PATH:

Preview of indicators

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Preview of indicators

- Rationale, generic definition
- Results and lessons learnt from PATH-pilot and PATH-II
- International organizations, partners
- Key issues for data collection
- Assess relevance/interest, burden of data collection (+ when alternatives: admin. database vs. ad-hoc data collection?)
- Recommend priorities

Preview of indicators

- Balance
  - Dimensions
  - Source data :
    Prospective – retrospective;
    Databases – ad-hoc data collection (audits, surveys)
  - Structure – process- outcomes
  - International – local relevance

Priorities

- If you had to select only 1(or 3) indicators in each dimension?
- If you had to exclude 1 (or 3) indicators in each dimension?
- In what additional dimensions (sub-dimensions or domains of care) would you suggest developing indicators?

Structure of the descriptive sheets

Descriptive sheet (2 pages)

- **Definition**
- **WHAT it means** (what is really being measured, how to position it in relation to the "comprehensive picture" of organizational performance)
- Rationale: **WHY** measure this indicator (importance: prevalence, burden, potential impact; validity)
- Interpretation
  - International reference points
  - Dissemination of results:
    - Who is to look at the data and what questions to ask? (checklist)
- Action – what's next? – to go further…:
  - Reference to networks or audit/improvement tools

Structure of the descriptive sheets

- Data collection procedure:

  Algorithm, step by step, audit tools or questionnaires if relevant, instructions for translation or adaptation to local context if relevant (what data, where, how to get organized for data collection in the hospitals, minimum number of cases, inclusion and exclusion, computation of indicator, test for data quality or "cleaning data sets", etc.)

- Signature of expert or partner organization ("seal")

  and contact details and developer or user of the original indicator (e.g. AHRQ for c-section)

PATH-II: discussion of results

- **Sample: number of participating hospitals on selected indicators**

Indicator	# countries	Potential # hospitals	# participating hospitals
Mortality	8	155	120
LOS	7	154	116
C-section	8	155	84
Prophylactic antibiotic	6	101	78
Needle injuries	8	154	67
CTM3 (discharge preparation)	5	55	47

PATH – 09 Indicators

- Clinical Effectiveness –
- Safety -
- Utilisation -

Indicators derived from

Hospital Patient Administrative Databases

Indicators

- C-section Rate
- In-Hospital Case fatality rate – Myocardial Infarction
- In Hospital Case fatality rate – Stroke
- Postoperative Pulmonary Embolism or Deep Vein Thrombosis

Source of Indicators – technical information and rationale

- OECD (Heath at a Glance, Technical Manuals – www.OECD.org)

- AHRQ Quality / Patient Safety Indicators – www.qualityindicators.ahrq.gov/
- PATH Data Specification Manual *(Coming Soon)*

Source of Data

- National Patient Registries (Scandinavia)
- National/Regional Billing Databases – DRG registries
- Hospital Administrative Databases

Various levels of data quality e.g.:

- Unique patient identifier
- Verification of sources

Minimum Information content requirements

- Coded primary and secondary diagnoses – ICD9, ICD10
- Coded Interventions (operative procedures) – ICD9, Other Systems
- Age/Sex of Patient
- Date of Admission/Discharge
- In-Hospital Death

Cesarean-section Rate

- Rationale: Utilization of Healthcare (Significant between-Country and within-Country variation, quality/cost considerations) Effectiveness ?
- Definition/Inclusion Criteria: Number of C-sections/100 deliveries (Specified exclusion criteria)

PATH-II: discussion of results

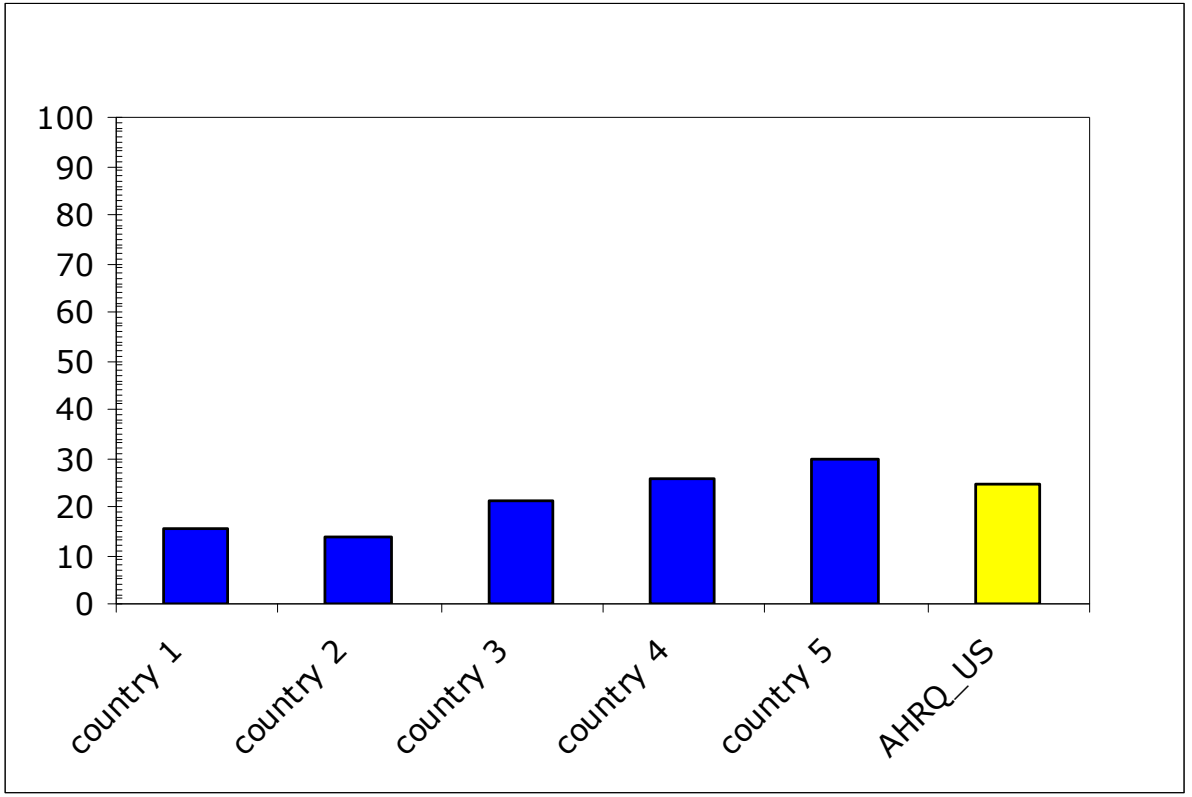
C-section delivery rate

- **Definition**
- **TITLE : % of caesarean sections of total deliveries NUMERATOR**: number of Caesarean sections (C-sections) **DENOMINATOR**: All deliveries
- **EXCLUSION CRITERIA**: exclude patient with abnormal presentation, preterm, foetal death, multiple gestation, breech procedure, delivery within 37 weeks or less of pregnancy **(AHRQ definition, focus on low risk deliveries, for increase homogeneity of patient population)**
- **TAILORED**
- **number of primary C-sections over number of primary deliveries**
- **vaginal deliveries over all deliveries with a previous caesarean section**
- http://www.qualityindicators.ahrq.gov/downloads/iqi/iqi_guide_v31.pdf

