

# QUALITY INDICATORS FOR INFECTION PREVENTION AND CONTROL IN ACUTE CARE HOSPITALS

Report 2021 – Data up to and including 2020

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S. DEQUEKER • E. DUYSBURGH

# WHO WE ARE

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SCIENSANO can count on more than 700 staff members who commit themselves, day after day, to achieving our motto: Healthy all life long. As our name suggests, science and health are central to our mission. Sciensano's strength and uniqueness lie within the holistic and multidisciplinary approach to health. More particularly we focus on the close and indissoluble interconnection between human and animal health and their environment (the "One health" concept). By combining different research perspectives within this framework, Sciensano contributes in a unique way to everybody's health. For this, Sciensano builds on the more than 100 years of scientific expertise of the former Veterinary and Agrochemical Research Centre (CODA-CERVA) and the ex-Scientific Institute of Public Health (WIV-ISP).

## Sciensano

Epidemiology and public health - Healthcare-associated infections and antimicrobial resistance  
**Indicators for infection prevention and control**

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**BAPCOC**  
*Belgian Antibiotic Policy Coordination Committee*

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# ABBREVIATIONS

BAPCOC	Belgian Antibiotic Policy Coordination Committee
BICS	Belgium Infection Control Society
CAUTI	Catheter-associated urinary tract infections
CLABSI	Central line-associated bloodstream infections
COVID-19	Coronavirus disease 2019
ECDC	European Centre for Disease Prevention and Control
FPS	Federal Public Service
FTE	Fulltime equivalents
HAI	Healthcare-associated infections
HH	Hand hygiene
ICU	Intensive Care Unit
IPC	Infection prevention and control
MDRO	Multi-drug resistant organisms
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
SSI	Surgical site infections
WHO	World Health Organisation

# SUMMARY

## 1. Background

The development and description of indicators to measure the quality of infection prevention and control (IPC) provided in Belgian acute care hospitals is an initiative of the Federal Platform for IPC, part of the Belgian Antibiotic Policy Coordination Committee (BAPCOC). The Royal Decree of 27 January 2015 obliges Belgian acute care hospitals (university hospitals and general hospitals with or without university character) to monitor the quality of their programme for the prevention and control of healthcare-associated infections (HAI), by means of these indicators. Due to the COVID-19 pandemic, BAPCOC communicated to Sciensano and the hospitals that registration of 2020 data was voluntary.

The overall objective of this IPC indicator project is to define, prioritise and implement strategies and interventions to prevent HAI in order to improve the quality of care provided in hospitals. In order to achieve this overall objective, three specific objectives have been formulated: (1) an evaluation of the IPC policies at national level in order to provide policy makers an overall view of the IPC levels and trends; (2) an assessment of the quality of the IPC management at hospital level by evaluating the resources, commitment and efforts made by the hospital in fighting HAI; and (3) the improvement of the quality of the IPC management at hospital level through encouraging hospitals to measure and improve their IPC activities and outcomes.

## 2. Methods

The federal platform for IPC developed and selected a set of indicators to measure and monitor the quality of the programme for the prevention and control of HAI in Belgian acute hospitals.

For each indicator, a weighted score between 1 and 4 has been defined by the federal platform for IPC. For a limited number of indicators, no score was defined. The weighted scores evolve over time, in which initially (2017) special attention was paid to the development of procedures and protocols, to evolve over time towards conducting audits and providing feedback (2019). In 2020, the same scores as in 2019 were used.

Additionally, indicator groups are defined. For each of these groups, a quality score (= indicator group quality score) was calculated which is the sum of the individual indicator scores belonging to this group. Indicators that were not scored were not included in the calculation of the quality scores. For all indicators together, an overall quality score was calculated which is the sum of all individual indicator scores.

Based on the quality score, three quality classes were defined for each indicator group: "weak", "moderate" or "good". A quality score that achieved less than two-thirds (66.67%) of the maximum score was assigned the quality class "weak". A quality score that achieved 80% or more of the maximum score was assigned the quality class 'good'.

Between March and September 2021, the 2020 data were submitted by the hospitals via the online platform Healthdata.be. The list of the number of funded full-time equivalents (FTE) of physicians and nurses dedicated to IPC tasks in Belgian hospitals and a list of the members of each regional platform were obtained from the Federal Public Service (FPS) Public Health. The number of beds per hospital were retrieved from the denominator surveillance, available through the Healthdata platform.

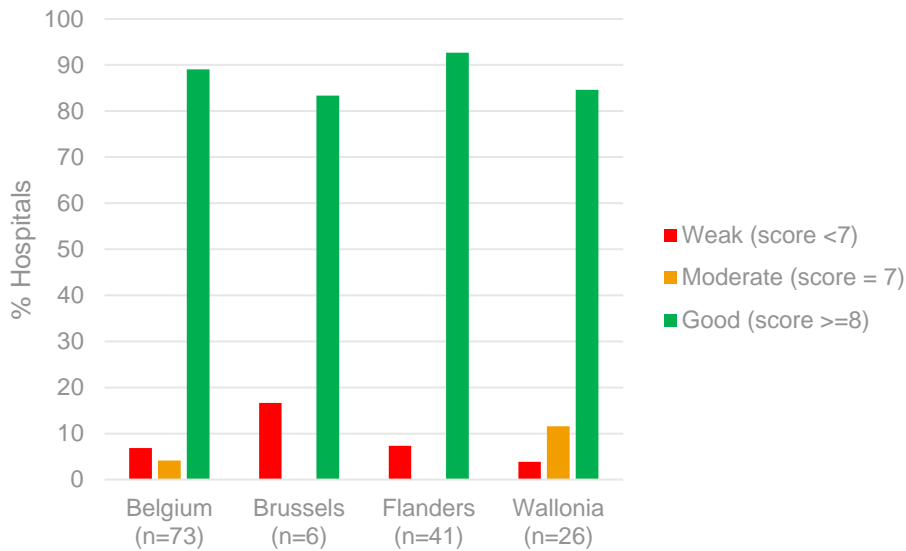


### 3. Results

In 2021, 73 hospitals (70%) participated in the IPC quality indicator project for 2020. For Brussels 6 hospital, for Flanders 41 hospitals and for Wallonia 26 hospitals participated.

#### 3.1. ORGANISATION INDICATORS

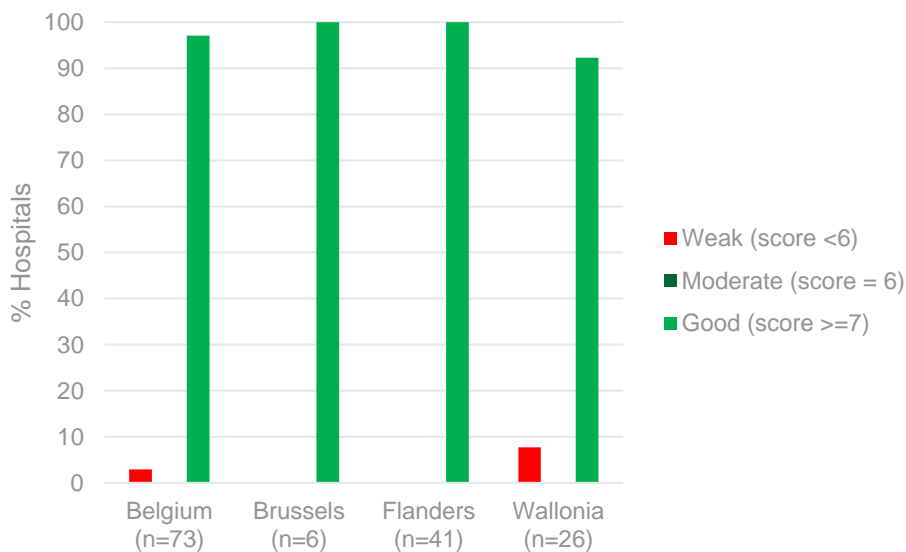
Eighty-nine percent of hospitals achieved a good quality score for the organisation indicator group (figure 1). Scores for the individual indicators in this group were high; in 2020, at least 95% of hospitals met 4 of the 6 individual indicators. For the indicator 'The number of meetings for the IPC committee  $\geq$  4 per year' a decrease of at least 10% in the proportion of hospitals meeting the indicator compared to 2019, was observed (2019: 100%; 2020: 78%).



**Figure 1 • Organisation indicators: proportion of hospitals per quality class at national and regional level, 2020**

#### 3.2. RESOURCE INDICATORS

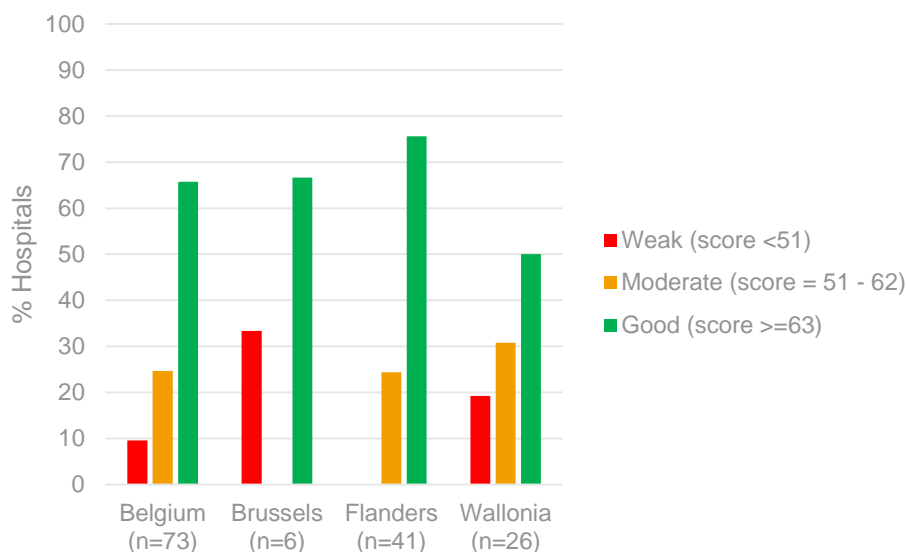
Approximately 97% of hospitals achieved a good quality score for the resource indicator group (figure 2). For all indicators in this group, at least 90% of the hospitals complied.



