Many new medicines entering the market today differ from the new medications of one or two decades ago (e.g., the patient groups are narrower, there is less evidence on efficacy from phase III RCTs, their treatment costs are highly higher and there are more one-shot therapies, etc.).

Overall, there are several challenges around the development and market launch of new medicines, such as high uncertainty / lack of robust evidence, different evidence requirements for marketing authorisation and pricing / funding, possibly misleading incentives, unaffordable policies, limited knowledge of what is the pipeline, delayed market launch or non-availability in some countries. Drug utilization studies may help to manage their introduction and to improve appropriate use.

Aims
To outline key challenges with new medicines (with a focus of ATMPs) from a payer/healthcare perspective; To present how drug utilization research (DUR) may help and encourage participants to consider different approaches.

Description
The session will start with introduction characterising today's drug markets and challenges (compared to 10 years ago) and mapping different challenges. Further discussion will focus on solutions considered feasible and appropriate to address the challenges of new medicines (in particular for ATMPs), including limitations in the policy solutions as well as in underlying drug utilization studies. In the session we will try to address which additional drug utilization studies would be needed to address the current challenges, possibilities of data collection in DUR and prioritization of policy measures. After the session, participants should be aware of more challenges (new perspectives), also globally and possible solutions using DUR.

Target audience
Any participant of the EuroDURG 2023 conference, e.g., a student, a researcher, an expert in public administration or policymaker (regardless of the level of knowledge).

Schedule
Introduction 25'

Exploring how DUR could help in groups, written summary prepared 45'

Discussion and closing 20'

T-WS4

PROMs: ADDED VALUE FOR DU

Facilitators: Emma Dunlop, Marion Bennie, Tanja Mueller

Background
Patient Reported Outcomes refer to how patients rate or report their health, quality of life, or functional status-related outcomes, often to do with their healthcare or health interventions. Patient Reported Outcome Measures (PROMs) are the tools used to assess those outcomes.

PROMs are widely researched; from studies looking at PROMs design and validation, to their use in clinical trials, to studies exploring what matters most to patients and healthcare professionals regarding how PROMs can be used as part of routine care; and more.

Aim
To explore what PROMs are, how they fit into drugs utilization research (DUR), and the opportunities and challenges PROMs data may bring now and in the future in DUR.

Description
- Definition and overview of PROMs
- Group discussions on 3 areas: what PROMs data would be most useful in DUR; how can PROMs data and more traditional DUR data work together; and what DUR questions could be addressed by PROMs data?

Target audience
Any DUR researcher, regardless of level of knowledge / experience of PROMs data.

Schedule
- Welcome & Introduction
- What are PROMs?
- Breakout sessions:
  - What PROMs are most important to measure in Drugs Utilization Research?
    - What would be the most useful outcomes and/or PROMs tools that could be useful for DUR.
  - PROMs and DUR data together
    - How PROMs data can be used alongside more traditional DUR data, the opportunities and challenges.
  - What DUR questions / gaps in the research can we answer with PROMs data?
    - What current research questions/gaps in DUR could be addressed through PROMs data. Also discuss methods of data collection, data formats, challenges with and considerations of the data.
- Discussion and wrap up

F-OC8

DUR IN SPECIFIC POPULATIONS AND THERAPEUTIC AREAS

Chairs: Ana Tomas Petrović, Antonio Clavenna

Background
In descriptive drug utilisation studies, the goal is to describe the use and the quality of drug use in healthcare. To achieve this, the research has to focus on specific populations, diseases or groups of drugs. Specific population can be defined by various aspects such as sex, age groups (e.g., children, elderly), having specific state (e.g., pregnancy, end of life, emergency/disaster), settings (e.g., hospitalised patients, nursing home patients). In DU research the focus of the research is sometimes very inclusive in terms of therapeutic areas, but more often narrowed down to treatment of specific disease or drug group. The drug group of interest can be chosen by various peculiarities of the drug group: abuse/misuse potential and consequences, price/innovativeness, safety issues or the prevalence/importance of the disease they are used in.

Aim
To provide insight into recent research related to specific populations or drugs, especially focusing on emerging, popular, or exceptionally interesting areas of DUR.

Description
Oral presentations of a number of selected abstracts providing illustrations of drug utilization research related to specific populations and/or therapeutic areas.

Oral contributions

- Irene Mommers (University of Groningen, Groningen, Netherlands), The management of adult asthma: An observational study into real-world prescription patterns of inhalation medication.
- Ingvild Odsbu (The Norwegian Institute of Public Health, Oslo, Norway), Prevalence of pain-related and mental health diagnoses among persistent opioid users: a population-based registry-linkage study.
- Heidi Taipale (Niuvanniemi Hospital, Kuopio, Finland), Effectiveness of antidepressant use in persons with schizophrenia in real-world setting.
- Erika Papfalvi (University of Szeged, Szeged, Hungary), A pilot field study on antibacterial use at an Emergency Department.
- Tanja Mueller (University of Strathclyde, Glasgow, United Kingdom), Immunotherapy prescribing patterns in cancer patients across Scotland 2014 – 2020.
- Indrė Trečiokienė (Vilnius University, Vilnius, Lithuania), Prescribing of antihypertensives for different diagnoses – a cross sectional study in Stockholm, Sweden.