PATH-II: discussion of results

C-section delivery rate

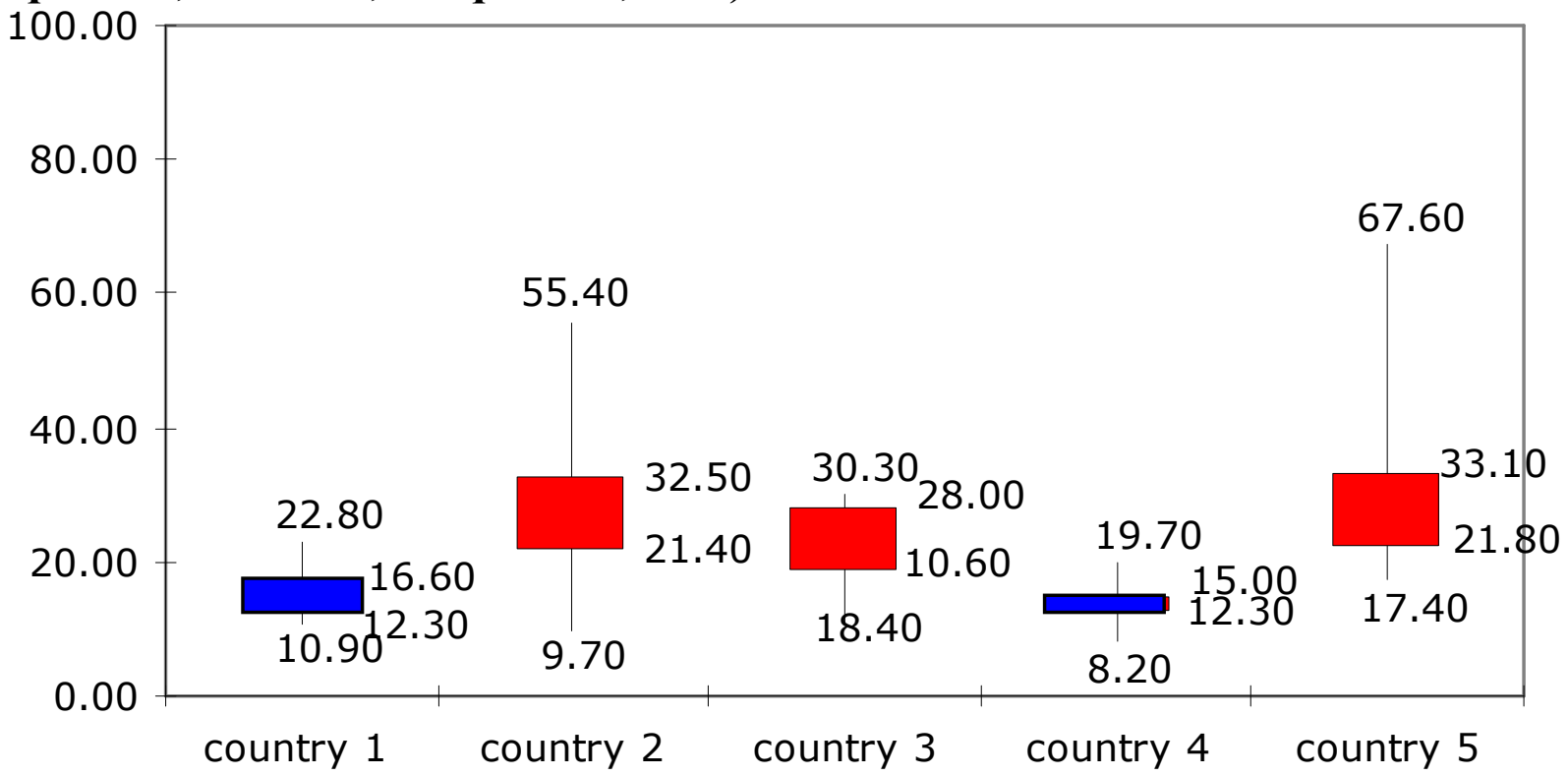
International comparison on average c-section rate within country



PATH-II: discussion of results

C-section delivery rate

International comparison on average c-section rate within country (min, 1st quartile, mediane, 3rd quartile, max)



PATH'09: discussion issues

C-section delivery rate

Inclusion criteria ? (All deliveries or defined subgroups)
Interpretation

Applications ? (trends, peer comparisons, possibility of defining targets for good practice ?)

PATH-II: discussion of results

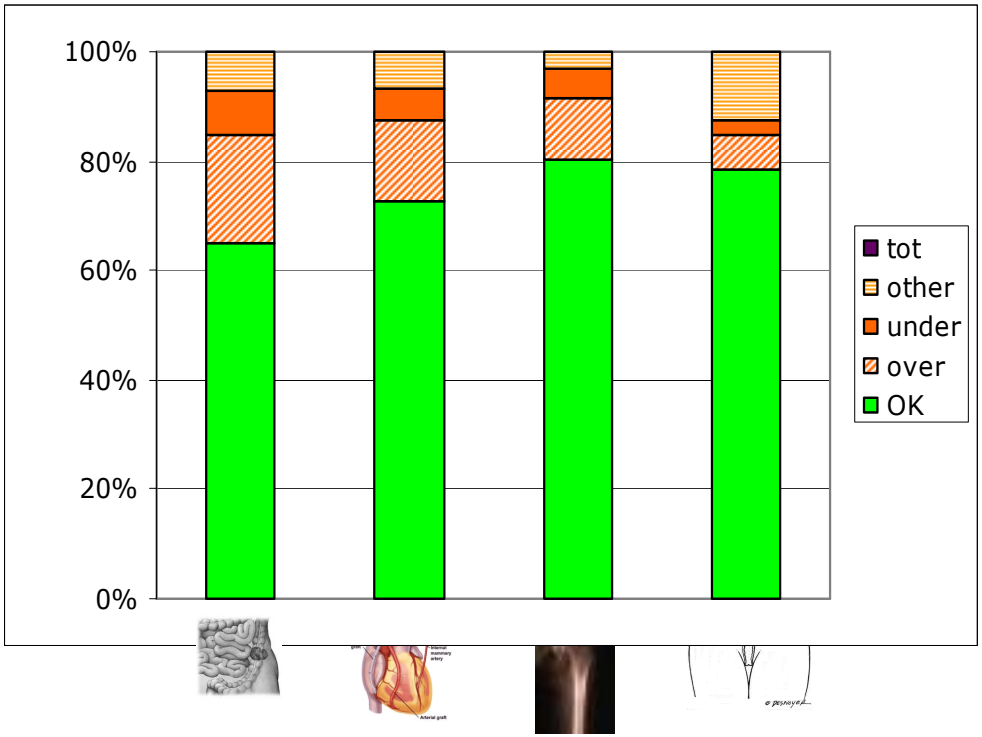
Compliance with antibioprophylaxis guidelines

- **Definition**
  - % of patients who received prophylactic antibiotic ***according to local guidelines***
  - NUMERATOR : Patients that received the antibiotic
  - DENOMINATOR : Patients that should have received antibiotics
  - TRACER PROCEDURES : planned surgery for colorectal cancer, coronary artery bypass graft (CABG), hip replacement, and hysterectomy
  - TAILORED : 1) patients whose prophylactic antibiotics was initiated within 1 hour of incision, 2) patients whose prophylactic antibiotics were discontnued within 24 h after surgery end time

PATH-II: discussion of results

Compliance with antibioprophylaxis guidelines

- **Bottle 3/4th full or 1/4th empty?**

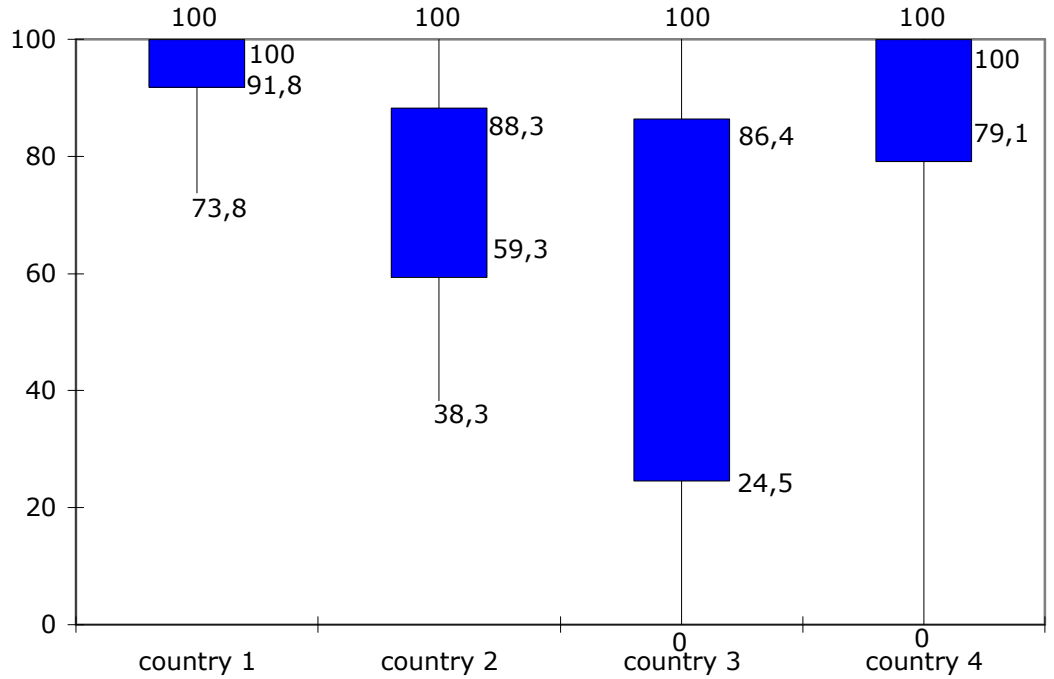


PATH-II: discussion of results

Compliance with antibioprophylaxis guidelines

- Inter-hospital variations

Inter- and within-country distribution of % of patients receiving antibioprophylaxis in compliance with local guidelines for hysterectomy (minimum, 1st quartile, 3rd quartile, maximum)



PATH-II: discussion of results

Compliance with antibioprophylaxis guidelines

Data collection

- Who assessed compliance?
- Compliance was assessed against what guidelines? Local? National? Content (molecule, doses, timing)?
- How were records identified?

