example of the antidepressants, a drug group with rapid growth and large differences between the originator and generic prices.
Patients (or Materials) and Methods: National ATC/DDD wholesale data and the Estonian Health Insurance Fund (EHIF) prescription database were used to analyze the antidepressant utilization patterns.
Results: According to the national medicines use data, the total consumption of antidepressants (ADs) was 17.8 defined daily doses per 1000 inhabitants per day (DID) in Estonia in 2011. During the past 12 years, the use of these medicines has increased 3-fold (from 5.3 to 17.8 DID) but is still modest compared with the Nordic countries (average consumption of ADs was 77 DID in 2010). The SSRIs constitute about two thirds of the total ADs consumption in Estonia, with 11.5 DID in 2011. On the active substance level, there was a rapid increase in the use of escitalopram. The average price of 1 DDD of escitaloprm is 1.01€ for the originator versus 0.30€ for the generic. The originator accounts for 20% of the total sale. This is similar to the other SSRIs. This may cause substantial patient copayment. We analyzed prescription data from the EHIF to describe in detail the use of escitalopram during last years, taking into account the patient factors, the prescriber, the cost, and the adherence to treatment expressed via the number of filled prescriptions. The cheapest generic generated a 75% lower patient copayment in comparison with the originator. In 2011, one half of the new users filled only 1 prescription. 27% of the new users filling ≥2 prescriptions started treatment with the originator product, one half of them switched treatment to a generic later. Predictors of the originator use and adherence were also analyzed.
Conclusion: The average proportion of generic use for the active substances that have generics on the market is ~60% in Estonia. Where the price difference is substantial, the generics fast engage ~80% of the market, but even here approximately one fifth of the patients stay on the originator product. Reasons and consequences of this for the adherence need to be explored further to guide interventions.
Disclosure of Interest: None declared.

PP005—RISK PERCEPTION AND COMPLIANCE IN CHRONIC MYELOID LEUKAEMIA PATIENTS TREATED WITH TYROSINE KINASE INHIBITORS

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Introduction: The introduction of tyrosinekinase inhibitors (TKI) brought a major advance for survival of chronic myeloid leukaemia (CML) patients, but as with any other chronic therapy, issues of tolerance and adherence are of paramount importance for successful clinical outcome.
Patients (or Materials) and Methods: We conducted a structured interview concerning patients' subjective view of their condition and history, including the MARS (Medication Adherence Report Scale) and BMQ (Beliefs about Medicines Questionnaire) scales to assess patients' perception of their medication and their self-reported adherence. The results were then correlated with trough blood levels of imatinib and nilotinib measured as part of routine therapeutic drug monitoring to identify patients most at risk of nonadherent behavior. We included a total of 38 consecutive patients treated with TKI for at least 3 months coming for a regular checkup at clinicof Hemato-oncology Department of the Faculty Hospital in Olomouc, Czech Republic. The population included 20 male and 18 female patients, average age 59.6 years (34–75); 21% of patients live alone, 79% live with a partner or family, and 18% were university educated. Most patients (26 [68%]) were treated with imatinib; dasatinib and nilotinib accounted for 16% (6) each. Patients were on average 7.8 years from diagnosis (0.33–12). On average, patients had 6.15 years of experience with their current medication; for 82% of them, the current TKI was first-line treatment.
Results: Despite the fact that most patients (60%) reported having experienced some adverse effects, these were rarely perceived as serious or bothersome enough to lead to nonadherence. Patients scored consistently high on the necessity scale of the BMQ, but most showed at least 1 significant concern on the concern scale (87% with at least 1 score of ≥3). The MARS scores showed high adherence – 79% scored 24 or 25 out of a 25-point maximum. This is in line with the fact that nearly all (95%) of the patients reported that they feel sufficiently educated about their disease and treatment. Results from questionnaires and demographic data were then correlated with TKI trough blood levels and response to the treatment with TKI to analyze prognostic impact of nonadherence. Final results will be presented at the conference.
Conclusion: Thanks to well-conducted patient education, CML patients on TKI perceive the necessity of their treatment, as measured by the BMQ scale, and have good adherence rates, as measured by the BMQ and MARS scales and TKI trough blood levels, despite experiencing a significant number of side effects. Efficient patient education at our center that has resulted in better adherence level than reported in the previous studies is 1 of the most important preconditions for achievement of optimal response to TKI treatment.
Funding Source: Supported by grant CZ.1.07/2.3.00/20.0040
Disclosure of Interest: None declared.