F-OC9

DIFFERENT ROLES OF DUR IN HEALTH POLICY

Chairs: Seán MacBride-Stewart, Francesco Nonino

Background
To ensure access to safe, cost-effective, and quality medicines and to foster appropriate drug utilization, governments apply a set of pharmaceutical regulations and policies. While appropriate drug utilization and patient access to medicines are overarching goals, stakeholders (government, public payer, industry, patient) may have opposing positions on how to reach these objectives. The introduction of new medicines, where there is increasing therapeutic complexity and costs, require ongoing development of health policy systems to balance medicine demand and financial risks. In order to secure the best use of limited resources a wider focus on the rational use of both established and new medicines is important. Common areas of inappropriate use suitable for drug utilisation research range from: variation in the uptake of new medicines, overuse/underuse of medicines and use of originators in the presence of generic/biosimilar alternatives.

Aim
To provide insight into recent research related to health policy implementation, especially focusing on emerging, popular, or exceptionally interesting areas of DUR.

Description
Oral presentations of six selected abstracts providing illustrations of drug utilization research related to the implementation of health policy.

Oral contributions

- Mina Tadrous (University of Toronto, Toronto, Canada), Effects of the July 2018 worldwide valsartan recall and shortage on global trends in antihypertensive medication use: a time-series analysis in 83 countries.
- Barbara Mostacci (IRCCS Istituto delle Scienze Neurologiche di Bologna, Bologna, Italy), The impact of regulatory restrictions on the use of valproic acid in women of childbearing age: an Italian study.
- Barbara Mintzes (The University of Sydney, Sydney, Australia), Is industry influence on pharmacoepidemiology 'muddying the waters'? A synthesis of current research evidence.
- Giacomo Vitturi (University of Verona, Verona, Italy), Strategies to improve the prescribing appropriateness in patients with type 2 diabetes mellitus (T2DM) in Veneto region: the impact of the Italian Medicines Agency's Note 100.
- Mikael Hoffmann (The NEPI Foundation, Stockholm, Sweden), Antidepressants to teenage girls in Sweden 2007–2022 – Incidence and prevalence as public national drug consumption statistics.
- Irene Dell'Anno (Fondazione ReS, Rome, Italy), The utilization of ruxolitinib in patients with myelofibrosis through a large Italian administrative healthcare database.

F-OC10

DUR AND SAFETY

Chairs: Emanuel Raschi, Ria Benkő

Background
The introduction of effective drug treatment into medical practise has largely contributed to decrease mortality, morbidity, enables a much longer expected life span and has the potential to improve quality of life. On the other hand, the use of drugs carries the potential of many drugs related problems, such as misuse, abuse, adverse drug reactions, etc. Health care professionals in align with the "NIL NOCERE" rule, should aim to prevent or to minimise the risks of drug use. Drug utilisation studies can contribute to quantify, identify risk factors, evaluate public health impact, and prevent drug related problems.

Aims
To present and discuss studies related to patient and/or medication safety from various health care settings, patient populations or in relation to specific drug groups.

Description
Six studies will be presented by contributors, followed by question & answers.

Oral contributions

- Lisa Pont (University of Technology Sydney, Sydney, Australia), Validity of the ISMP Medication Safety Self-Assessment® for Long-Term Care tool in Australian nursing homes.
- Nan Shang (University of Manchester, Manchester, United Kingdom), Factors associated with unresolved potential medication errors – an evaluation of prescriptions to patients receiving surgeries at a tertiary medical centre in Shanxi province in China.
- Caitriona Cahir (RCSI University of Medicine and Health Sciences, Dublin, Ireland), Adverse Drug Reactions in an Ageing PopulaTion (ADAPT) study: Prevalence and risk factors associated with adverse drug reaction-related hospital admissions in older patients.
- Ria Benkő (University of Szeged, Szeged, Hungary), Drug poisonings with emergency department presentations.
- Carina D'Aiuto (University of Sherbrooke, Longueuil, Canada), Mortality and health care system costs associated with opioid use and potentially inappropriate opioid use in community-dwelling older adults.
- Lisa Davies (Utrecht University, Utrecht, Netherlands), Patients' perspectives on the development of prescription opioid use disorder in patients with chronic non-cancer pain.