**Figure 2 • Resource indicators: proportion of hospitals per quality class at national and regional level, 2020**

### 3.3. ACTIVITY INDICATORS

About two-third (66%) of the hospitals achieved a good quality score for the activity indicator group for the reference year 2020 (figure 3). There are differences in the quality score for the activity indicator group across the various regions.



**Figure 3 • Activity indicators: proportion of hospitals per quality class at national and regional level, 2020**

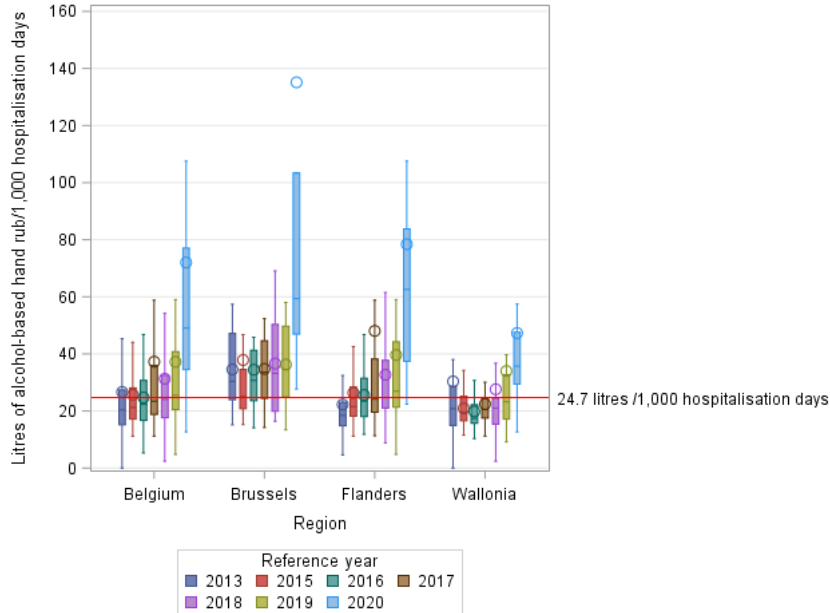
The 2020 results for most of these indicators are similar to the 2015-2019 results. At least 95% of the participating hospitals met 27 of the 54 indicators part of the activity indicator group and 6 of these indicators were met by all hospitals (100%).

Compared to 2019, a decrease of at least 10% in the proportion of hospitals meeting the indicator, was observed for several indicators. Most of these were indicators related to auditing:

- Audit of the procedure for the prevention of central line-associated bloodstream infections (CLABSI) (2019: 88%; 2020: 73%)
- Audit of the procedure for the prevention of catheter-associated urinary tract infections (CAUTI) (2019: 78%; 2020: 66%)
- Audit of the procedure for the prevention of infections related to invasive mechanical ventilation (2019: 69%; 2020: 52%)
- Audit of the procedure for the prevention of surgical site infections (SSI) (2019: 57%; 2020: 41%)
- Local audits related to hand hygiene compliance (outside the national campaign) (2019: 85%; 2020: 71%)
- At least 150 hand hygiene opportunities (outside the national campaign) have been reported (2019: 71%; 2020: 59%)
- Participation in the point prevalence study related to HAI and antimicrobial use (2019: 65%; 2020: 30%)
- Audit of the procedure for antibiotic prophylaxis in surgery (2019: 63; 2020:40%)
- Audit of the procedure for the prevention of contact/droplet/airborne transmission (2019: 91%; 2020: 80%)
- Audit of the procedure for the disinfection of endocavity ultrasound probes (2019: 46%; 2020: 32%)
- Audit of the procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques (2019: 61%; 2020: 45%)

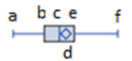
### 3.4. PROCESS INDICATOR

More than 90% of hospitals have an alcohol-based hand rub consumption that is higher than the 2016 average. The median alcohol-based hand rub consumption for 2020 is 79 litres/1,000 hospitalisation days. Since 2013, this consumption increased, but a sharper increase has been observed between 2019 and 2020 (figure 4).



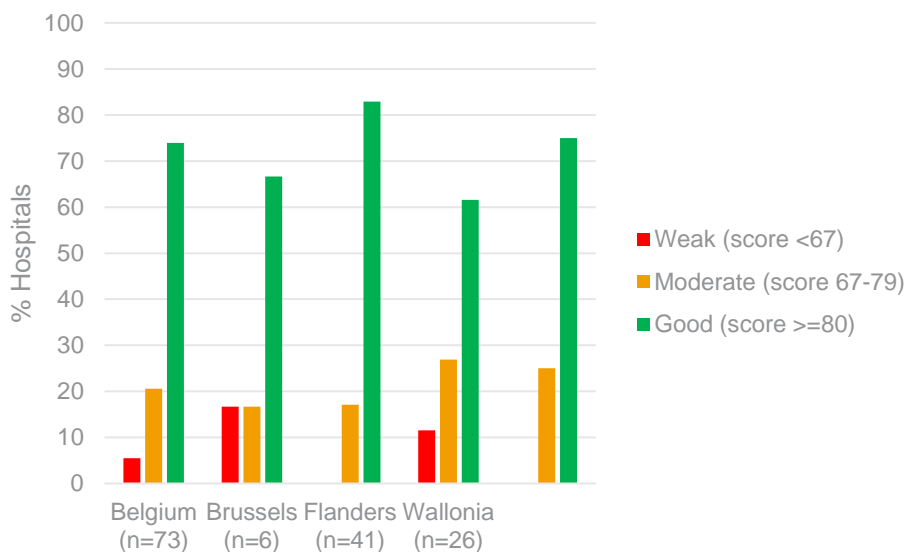
**Figure 4 • Alcohol-based hand rub consumption in care units of Belgian hospitals, national and regional level, 2013 – 2020**

Legend boxplot: a. maximum (without outliers, 1.5x interquartile range), b. 75th percentile (P75), c. median, d. mean, e. 25th percentile (P25), f. minimum (without outliers, 1.5x interquartile range)



### 3.5. OVERALL QUALITY SCORE

Seventy-four percent of hospitals achieve a good overall IPC quality score (figure 5). However, there are differences in the quality scores between regions. In Flanders, 16% and 21% more hospitals achieve a good overall quality score than in Brussels and Wallonia respectively.



**Figure 5 • Indicators: proportion of hospitals per quality class at national and regional level, 2020**

## 4. Recommendations

### 4.1. RECOMMENDATIONS FOR HOSPITALS

- Continue to register IPC activities and outcomes in order to be able to monitor and improve the quality of the IPC programme within their hospital.

### 4.2. RECOMMENDATIONS FOR THE BAPCOC WORKING GROUP ON 'QUALITY INDICATORS FOR IPC' AND FOR THE RESEARCHERS RESPONSIBLE FOR THE DATA COLLECTION, ANALYSIS AND REPORTING OF THE QUALITY INDICATOR PROJECT (SCIENSANO)

- Define a limited set of indicators that provide the best possible assessment of the IPC quality in the hospital. Important in the choice of these indicators is that they are sensitive enough to detect improvement and differences in IPC quality and to identify weaker performances. A first step could be a systematic literature review.
- Investigate how a new set of indicators should look like and develop a new protocol. Suggestions were given in the previous reports. Many hospitals comply with a high number of the current indicators for several years and most indicators remain stable. Now that the most quality indicators have been implemented in many hospitals, it may be possible to look more in depth to certain aspects (per theme) in order to further improve IPC management and implement more detailed indicators.
- Examine the extent to which data collected in other quality projects can be coordinated and integrated within this IPC quality indicator project, in order to reduce the workload of staff and to improve the efficiency of healthcare quality measurement. Additional research is needed for this.
- Investigate the extent to which the selected indicators can be harmonised with the minimal requirements for IPC programmes proposed by the World Health Organisation (WHO) (1).
- Assess how the protocol for the surveillance of post-operative wound infections can be made more user friendly and feasible to implement, to enhance participation in this surveillance (local and/or national). Assess how the lack of resources/time to participate in the surveillance of intensive care unit infections and post-operative wound infections can be addressed.
- Examine what could explain the differences in vaccination coverage among nurses, midwives and nursing assistants for influenza between different regions and hospitals.
- Continue to improve and optimise the data collection tool (Healthdata) and the online reporting platform with individual feedback reports at hospital level (Healthstat).

### 4.3. RECOMMENDATIONS FOR POLICY MAKERS

- Assess whether the current legislation regarding the number of fulltime equivalents (FTE) physicians and nurses assigned to IPC should be revised and adapted according to current IPC needs in Belgium.
- Support the development and implementation of an external quality control (validation) of the data collected for the IPC indicator project. This external quality control could be organised by Sciensano in collaboration with the BAPCOC working group 'Quality indicators for IPC'.
- Integration of the quality indicator project in one general project on measuring and improving the quality of care in the hospital in order to reduce the workload of staff and to promote efficiency in care quality measurement. Improving cooperation at all (policy) levels can contribute to an integrated approach and vision.
- Continuing to support this IPC quality indicator project so that the quality of the IPC programme within hospitals can be continued to be monitored and improved. The current COVID-19 crisis emphasizes the importance of strengthening and supporting a well-functioning IPC policy and management at national and hospital level.

