Date last modification of documentation sheet: 17-04-2012

Compared to previous version documentation sheet (08-12-2011) the following issues were adapted:

- New section on relevant policy areas added to the documentation sheet
- Key issues and problems: state of the art of OECD work updated (focus on postoperative sepsis now)
- References: link to Health at a Glance 2011 report added
- Item added to work-to-do section: Based on experiences OECD: discuss shifting focus indicator from surgical wound infections to postoperative sepsis

ECHIM Indicator name	**D) Health interventions: health services** 82. Surgical wound infections
Relevant policy areas	- Health system performance, quality of care, efficiency of care, patient safety - Health threats, communicable diseases - Preventable health risks
Definition	To be developed (see key issues and problems)
Key issues and problems	Several efforts by ECDC, OECD, WHO, SImPatIE project to define indicator and collect data. However, data availability and comparability is restricted and definitions vary: 1) ECDC: a) the cumulative incidence of surgical site infections (SSI): which is the crude percentage of operations resulting in a SSI, b) the incidence density, which is the number of SSI per 1,000 post-operative days at risk (i.e. without prior SSI) in the hospital. The incidence density is the preferred measure for the comparison of incidence between countries as it uses only observations during the hospital stay in both numerator and denominator, and comparisons are therefore less affected by variation in length of post-operative stay or intensity of case-finding post-discharge. However, the incidence density can only be calculated when the discharge date is known. Therefore, a third indicator was added in 2008: the cumulative incidence excluding postdischarge infections. 2) WHO: Average rate (in all hospitals) of inpatient surgical operations with postoperative surgical wound infection (i.e. with code for postoperative wound infections, ICD-9: 998.5 and ICD-10: T81.4) during the given calendar year, expressed as percentage of all surgical operations. 3) Safety Improvement for Patients in Europe, SImPatIE recommendation: Percent of patients experiencing a wound infection (ICD-9 998.51 and 998.52; secondary diagnosis only) out of all hospitalised patients. (Indicator PSI 11: Wound Infection) 4) OECD: Assessment by Patient Safety Panel-project: It is unlikely that standardized comparable data to support the indicator of Wound Infection are available consistently across OECD countries. Therefore OECD has given up about five years ago to try to collect data on the indicators surgical wound infections and catheter-related bloodstream infections. In the latter case, the remaining ambiguities in the definition (whether it should include or exclude inflammatory conditions) and more than 100-fold variation between the minimum and maximum values, make this indicator unfit for reporting purposes. In the recent years, OECD has focused their effort more specifically on postoperative sepsis: • Numerator: Number of hospital discharges with a sepsis as a secondary diagnosis. The following ICD codes are included: • ICD-9-CM: 038.* Septicaemia, 755.5* Septic shock, 998.0 Postoperatice shock • ICD-10-WHO: A40.*-A41.* Septicaemia, R57.8 Other schock, T81.1 Procedure shock • Denominator: All elective surgical discharges of patients 15 years and older, excluding pre-existing sepsis or infection, immunocompromised state, MDC 14 (pregnancy, childbirth, and puerperium) and a short length of stay.

	Data on postoperative sepsis were published in the Health at a Glance 2011 edition for Germany, Denmark, France, Sweden, Belgium, Spain, and Ireland, as well as for a number of non-EU countries (Israel, United States, New Zealand, Australia, Switzerland, and Canada). It is yet not clear whether one of the existing data collection initiatives can serve as an appropriate base for gathering in a sustainable way high quality, comparable data, with adequate EU coverage, which can be used by ECHIM in the future.
Preferred data type and data source	Preferred data type: Hospital (discharge) data Preferred data source: ?
Data availability	- ECDC collects data on surveillance of surgical site infections for 14 countries and for the following operation categories: CABG: coronary artery bypass graft; CHOL: cholecystectomy; COLO: colon surgery; CSEC: Caesarean section; HPRO: hip prosthesis; KPRO: knee prosthesis; LAM: laminectomy - In the ECDC annual epidemiological report the following figures are published: - Trends in cumulative incidence of surgical site infections in Europe by category of surgical intervention, 2004–09 - Trends in cumulative incidence of surgical site infections in hip prosthesis by country, 2004–09 - WHO-HfA has data for some countries, but for many countries data are from 1990s. Data are not truly comparable (different definitions, year of data varies, for example). - Assessment by SImPatIE-project: Data definitions, data quality, and availability vary across institutions and across Europe, which makes this indicator unsuitable for nation wide comparison or benchmarking under the current conditions. - OECD postoperative sepsis: This indicator will need further development in terms of data availability and comparability before it can be published in regular OECD publications such as “Health at a Glance”.
Rationale	Indicator for the safety of operative interventions. Wound infection can lead to re-operation and prolonged hospital stay, to increased morbidity and mortality for patients and to increased costs for the health care system. Amenable to interventions: the incidence of wound infection can be reduced by proper pre-, intra- and post-operative care, in particular strict hygiene.
Remarks	- ECDC: Inter-country comparisons of SSI rates should be made with caution because at least part of the inter-country differences can be explained by several factors, for example: - Differences in intensity of post-discharge surveillance methods - Differences in post-operative length of stay - Bias due to selection of hospitals with specific problems in countries with low participation in HAI-Net SSI (see references) - Differences in the mix of hospitals that participated each year. - Differences in patient case-mix and mix of types of intervention (some interventions have a higher intrinsic risk of infection) - Different interpretations of the same case definitions, resulting in different reported percentages of superficial infections - Organisational aspects such as mandatory participation with public disclosure of SSI indicators.
References	- Safety Improvement for Patients In Europe, SImPatIE: http://www.simpatie.org/ - SImPaTIE project, documentation on indicator ‘Wound infection’: http://www.simpatie.org/Main/pf1175587453/wp1175588035/wp1179316968 - Successor project SImPaTIE = EUNetPas: http://www.eunetpas.eu/ (NB no focus on data collection; focus on best practice exchange). - OECD Health Care Quality Indicators (HCQI) project: http://www.oecd.org/health/hcqi - OECD Work in Patient Safety: http://www.oecd.org/document/43/0,3343,en_2649_33929_37090539_1_1_1_37407,00.html - OECD, Health at a Glance 2011 report: http://www.oecd.org/dataoecd/6/28/49105858.pdf - IPSE (Improving Patient Safety in Europe), a network for the surveillance of healthcare-associated infections (HCAI) in Europe: http://helics.univ-lyon1.fr/. In July 2008, the coordination of IPSE was transferred to ECDC

	- The Healthcare-Associated Infections Surveillance Network (HAI-Net, coordinated by ECDC. The activities of HAI-Net are largely based on the activities of the former IPSE network. http://www.ecdc.europa.eu/en/activities/surveillance/hai/Pages/default.aspx - European Centre for Disease Prevention and Control. Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm, European Centre for Disease Prevention and Control. http://ecdc.europa.eu/en/publications/Publications/0910_SUR_Annual_Epidemiological_Report_on_Communicable_Diseases_in_Europe.pdf
Work to do	- Solve key issues and problems; follow development existing data collections and discuss issues of availability and comparability with ECDC, WHO and OECD - Based on experiences OECD: discuss shifting focus indicator from surgical wound infections to postoperative sepsis