PLENARY 3

UNMET NEEDS IN DRUG UTILIZATION - CLINICAL, PATIENT AND DRUG POLICY PERSPECTIVE

Chairs: Björn Wettermark, Elisabetta Poluzzi

Keynote Lecturers: Björn Wettermark, Aukje Mantel-Teeuwisse

Background
Increasing discussions on rising drug costs and inappropriate drug use led to the birth of Drug Utilization research. In 1969, WHO organized its first meeting on Drug Consumption in Oslo. Now, 50 years have passed, and we have seen a fantastic development in drug therapy. Several new and effective drugs have gained widespread use in the treatment of major diseases such as cardiovascular diseases, depression, and diabetes mellitus. In recent years, science has witnessed further breakthroughs in molecular genetics, proteomics and combinational chemistry and large numbers of biopharmaceuticals enter the market, providing better treatment for areas with a previous unmet need such as cancer, autoimmune disorders, and orphan diseases. Still, there are areas remaining with an unmet need. This could either be explained by the fact that there are no effective drugs available or that patients do not get access to them. There are also large areas for improvement in inappropriate drug use.

Aims
To provide an overview of the drug development during the last 50 years and key challenges remaining in terms of unmet need. To show areas where future DUR studies may help in meeting this need.

Description
The session will present two keynote talks focusing on

a) the fantastic drug development during the last 50 years, how has the drug utilization changed?
b) update on the WHO priority medicine report. What is the situation today, which are the key unmet need or gaps where we have large disease burden in terms of DALY and no/poor treatment alternatives?

CELEBRATING 50 YEARS OF DUR

Chairs: Björn Wettermark, Elisabetta Poluzzi

Keynote Lecturers: Ulf Bergman, Nicola Montanaro, Gyöngyver Soos, Robert Vander Stichele, Frank May, Monique Elseviers + [young researchers TBD]

Roundtable on the hystory and the future of DUR

Pioneers: **Ulf Bergman (Sweden) – Monique Elseviers (Belgium) Frank May (Australia) – Nicola Montanaro (Italy) – Gyöngyver Soos (Hungary) – Robert Vander Stichele (Belgium)**

Description

The session will be a celebration of 50 years of DU where some pioneers that have played an important role in shaping the area will be honored. The session starts with a short presentation, followed by two panel discussions.

Presentation by Ulf Bergman: how DU and the WHO DURG started in Europe

Panel discussion with Ulf Bergman, Nicola Montanaro, Gyöngyver Soos, Robert Vander Stichele, Frank May, and Monique Elseviers

- Memorable events from the early days of DU that shaped our research area
- Has the science of DUR today developed as you expected? Any surprise?
- What advice would you give to a new researcher (PhD-student, postdoc) in the field?

Panel discussion with young researchers from different European countries:

- How DU will look like 50 years ahead?

CLOSING CEREMONY

Oral communication and poster awards

Closing remarks

Poster walk date – 28th June

	Poster panel ID	Presenter	Title
W_PW1: DUR and Safety 1 Hallway ground floor Building A	A01W	Noémie Roland	Association between doses of Levonorgestrel Intrauterine Systems and subsequent use of psychotropic drugs in France.
	A02W	Chia Lin Li	Comparative Effectiveness of insulin degludec (Tresiba ®) and insulin glargine 300 U/ml (Toujeo ®) in Patients with Type2 Diabetes Mellitus Taiwan: A Population-Based Cohort Study
	A03W	Maria Giner-Soriano	Effectiveness and safety of direct oral anticoagulants in non-valvular atrial fibrillation: a cohort study in Primary Care in Catalonia, Spain.
	A04W	Carlotta Lunghi	A propensity score-matched longitudinal study on the association between medical cannabis authorization and psychotic disorder-related emergency department visits or hospitalizations
	A05W	Svetlana Skurtveit	Overdose risk-increasing medication is more often dispensed to individuals dying of overdoses related to pharmaceutical available opioids compared to individuals dying of overdoses related to other substances: a population-based register study.
	A06W	Maria Giner-Soriano	Longitudinal treatment patterns in patients recently diagnosed with type 2 diabetes miellitus in Catalonia
	A07W	Fatema Alshaikhmubarak	Exploring Current Approaches towards Patient Prioritisation for Clinical Pharmacy Services in Inpatient Mental Health Care in the UK: a multi-method research study.
	A08W	Milica Paut Kusturica	Community pharmacists' challenges regarding adverse drug reaction reporting: an example from Serbia
	A09W	Marie-Laure Laroche	Safety monitoring of Covid-19 vaccines by the French pharmacovigilance centres network
W_PW2: DUR and Safety 2 Hallway ground floor Building A	A10W	Aaron Daunt	Hospital initiation of opioids and long-term prescribing among older adults in primary care - a cohort study
	A11W	Stefano Scotti	Prescription Appropriateness of Proton Pump Inhibitors: the LAPTOP-PPI Study
	A12W	Li-Chia Chen	Identifying potential opioid-related safety prescribing indicators: a systematic review
	A13W	Elham rahme	Risk of urinary tract infection with diabetes and antidiabetic medications: An analysis of the Canadian Longitudinal Study on Aging
	A14W	Michele Di Prinzio	Safety and efficacy of add-on cannabidiol in patients with Lennox-Gastaut Syndrome: results of a retrospective study.
	A15W	Nisrine Haddad	Atypical Antipsychotic Drugs and the Risk of Diabetic Ketoacidosis: Analysis of Data from the US FDA Adverse Event Reporting System
	A16W	Huda Alshammari	Barriers in Analysing Medication-related Incidents Data by MSOs
	A17W	Isabel Hurtado	Initiating prescription opioids for the treatment of fibromyalgia: a population-based, real-world cohort study.
	A18W	Wejdan Shroukh	An exploration of the risk management of thalidomide in Jordan: a mixed methods study
	A19W	Giovambattista De Sarro	Safety Profile of Biologics Used in Rheumatology: A multicenter, prospective Observational Pharmacovigilance Study in the Calabria Region