# NEDERLANDSTALIGE SAMENVATTING

## 1. Achtergrondinformatie

De ontwikkeling en het definiëren van deze kwaliteitsindicatoren om de kwaliteit van ziekenhuishygiëne te meten in Belgische acute ziekenhuizen, is een initiatief van het federaal platform voor ziekenhuishygiëne (ZHH), onderdeel van de Belgian Antibiotic Policy Coordination Committee (BAPCOC). Het Koninklijk Besluit (KB) van 27 januari 2015 verplicht Belgische acute ziekenhuizen (universitaire ziekenhuizen en algemene ziekenhuizen met of zonder universitair karakter) om aan de hand van deze kwaliteitsindicatoren de kwaliteit van hun programma ter preventie en controle van zorginfecties op te volgen. Wegens de COVID-19 pandemie heeft BAPCOC aan Sciensano en de ziekenhuizen meegedeeld dat voor het jaar 2020 de registratie van gegevens vrijwillig was.

Het algemeen doel van dit ZHH kwaliteitsindicatoren project is het definiëren, prioriteren en implementeren van strategieën en interventies ter preventie van zorginfecties teneinde de zorgkwaliteit in ziekenhuizen te verbeteren. Om dit algemeen doel te bereiken, zijn er drie specifieke doelstellingen opgesteld: (1) een evaluatie van het ZHH beleid op nationaal niveau, om de beleidsmakers een algemeen beeld te geven van het ZHH-niveau en -trends; (2) het beoordelen van de kwaliteit van het programma ter preventie en controle van zorginfecties op ziekenhuisniveau door het evalueren van de middelen, het engagement en de inspanningen geleverd door het ziekenhuis in de strijd tegen zorginfecties en (3) het verbeteren van de kwaliteit van het programma ter preventie en controle van zorginfecties op ziekenhuisniveau door ziekenhuizen aan te sporen hun activiteiten en resultaten te meten en te verbeteren.

## 2. Methoden

Het federaal platform voor ZHH ontwikkelde en selecteerde een set kwaliteitsindicatoren om de kwaliteit van het programma ter preventie en controle van zorginfecties in Belgische acute ziekenhuizen te meten en op te volgen.

Voor elke individuele indicator werd door het federaal platform voor ZHH een gewogen score tussen 1 en 4 gedefinieerd. Voor een beperkt aantal indicatoren werd geen score gedefinieerd. De gewogen scores evolueren in de tijd, waarin in het begin (2017) bijzondere aandacht gaat naar het uitwerken van procedures en protocollen om dan te evolueren naar audits en het geven van feedback (2019). In 2020 werden dezelfde scores als in 2019 gebruikt.

Bovendien worden er indicatorgroepen gedefinieerd. Voor elk van deze groepen werd een kwaliteitsscore (= indicatorgroep-kwaliteitsscore) berekend die de som is van de individuele indicatorencores die deel uitmaken van deze groep. De indicatoren waaraan geen score werd toegekend, werden niet meegenomen in de berekening voor de kwaliteitsscores. Voor alle indicatoren samen werd een totale kwaliteitsscore berekend die de som is van alle individuele indicatorencores

Op basis van de indicatorgroep-kwaliteitsscore werden voor elke indicatorgroep drie kwaliteitsklassen gedefinieerd: 'zwak', 'matig' of 'goed'. Een indicatorgroep-kwaliteitsscore die minder dan twee-derde (66,67%) van de maximale score behaalde, kreeg de kwaliteitsklasse 'zwak' toegekend. Een indicatorgroep-kwaliteitsscore die 80% of meer van de maximale score behaalde, kreeg de kwaliteitsklasse 'goed'.

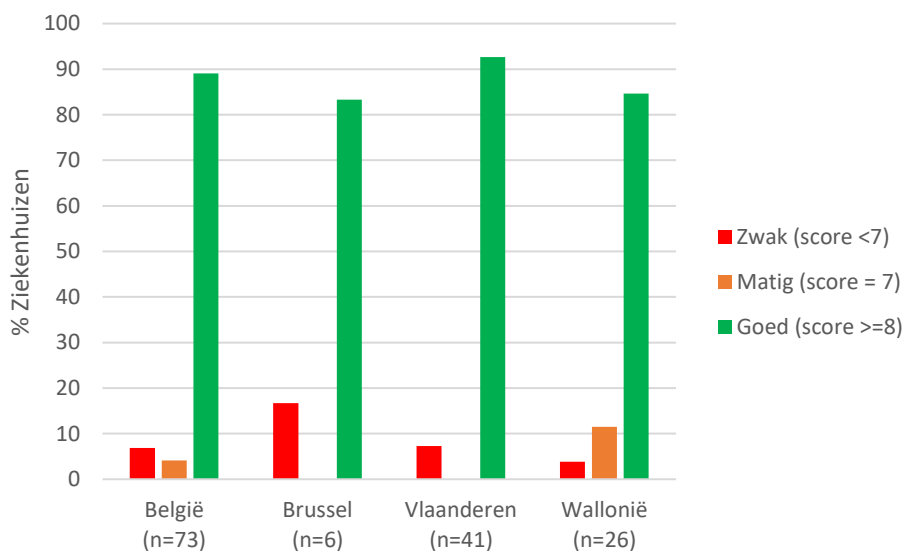
De gegevens van 2020 werden door de ziekenhuizen van maart tot en met september 2021 via het online platform Healthdata.be ingebracht. De lijst met het theoretisch aantal gefinancierde voltijds equivalenten arts- en verpleegkundige-ZHH in Belgische ziekenhuizen en een lijst met de leden van elk regionaal platform werden verkregen via de Federale Overheidsdienst Volksgezondheid. Het aantal bedden per ziekenhuis werd verkregen via de noemer module, beschikbaar op het Healthdata platform.

### 3. Resultaten

In 2021, registreerden 73 ziekenhuizen (70%) de ZHH kwaliteitsindicatoren voor 2020. Voor Brussel waren dit 6 ziekenhuizen, voor Vlaanderen 41 ziekenhuizen en voor Wallonië 26 ziekenhuizen.

#### 3.1. ORGANISATIE INDICATOREN

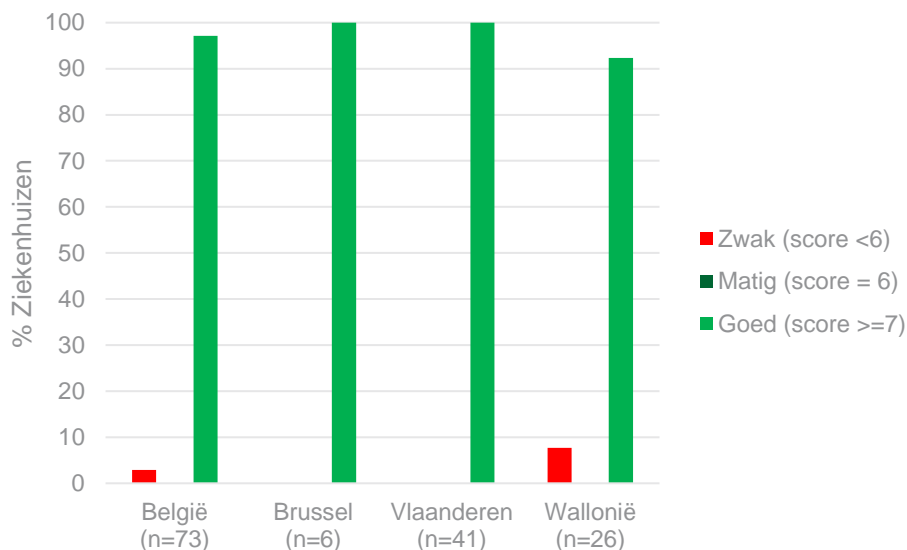
89% van de ziekenhuizen haalt een goede kwaliteitsscore voor de organisatie-indicatorgroep (figuur 1). De scores van de individuele indicatoren in deze groep zijn hoog. In 2020 voldeed ten minste 95% van de ziekenhuizen aan 4 van de 6 individuele indicatoren. Een daling van ten minste 10% in de proportie ziekenhuizen dat aan de indicator voldoet ten opzichte van 2019, werd waargenomen voor de indicator 'Het aantal vergaderingen van het ZHH comité is groter of gelijk aan 4 per jaar' (2019: 100%; 2020: 78%).



**Figuur 1 • Organisatie-indicatoren: percentage ziekenhuizen per kwaliteitsklasse op nationaal en regionaal niveau, 2020**

### 3.2. MIDDELEN INDICATOREN

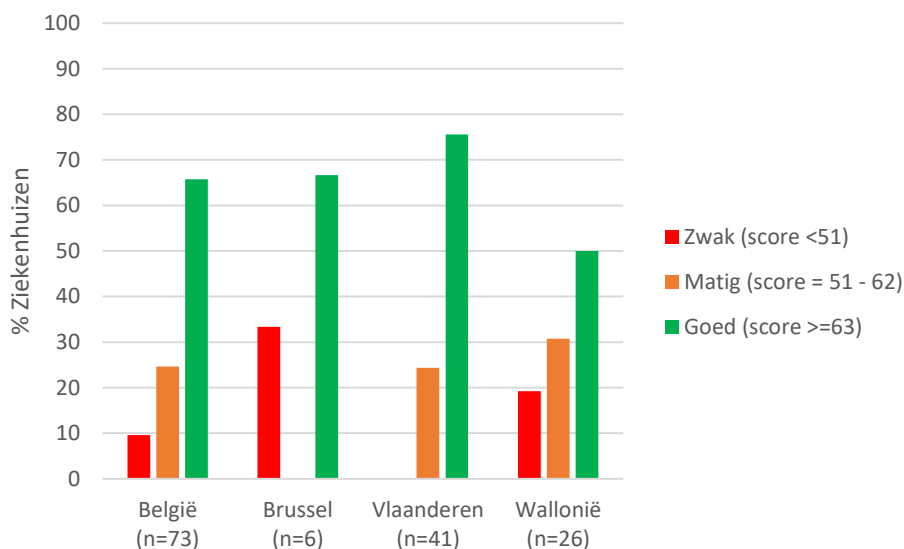
Ongeveer 97% van de ziekenhuizen haalt een goede kwaliteitsscore voor de middelen-indicatorgroep (figuur 2). Voor alle indicatoren in deze groep behalen ziekenhuizen een score hoger of gelijk aan 90%.



