INDICATOR	INDICATOR CONSTRUCTION	POSSIBLE DATA SOURCES	COMMENT
DDD per 100(0) patient-days	**Numerator:** DDD of an agent (based on ATC code) purchased/ dispensed/consumed in a period of time (i.e. total antibiotic used). **Denominator:** Total number of patient-days within that period of time. **Multiplier:** x 100(0) to obtain data per 100(0) patient-days	Pharmacy dispensing data Health-care facility purchasing data Nursing chart administrative data (paper) Electronic drug administrative data E-prescribing records	DDD per 100(0) patient-days is the most commonly used quantity measure of antibiotic use, because the data needed to calculate it are available in many settings (unlike days of therapy, DOTs); no individual-level data are needed. It should, however, be noted that differences in data sources and definitions may influence this indicator, for instance: - the list of antibiotics included (e.g. all ATC class J01 antibiotics, or subsets of ATC class J01, or additional antibiotics and antimicrobials not included in ATC class J01); - the data source used – it has, for example, been shown that pharmacy dispensing data tend to overestimate antibiotic use compared with actual drug administration data; and - how patient-days are calculated (e.g. "days present", an alternative measure). Detailed guidance on how to calculate DDDs is available elsewhere. DDDs can be calculated for overall use, specific antibiotic, classes or other categories (such as AWaRe). It is very important to clearly define how the metric is calculated (i.e. antibiotics included, data sources, ATC version and year, calculation of patient-days) and to be consistent over time.
DDD per admission	**Numerator**: See above **Denominator**: Total number of patients admitted within a period of time	See above	DDD per admission gives different information than does DDD per patient-days. The length of stay may affect patient days and admissions differently
DOTs per 1000 patient-days	**Numerator**: Days of therapy with an agent during a period of time **Denominator**: Total number of patient-days within that period of time **Multiplier**: x 1000 to obtain data per 1000 patient-days	Nursing chart administrative data (paper) Electronic drug administrative data E-prescribing records	The major disadvantage of DOTs compared with DDDs is the need for individual-level patient data (instead of aggregated data, such as pharmacy data, which are sufficient to calculate DDDs). (On the other hand individual-level data make it possible to assess the duration of treatment, redundant therapy, etc.).