Poster walk date – 28th June

	Poster panel ID	Presenter	Title
W_PW3: Quality of medicine use Hallway ground floor Building A	A20W	Caitriona Cahir	Potentially inappropriate prescribing and its association with adverse drug reaction-related hospital admissions
	A21W	Petra Denig	Sex disparities in treatment patterns after metformin initiation among patients with type 2 diabetes mellitus
	A22W	Maarten Lambert	General Practitioner Adherence to Antibiotic Prescribing Guidelines for Ear and Respiratory Conditions in Dutch General Practice Before and During COVID-19
	A23W	Petra Denig	Sex disparities in medication prescribing amongst patients with type 2 diabetes mellitus managed in primary care
	A24W	Amanj Kurdi	Assessing duration of antibiotic therapy across hospitals in Scotland including the impact of COVID-19 pandemic: a segmented interrupted time series analysis
	A25W	Debra Rowett	Biologics and biosimilars – what prescribing data doesn't tell us – insights from the ViP bDMARDs program
	A26W	Zsófia Engi	Potentially inappropriate medications in Hungary: central nervous system medication use among the elderly
	A27W	Francesco Nonino	Improving Access to Essential Medicines Through a Synergic Approach. WHO Essential Medicines List Application of Treatments for Multiple Sclerosis.
	A28W	Agnese Cangini	The (in)appropriate use of antibiotics in primary care in Italy
	A29W	Agnese Cangini	Medications use in Italian nursing homes: preliminary results from the National monitoring system
W_PW4: Specific Therapeutic Areas 1 Room Q, Building B	BQ01W	Carlotta Lunghi	A systematic review of longitudinal studies examining the dosage of cannabinoids associated with an opioid-sparing effect
	BQ02W	Indri Cahyaningsih	Translation and validation of Diabetes Knowledge Questionnaire instrument for Indonesian patients with diabetes
	BQ03W	Aliki Peletidi	Community Pharmacist's Role In The Management Of Non-Cancer Chronic Pain; A Quantitative Study
	BQ04W	Carlotta Lunghi	The association between ADHD medication use in children, adolescents and young adults and the risk of injuries leading to emergency department admission or hospitalization
	BQ05W	Gry Vibeke Bakken	Use of drugs for menopausal hormone therapy in Norway 1987-2022
	BQ06W	Noor Alsaffar	Utilisation Trends and Expenditures of Lipid-Lowering Therapies in Kuwait Between 2012 And 2022
	BQ07W	Zsófia Engi	Opioid Utilisation: A Retrospective Study in Hungary
	BQ08W	Igor Rubinić	Correlation between carbapenem consumption and carbapenem-resistant Acinetobacter baumannii in a tertiary Croatian hospital
	BQ09W	Claudia Osorio de Castro	The incorporation of direct-acting antivirals for hepatitis C by the Brazilian Health System, 2012 - 2021.
	BQ10W	Filomena Fortinguerra	Prescription of psychotropic medications in the Italian paediatric population