**Figuur 2 • Middelen-indicatoren: proportie ziekenhuizen per kwaliteitsklasse op nationaal en regionaal niveau, 2020**

### 3.3. ACTIVITEITEN INDICATOREN

Ongeveer twee derde (66%) van de ziekenhuizen haalt een goede kwaliteitsscore voor de activiteiten-indicatorgroep (figuur 3). Er zijn verschillen merkbaar in de kwaliteitsscore voor de activiteiten-indicatorgroep tussen de verschillende regio's.



**Figuur 3 • Activiteiten-indicatoren: proportie ziekenhuizen per kwaliteitsklasse op nationaal en regionaal niveau, 2020**

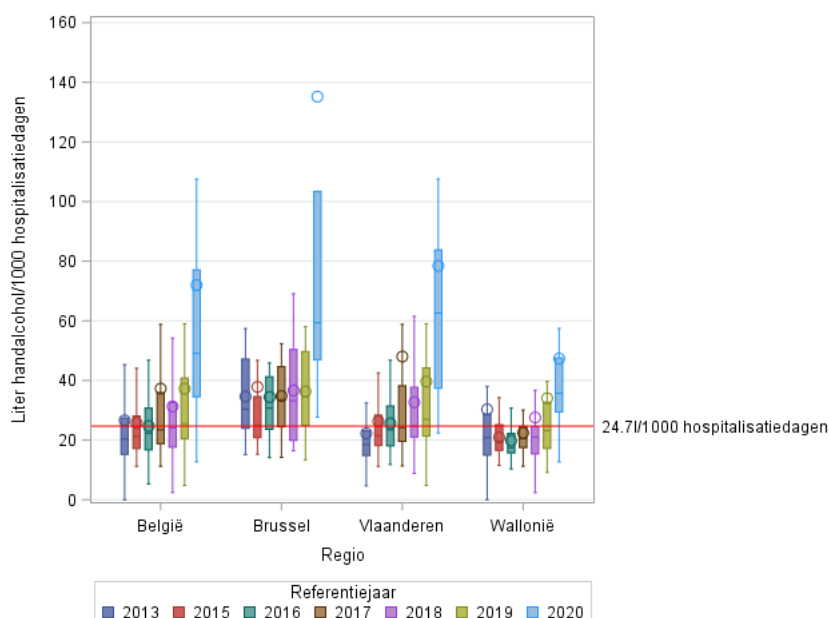
De 2020-resultaten voor de meeste van deze indicatoren zijn vergelijkbaar met de 2015-2019-resultaten. Ten minste 95% van de ziekenhuizen voldeed aan 27 van de 54 indicatoren die deel uitmaken van de activiteiten indicatorgroep en 6 van deze indicatoren werden door alle ziekenhuizen (100%) gehaald.

In vergelijking met 2019 werd voor verschillende indicatoren een daling van ten minste 10% in het percentage ziekenhuizen dat aan de indicator voldeed, waargenomen. De meeste hiervan waren indicatoren met betrekking tot het uitvoeren van audits:

- Audit van procedure ter preventie van bloedstroominfecties gerelateerd aan centraal veneuze katheters (2019: 88%; 2020: 73%)
- Audit van procedure ter preventie van katheter-gerelateerde urineweginfecties (2019: 78%; 2020: 66%)
- Audit van procedure ter preventie van infecties gerelateerd aan kunstmatige ventilatie (2019: 69%; 2020: 52%)
- Audit van procedure ter preventie van postoperatieve wondinfecties (2019: 57%; 2020: 41%)
- Lokale audits met betrekking tot handhygiëne compliance (buiten nationale campagne) (2019: 85%; 2020: 71%)
- Minstens 150 handhygiëne opportuniteiten (buiten nationale campagne) werden gerapporteerd (2019: 71%; 2020: 59%)
- Deelname aan prevalentiestudie over zorginfecties en antibioticagebruik (2019: 65%; 2020: 30%)
- Audit van de procedure voor antibioticaprofylaxe in chirurgie (2019: 63; 2020:40%)
- Audit van de procedure ter preventie van de overdracht via contact/druppels/lucht (2019: 91%; 2020: 80%)
- Audit van de procedure voor de desinfectie van endocavitare echografiesondes (2019: 46%; 2020: 32%)
- Audit van de procedure ter preventie van het infectierisico in operatiekwartieren en zalen voor interventionele technieken (2019: 61%; 2020: 45%)

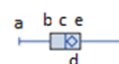
### 3.4. PROCES INDICATOR

Meer dan 90% van de ziekenhuizen heeft een handalcohol-verbruik dat hoger ligt dan het gemiddelde van 2016. De mediaan voor het handalcohol-verbruik bedraagt voor 2020 79 liter/1000 hospitalisatiedagen. Sinds 2013 is dit verbruik gestegen, maar tussen 2019 en 2020 werd een sterkere stijging waargenomen (figuur 4).



**Figuur 4 • Handalcohol-verbruik in de zorgeenheden van Belgische ziekenhuizen, nationaal en regionaal, 2013-2020**

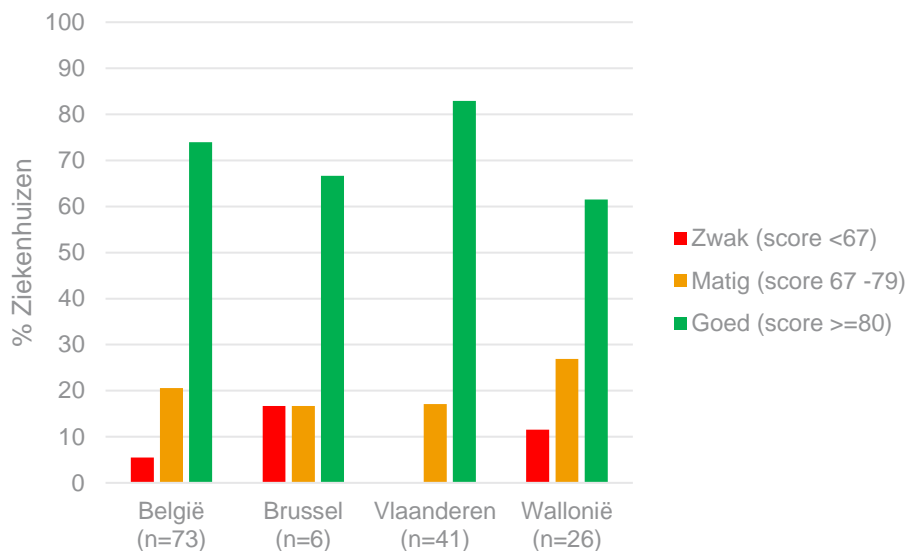
Legende boxplot: a. maximum (zonder outliers, 1.5x interkwartielafstand), b. 75e percentiel (P75), c. mediaan, d. gemiddelde, e. 25e percentiel (P25), f. minimum (zonder outliers, 1.5x interkwartielafstand)





### 3.5. TOTALE KWALITEITSSCORE

74% van de ziekenhuizen haalt een goede totale ZHH kwaliteitsscore (figuur 5). Er zijn echter verschillen in de kwaliteitsscore tussen de verschillende regio's. In Vlaanderen halen tot 16% en tot 21% meer ziekenhuizen een goede totale kwaliteitsscore dan in Brussel en in Wallonië respectievelijk.



**Figuur 5 • Kwaliteitsindicatoren: percentage ziekenhuizen per kwaliteitsklasse op nationaal niveau, 2020**

## 4. Aanbevelingen

### 4.1. AANBEVELINGEN VOOR DE ZIEKENHUIZEN

- Verder hun activiteiten en resultaten blijven registreren zodat ze de kwaliteit van het programma ter preventie en controle van zorginfecties binnen hun ziekenhuis kunnen blijven opvolgen en verbeteren.

### 4.2. AANBEVELINGEN VOOR DE BAPCOC-WERKGROEP 'KWALITEITSINDICATOREN VOOR ZIEKENHUISHYGIËNE' EN VOOR DE ONDERZOEKERS VERANTWOORDELIJK VOOR HET UITVOEREN VAN DE GEGEVENSVERZAMELING, ANALYSE EN RAPPORTAGE VAN HET KWALITEITSINDICATOREN PROJECT (SCIENSANO)

- Definiëren van een beperkte set indicatoren die een zo goed mogelijke evaluatie geven van de voornaamste en belangrijkste aspecten van infectiecontrole en de kwaliteit van infectiepreventie in het ziekenhuis. Belangrijk in de keuze van deze indicatoren is dat ze sensitief genoeg zijn om verbetering en verschillen in infectiecontrole kwaliteit te detecteren en zwakkere prestaties te identificeren. Een eerste stap hierbij zou een *systematic literature review* kunnen zijn.
- Nagaan hoe een nieuwe reeks indicatoren eruit zou moeten zien en een nieuw protocol ontwikkelen. In de vorige rapporten werden hiervoor suggesties gemaakt. Veel ziekenhuizen voldoen al enkele jaren aan een groot aantal van de huidige indicatoren en de meeste indicatoren blijven stabiel. Nu de meeste kwaliteitsindicatoren in veel ziekenhuizen zijn geïmplementeerd, kan wellicht dieper worden ingegaan op bepaalde aspecten (per thema) om het IPC-management verder te verbeteren en gedetailleerdere indicatoren te implementeren.
- Nagaan in welke mate gegevens verzameld in andere kwaliteitsprojecten afgestemd en geïntegreerd kunnen worden binnen dit kwaliteitsindicatoren project, dit om de werklast van het personeel te verlagen en efficiëntie van de zorgkwaliteitsmeting te bevorderen. Aanvullend onderzoek is hiervoor nodig.