PP006—CLINICAL DISINTEGRATION TIME AND VOLUME OF WATER REQUIRED FOR ORALLY DISINTEGRATING TABLETS IN HEALTHY VOLUNTEERS

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Introduction: Orally disintegrating tablets (ODTs) disintegrate immediately in the mouth, and thus patients can consume them with little or without any water. These characteristics of ODTs are beneficial for patients who have difficulty swallowing conventional tablets (CTs) and also for patients with diseases in which water intake is restricted. In this study, we evaluated clinical disintegration time of 17 ODTs that are currently available for clinical use and determined the amount of water required to ingest ODTs and CTs.
Patients (or Materials) and Methods: The clinical disintegration time was measured for 17 ODT products. Each tablet was placed on the tongues of healthy volunteers (n = 18), and disintegrated in their oral cavities. The clinical disintegration time of each ODT was measured by the investigator with a stopwatch. The residue in the oral cavity was removed and rinsed from the mouth with water after the test. In the measurement of the volume of water for ingesting of CTs and ODTs, which did not include any active pharmaceutical ingredients, all volunteers (n = 26) were asked to drink water while consuming CTs; while in the case of ODTs, they were asked to drink water after the ODT disintegrated in their oral cavity. They freely filled the cup with water from the 500-mL bottle and then drank the volume of water required to consume each tablet. The amount of water was measured using the weight of the cup and bottle. All study protocols were approved by the ethics committee of the University of Shizuoka.
Results: To validate the method for measuring the clinical disintegration time of ODTs, the subjects were randomly assigned to 3 groups, and the clinical disintegration times of 2 ODTs were measured. No significant difference was observed in the clinical disintegration time of each ODT among the 3 groups, which indicated the reproducibility

of our method for measuring clinical disintegration time. The clinical disintegration time of the 17 ODT products was between 17.6 and 33.8 seconds in the clinical trial conducted with healthy adult volunteers. In the measurement of the amounts of water required for ingesting CTs and ODTs, no significant difference was observed in the amount of water required for ingesting CTs and ODTs among the 3 groups. The amount of water required for ingesting ODTs was significantly lesser than that required for ingesting CTs.
Conclusion: This study demonstrates that all the tested products, which are clinically available in Japan, exhibit good disintegration and that the disintegration time varies by the product. This study also showed that the amount of water required for ingesting ODTs is lower than that required for ingesting CTs.
Disclosure of Interest: None declared.

