

**Conclusion:** Our findings demonstrate variations regarding the implementation of IPC CC at national level across countries, with gaps identified in all regions, and large gaps in LICs. Identified gaps should be used to guide future IPC national policies.

**Disclosure of Interest:** None declared

#### P462

##### TESTING OF THE WORLD HEALTH ORGANIZATION (WHO) INFECTION PREVENTION AND CONTROL (IPC) ASSESSMENT FRAMEWORK AT THE ACUTE HEALTH CARE FACILITY LEVEL

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**Introduction:** Monitoring and evaluation are an essential part of IPC implementation. We developed an IPC assessment framework (IPCAF) to support the *WHO Guidelines on IPC Core Components* implementation in acute health care facilities. We aimed to evaluate its reliability and usability.

**Objectives:** To ensure that the IPCAF is a reliable and effective tool for global use, we aimed to evaluate its reliability and usability.

**Methods:** The IPCAF is a questionnaire with a scoring system to measure the level of IPC implementation according to the eight WHO core components. The tool was qualitatively pre-tested, revised and selectively translated. A convenience sample of hospitals was invited to participate in the final testing. At least two IPC professionals from each hospital independently completed the IPCAF and a usability questionnaire online. The tool's internal consistency and inter-observer reliability or intraclass correlation coefficient (ICC) were assessed and usability questions were descriptively summarised.

**Results:** A total of 46 countries, 181 hospitals, and 324 individuals participated; 52 (16%) and 55 (17%) were from low- and lower-middle income countries, respectively. Fifty two percent took less than one hour to complete the IPCAF. Adequate internal consistency and a high ICC (0.92 [95% CI: 0.89-0.94]) was found overall. Ten questions had poor reliability (ICCs < 0.4) and were revised according to usability feedback and expert opinion. The median rating for all usability statements (e.g. ease of use, clarity, usefulness, appropriate time and scoring) was four ("Agree") from a Likert scale of one ("Strongly disagree") to five ("Strongly agree").

**Conclusion:** The WHO IPCAF was tested using a robust methodology in a broad range of countries and finalised based on users' feedback and reliability assessment. We believe this process has optimised the utility of this tool for IPC situation analysis and improvement in healthcare facilities globally.

**Disclosure of Interest:** None declared

#### P463

##### CROSS-BORDER IMPLEMENTATION OF THE INFECTION RISK SCAN (IRIS) IN 9 HOSPITALS (I-4-1-HEALTH PROJECT)

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##### Introduction:

Control of antimicrobial resistance can be improved by creating transparency in the quality of infection control and antimicrobial use.

##### Objectives:

The objective of the i-4-1 Health project is to implement the IRIS in Dutch (NL) and Belgian (BE) hospitals. The IRIS is a standardised, multifactorial tool, based on cross-sectional measurements, to determine the quality of infection control practices and antimicrobial use<sup>1</sup>, in order to improve.

##### Methods:

The IRIS was performed in 32 wards in 9 hospitals. Variables include hand hygiene (HH) performance based on alcohol consumption, environmental contamination (EC) using ATP measurements (ATP Luminometer, 3M), presence of infection control (IC) preconditions, personal hygiene of healthcare workers (HCW), prevalence and appropriateness of indwelling medical devices (MD) and antimicrobial therapy (AMT).

**Results:** The IRIS was performed successfully in all hospitals (n=1598 patients). The prevalence of AMT was comparable in both countries: overall 39% use of AMT and 86% was considered accordance with the local guideline. In both countries, 66% of all patients had at least one MD in situ. Considered unjustified 6% in NL and 13% in BE (p< 0.001). A total of 990 ATP measurements were conducted. Median Relative Light Units (RLU) was 189 (range 6-29,613; 13% above 1000 RLU). The median number of handdisinfection moments per patient day was 10. Three hospitals could not deliver alcohol consumption data. No differences were found in IC preconditions and personal hygiene of HCW. Overall, 96.5% (n=656) of all observed HCW were bare below the elbow, not wearing rings, watches or bracelets.