- Nagaan in welke mate de opgestelde kwaliteitsindicatoren afgestemd kunnen worden met de indicatoren voor infectiepreventie en controle voorgesteld door de Wereldgezondheidsorganisatie (WGO) (1).
- Nagaan hoe het protocol voor de surveillance van postoperatieve wondinfecties gebruiksvriendelijker en haalbaar om te implementeren kan worden, zodat er meer deelgenomen wordt aan deze surveillance (lokaal en/of nationaal). Nagaan hoe er tegemoet kan gekomen worden aan de ontbrekende middelen/tijd om te kunnen deelnemen aan de surveillance van infecties op de intensieve zorgen afdeling en van postoperatieve wondinfecties.
- Nagaan wat de verschillen in de vaccinatiegraad voor verpleegkundigen, vroedvrouwen en verpleeghulpverleners voor influenza tussen de verschillende regio's en ziekenhuizen onderling kan verklaren.
- Verder de gegevensverzamelingsstool (Healthdata) en het online rapportageplatform met individuele feedbackrapporten op ziekenhuisniveau (Healthstat) blijven verbeteren en optimaliseren.

#### 4.3. AANBEVELINGEN VOOR BELEIDSMAKERS

- Nagaan of de huidige wetgeving in verband met het aantal voltijds equivalent artsen en verpleegkundigen bestemd voor ziekenhuishygiëne herzien en aangepast dient te worden aan de huidige infectiepreventienoden in België.
- Het opzetten en uitvoeren van een externe kwaliteitscontrole (validatie) van de gegevens verzameld voor het ZHH kwaliteitsindicatoren project ondersteunen. Deze externe kwaliteitscontrole zou door Sciensano uitgevoerd kunnen worden in samenwerking met de BAPCOC-werkgroep 'Kwaliteitsindicatoren voor ziekenhuishygiëne'.
- Integratie van het ZHH kwaliteitsindicatoren project in één algemeen project rond het meten en verbeteren van de zorgkwaliteit in het ziekenhuis dit om de werklust van het personeel in verband met gegevensverzameling te verlagen en efficiëntie van de zorgkwaliteitsmeting te bevorderen. Het verbeteren van de samenwerking op alle (beleid)niveaus kan bijdragen tot een geïntegreerde aanpak en visie.
- Doorgaan met de ondersteuning van dit ZHH kwaliteitsindicatoren project zodat de kwaliteit van het programma ter preventie en controle van zorginfecties binnen de ziekenhuizen verder opgevolgd en verbeterd kan worden. De huidige COVID-19-crisis benadrukt het belang van het versterken en ondersteunen van een goed werkend infectiepreventie en -controlebeleid en management op nationaal en ziekenhuisniveau.

# RÉSUMÉ EN FRANÇAIS

## 1. Informations générales

Le développement et la définition de cette série d'indicateurs de qualité, destinés à mesurer la qualité de l'hygiène hospitalière dans les hôpitaux belges aigus, est une initiative de la Plateforme fédérale d'hygiène hospitalière (HH), qui fait partie de la *Belgian Antibiotic Policy Coordination Commission* (BAPCOC). L'Arrêté royal (AR) du 27 janvier 2015 mentionne l'obligation pour les hôpitaux belges aigus (hôpitaux universitaires et hôpitaux généraux ayant ou non un caractère universitaire) de suivre la qualité de leur politique d'hygiène hospitalière à l'aide de ces indicateurs de qualité. En raison de la pandémie du COVID-19, la BAPCOC a communiqué à Sciensano et aux hôpitaux que l'enregistrement des données pour 2020 se faisait sur une base volontaire.

L'objectif général de ce projet relatif aux indicateurs de qualité en HH est de définir, de hiérarchiser et de mettre en oeuvre des stratégies et interventions de prévention des infections liées aux soins afin d'améliorer la qualité des soins dans les hôpitaux. Pour atteindre cet objectif général, trois objectifs spécifiques ont été établis: (1) L'évaluation de la politique d'hygiène hospitalière au niveau national afin de donner aux responsables politiques une vision d'ensemble des tendances et du niveau d'hygiène hospitalière; (2) L'appréciation de la qualité du programme de prévention et de contrôle des infections liées aux soins à l'hôpital par une évaluation des moyens, de l'engagement et des efforts fournis par l'hôpital dans sa lutte contre les infections liées aux soins ; et (3) L'amélioration de la qualité du programme de prévention et de contrôle des infections liées aux soins à l'hôpital en encourageant les hôpitaux à enregistrer et améliorer leurs activités et leurs résultats.

## 2. Méthodes

La plateforme fédérale pour l'hygiène hospitalière a sélectionné et défini un ensemble d'indicateurs de qualité afin de mesurer et de suivre la qualité du programme de prévention et de contrôle des infections liées aux soins dans les hôpitaux aigus belges.

Pour chaque indicateur individuel, la plateforme fédérale d'hygiène hospitalière a défini un score pondéré situé entre 1 et 4. Pour un petit nombre d'indicateurs, aucun score n'a été défini. Les scores pondérés évoluent dans le temps, avec au début (2017) une attention particulière pour le développement de procédures et de protocoles pour évoluer ensuite vers les audits et le feedback (2019). En 2020, les mêmes scores ont été utilisés qu'en 2019.

De plus, des groupes d'indicateurs sont également définis. Pour chacun de ces groupes était calculé un score de qualité (= score de qualité du groupe d'indicateurs) égal à la somme des scores d'indicateurs individuels faisant partie de ce groupe. Les indicateurs n'ayant pas reçu de score n'ont pas été repris dans le calcul destiné aux scores de qualité. Pour l'ensemble de tous les indicateurs, un score de qualité total a été calculé, égal à la somme de tous les scores d'indicateurs individuels.

Sur la base du score de qualité du groupe d'indicateurs, trois classes de qualité ont été définies pour chaque groupe d'indicateurs: 'faible', 'moyenne' ou 'bonne'. Un score de qualité du groupe d'indicateurs ayant obtenu moins de deux-tiers (66,67%) du score maximal a reçu la classe de qualité 'faible'. Un score de qualité du groupe d'indicateurs ayant obtenu 80% ou plus du score maximal a reçu la classe de qualité 'bonne'.

Les données de 2020 ont été saisies par les hôpitaux de mars à septembre 2020 inclus via la plateforme en ligne Healthdata.be. La liste du nombre théorique d'équivalents temps plein financés dans les hôpitaux belges, médecins et/ou infirmiers/infirmières en HH et une liste reprenant les membres de chaque plateforme régionale, ont été fournies par le service public fédéral Santé publique. Le nombre de lits par hôpital a été obtenu via le module dénominateur, disponible sur la plateforme Healthdata.

### 3. Résultats

En 2021, 73 hôpitaux (70%) ont enregistré des données relatives aux indicateurs de qualité en HH pour 2020: 6 hôpitaux à Bruxelles, 41 hôpitaux en Flandre et 26 hôpitaux en Wallonie.

#### 3.1. INDICATEURS D'ORGANISATION

89% des hôpitaux obtiennent un bon score de qualité pour le groupe des indicateurs d'organisation (figure 1). Les scores des indicateurs individuels de ce groupe sont élevés. En 2020, au moins 95% des hôpitaux répondent à 4 des 6 indicateurs individuels. Une baisse d'au moins 10% dans la proportion d'hôpitaux répondant à l'indicateur par rapport à 2019, a été observée pour l'indicateur Nombre de réunions annuelles du comité HH  $\geq 4$  par an' (2019: 100%; 2020: 78%).

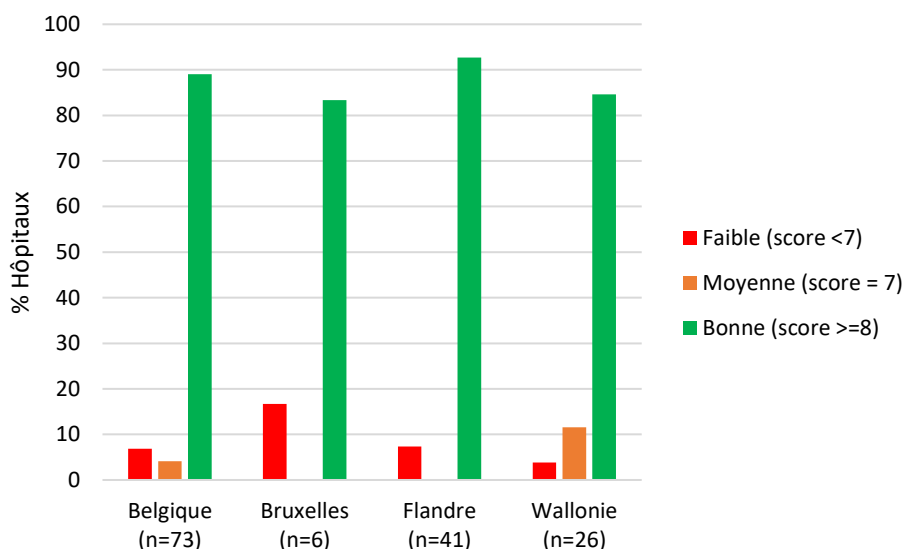
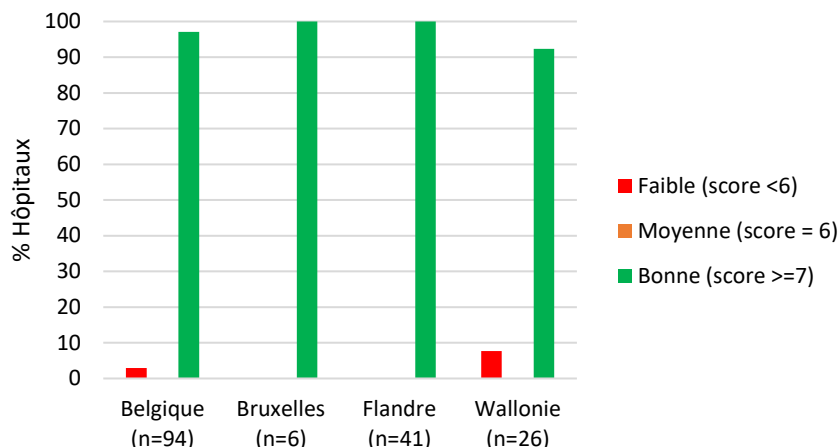