Poster walk date – 28th June

	Poster panel ID	Presenter	Title
W_PW5: Specific Populations Room Q, Building B	BQ11W	Claudia Osorio de Castro	Profile Of Indigenous Patients Under Chemotherapy In The Brazilian Health System
	BQ12W	Johan Öberg	Geographic and socioeconomic differences in potentially inappropriate medication among elderly – A register based prospective cohort study applying analysis of individual heterogeneity and discriminatory accuracy (AIHDA) for basic comparisons of healthcare performance
	BQ13W	Isabela Heineck	Adverse Reactions to Antimicrobials in Pediatrics
	BQ14W	Isabela Heineck	Prescription of antimicrobials for respiratory diseases in pediatrics: analysis of available sources of information
	BQ15W	Maria Cutillo	Use of central nervous system drugs in people with autism spectrum disorder: preliminary results of a study in Italy
	BQ16W	Ursula Kirchmayer	Drug utilisation in patients starting haemodialysis, with a focus on cardiovascular, and antidiabetic drugs: an epidemiological study in the Lazio region (Italy)
	BQ17W	Anna Girardi	Gender differences in pattern of medication use in the population of Tuscany, Italy, in 2021
	BQ18W	Ana Garcia Sangenis	Patterns of use of antidepressants in children and adolescents in Catalonia from 2008 to 2017. A Cohort study from a Primary Care Database.
	BQ19W	Helen-Maria Vasiliadis	Patient perception of continuity, quality, and adequacy of care and their association with opioid use and potentially inappropriate opioid use in older adults with and without psychiatric comorbidity
	BQ20W	Carlotta Lunghi	Exposure to psychiatric medications before and after the diagnosis of cluster B personality disorder: age- and sex-stratified trends from 2002 to 2018
	BQ21W	Silvia Alessi-Severini	Risk of police involvement as accused or victim/witness of a crime in antipsychotic users recently diagnosed with a psychotic disorder.
	BQ22W	Hilde Feyen	Influence of diversity on dealing with polypharmacy
	BQ23W	Caroline Sirois	Evidence-based data for the use of newly approved medications in older adults: a descriptive analysis from clinical trials to product monographs
W_PW6: Specific Therapeutic Areas 2 Room P, Building B	BP01W	Kannika Klungphet	Outcomes of Tigecycline Use in A Tertiary Care Hospital: Role of Clinical Pharmacist
	BP02W	Chao-Yu Chen	The real-world effectiveness of Glucagon-like peptide-1 receptor agonists vs. other glucose lowering agents on stroke: a systematic review and meta-analysis of observation studies
	BP03W	Maria Chiara Silvani	An Approach To Evaluate Appropriateness In The Antibacterial Therapy Using The Who Aware Classification
	BP04W	Claudia Osorio de Castro	Utilization of antiinfectives in pediatric wards of five Brazilian hospitals
	BP05W	Claudia Osorio de Castro	Community consumption of antibiotics for systemic use in Brazil: a 7-year population-based study
	BP06W	Claudia Osorio de Castro	First use of antineoplastic agents among HER-2-positive women in the state of Rio de Janeiro, Brazil
	BP07W	Dezső Csupor	Synephrine: useful tool to promote weight loss or a possible source of cardiovascular risk?
	BP08W	Xuechun Li	Comparative effectiveness of anti-hypertensive monotherapies in primary prevention of cardiovascular events - a longitudinal inception cohort study
	BP09W	Janne Sepp	The consumption of human and veterinary antibiotics in Estonia, 2013-2022
	BP10W	Marco Finocchietti	Drug use patterns in Myasthenia Gravis patients: a real-world observational study in Italy - The CAESAR study
	BP11W	Aleksi Hamina	Point prevalence of antipsychotic and antidepressant use in relation to first diagnosis of psychotic depression
	BP12W	Indriastuti Cahyaningsih	The prevalence of hypoglycemia risk among patients with diabetes in the Netherlands

Poster walk date – 28th June

	Poster panel ID	Presenter	Title
W_PW7: Specific Therapeutic Areas 3 Room P, Building B	BP13W	Adriana Ivama-Brummell	FDA approved cancer drugs in Brazil: strength of evidence and time to approval
	BP14W	Holger Gothe	Physician reimbursement data from hematology-oncology practices demonstrate continuity of medication care for cancer patients in the outpatient setting during the SARS-CoV-2 pandemic
	BP16W	Marta Csatordai	Overview of antidiabetic consumption in Hungary between 2015 and 2021
	BP17W	Ahmed A. Ali	Highlights of the outpatient's oral anticoagulants use in Hungary from 2012 to 2021
	BP20W	Frank Moriarty	Changes in analgesic prescribing among older adults hospitalised for osteoarthritis or joint replacements
	BP21W	Emma Bjørk	Use of antibiotics for urinary tract infections up to and after nursing home admission in Denmark
	BP22W	Tanja Mueller	Rapid surveillance on the use of monoclonal antibodies and antivirals in patients with COVID-19 in Scotland
	BP23W	João Fernandes	Traceability of Blood Derivatives Reported to the Portuguese National Pharmacovigilance System|Can We Do It?
W_PW8: Late Breaking Posters 1 Corridor, Building B	BC01W	Laura Sahm	An analysis of antipsychotic prescribing costs and patterns in the Irish setting
	BC02W	Ju-Yeun Lee	Assessing the Use of Potentially Inappropriate Medications as a Predictor of Hospitalization in Nursing Home residents: A Comparative Study of the Korean Medication Review Tool and Beers Criteria
	BC03W	Young-Mi Ah	Assessing the Implementation of Clinical Decision Support Systems for Patients with a History of Adverse Drug Events in Korean Hospitals: A Nationwide Cross-Sectional Survey
	BC04W	Emma Aarnio	Original and renewed prescriptions in different ATC groups
	BC05W	Fabiane Motter	Antibiotic medications consumption in Brazil: patterns and trends between 2014-2019. A time-series study
	BC06W	Anita Hogg	iSIMPATHY Shared Learning model
	BC07W	Anna Birna Almarsdóttir	Public's perspective on COVID-19 adenovirus vector vaccines after Thrombosis with thrombocytopenia syndrome (TTS) reports and associated regulatory actions: A Cross-Sectional Study in six EU member states
W_PW9: Late Breaking Posters 2 Corridor, Building B	BC09W	Friederike Windisch	Medical Devices Glossary
	BC10W	Fátima Roque	What are the barriers and facilitators that influence the adoption of digital health-related tools for medication appropriateness?
	BC11W	Kyung Hee Choi	Analysis of Real-World Data from the Korea Adverse Event Reporting System Database
	BC12W	Sonja Eberl	Determining the frequency of high-alert medication in general paediatric wards to guide improvement strategies for medication safety
	BC13W	Paraskevi Papaioannidou	A pilot study of adherence to antihypertensive treatment in Greece
	BC14W	Robert Vander Stichele	Linking medicinal products from all over Europe to pharmaco-therapeutic classifications with IDMP to enable the smooth connection of Decision Support Systems for medication management in multinaltional and multilingual Europe
	BC15W	Robert Vander Stichele	Developing a methodology for crossnational comparison of pharmacotherapeutic arsenals in the countries of Europe by using IS0/CEN standards for Identification of Medicinal Products (IDMP).
	BC16W	Sara Mucherino	A time series analysis of immune checkpoint inhibitors use in Italian population: 2017-2022
	BC17W	Valentina Orlando	Drug utilization profiles of Immune checkpoint inhibitors for the treatment of solid tumours