##### Conclusion:

The IRIS was implemented successfully in all hospitals in both countries. A significant difference was observed in the unjustified use of MD. These results provide targets for custom-made interventions and repeated measurements can measure the effect of these interventions. Thereby it can serve as a quality improvement tool for infection control and antimicrobial use.

##### References

1. Willemsen I, Kluytmans J. The Infection Risk Scan (RIS): standardization and transparency in infection control and antimicrobial use. *Antimicrob Resist Infect Control*. 2018;7:38

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#### P464

##### INFECTION PREVENTION AND CONTROL PROGRAMS EVALUATIONS: AN EXPLORATORY COMPARATIVE STUDY OF CONTEMPORARY TOOLS

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**Introduction:** The efficacy of comprehensive Infection Prevention and Control Programs (IPCP) to reduce infection rates is well established. However, the evaluation of these programmes to achieve the best performance remains an issue. In this sense, researchers have worked on developing tools for evaluation IPC.

**Objectives:** To compare three existing IPCP evaluation tools applied in healthcare facilities in Brazil.

**Methods:** Cross-sectional, descriptive, quantitative approach, conducted using three tools concurrently. The tools were: 1. Infection Prevention and Control Programme Evaluation (IPCPE) from Australia; 2. Operating Guides of IPCP indicators (OGIPCP) from Brazil; 3. Assessment tool for hospital IPCP (IPCAF) from World Health Organization. Infection control practitioners (ICP) were recruited using snowball technique. Each ICP applied the tools to their setting. Data collection was performed by using a standardized semi-structured questionnaire, including 35 Likert scale items to inform the feasibility and comprehensiveness of tools.

**Results:** Among invited ICP, 12 participants applied all evaluation tools. The average experience in infection prevention was 8 years (range 1.5 to 15 years). The average time to apply the evaluation tools were: IPCPE: 3h, OGIPCP: 1h, and IPCAF 1.5h. The majority of positive agreements regarding comprehensiveness were obtained by IPCPE (100% of positive agreement in 10 questions), followed by IPCAF (100% of positive agreement in 9 questions). Time spent applying the tools was only considered acceptable for OGIPCP and IPCAF. No tool achieved 100% agreement in 10 questions regarding comprehensiveness to assess the support of microbiology and other services to the IPCP, and links with public health. None of the tools achieved 100% agreement to recommend their use in extra-hospital settings such as primary care.

**Conclusion:** Both IPCPE and IPCAF were considered as more comprehensive, but still lacking potential to access all relevant issues for IPCP. IPCAF and OGIPCP were considered less time consuming. Next, we will perform a qualitative approach to better understand the improvement gaps.

**Disclosure of Interest:** None declared

## Poster session: Public reporting / benchmarking

### P465

#### TRENDS IN HEALTHCARE ASSOCIATED INFECTIONS AND ANTIMICROBIAL USE IN HOSPITALS, BASED ON POINT PREVALENCE STUDIES IN THE NETHERLANDS FROM 2007-2016.

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**Introduction:** Healthcare associated infections (HAI) contribute to morbidity and mortality.

**Objectives:** To measure prevalence of HAI and antimicrobial use in hospitals, voluntary national point prevalence surveys (PPS) have been performed in the Netherlands since 2007.

**Methods:** The annual data of PPSs from 2007 until 2016 were analysed for trends in patient characteristics, use of medical devices, use of antibiotics, and presence of HAI on the survey day. Data available concerned all hospitalized patients, except for patients in the day-care unit and psychiatric wards. Analyses were performed using linear and logistic regression.