Figure 1 • Indicateurs d'organisation; proportion d'hôpitaux par classe de qualité au niveau national et régional, 2020

#### 3.2. INDICATEURS DE MOYENS

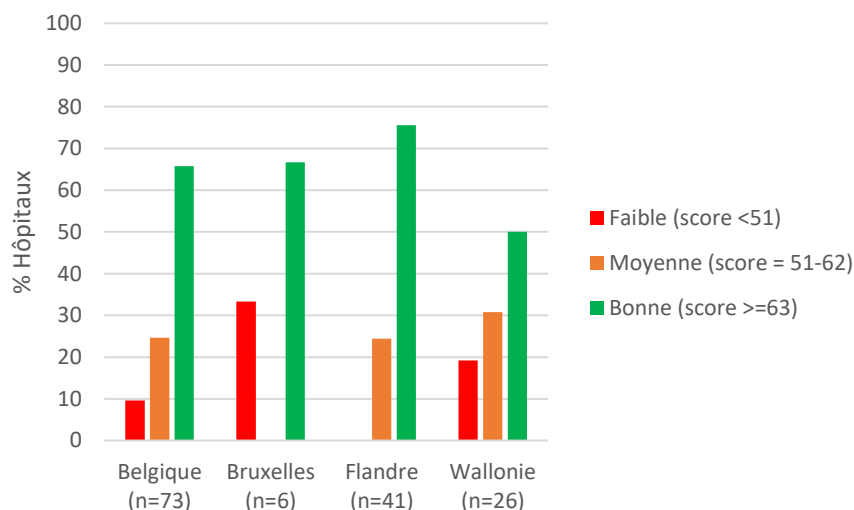
Environ 97% des hôpitaux obtiennent un bon score de qualité pour le groupe des indicateurs de moyens (figure 2). Pour tous les indicateurs de ce groupe, les hôpitaux obtiennent un score supérieur ou égal à 90%.



**Figure 2 • Indicateurs de moyens; proportion d'hôpitaux par classe de qualité au niveau national et régional, 2020**

### 3.3. INDICATEURS D' ACTIONS

Environ deux tiers (66%) des hôpitaux obtiennent un bon score de qualité pour le groupe d'indicateurs d'actions (figure 3). Des différences sont perceptibles dans le score de qualité pour le groupe d'indicateurs d'actions entre les différentes régions.



**Figure 3 • Indicateurs d'actions; proportion d'hôpitaux par classe de qualité au niveau national et régional, 2020**

Les résultats de 2020 pour la plupart de ces indicateurs sont comparables à ceux de la période 2015-2019. Au moins 95% des hôpitaux répondaient à 27 des 54 indicateurs faisant partie du groupe d'indicateurs activités et 6 de ces indicateurs ont été respectés par tous les (100%) hôpitaux.

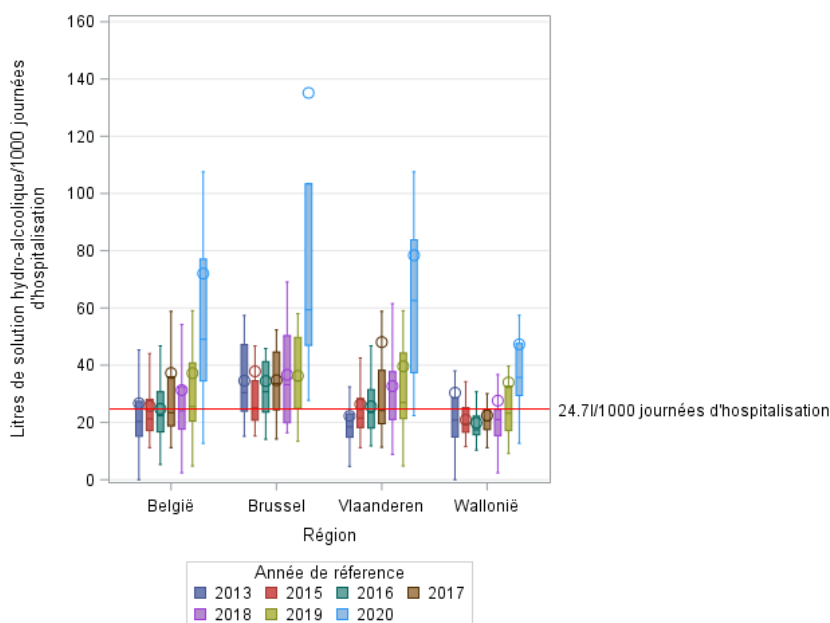
Par rapport à 2019, une baisse d'au moins 10% dans le pourcentage d'hôpitaux répondant à l'indicateur, a été observée pour différents indicateurs. La plupart d'entre eux étaient des indicateurs relatifs à la réalisation d'audits:

- Audit de la procédure de prévention des septicémies associées au cathéter veineux central (2019: 88%; 2020: 73%)
- Audit de la procédure de prévention des infections urinaires sur sonde (2019: 78%; 2020: 66%)
- Audit de la procédure de prévention des infections liées à la ventilation invasive (2019: 69%; 2020: 52%)
- Audit de la procédure de prévention des infections de site opératoire (2019: 57%; 2020: 41%)

- Audits locaux relatifs à la compliance à l'hygiène des mains (en dehors de la campagne nationale) (2019: 85%; 2020: 71%)
- Au moins 150 opportunités d'hygiène des mains (en dehors de la campagne nationale) ont été rapportées (2019: 71%; 2020: 59%)
- Participation à une étude de prévalence des infections liées aux soins et de l'utilisation des antibiotiques (2019: 65%; 2020: 30%)
- Audit de la procédure antibioprophylaxie en chirurgie (2019: 63; 2020:40%)
- Audit de la procédure de prévention de la transmission par contact/gouttelettes/voie aérienne (2019: 91%; 2020: 80%)
- Audit de la procédure de désinfection des sondes d'échographiques endocavitaires (2019: 46%; 2020: 32%)
- Audit de la procédure de prévention du risque infectieux au quartier opératoire et dans les salles de techniques d'interventionnelles (2019: 61%; 2020: 45%)

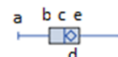
### 3.4. INDICATEUR DE PROCESSUS

Plus de 90% des hôpitaux ont une consommation de solution hydro-alcoolique supérieure à la moyenne de 2016. La médiane pour la consommation de solution hydro-alcoolique s'élève à 79 litres/1000 journées d'hospitalisation en 2020. Cette consommation augmente depuis 2013 mais entre 2019 et 2020, une augmentation plus importante a été observée (figure 4).



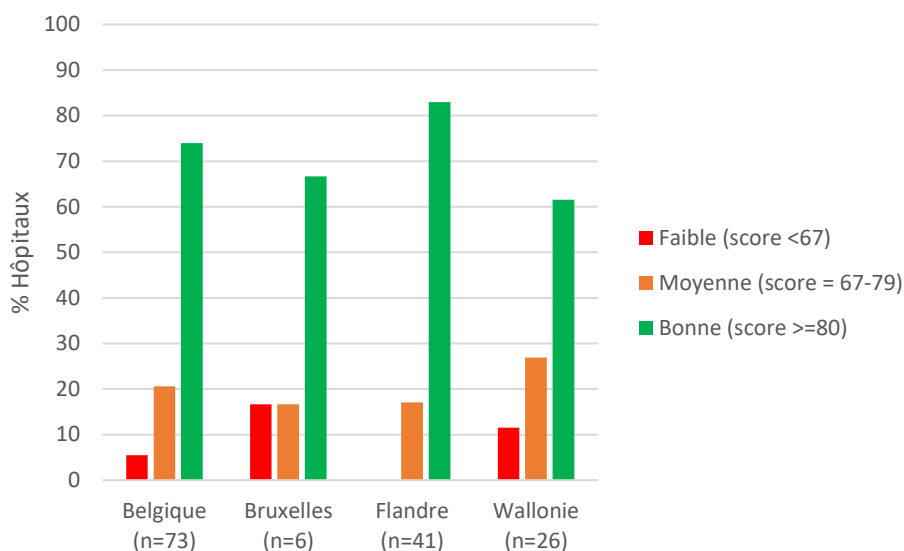
**Figure 4 • Consommation de solution hydro-alcoolique dans les unités de soins des hôpitaux belges national et régional, 2013-2020**

Légende diagramme en boîte : a. valeur maximale (sans valeurs aberrantes, 1,5 fois l'écart interquartile), b. 3<sup>ème</sup> quartile (Q3), c. médiane, d. moyenne, e. 1<sup>er</sup> quartile (Q1), f. valeur minimale (sans valeurs extrêmes, 1,5 fois l'écart interquartile).



### 3.5. SCORE DE QUALITÉ TOTAL

74% des hôpitaux obtiennent un bon score de qualité total en HH (figure 5). Il existe toutefois des différences dans le score de qualité entre les différentes régions. En Flandre, jusqu'à 16% et jusqu'à 21% d'hôpitaux en plus qu'à Bruxelles et en Wallonie obtiennent un bon score de qualité total



**Figure 5 • Indicateurs de qualité; proportion d'hôpitaux par classe de qualité au niveau national et régional, 2020**

## 4. Recommandations

### 4.1. RECOMMANDATIONS POUR LES HÔPITAUX

- Continuer à enregistrer leurs activités et résultats afin de pouvoir continuer à suivre et à améliorer le programme de prévention et de contrôle des infections liées aux soins au sein de leur hôpital.