Interpretation

- What is your rate of compliance?
- Did results come as a surprise or were they expected?
- How do you relate those results to post-surgical infection rates?
- What goals do you set up?

Best practices

- Who is responsible for developing guidelines? Reviewing them? For communication? For monitoring cmpliance? For setting up structure to ensure proper timing?

Impact

- To whom were the results presented?
- How was awareness raised?
- Was it assessed again? Is it part of routine (now)?

Next steps?

PATH'09: discussion issues

Compliance with antibioprophylaxis guidelines

- Tracers
- Number of records to be audited per tracer? Audits performed locally or centrally? ToR for auditor? Test reliability?
- Compare against local guidelines, national guidelines, international guidelines?
- Provide a tool to assess local and national guidelines?
- Include elements that need to be included in the guideline (timing before/after, dose, type, exclusion criteria, etc.) – provide standard algorithm as illustration
- How to facilitate comparisons of national guidelines before implementation of indicators?
- How much time is needed between
- Whom to involve for local development, measurement and interpretation of this indicator?

PATH-II: discussion of results

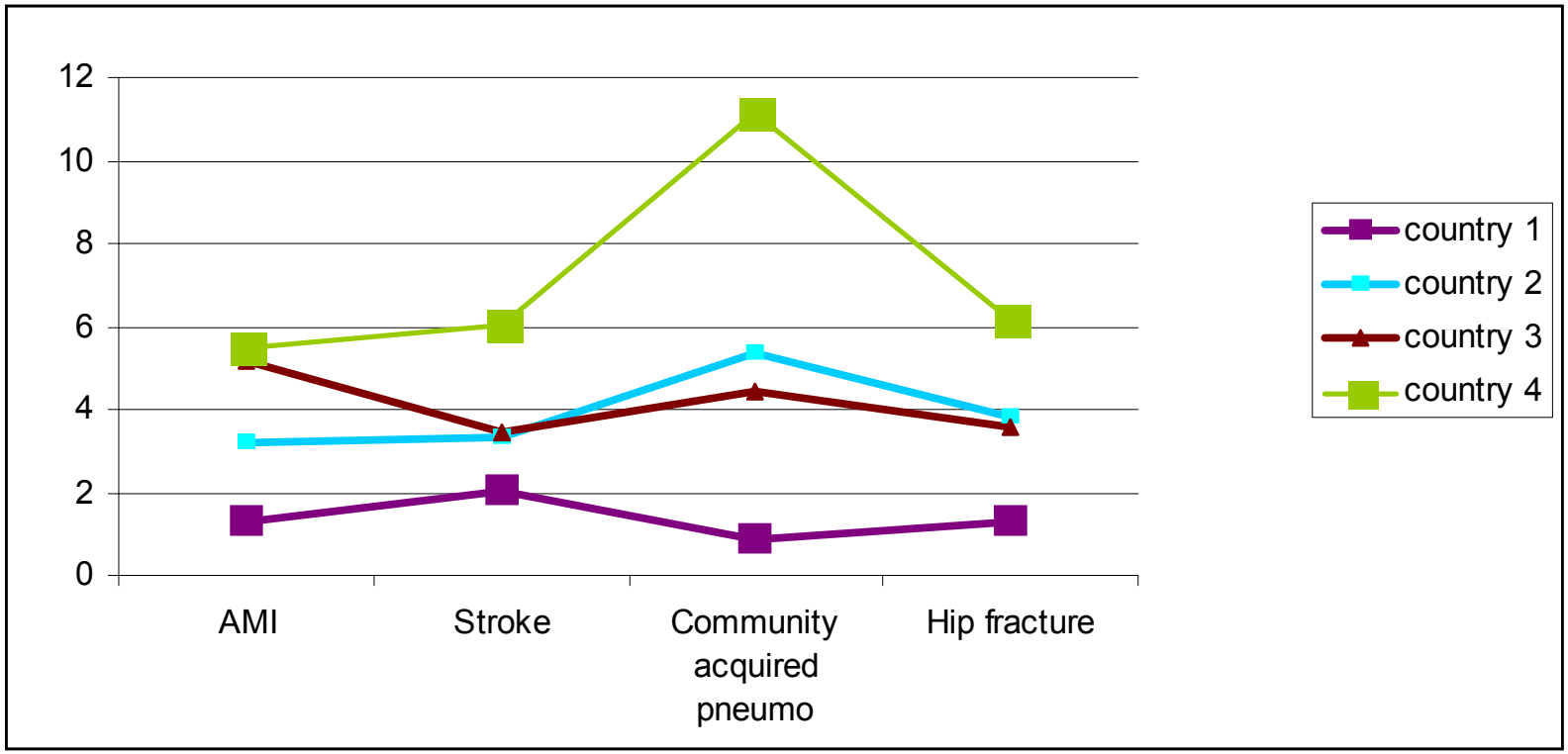
C4 – Readmission within 30 days

- **Definition**
  - Numerator: Total number of **unplanned** admissions within a fixed follow up period (30 days) from the **same hospital** and **with a readmission diagnosis relevant to the initial care**.
  - Denominator: Total number of patients admitted for selected tracer conditions
  - Exclusion criteria: Patient who died during the index hospitalization or who were discharged to another acute care hospital

