therapy in 66.8% and 7.3% of patients, respectively). 110 (25.9%) patients had unsuccessful therapy (9.4% required additional antibiotic therapy; 4.0% died in hospital; 4.5% got re-hospitalized within 30 days of discharge). Mean LOS (SD) was 10.7 (7.2) versus 18.7 (16.2) days (p < 0.01) among patients with successful versus unsuccessful therapy; mean days on IV antibiotic (SD) therapy was 7.5 (3.8) versus 13.1 (12.0) days (p < 0.01). CONCLUSION: Multivariate analyses showed that unsuccessful therapy was associated with a 39% (p < 0.01) increase in both LOS and days on IV antibiotic therapy, after adjusting for patient characteristics and site/type of infection. Among patients undergoing surgery for CIAI, unsuccessful initial antibiotic therapy increases length of hospital stay and number of days on IV antibiotic therapy.

**PIM 3**

**ASSOCIATION BETWEEN SKIN TATTOOS AND HEPATITIS B OF 1/2000 PRIVATES AT ADISORN FORT HOSPITAL, THAILAND**

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OBJECTIVE: To determine whether there is association between skin tattoos, Hepatitis-B and prisons, to investigate risk behaviors for Hepatitis-B and to describe characteristics of person who have tattoos. METHODS: This retrospective study consisted of a self-administered survey, and an ELISA blood test for viral hepatitis B. The study sample consisted of all 1/2000 privates at Adisorn Fort Hospital Saraburi who had tattoos (n1 = 46) and simple random sampling of another group of 46 volunteer privates who did not have tattoos. RESULTS: All privates (N = 92) were male, age 22.88 b 1.41 years, 67 (72.8%) had graduated from elementary and high school, 29 were positive for Hepatitis-B antibodies (31.5%), 41 (44.6%) had sex with prostitutes, 3 (3.3%) did not use condom, 4 (4.3%) shared razors, 1 (1.1%) shared needles, 25 (27.2%) had been in jail, 87 (94.6%) drank alcohol, 43 (46.7%) had used amphetamines. Twenty (28.6%) had tattoos on 2 arms. Ten (14.3%) had tattoos on their back, 9 (19.6%) obtained their tattoos while in prison, 15 (32.6%) had a tattoo that was greater than 20% of the body’s surface area. There was an association between skin tattoos and Hepatitis B (Chi Square, p < .01, OR: 15.9, 95% CI: 2.1–18.8). There was no association between having been in jail and Hepatitis-B. Logistic regression was employed to find factors for Hepatitis-B. The variables that were associated with Hepatitis-B (<0.05) were entered procedure to identify association with Hepatitis-B. Hit rate was 87.9, Pseudo R Square 0.464, Skin tattoos, a history of a family member with Hepatitis-B, and sharing needles increased the chance of getting Hepatitis-B. CONCLUSIONS: There were associations between jails and tattoos and viral hepatitis-B. Hygiene in tattoo shops should be controlled by the government.

**PIM 4**

**CONSUMPTION OF ANTIBIOTICS IN EUROPE: RESULTS OF THE ESAC RETROSPECTIVE DATA COLLECTION**

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OBJECTIVES: ESAC (European Surveillance of Antibiotic Consumption, granted by DG SANCO of the EC) is an international network of national surveillance systems, aiming to collect comparable antibiotic consumption data in Europe. During the first phase, data accessibility and validity, as well as strengths and weaknesses of national systems were assessed. METHODS: Quarterly data were to be collected retrospectively (1997–2001) from ambulatory (AC) and hospital care (HC) in 31 countries, using ATC/DDD classification (WHO, version 2001), and expressing results in DDD/1000 inhabitants per day (DID). RESULTS: AC use data were provided by 25 countries; 21 were suitable for international comparison. The remaining 3 were not comprehensive or not in a format enabling international comparison (TU). Quarterly AC data were delivered by 10 countries. HC use data were provided by 23 countries; 21 were suitable for international comparison, 14 of them were based on a limited sample. In 2001, AC use in Europe varied between 10.0 DID (NL) and 32.9 DID (FR). Other high consumers were (in decreasing order) GR, IT, LU, PL, PT, BE and SK, all with a total use exceeding 24 DID. During the observation period of 5 years, consumption clearly increased in GR and PL and decreased in BE and ES. High seasonal fluctuations in AC were observed in BE, GR, PL and SI. Large regional differences could be observed in consumption patterns. Northern European countries (NO, SE, FI, DK, NL) are low consumers using commonly narrow spectrum penicillins while Southern European countries are high consumers using broad spectrum penicillins and exceptionally high proportions of cephalosporins, macrolides and quinolones. CONCLUSIONS: An intriguingly high variation in antibiotic use in Europe was observed and needs to be related to social, cultural and economic determinants of use as well as to variation in resistance patterns. Especially in AC, countries seem to cluster in regional consumption patterns.