### 4.2. RECOMMANDATIONS POUR LE GROUPE DE TRAVAIL BAPCOC 'INDICATEURS DE QUALITÉ EN HYGIÈNE HOSPITALIÈRE' ET POUR LES CHERCHEURS RESPONSABLES DE LA COLLECTE DES DONNÉES, DE L'ANALYSE ET DU RAPPORTAGE DU PROJET INDICATEURS DE QUALITÉ (SCIENSANO)

- Définir un petit nombre d'indicateurs qui donnent une évaluation aussi bonne que possible des aspects les plus importants du contrôle des infections et de la qualité de la prévention des infections à l'hôpital. Ce qui est important dans le choix de ces indicateurs c'est qu'ils doivent être suffisamment sensibles que pour détecter une amélioration et des différences dans la qualité du contrôle des infections et pour identifier les prestations plus faibles. Un premier pas dans cette direction pourrait être une revue systématique de la littérature.
- Vérifier à quoi devrait ressembler une nouvelle série d'indicateurs et développer un nouveau protocole. Des suggestions ont été formulées à cet effet dans les rapports précédents. De nombreux hôpitaux respectent un grand nombre d'indicateurs actuels depuis quelques années et la plupart des indicateurs restent stables. A présent que la plupart des indicateurs de qualité a été implémentées dans de nombreux hôpitaux, certains aspects (par thème) pourront probablement être approfondis afin de poursuivre l'amélioration du management IPC et l'implémentation des indicateurs plus détaillés.
- Investiguer dans quelle mesure les données collectées dans le cadre d'autres projets de qualité peuvent être harmonisées et intégrées dans ce projet d'indicateurs de qualité, ceci afin de diminuer la charge de travail du personnel et d'améliorer l'efficacité de la mesure de la qualité des soins. Des recherches supplémentaires sont nécessaires à cette fin.
- Vérifier dans quelle mesure les indicateurs de qualité fixés peuvent être harmonisés avec les indicateurs de prévention et de contrôle des infections proposés par l'Organisation mondiale de la santé (OMS) (1).

- Investiguer comment le protocole de la surveillance des infections du site opératoire peut être rendu plus convivial et peut être plus facilement implémenté afin que la participation à cette surveillance (locale et/ou nationale) soit plus importante. Investiguer comment combler le manque de ressources/ de temps pour participer à la surveillance des infections dans les unités de soins intensifs et des infections du site opératoire
- Essayer de savoir ce qui peut expliquer les différences dans le degré vaccinal pour l'influenza chez le personnel infirmier, les sages-femmes et les aides-soignants entre les différentes régions et entre les hôpitaux. Des recherches supplémentaires sont nécessaires à cette fin.
- Continuer d'améliorer et optimaliser l'outil de collecte de données (Healthdata) et la plateforme de rapportage en ligne avec des rapports individuels au niveau de l'hôpital (Healthstat).

### 4.3. RECOMMANDATIONS POUR LES RESPONSABLES POLITIQUES

- Investiguer si la législation actuelle relative au nombre de médecins et infirmiers HH en ETP doit être revue et adaptée en fonction des besoins actuels en prévention des infections en Belgique.
- Initier et soutenir l'installation et l'exécution d'un contrôle de qualité externe (validation) des données collectées pour le projet 'indicateurs de qualité' HH. Ce contrôle de qualité externe pourrait être effectué par Sciensano en collaboration avec le groupe de travail BAPCOC-'Indicateurs de qualité en hygiène hospitalière'.
- Intégrer les indicateurs de qualité en HH dans un seul projet général relatif à la mesure et à l'amélioration de la qualité des soins à l'hôpital, ceci afin de diminuer la charge de travail du personnel chargé de la collecte des données et de favoriser l'efficacité de la mesure de la qualité des soins. L'amélioration de la collaboration à tous les niveaux (politiques) peut contribuer à une approche et à une vision intégrées.

Poursuivre le soutien de ce projet 'Indicateurs de qualité en HH' afin que la qualité du programme de prévention et de contrôle des infections liées aux soins dans les hôpitaux puisse continuer à être suivie et améliorée. L'actuelle crise du COVID-19 souligne l'importance de renforcer et de soutenir une politique et une gestion de prévention et de contrôle des infections fonctionnant bien au niveau national et au niveau des hôpitaux.



# INTRODUCTION

The development and description of indicators to measure the quality of infection prevention and control (IPC) provided in Belgian acute care hospitals is an initiative of the Federal Platform for IPC, part of the Belgian Antibiotic Policy Coordination Committee (BAPCOC). All Belgian acute care hospitals (university hospitals and general hospitals with or without university character) (2) are legally obliged to monitor the quality of the programme for the prevention and control of healthcare-associated infections (HAI) using these indicators (see Royal Decree (RD) 27/01/2015) (3).

This report presents the 2020 data results of the IPC quality indicator project. Detailed reports with the results of the previous years can be found on the Sciensano website: [www.sciensano.be](http://www.sciensano.be)

## 1. Objectives

The overall objective of the IPC quality indicators project is to define, prioritise and implement strategies and interventions to prevent HAI in order to improve the quality of care provided in hospitals.

The project has three specific objectives:

1. To evaluate the IPC policies at national level in order to provide policy makers an overall view of the IPC levels and trends.
2. To assess the quality of the IPC management at hospital level by evaluating the resources, commitment and efforts made by the hospital in fighting HAI.
3. Improve the quality of the IPC management at hospital level through encouraging hospitals to measure and improve their IPC activities and outcomes.

In order to meet the three specific objectives mentioned before, the IPC indicator data are used; for,

1. Objective 1: through a publication of aggregated quality scores at national and regional level.
2. Objective 2: through a publication of quality scores per hospital. These scores are available via Healthstat.be.
3. Objective 3: by making an individualised IPC quality report available for each hospital (see Healthstat.be).

This report contains the quality scores at national and regional level for the 2020 data. The results of previous years (2013, 2015-2019) are presented for comparison.

# METHODS

## 1. Quality assessment of the programme for infection prevention and control of healthcare associated infections

The federal platform for IPC developed and selected a set of indicators to measure and monitor the quality of the programme for the prevention and control of healthcare-associated infections in Belgian acute hospitals. This set of IPC indicators was adapted for the reference year 2017. This updated indicators set includes all indicators used in 2013, 2015 and 2016 (historical indicators) supplemented by additional indicators and has been set for three years. In this updated set of indicators, progressively more importance is given to indicators related to the implementation of IPC related process audits. Due to the COVID-19 pandemic, it was decided to keep the same indicators for 2020 data, rather than developing and implementing a new protocol.

The set of indicators included four indicator groups:

1. organisation indicators,
2. resource indicators,
3. activity indicators, and
4. process indicator.

Each of these four groups contains one or more individual indicators (table 1). A detailed description of the indicators can be found in the protocol (4).

Based on these indicators, an extensive quality assessment was carried out using both individual indicator results and compiled quality scores.

### 1.1. INDIVIDUAL INDICATORS

For each indicator, the proportion (percentage) of hospitals that met the indicator was calculated. For each indicator group, the average of the proportions of hospitals that met the individual indicators was also calculated.

### 1.2. QUALITY SCORE

For each individual indicator, a weighted score between 1 and 4 has been defined by the federal platform for IPC. For a limited number of indicators, no score was defined. The weighted scores evolve over time. Initially (2017) special attention was paid to the development of procedures and protocols. This evolved over time towards conducting IPC related audits and providing feedback (2019). In 2020, the same scores as in 2019 were used. The scores used in 2020 can be found in table 1.

When the individual indicator was met, the weighted score was assigned. If the indicator was not met, a '0' score was assigned. When answering with 'not applicable', the corresponding score was assigned if the motivation for this answer choice was correct (table 1).

For each indicator group, a quality score (= indicator group quality score) was calculated which is the sum of the individual indicator scores belonging to this group. Indicators that were not scored were not included in the calculation of the quality scores. For all indicators together, an overall quality score was calculated which is the sum of all individual indicator scores.

### 1.3. QUALITY CLASSES

Based on the quality score, three quality classes were defined for each indicator group: "weak", "moderate" or "good". A quality score that achieved less than two-thirds (66.67%) of the maximum score was assigned the quality class "weak". A quality score that achieved 80% or more of the maximum score was assigned the quality class 'good'. This definition of quality classes is based on the definition used in the old set of indicators (until 2016). The quality classes are shown in table 1. Similarly, three quality classes (weak, moderate or good) were defined for the overall quality score for IPC.

### 1.4. IPC PROFESSIONAL PER BEDS RATIO

The WHO recommends a minimum ratio of one full-time equivalent IPC professional (nurse or doctor) per hospital 250 beds. In the IPC full requirements conditions, they even recommend a ratio of one IPC professional per 100 beds. This due to increased patient acuity and complexity, as well as the multiple roles and increasing responsibilities of the IPC professional (1). To have an idea what the current ratio is for Belgian hospitals, the median and interquartile range of IPC professionals per hospital bed were calculated. The proportion of hospitals having a ratio of one FTE IPC professional per  $\leq 250$  beds and the proportion of hospitals having a ratio of one FTE per  $\leq 100$  beds was calculated as well.

## 2. Data collection

The protocol contains a detailed description of the indicators and instructions for data collection and the supporting documents to be kept (4). A paper form has been developed for hospitals who want to prepare their registration.