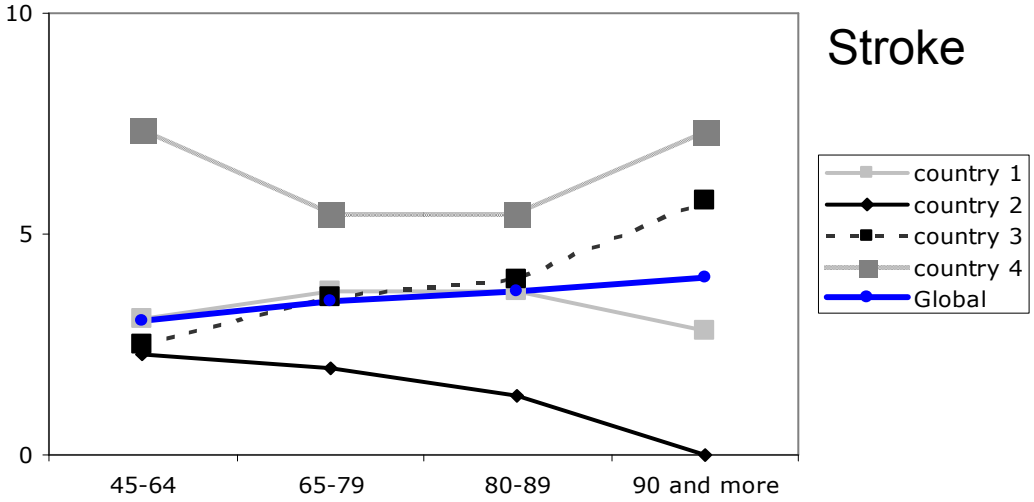
PATH-II: discussion of results

C4 – Readmission within 30 days

Global readmission rates (in %) per country and tracer

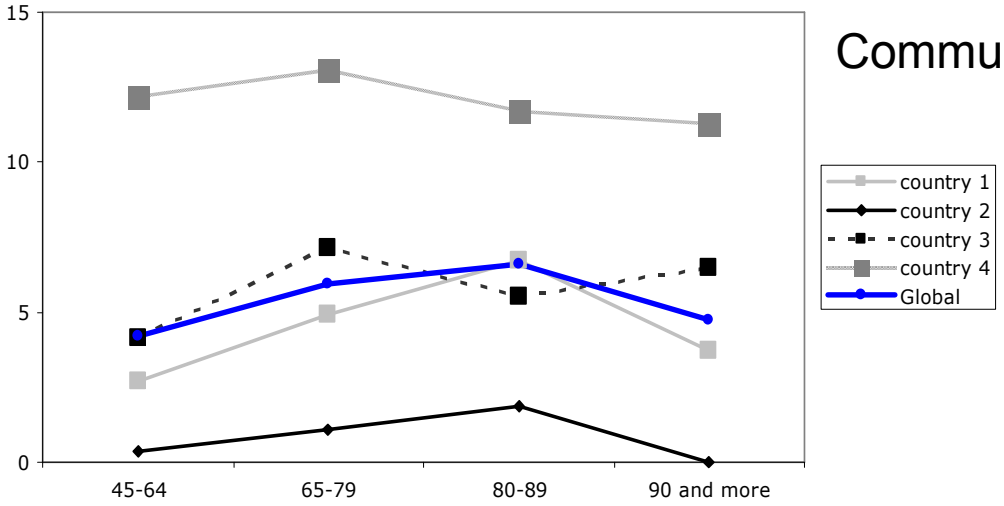


PATH-II: discussion of results



Stroke

C4 – Readmission within 30 days

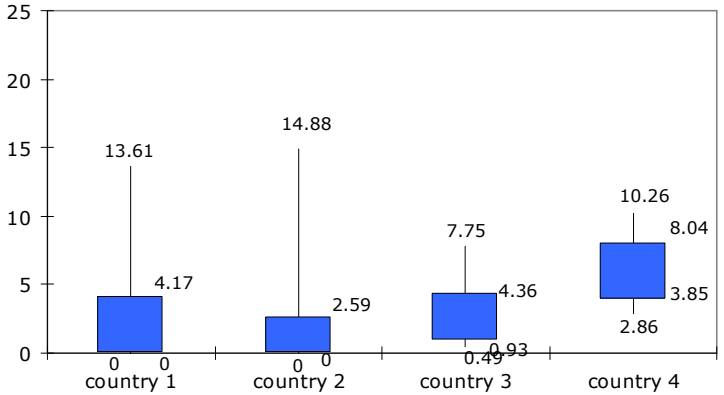


Community acquired pneumonia

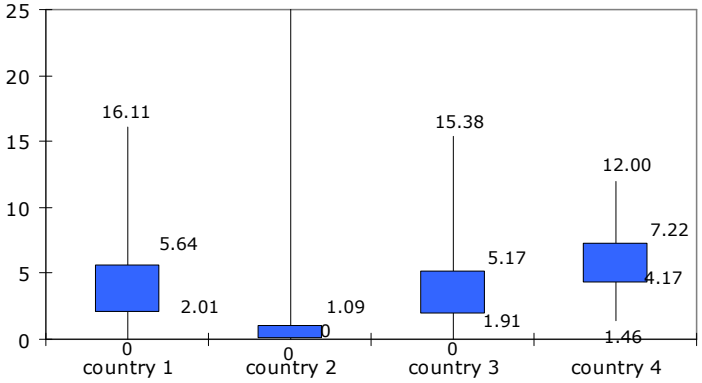
PATH-II: discussion of results

C4 – Readmission within 30 days

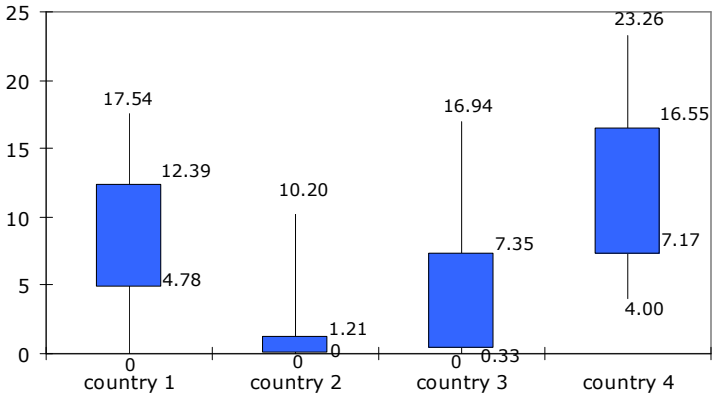
AMI



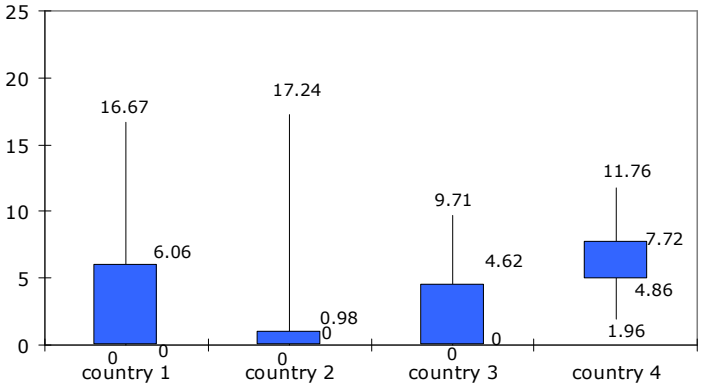
Stroke



Community acquired pneumonia



Hip fracture



PATH'09: discussion issues

Readmissions within 30 days

- Tracers (see OECD)
- Unique identifier?
- **Alternative 2 includes algorithm to review records→ Unplanned? Avoidable?**
- Agregation of tracers into summary indicator?

PATH-II: discussion of results

C8 – Median length of stay

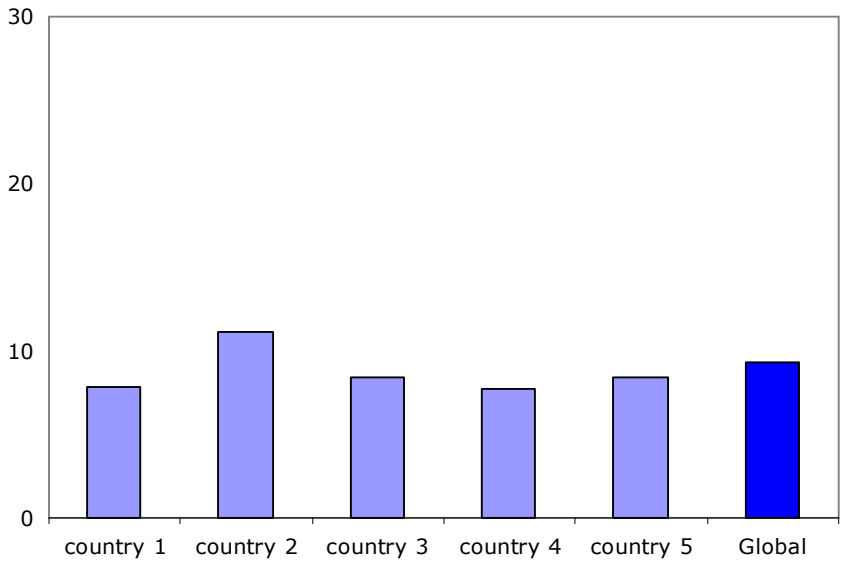
- Definition

- This indicator assesses the median number of days of hospitalization (admission and discharge date count for one day) for cases admitted with acute myocardial infarction (ICD-9: 431, 433, 434, 436 and ICD-10: I63, I64, I65, I66).
- Data collected over a 12 months time period from the 1st January to 31st December 2006 (unless this data was not available then the most recent data covering a 12 months period)
- Patients transferred to/from other hospitals were excluded.
- The reported data is NOT adjusted for age and sex.

