An aid to interpreting OP-KISS reference data

Surveillance data from one surgical ward for one type of operative procedure can be evaluated in the following ways:
1. by comparing the SSI rate of that ward – by risk category, type of infection and in total—to the reference rates
2. by generating a standardized SSI index with the reference data (see protocol for example calculation and interpretation). This index is automatically generated for KISS participants in webKess.

The reference data for each operative procedure only include data collected by surgical wards with at least 30 operations of that type of procedure per year. The reference data are prepared by the NRZ once per year including all operations performed until December 31. The reference data reflect an observation period of five years.

Reference data: SSI rates

Table 1: SSI rates by risk category

The following figures are provided for each risk category and for all risk categories together: number of KISS wards; total number of operations; total number of SSI; and average, 25% quantile, median and 75% quantile SSI rates of participating departments.
The rates of related risk categories are presented together when they do not differ significantly from another. This holds true for risk categories 2 and 3 for many types of operative procedure. For some operative procedures, only the total figure for all risk categories can be given.
All SSI (diagnosed during hospital stay, after release and at admission) are included in the calculation of SSI rates.

Distribution of risk points for operations—by type of operation
One risk point is given for an ASA score of 3 or higher; one risk point for a wound contamination class of 3 (contaminated) or 4 (dirty or infected); and one risk point is given for operations lasting longer than the 75% quantile of KISS operations of that
type. The value of the 75% quantile for operation duration (in minutes) is provided for each type of operative procedure in the reference data.

**Endoscopic operations:**
Completely endoscopic operations and conventional open surgeries are evaluated separately for the operative procedure types appendectomy (APPE), Cholecystectomy (CHOL), colon operations (COLO), and hernia repair surgery (HERN).

**Table 2 SSI rates by type of infection**
The following reference SSI rates are given for the infection types A1 (superficial incisionary), A2 (deep incisionary) and A3 (organ/space infection): pooled average, 25% quantile, median, 75% quantile. For some operative procedure types, the SSI types A2 and A3 are presented together. All SSIs (diagnosed during a hospital stay, after release and at admission) are included in these reference data.

**Table 3 In-house SSI by risk category**
Only in-house SSI (i.e., those diagnosed during a hospital stay) are included in the calculation of this rate. SSI diagnosed after discharge and at re-admission are not included. These rates are therefore independent of any “post-discharge surveillance.” Otherwise, the SSI rates in this table are analogue to those in table 1.

**Table 4 In-house SSi by type of infection**
Only in-house SSI (i.e., those diagnosed during a hospital stay) are included in the calculation of this rate. SSI diagnosed after discharge and at re-admission are not included. These rates are therefore independent of any “post-discharge surveillance.” Otherwise, the SSI rates in this table are analogue to those in table 2.

**Reference data—Statistics of most frequent pathogens**

**Table 5 Total SSI (in percentage) of with pathogen**
The total number of and percentage of SSI caused by the most common pathogens by operative procedure type is given here, sorted by pathogen and operative procedure type. The order of pathogens reflects their frequency without taking the type of operative procedure into consideration. The classification of operative procedure types is explained in table 6.