Poster walk date – 29th June

	Poster panel ID	Presenter	Title
T_PW1: DUR and Health Policy 1 Hallway ground floor Building A	A01T	Luciane Cruz Lopes	Biosimilars pricing in Argentina, Brazil and Italy
	A02T	Mina Tadrous	Extent of the Ranitidine Shortage and its Impact on Acid Suppression Drug Utilization in Canada and the United States: an Interrupted Time Series Analysis
	A03T	Saleh Aljadeeah	Cross-sectional survey to describe medicine use among Syrian asylum seekers and refugees in Germany
	A04T	Claudia Osorio de Castro	Disinvestment profile of drugs in the Brazilian Unified Health System between 2012-2022
	A05T	Claudia Osorio de Castro	The incorporation of rifapentine for the preventive treatment of tuberculosis in the Brazilian Health System
	A07T	Mònica Sabaté	Use of Non-specific human Immunoglobulins in ambulatory patients: a descriptive analysis from a hospital's registry
	A08T	Chloe Smit	Real world evidence on antibiotics used for urinary tract infections in Australian nursing homes from 2016 – 2019
	A09T	Carlo Piccinni	Annual coverage of treatment for intraocular pressure in patients with glaucoma through Italian administrative healthcare data
	A10T	Maarten Lambert	Do's and Don'ts for the European Community Pharmacist When Dispensing Antibiotics: A Delphi Study
T_PW2: DUR and Health Policy 2 Hallway ground floor Building A	A11T	Silvia Calabria	Clotting factors and concomitant drugs utilization in patients with haemophilia A and B through a large Italian administrative database
	A12T	Nataliia Khanyk	Trends of prescribing and dispensing metformin under the impact of war and COVID-19 in Ukraine
	A13T	Maria Cutillo	Prevalence and incidence of use of oral anticoagulant drugs in the Umbria region in the period before and after the application of the Aifa Note 97
	A14T	Tinne Dilles	Nurses' role in interprofessional pharmaceutical care
	A15T	Therese Wennersten	Higher socioeconomic level is associated with prescription of CGRP (calcitonin gene-related peptide) inhibitors to migraine patients
	A16T	Raja'a Alqudah	Understanding peoples' views and use of antibiotics in Jordan
	A17T	Claudia Osorio de Castro	Insulin analogs in type 1 diabetes treatment: an incorporation process study in brazilian unified health system (SUS)
	A18T	Immaculada Danés	Effectiveness and safety of alirocumab and evolocumab for hypercholesterolemia in a population with high cardiovascular risk.
	A19T	Amanj Kurdi	Utilisation and prescribing pattern of disease-modifying antirheumatic drugs (DMARDs) in Scotland supplied through Homecare services: a population-based study