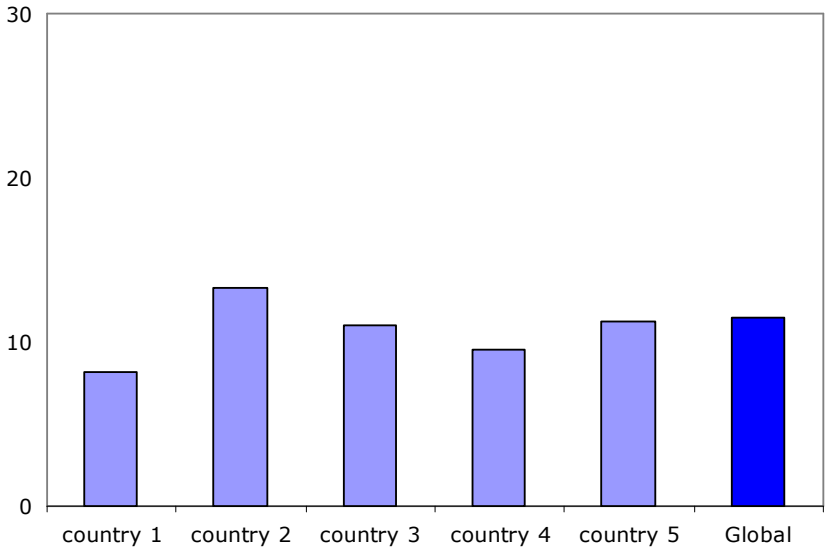
PATH-II: discussion of results

C8 – Median length of stay

Tracer 1: Acute Myocadial Infraction



Tracer 3: Community acquired pneumonia

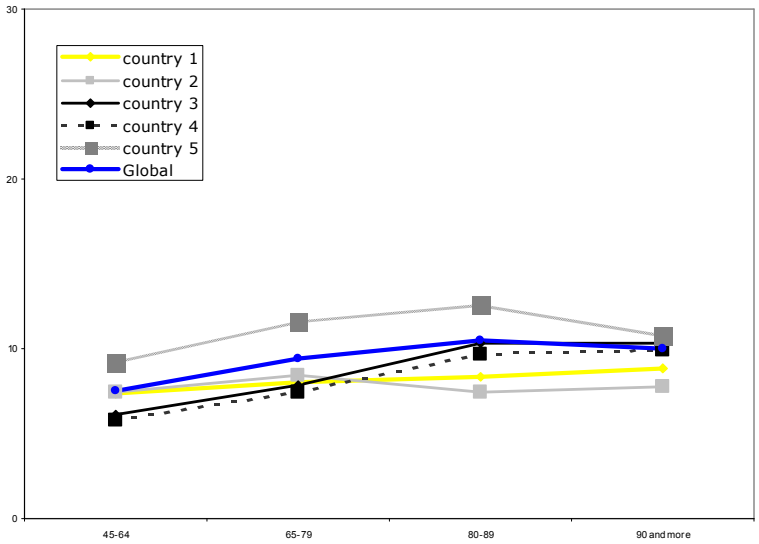


PATH-II: discussion of results

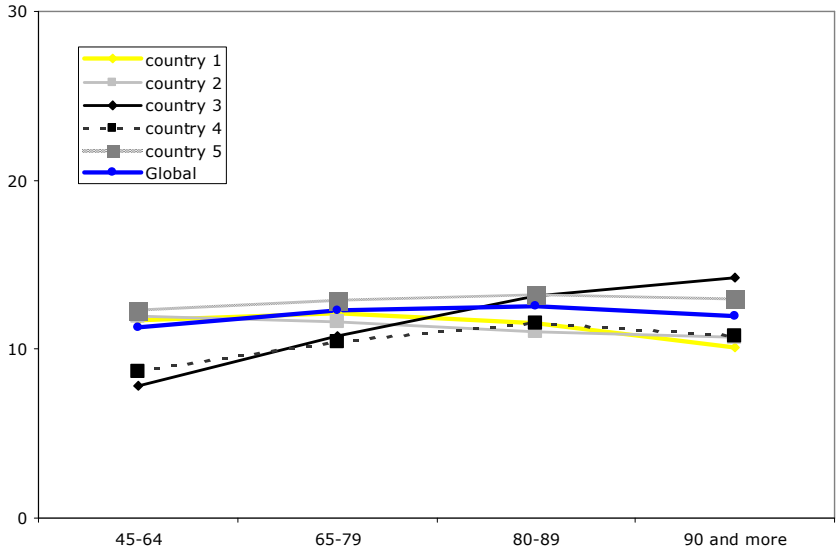
C8 – Median length of stay

- LOS and age? ---- No risk adjustement

Tracer 1: Acute Myocadial Infraction



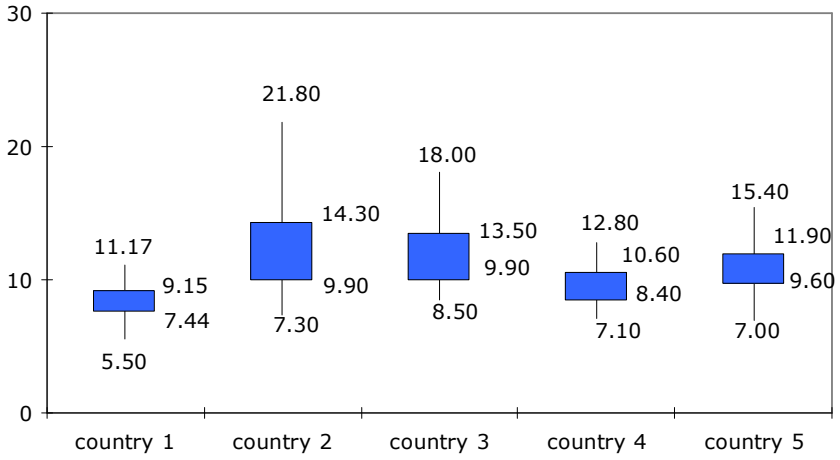
Tracer 3: Community acquired pneumonia



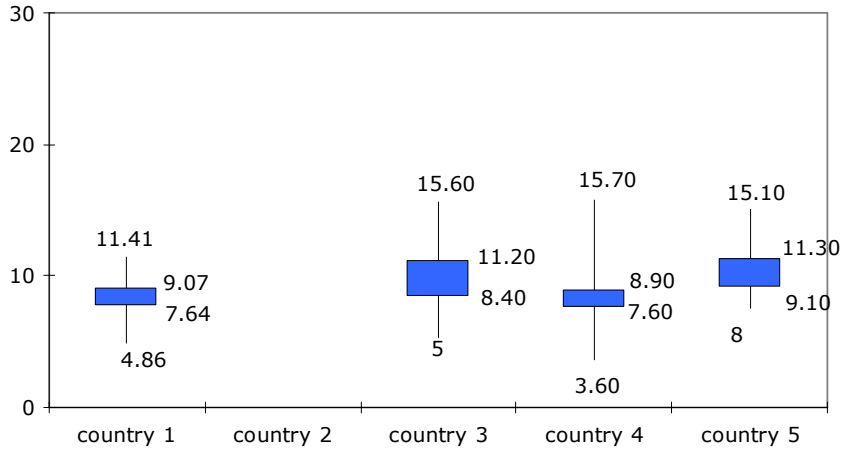
PATH-II: discussion of results

C8 – Median length of stay

Tracer 1: Acute Myocadial Infraction



Tracer 3: Community acquired pneumonia



PATH'09: discussion issues

Median length of stay

- Tracers (see OECD)
- **Alternative 2: risk adjustement? DRGs?**
- Agregation of tracers into summary indicator?

Myocardial Indfarction/Stroke within hospital 30 days case fatality rates

- **Rationale**: Effectiveness – safety – (Outcome measure associated with evidence-based practice)
- **Definition**: Denominator Number of deaths (Age +15) in the same hospital that occurred within 30 d of admission Numerator No admission (Age +15) to hospitals with a primary diagnosis of Stroke/Myocardial Infarction

Myocardial Indfarction/Stroke within hospital 30 days case fatality rates

- **Definition ctd**: Specified ICD- codes

Myocardial Indfarction/Stroke within hospital 30 days case fatality rates

- **Discussion issues**:
- Risk Adjustment ? (Need for additional data collection ?)
- Interpretation ? (Possibility of Benchmarking)
- Internal improvement activity (Utility as a trigger for audit-improvement of key processes ?)

Postoperative Pulmonary embolism or Deep Vein Thrombosis: NEW INDICATOR

- **Rationale:** Patient Safety – effectiveness (occurence of DVT/Pulmonary embolism is one of the major potentially lethal – and preventable - complications to surgery)
- **Definition:** Denominator: Number of discharges with a secondary diagnosis of PE/DVT

  Numerator: All surgical discharges with a code for op. Procedure (Specified exclusions)

Postoperative Pulmonary embolism or Deep Vein Thrombosis

- **Issues for discussion:**
- Coding practice –standardisation between hospitals ? (Underreporting in administrative databases)
- Interpretation: Need for risk adjustment ?
  (Patient factors – operative procedure factors)
- Coupling to internal QI-activity ?