PP008—DRUG-RELATED PROBLEMS IN A GENERAL INTERNAL MEDICINE SERVICE

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Introduction: Patients admitted to internal medicine wards receive a large number of drugs and are at risk of drug-related problems (DRPs) that may be associated with morbidity and mortality. In a French study, the in-hospital incidence rate of adverse drug reactions in internal medicine was 10.1 per 1000 patient-days and 80% of them could be considered preventable. The aim of the present study was to detect suboptimal drug use in 2 pilot wards of a general internal medicine service and to offer a pharmacologic and pharmaceutical evaluation to improve drug prescription.
Patients (or Materials) and Methods: This was a prospective study conducted during 6 months in 2 internal medicine wards in a 2000-bed university hospital. Physician rounds were attended once every other week in each ward by a clinical pharmacist and a clinical pharmacologist. All patients met during the physician rounds were included. Prescriptions were analyzed through an assessment grid to detect DRPs. Treatment optimizations were suggested to prescribers during the round. The main outcome measures were: (1) most frequent DRPs and involved drugs or drug classes; (2) types of intervention required: no intervention, verbal suggestion of treatment optimization, or specialized written consultation; and (3) acceptance rate by prescribers.
Results: A total of 145 patients (mean age, 68 [21–99]; 48% female) were included with 1523 prescriptions (mean, 10.6 [0–21] prescriptions per patient). A total of 383 DRPs were identified (mean, 2.6 [0–12] DRPs per patient). The most frequently identified DRPs were: (1) drug interactions (21%); (2) untreated indications (18%); (3) overdosage (16%); and (4) drug used without a valid indication (10%). The most frequently involved drugs or drug classes were: (1) for drug interactions: tramadol, antidepressants, and acenocoumarol; (2) for untreated indications: calcium-vitamin D, statins, and aspirin; (3) for overdosage: proton pump inhibitors and paracetamol; and (4) for drug used without a valid indication: proton pump inhibitors and aspirin. Fifty-one percent of the identified DRPs were considered as clinically not relevant and were not reported to the prescribers, 42% were reported with a verbal suggestion of treatment optimization, and 7% were considered as complex and triggered a specialized written consultation by a clinical pharmacologist. Suggestions of treatment optimization were accepted by prescribers in 84% of cases. Accepted suggestions were applied by physicians in 64% of cases.
Conclusion: The most frequently identified DRPs were drug interactions. One half of the identified DRPs required a suggestion of treatment optimization, which was accepted and applied by prescribers in most cases.
Disclosure of Interest: None declared.

PP009—DEVELOPMENT, VALIDATION AND USABILITY OF SOFTWARE TO CALCULATE THE DRUG BURDEN INDEX: A PILOT STUDY

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Introduction: The Drug Burden Index (DBI), a novel pharmacologic risk assessment tool that measures an individual's total exposure to anticholinergic and sedative medicines, has been associated with impaired physical function, falls, and increased hospitalization in older adults. *Aims:* (1) To develop software which calculates and generates reports on DBI; (2) to use published case study data to test the DBI software for accuracy; and (3) to test the software for usability and functionality.
Patients (or Materials) and Methods: Microsoft Access 2010 was used to build and design The DBI Calculator©. Twenty-five drug regimens from patient case studies published in the *Australian Journal of Pharmacy* (August 2010 to August 2012) were used to compare DBI scores computed using The DBI Calculator© and those computed manually (gold standard). Cohen's **Kappa** statistics were used to calculate the degree of concordance between manual and automated DBI scores. Ten pharmacists accredited to perform medication management reviews were randomly selected from online pharmacist contact lists to participate in the usability testing. The usability test was developed from previous usability studies. Participants were timed to perform a DBI calculation with the software based on a drug regimen from the case studies. A survey was used to rate the interface, functionality, clinical applications, and satisfaction of software.
Results: (1) The software has been designed to allow for ease of uploading onto a secured, de-identified, password-protected website. The user enters patient data and clicks "Calculate DBI" and immediately receives a report of the DBI with information on the significance of the calculation for the patient. (2) Results indicate good agreement between the software and manual calculation (Cohen's Kappa 0.95) among the 16/25 drug regimens from patient case studies tested with DBI >0. (3) During usability testing, 90% of respondents were satisfied with the software and agreed the content in the software was accurate. The usability study also identified that The DBI Calculator was considered useful for recognizing sedative and anticholinergic medicines in 80% of participants. The average time for participants to complete the task was 7 minutes 21 seconds.
Conclusion: We have developed a reliable calculator to report DBI in older patients taking multiple medications. Further studies will assess application of The DBI Calculator© in clinical settings such as pharmacist medication management reviews.
Disclosure of Interest: None declared.

PP010—MEDICATION SELF-ADMINISTRATION IN HOSPITALISED PATIENTS: AN EVALUATION USING DATA FROM AN ELECTRONIC PRESCRIBING AND MEDICATION ADMINISTRATION SYSTEM

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