**Results:** Data were reported for 171,116 patients. Crude annual prevalence of patients with HAI with onset during hospitalization decreased from 6.1% in 2007 to 3.6% in 2016. The Odds Ratio (OR) for trend was 0.92 (95%CI 0.91-0.93) per year. Most prominent trends were seen for surgical site infections (1.6% to 0.7%, OR: 0.31 (0.26-0.38)), urinary tract infections (2.1% to 0.6%, OR: 0.18 (0.15-0.22)) and combined other infections (0.7% to 0.4%, OR: 0.26 (0.19-0.35)). Over the years, the distribution of gender, age and McCabe-score remained stable. The mean length of stay (LOS) decreased from 10 to 7 days. The percentage of patients treated with antimicrobials increased from 31% to 36% (OR: 1.03, (1.02-1.03)).

**Conclusion:** PPS-data from 2007-2016 show a decreasing trend in the prevalence of HAI with onset during hospitalization, but also a decreasing LOS, while the percentage of patients using antibiotics increased during these years.

**Disclosure of Interest:** None declared

### P466

#### BENCHMARKS FOR HEALTHCARE ASSOCIATED INFECTIONS IN SURGICAL PROCEDURES FROM BRAZILIAN HOSPITALS AND INTENSIVE CARE UNITS

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**Introduction:** Benchmarking is utterly important for healthcare quality assessment. Thus, updated research is necessary in order to create representative data.

**Objectives:** This descriptive, multicentered study provides benchmarks to the southeast population of Brazil and also to similar populations from developing countries.

**Methods:** The NOIS Project uses SACIH, software for hospital infection control ([www.sacihweb.com](http://www.sacihweb.com)), which retrieves data provided by different Brazilian hospitals. All hospitals comply with prospective Healthcare Associated Infections (HAI) surveillance NHSN/CDC protocols. A variety of 42 types and a total of 189252 surgical procedures, from 11 hospitals and 13 intensive care units (ICU's), were analyzed from 2014 to 2018. Benchmarks were defined as 10<sup>th</sup>, 50<sup>th</sup>, and 90<sup>th</sup> percentiles (p10, p50, p90) of HAI rates from each type of surgical procedure. Only a small selection from all data was comprised in this abstract.

**Results:** Benchmarks were hereby defined as the pooled mean of the p10, p50, and p90 of HAI rates for each procedure: Cesarean section: 2,1%. Hysterectomy: 1,5%. Cholecystectomy: 1,1%. Herniorrhaphy: 1,3%. Peripheral vascular bypass surgery: 1,2%. Genitourinary surgery: 4,8%. Prostate surgery: 1,0%. Bariatric surgery: 0,9%. Colon surgery: 3,2%. Appendix surgery: 2,2%. Breast surgery: 0,9%. Kidney transplant: 4,0%. Craniotomy: 5,5%. Spinal fusion: 3,4%. Knee arthroplasty: 3,1%. Cardiac surgery: 3,7%. Bile duct, liver or pancreatic surgery: 10,6%. Otorhinolaryngology surgery: 0,6%. Limb amputation: 8,1%. Oral and maxillofacial surgery: 0,3%. Exploratory abdominal surgery: 4,8%.

**Conclusion:** Benchmarks for HAI's have been calculated, and can be used by infection control professionals in Brazil and other developing countries.

**Disclosure of Interest:** None declared

### P467

#### STATEWIDE SURVEILLANCE SYSTEM FOR SURGICAL SITE INFECTION: RESULTS FROM SIX YEARS AFTER IMPLEMENTATION OF SELECTED PROCEDURES MONITORING

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**Introduction:** The healthcare-associated infections (HAI) are recognized as public health problem. Health authorities should establish priorities for HAI surveillance.

**Objectives:** To describe the results of six years of surveillance of surgical site infections (SSI) in São Paulo state, Brazil.

**Methods:** Eleven surgical procedures were selected to be monitored in the SSI surveillance system of the state. Healthcare Facilities (HF) reported data using standardized criteria and through a spreadsheet sent monthly. A descriptive analysis was performed including data from January 2012 to December 2017. The data were aggregate for