PATH'09: discussion issues

Prevalence study pressure sores

- Assess both risk and presence / stade of ulcer
- Sample: hospital-wide or specific departement? Or specific conditions? Focus on low-risk or high-risk?
- Training needs? Reliability?
- Previous experience with such exercice?

PATH-II: discussion of results

C16 – score on CTM3

- DEFINITION: The term “care transitions” refers to the movement patients make between health care practitioners and settings as their condition and care needs change during the course of a chronic or acute illness.

- The score (on a -100 scale) is built on responses (on 1-4 scale) to three items in questionnaire :
- 1. Preferences : The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be [when I left the hospital].
- 2. Health management : [When I left the hospital], I had a good understanding of the things I was responsible for in managing my health.
- 3. Medications : [When I left the hospital], I clearly understood the purpose for taking each of my medications

  A higher score represents better transition from hospitals to home or other care settings

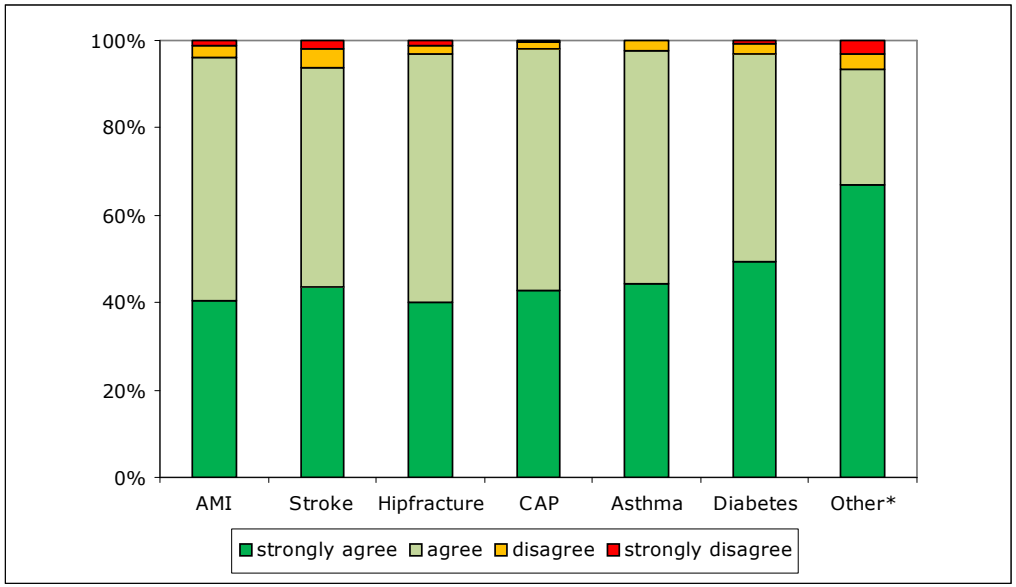
PATH-II: discussion of results

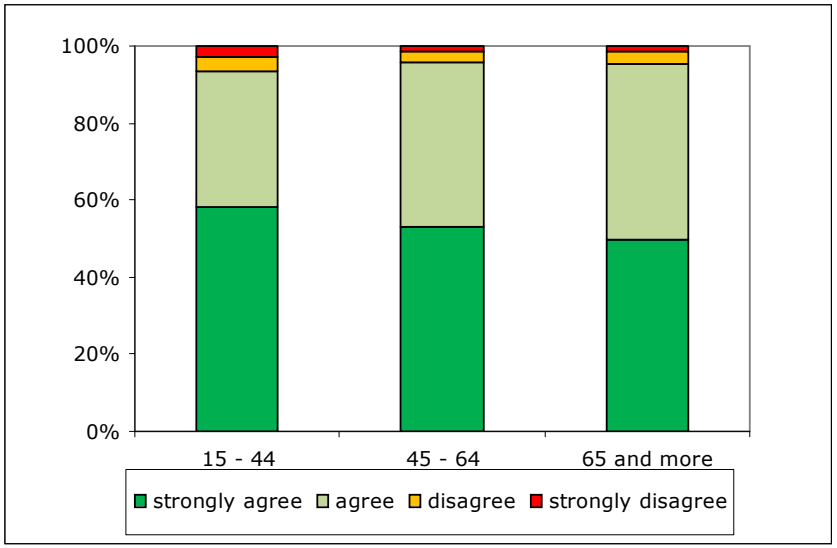
C16 – Score on CTM3

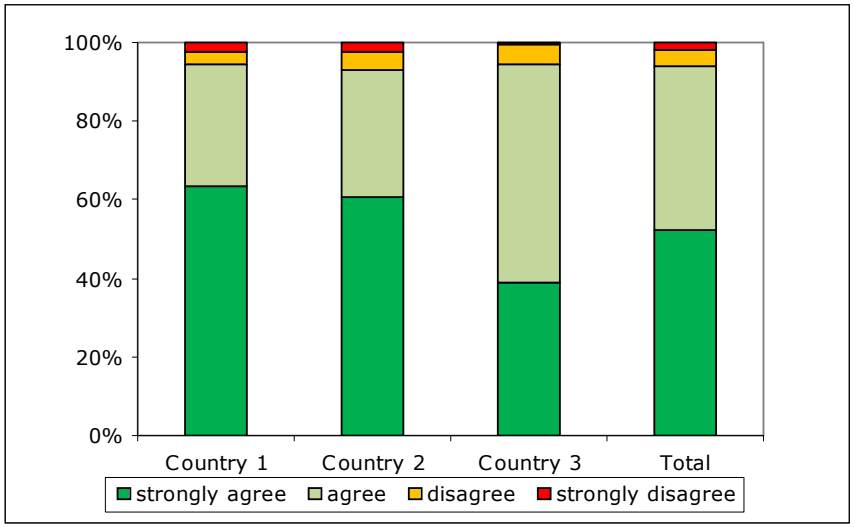
- Sample size:
  - **INCLUSION CRITERIA** : All patients discharged over the survey period. **MINIMUM 60 patients per tracer** condition/procedure to be included in the sample.
  - Most hospitals have provided valid data for **between 50 patients (P25) and 144 patients (P75) for 6 tracers** or more.
- Risk adjustement:
  - According to descriptive sheet: Age and sex BUT
  - CTM developers indicate that

    "*the CTM is a patient centered measure that assesses the extent to which hospital staff accomplished essential care processes (...) to be extended universally, irrespective of disease burden or socio-demographic status. As a result, the CTM (...) does not employ risk-adjustment in calculating a summary score. (...). Each of the [empirical] analysis has confirmed that these variables [gender, age] does not bias CTM-3 response patterns*".
  - PATH results: no association between age and sex and CTM3 score