**PIM 5**

**REGIONAL ANTIBiotic PRESCRIBING GUIDELINE ADHERENCE RESULTS**

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OBJECTIVES: To measure the adherence to antibiotic treatment guidelines distributed to physicians in Washington State, USA. The Washington Department of Health, Washington State Medical Association (WSMA) and Health Plans understand that antibiotic resistance is
a current problem and by distributing these guidelines they hope to decrease or stop the increase in development of resistance to currently available antibiotics.

**METHODS:** Strong Square, LLC has developed an integrated database of medical, pharmacy and professional claims from seven participating health plans in Washington state for the purposes of measuring the impact the previously distributed antibiotic prescribing guidelines. Guideline adherence measurements included: 1) antibiotic prescribing rates by diagnosis; and 2) antibiotic drug formulary compliance. Diagnoses included in the data set are: Acute Otitis Media (AOM), Acute Pharyngitis (AP), Acute Uncomplicated Sinusitis (AUS), Community Acquired Pneumonia (CAP) and Uncomplicated Acute Bronchitis (UAB). The participating health plans, which include fee-for-service, HMO, managed care and state funded Medicaid programs, represent 87% of Washington state's population, 7,524 licensed primary care prescribers and 220,641 outpatient antibiotic treatment episodes from January 1, 2000 through September 30, 2002. **RESULTS:** The percentage of antibiotic diagnoses with antibiotic prescribing varied among the different types of respiratory tract infections. Prescribing rates are as follows: AOM, 48.4%; AP, 39.7%; AUS, 62.3%; CAP 48.7%; UAB, 54.3%. When antibiotic drugs were used, formulary compliance was also measured: AOM, 84.0%; AP, 53.3%; AUS, 68.1%; CAP 60.3%; UAB, 54.6%. **CONCLUSIONS:** Providing prescribers feedback measures for the guidelines they are expected to follow is a logical step towards improving rates of guideline adherence. Integrated reporting of diagnosis and drug data over a broad geographic region allows us to provide comprehensive, interpretive feedback to prescribers regarding their antibiotic prescribing patterns.

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The WHO developed the many indicators to evaluated the rational use of drug, as following: availability of drug, cost of drug therapy, drug cost of antibiotics in ratio of all drug cost etc. **OBJECTIVES:** The purpose of research was to analysed the antibiotic use in primary health care of part of Republic of Srpska (RS) with commonly and complementary indicators. **METHODS:** A retrospective analysis of prescribing of antibiotic in setting of data centre of Rp evaluation of Community Pharmacy chain of Banja Luka (BL)(RS), was conducting using the 1990, 1994, 1998 and 2000 survey. The analysis covered the four main group of antibiotics by indicators: defined daily dosage (DDD)/1000 inhabitants/days; % of antibiotics and cost vs. all drugs. The comparison was done with survey of “reference case” in Serbia and Montenegro (SM) and Clinical-hospital centre of BL (ChcBL). Fischer test and SD statistical method was used and multivariate analyses, as well. **RESULTS:** The study included the 17 retail pharmacy settled in area of BL with the total population of ~350,000 people. The average use of antibiotic is 42% (32%, 60%, 37%, 40%, respectively to time frames) and higher than the use in SM (33%) and similar to use in ChcBL. The structural analysis were show that the penicillin’s and cephalosporin’s was the two main prescribing antibiotic group. In deep multivariate analyses we were recognised the radically changes in prescribing practices after the year 2000 (increasing use of amoxicillin and combination, instead of ampicillin). The in services training of health workers (PHARE program) and the inclusion of combination in the local reimbursement list have had important role on the former results. **CONCLUSIONS:** Complementary indicators of use of antibiotics in the primary health care systems of BL showed that the rational antibiotic use approach was present, after strong drug policy were developed and implemented.