Poster walk date – 29th June

	Poster panel ID	Presenter	Title
T_PW3: DUR and Health Policy 3 Hallway ground floor Building A	A20T	Iris Joosse	Alignment in the registration, selection, procurement and reimbursement of essential medicines for pediatric oncology in South Africa
	A21T	Iris Joosse	A health system analysis of access to oncology medicines for children in South Africa
	A22T	Nicoletta Luxi	How frequently have anti-spike protein monoclonal antibodies and other antiviral therapies been used for early treatment of COVID-19 outpatients in real-world setting? A nationwide study from the United Kingdom and Italy from December 2021 to October 2022
	A23T	Indrė Trečiokienė	Reimbursement policy change impact on utilization of reimbursed antihypertensive medicines
	A24T	Frank Moriarty	Out-of-pocket expenditure on prescription medicines in community-dwelling adults: findings from The Irish Longitudinal Study on Ageing (TILDA)
	A25T	Mikael Hoffmann	Adhd-drugs to teenagers in Sweden 2007–2022 – Incidence and prevalence as public national drug consumption statistics
	A26T	Agnese Cangini	Potential cost-savings from a more efficient off-patent biologicals purchasing in Italy
	A06T	Ana Araújo	Use of analgesic opioids in Portugal
	A27T	Amanj Kurdi	National assessment of prescribing practice of antibiotic prophylaxis among obstetrics and gynaecological surgeries in Kuwait
T_PW4: Polypharmacy and Deprescribing Hallway ground floor Building A	A29T	Caroline Sirois	How does deprescribing (not) reduce mortality? An analysis of randomized controlled trials in community-dwelling older adults casts uncertainty over claimed benefits of deprescribing
	A30T	John E. Hughes	Drug-drug interactions and adverse drug reaction hospital admissions in the older population: a prospective cohort study
	A31T	Iva Mucalo	Drug therapy problems assessment among general ambulatory patients with hypertension at the health centre Zagreb - centre
	A32T	Ér. András	A comparison of the tools used to evaluate the pharmacotherapy of elderly patients, who have fallen and received emergency patient care
	A33T	Peter Stuijt	Evaluating a training for healthcare providers on deprescribing in older people: Lessons learned from the pilot study
	A34T	Peter Stuijt	What is the added benefit of a communication training on deprescribing cardiometabolic medication in Dutch primary care? Protocol of a cluster-randomized controlled trial.
	A35T	Thierry Christiaens	Health professionals views on discontinuation of long-term antidepressants: a systematic review and thematic synthesis
	A36T	Simon Hand	A systematic review of the association between polypharmacy and outcomes in heart failure
	A37T	Marc Simard	Ten-year trajectories of multimobidity and impact on health services and polypharmacy in older people
	A38T	Degefaye Anlay	Tools and guidelines to assess appropriateness of medication and aid deprescribing in different target populations: Umbrella review

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	Poster panel ID	Presenter	Title
T_PW5: Adherence Room Q, Building B	BQ01T	Martin Wawruch	Non-adherence to statin treatment in persistent and non-persistent patients with peripheral arterial disease measured using the index Proportion of Days Covered
	BQ02T	Gaye Hafez	Management of medication adherence in Europe: a pan-European survey among healthcare professionals
	BQ03T	Qisty Aulia Khoiry	Integrating Patients' and Health Care Providers' Perspectives to Address Medication Non-adherence : A Qualitative Study among Patients With Chronic Diseases in Indonesia
	BQ04T	Tinne Dilles	Patient reported associations between people-centered care and adherence
	BQ05T	Birgit Ehlken	Persistence with first-line antihypertensive therapy in Germany
	BQ06T	Ingibjorg Gunnthorsdottir	Perceptions and experience among Icelandic cardiac care professionals of factors influencing medication adherence in heart failure patients
	BQ07T	Janja Jazbar	Medication adherence and persistence of persons with multiple sclerosis in Slovenia
	BQ08T	Ana Dugonjić Okroša	Adherence to adjuvant endocrine therapy of patients with early breast cancer in Croatia
	BQ09T	Anna Birna Almarsdóttir	Association between beliefs about medications, attitudes towards vaccines and COVID-19 vaccination status
	BQ10T	Nora Wulandari	Quality of Life, Glycemic Control and Medication Adherence of Diabetes Patients in Primary Health Center in Central City of Jakarta
T_PW6: Adherence + Cross-National Comparisons Room Q, Building B Room P, Building B	BQ11T	Maria Cutillo	Mixed Effect Models for the analysis of medication adherence to antidiabetic drugs: the Italian case
	BQ12T	Gisbert W. Selke	Persistence with adalimumab treatment in Crohn's disease
	BQ13T	Sara Mucherino	Longitudinal Trajectory Modeling to Assess Adherence to Sacubitril/Valsartan among Patients with Heart Failure
	BQ14T	Marianna Serino	Medication adherence to Psoriasis Treatments: a Real World Data study
	BQ15T	Lina María Leguízamo Martínez	Adherence trajectories to direct oral anticoagulants in atrial fibrillation patients. A multi-regional study.
	BP01T	Tinne Dilles	EQUANU: Equality in social and professional recognition of nurses – a European comparison
	BP02T	Adam Hallberg	Timeline analysis of epidemiological measures and policy implementation in the Nordic countries during the Covid-19 pandemic
	BP03T	Atėnė Marija Theofylaktou	Drug Utilization Research Databases Appraisal of Maturity (DURDAM): An International Modified Delphi Consensus Study
	BP04T	John E. Hughes	The European Drug-Drug Interaction (EuroDDI) study protocol: a cross country comparison of the prevalence of drug-drug interactions in the older community-dwelling population
	BP05T	Francesco Nonino	Comparing the Price of Medicines at a Global Level. The Experience of an Italian WHO Collaborating Centre