C16 – Score on CTM3

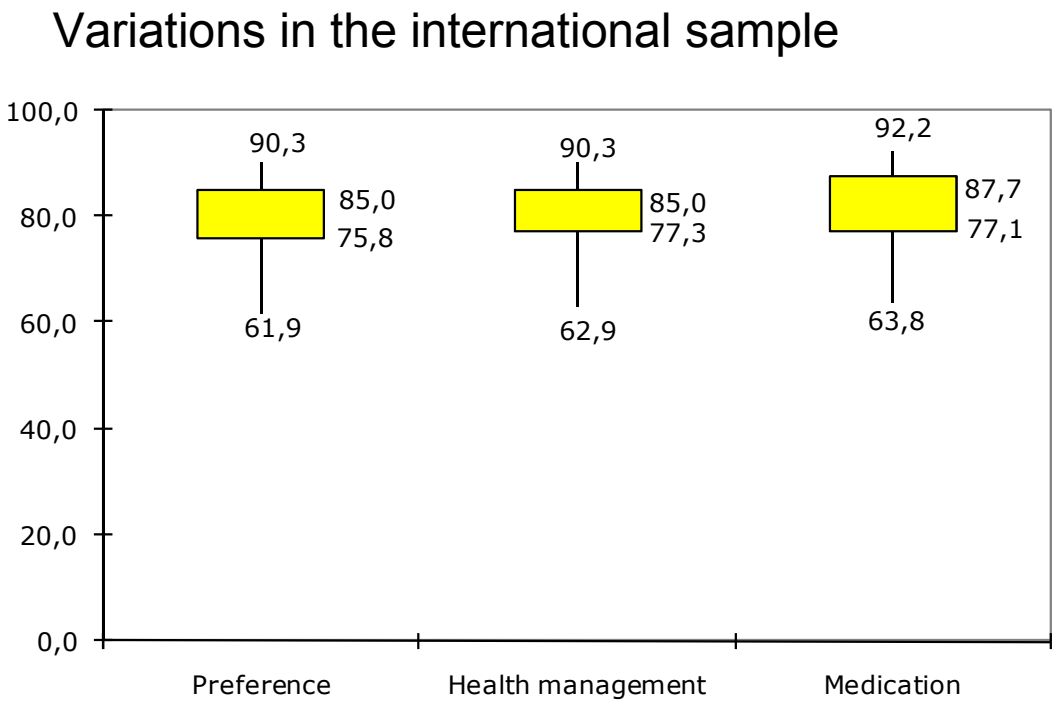






PATH-II: discussion of results

C16 – Score on CTM3

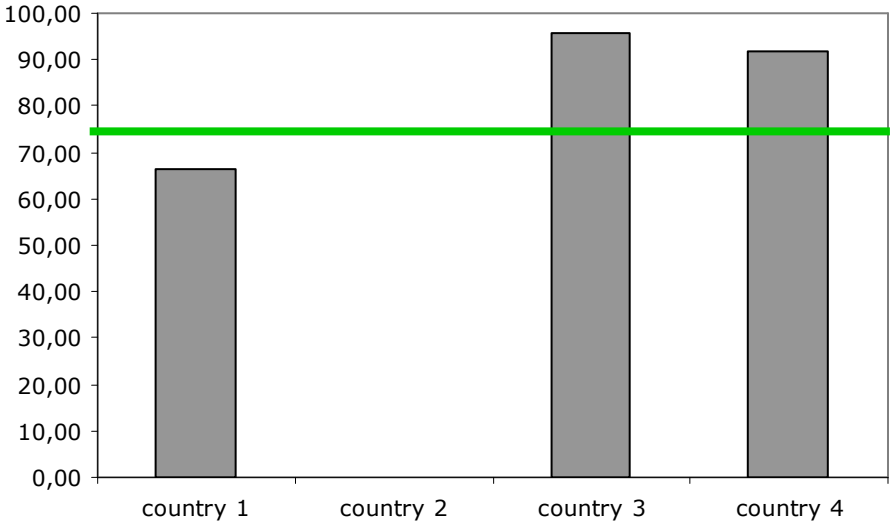


PATH-II: discussion of results

C15 – Breastfeeding rate

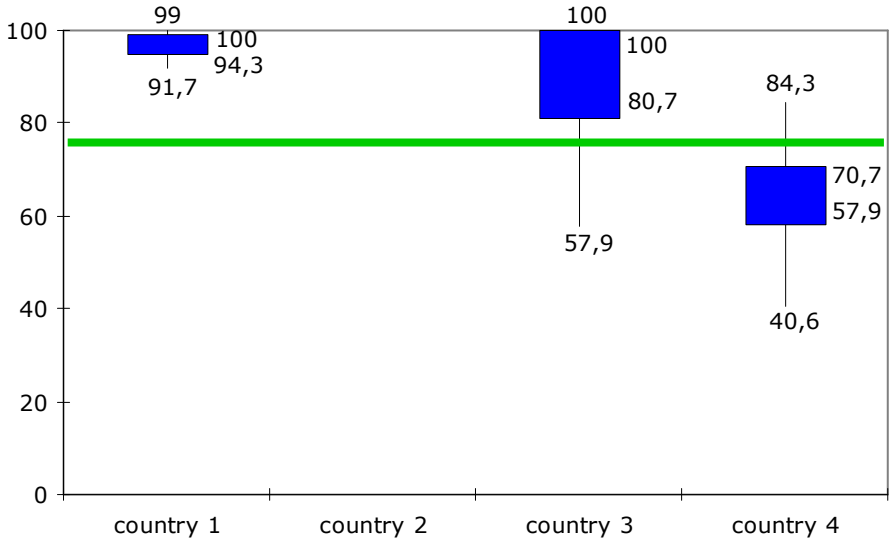
- **Definition**: The percent of women with **exclusive** breastfeeding at discharge. WHO defines exclusive breastfeeding when “the infant receives only breast milk from his/her mother or a wet nurse, or expressed breast milk, and no other liquids or solids with the exception of drops or syrup consisting of vitamins, mineral supplements or medicine”.
- **Numerator**: Total number of mother included in the denominator breastfeeding at discharge.
- **Denominator:** Total number of delivery fulfilling criteria for inclusion.
- **Exclusion criteria**: Neither mother nor infant has a medical condition for which breastfeeding is contraindicated.

C15 – Breastfeeding rate



WHO/UNICEF Baby Friendly Hospital Initiative: minimum threshold for label

Global rate



Individual indicators

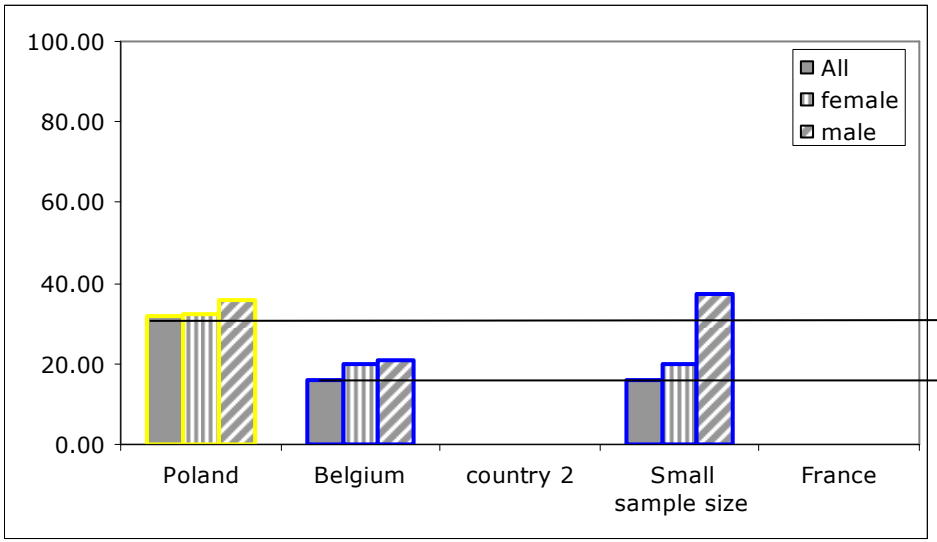
PATH-II: discussion of results

C13 – Smoking prevalence

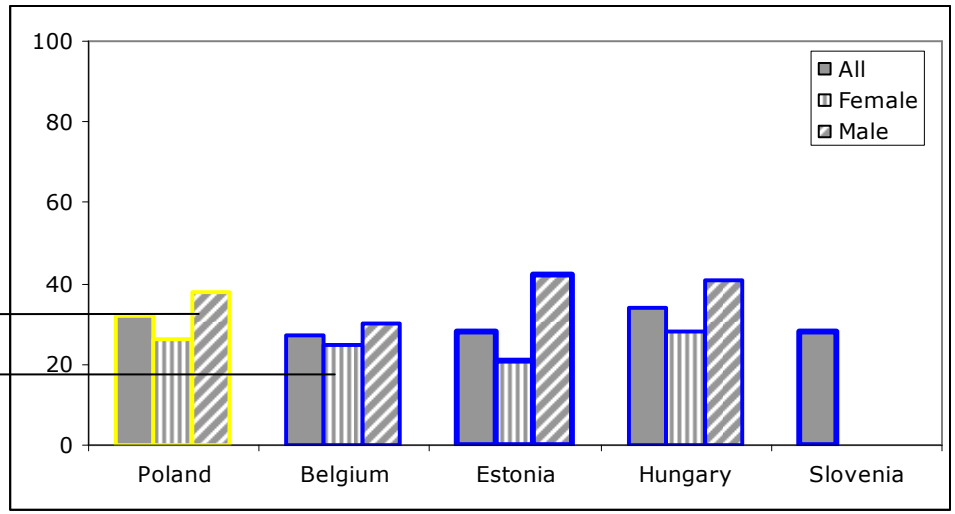
- **NUMERATOR** : number of staff smoking
- **DENOMINATOR:** total number of staff
- **INCLUSION CRITERIA** : All staff on the hospital payroll
- **SOURCE OF DATA:**
  - The European Network of Smoke-free hospitals developed a survey measure including 13 standard questions to be able to compare differences between hospitals in various European countries. The first questions of the survey will be sufficient to gather information on staff smoking prevalence; the additional questions in the survey are optional for hospitals to fill in.
  - Alternatively, if the information on staff smoking prevalence is already available from other sources (such as periodic staff health survey), these can be used.