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	Poster panel ID	Presenter	Title
T_PW7: Patient Perspective Room Q, Building B	BQ16T	Ramune Jacobsen	Attitudes towards vitamin D supplementation in Turkish women of childbearing age living in Denmark – a qualitative study
	BQ17T	Ramune Jacobsen	Knowledge, attitudes and practices of antibiotic dispensing and use among pharmacy personnel and patients in Bagdad, Iraq – a qualitative study
	BQ18T	Ramune Jacobsen	COVID-19 vaccination perceptions among Arabic-speaking minorities in Denmark – a qualitative study
	BQ19T	Ellen Schafheutle	How pharmacy professionals learn and implement shared decision-making
	BQ20T	Petra Denig	Willingness of people with type 2 diabetes mellitus to engage in healthy eating, physical activity and medication management
	BQ21T	Emma Dunlop	Developing Core Principles for routine PROMs collection in cancer care in Scotland
	BQ22T	Nora Wulandari	Translations and Cultural Adaptation of Indonesian Version of Treatment Satisfaction with Medicines Questionnaire (SATMED-Q) for Hypertension Patients
	BQ23T	Alexandra Drebka	Clinical benefits of herbal medicines in gynecological complaints
	BQ24T	Michele Fusaroli	Tolvaptan's impact on the quality of life: a monocentric observational study in the Nephrology, Dialysis and Renal Transplantation Unit of Bologna
T_PW8: DUR and Pandemics Room P, Building B	BP07T	Reinhard Schuster	Comparison of the prescriptions for psychotropic drugs before and during the Corona pandemic in a German region
	BP08T	Amanj Kurdi	Analysing the impact of COVID-19 lockdown on the utilization and prescribing patterns of anti-depressants in the Northern Ireland primary care setting.
	BP09T	Amanj Kurdi	The Impact of COVID-19 Lockdown on the Utilisation and Prescribing Patterns of Antidepressants in the Welsh Primary Care Setting: A Segmented Regression Analysis
	BP10T	Marie-Laure Laroche	Vaccine recipients versus health professionals implicated in the safety of Covid-19 vaccines surveillance in France
	BP11T	Peter Doro	Medication use during COVID pandemic in Hungary
	BP12T	Sean MacBride-Stewart	Prescribing of COVID-19 treatments to patients with COVID-19 infection at highest risk of hospitalisation by Pharmacist Independent Prescribers (PIPs)
	BP13T	Amanj Kurdi	The impact of COVID-19 lockdown on utilisation and prescribing patterns of antidepressants in the Scottish primary care setting: A segmented regression analysis
	BP14T	Roxána Ruzsa	Antibiotic utilisation trends in the inpatient sector before and during the pandemic
	BP15T	Monica Souza	Analysis of the accordance of Brazilian government protocols with scientific evidence in relation to chloroquine and hydroxychloroquine drugs: a scope review

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	Poster panel ID	Presenter	Title
T_PW9: Interventions and Implementations Room P, Building B	BP16T	Madalena Fonseca	The use of human immunoglobulins - managing imbalance between availability and demand in Portugal
	BP17T	Aimee Ferguson	Pharmacist and patient perspectives on the use of video consultations in primary care in Scotland
	BP18T	Tomas Lasys	Unintended impact of pharmacovigilance regulatory interventions: a systematic review
	BP19T	Fatma Karapinar	Reversing and preventing prescribing cascades in practice: a pilot study.
	BP20T	Luciane Cruz Lopes	E-health technologies for treatment of depression, anxiety and emotional distress in person with diabetes mellitus: a systematic review and meta-analysis
	BP21T	Karen Luetsch	What makes it happen – a realist evaluation of the ViP bDMARDs educational visiting program
	BP22T	Caroline Sirois	GPS study: A pharmaceutical intervention to improve medication use and well-being of older adults with neurocognitive disorders in Quebec, Canada
	BP23T	Dian Pitaloka	Antibiotic Stewardship for Community Pharmacies in Indonesia: Development and Evaluation of a Questionnaire-Based Survey and E-Learning Modules
	BP24T	Li-Chia Chen	Interventions to reduce opioid use in patients after major surgery - A systematic review and behaviour change technique analysis
T_PW10: Methods in DUR Corridor, Building B	BC01T	Claudia Osorio de Castro	SNGPC – a worthwhile data source for DUR in Brazil
	BC02T	Sophie Jouaville	Unlocking the Potential of Real-World Data: The Power of OMOP and CDM in Health Research
	BC03T	Giuseppe Roberto	Conceptual bases for the standardization of calculation approaches for establishing exposure duration of single drug utilization records in multi-database studies
	BC04T	Caroline Sirois	Effect of statin use for the primary prevention of cardiovascular disease among older adults: An observational analysis emulating a target trial
	BC05T	Ikhwan Yuda Kusuma	Antibiotic related knowledge of pharmacy students: questionnaire development and validation with Rasch analysis
	BC06T	Beatrice Bachmeier	Scientific Application of the Web-Based Health Portal VITERIO for the Acquisition and Analysis of Digital Outcome Parameters
	BC07T	Kani Khalaf	Examining the effect of montelukast use on dementia from observational data on 264,770 older adults in Sweden: a marginal structural model approach
	BC08T	Luciane Lopes	Budget impact of risperidone for children with Autistic Spectrum Disorder in Brazil: a real-world data comparative analysis study
	BC09T	Andrea Spini	How to identify the indication of use for biological drugs approved for Immune-Mediated Inflammatory Diseases using claims data? The VALORE project experience

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