PATH-II: discussion of results

Participating PATH hospitals



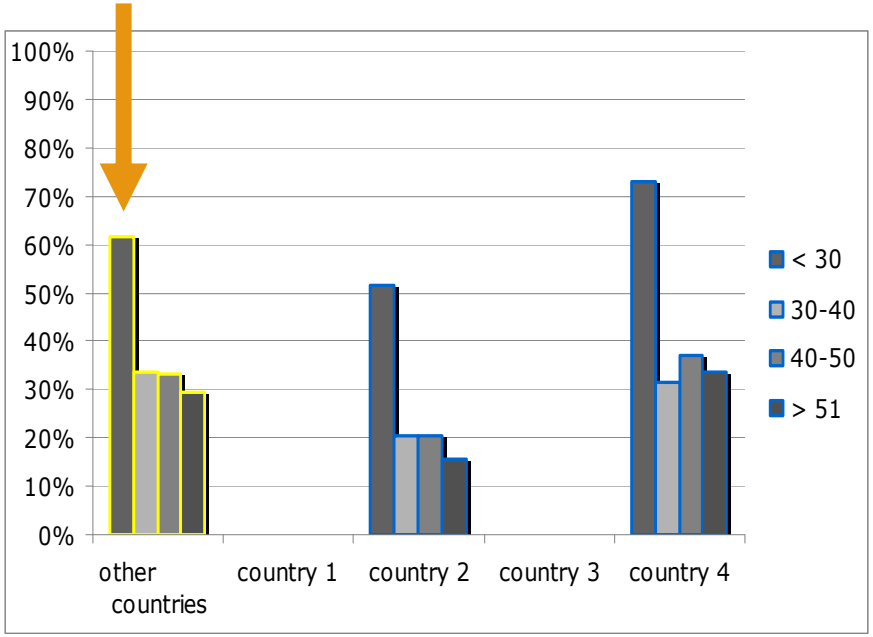
General population

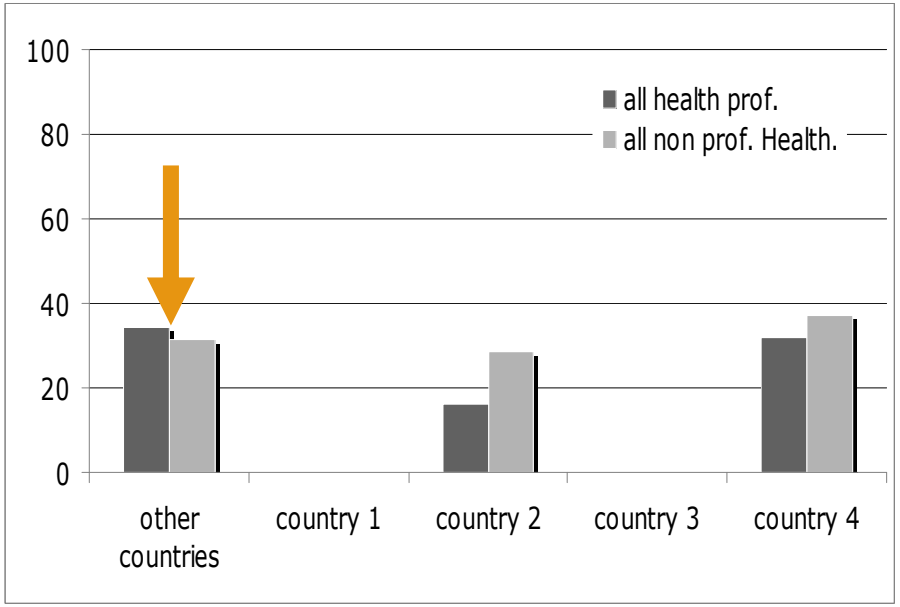


PATH-II: discussion of results

C13 – Smoking prevalence

Evidence to target health promotion activities



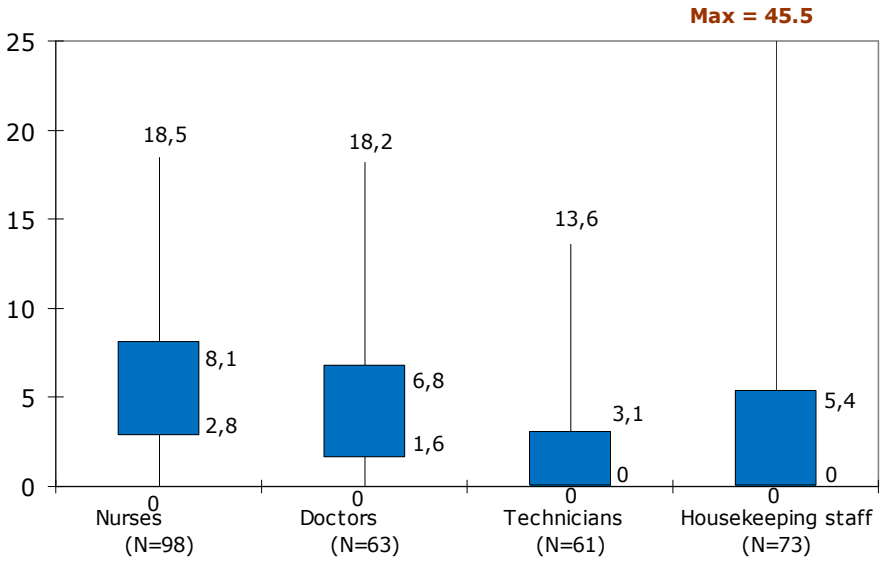


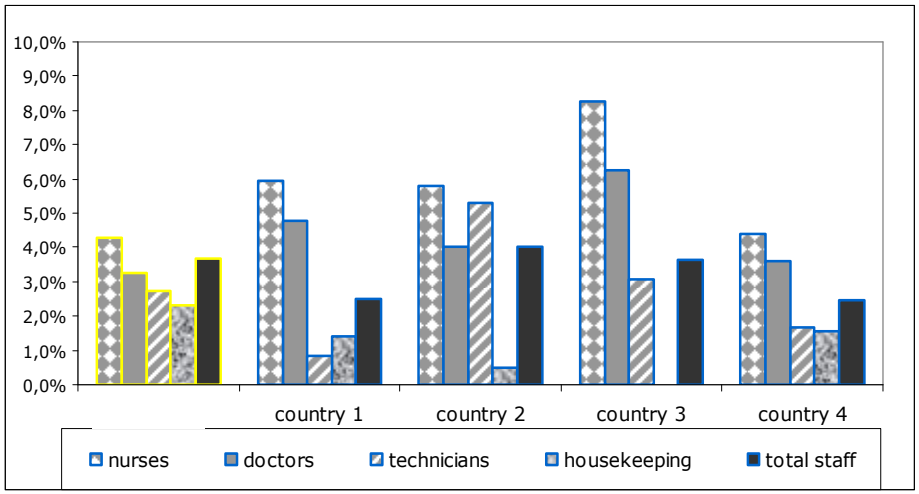
PATH-II: discussion of results

C14 – Needle injuries

- This indicator assesses the number of needle injuries among FTE (Full time equivalent) staff.
- **DEFINITION**: Needlestick injuries are wounds caused by needles or other sharp objects that accidentally puncture the skin and may result in exposure to blood or other body fluids.
- Data is obtained through a survey asking about incidences of needle injuries in the last year.
- **NUMERATOR**: number of needlestick injuries over the last calendar year
- **DENOMINATOR:** Number of Full Time Equivalent (FTE) staff over the same time period

C14 – Needle injuries





Reference points:

Wide variations in leterature but systematically much higher than PATH results:

10.4 and 5.0 sharp injuries per respectively 100 FTE medical or nursing staff in Australia teaching hospital

55.1% and 22.0% needle injuries experienced by respectively for medical and nursing staff in a German university hospital

33.2 and 18.0 % incidence rate for all staff in 9 teaching and 32 non teaching US hospitals (3)

C14 – Needle injuries

- Higher risks in smaller hospitals? Random variations?