Between March and September 2021, the 2020 data were submitted by the hospitals via the online platform Healthdata.be. Due to the COVID-19 pandemic, the data collection period was extended by 4 months. Hospitals that did not register their data when this report was published can still submit these. For hospitals consisting of several campuses, the data are collected per fusion (RIZIV/INAMI number) and not per campus. The list of the number of funded full-time equivalents (FTE) of physicians and nurses dedicated to IPC tasks in Belgian hospitals and a list of the members of each regional platform were obtained from the Federal Public Service (FPS) Public Health. The number of hospital beds were retrieved from the denominator surveillance, available through the Healthdata platform.

## 3. Data analyses

The statistical software SAS Enterprise Guide 7.13 (SAS Institute Inc., Cary, North Carolina, USA) was used to analyse the data.

The 2013, 2015 and 2016 data were re-analysed via SAS, therefore, compared to previous reports, there may be minor differences in the results.

## 4. Reporting

The reporting of the quality of the IPC programme in Belgian hospitals on the national and regional level differs from the reporting on the hospital level.

At national and regional levels, (1) for each individual indicator the proportion of hospitals complying with the indicator was calculated, (2) for each indicator group as well as for the total set of indicators the median and range quality score of all hospitals was calculated, (3) for each indicator group the average of the proportions of hospitals complying with the individual indicators belonging to the indicator group concerned was calculated and (4) for each quality class the proportion of hospitals belonging to class 'weak, moderate and good' was calculated. For comparison, the proportion of hospitals that met the indicator in previous years (2013, 2015-2018) was also presented.

## METHODS

At hospital level, (1) the quality scores per indicator group were calculated and (2) based on this indicator group quality scores, it was determined whether the quality class was 'weak', 'moderate' or 'good'. These results and individual indicator results per hospital are available on [Healthstat.be](http://Healthstat.be).

**Table 1 • Indicators for IPC used to calculate a quality score and to measure the quality of the programme for the prevention and control of HAI in Belgian hospitals (for 2020).**

Indicator group and indicators (corresponding indicator code as mentioned in the protocol and registration form)	Score per indicator	Quality score - scale	Calculation of quality scores
<b>1. Organisation indicators</b>			
1. (O.1.a) Presence of a general long-term strategic plan (3-5 years) for IPC, approved by the IPC committee.	1	<i>Number of indicators:</i> 6  <i>Quality score indicator group:</i> maximum 10 – minimum 0  <i>Classification by quality class:</i> <ul style="list-style-type: none"> <li>• Weak: score &lt;7</li> <li>• Moderate: score = 7</li> <li>• Good: score ≥8</li> </ul>	<ul style="list-style-type: none"> <li>• Each individual indicator was assigned the corresponding score if the answer was "yes" and the score "0" if the answer was "no".</li> <li>• The quality score is the sum of the results of the individual indicators belonging to this group</li> </ul>
2. (O.1.b) The strategic plan is integrated in the hospital's strategic plan.	2		
3. (O.2) Number of meetings of the IPC committee ≥4 per year	1		
4. (O.3) A detailed action plan for IPC is present and approved by the IPC committee.	1		
5. (O.4) An annual report on IPC is present and approved by the IPC committee.	1		
6. (O.5) The IPC nurse(s) is/are part of the nursing middle management.	4		
<b>2. Resource indicators</b>			
1. (M.1) The effective number of IPC physicians ≥ 90% of the funded number	2	<i>Number of indicators:</i> 8 (5 dichotomous and 3 numeric indicators)  <i>Quality score indicator group:</i> maximum 9 – minimum 0  <i>Classification by quality class:</i> <ul style="list-style-type: none"> <li>• Weak: score &lt;6</li> <li>• Moderate: score = 6</li> <li>• Good: score ≥7</li> </ul>	<ul style="list-style-type: none"> <li>• Each individual indicator was assigned the corresponding score if the answer was "yes" and the score "0" if the answer was "no".</li> <li>• If no intensive care unit was present, the maximum number of points was assigned for indicator M.4.</li> <li>• Numeric indicators (last 3 indicators in the 1st column): No score was assigned to these indicators. Consequently, these indicators were not included in the calculation of the indicator group quality score.</li> <li>• The indicator group quality score is the sum of the results of the individual indicators belonging to this group</li> </ul>
2. (M.2) The effective number of IPC nurses ≥ 90% of the funded number	2		
3. (M.3) Presence of referents for infection control	1		
4. (M.4) Number of referents in ICU / number of ICU ≥ 1	2		
5. (M.5) Number of referents in units (including ICU) / number of units (including ICU) ≥ 1	2		
6. (M.6.a) Number of hours for training on IPC provided by the IPC team to the hospital staff, per funded number of FTE for IPC (physicians and nurses)	No score		
7. (M.6.b) Number of participants in these trainings, per funded number of FTE for IPC (physicians and nurses)	No score		
8. (M.6.c) Number of hours of e-learning training on IPC followed by the hospital staff, per funded number of FTE for IPC (physicians and nurses).	No score		

<p><b>3. Activity indicators</b></p> <p><b>3.1. Meetings</b></p> <p>1. (A.1) Participation of the management to the meetings of the IPC committee</p> <p>2. (A.2) Participation of the infection control team to the meetings of the regional platform for IPC</p> <p><b>3.2. Surveillances</b></p> <p>3. (A.3.a) MRSA (local)</p> <p>4. (A.3.b) MRSA (nationaal)</p> <p>5. (A.4.a) Bloodstream infections (local)</p> <p>6. (A.4.b) Bloodstream infections (national)</p> <p>7. (A.5.a) Multi-resistant Gram-negative bacteria (local)</p> <p>8. (A.5.b) Multi-resistant Gram-negative bacteria (national)</p> <p>9. (A.6) Toxigenic <i>Clostridioides difficile</i> infections (local)</p> <p>10. (A.7) Infections in Intensive Care Units (local)</p> <p>11. (A.8) Surgical site infections (local)</p> <p>12. (A.9) Vancomycin-resistant enterococci (local)</p> <p>13. (A.10) Other surveillances (local)</p> <p>14. (A.11) Presence of a systematic interaction between the laboratory and the IPC team (warning system)</p> <p><b>3.3. Process audits</b></p> <p>15. (A.13.a) Approach for optimizing the choice of venous vascular access</p> <p>16. (A.13.b) Procedure for the prevention of central line-associated bloodstream infections</p> <p>17. (A.13.c) The application of this procedure was audited</p> <p>18. (A.14.a.) Procedure for the prevention of catheter-associated urinary tract infections</p> <p>19. (A.14.b.) The application of this procedure was audited</p> <p>20. (A.15.a) Procedure for the prevention of infections related to invasive mechanical ventilation</p> <p>21. (A.15.b.) The application of this procedure was audited</p> <p>22. (A.16.a) Procedure for the prevention of surgical site infections</p> <p>23. (A.16.b) The application of this procedure was audited</p> <p>24. (A.17) Other audits related to IPC</p>	<p>2</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>No score</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p> <p>1</p> <p>2</p> <p>1</p> <p>2</p> <p>1</p> <p>2</p> <p>No score</p>	<p><i>Number of indicators: 57</i></p> <p><i>Quality score indicator group: maximum 79 – minimum 0</i></p> <p><i>Classification by quality class:</i></p> <ul style="list-style-type: none"> <li>• Weak: score &lt;51</li> <li>• Moderate: score 51-62</li> <li>• Good: score ≥63</li> </ul> <p><i>Quality score per subgroup</i></p> <p><i>3.1 Meetings</i> maximum 3 – minimum 0</p> <p><i>1.2 Surveillances</i> Maximum 11 – minimum 0</p> <p><i>1.3 Process audits</i> Maximum 13 – minimum 0</p> <p><i>1.4 National campaign/prevalence study</i> Maximum 5 – minimum 0</p> <p><i>1.5 Other</i> Maximum 47 – minimum 0</p>	<ul style="list-style-type: none"> <li>• Each individual indicator was assigned the corresponding score if the answer was "yes" and the score "0" if the answer was "no".</li> <li>• If no intensive care unit was present, the maximum number of points was assigned for the indicators A.7 and A.15.</li> <li>• When for indicator A.24 was indicated that there are 0 nurses/midwives/nursing assistants working in the hospital, this indicator was considered as missing.</li> <li>• The corresponding score was assigned to the individual indicators where the answer was 'not applicable' and the motivation for this answer was justified.</li> <li>• Since 2018 the antibiotic prophylaxis in surgery audit from BAPCOC has not been organised. Therefore the corresponding score of the indicator (A.28) was assigned to all hospitals in 2018,2019 and 2020.</li> <li>• In 2020 the pre-campaign of the national hand hygiene campaign has been cancelled. Therefore the corresponding score of the indicator (A.18) was assigned to all hospitals in 2020.</li> <li>• The indicator group quality score is the sum of the results of the individual indicators belonging to this group. Indicators were no score was assigned to, were not included in the calculation of the indicator group quality score.</li> </ul>
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<b>3.4. National campaign/ prevalence study</b>			
25. (A.18) Participation in the national campaign “You’re in good hands”.	1		
26. (A.12.a.) Local audits related to hand hygiene compliance (outside the national campaign)	2		
27. (A.12.b) At least 150 hand hygiene opportunities (outside the national campaign) have been reported.	1		
28. (A.19) Participation in the point prevalence study related to HAI and antimicrobial use	1		
<b>3.5. Other</b>			
29. (A.20) Information for the patient regarding the risk of infections	4		
30. (A.21) Approach for the prevention of accidental blood exposure	2		
31. (A.22) Procedure for the management of accidental blood exposure	2		
32. (A.23) An influenza vaccination campaign for staff	2		
33. (A.24) Staff vaccination coverage for influenza	No score		
34. (A.25) Participation of the IPC team in the medical devices committee meetings	1		
35. (A.26) Participation of the IPC physician in the antimicrobial stewardship group meetings	1		
36. (A.27.a) Procedure for antibiotic prophylaxis in surgery	1		
37. (A.27.b) The application of this procedure was audited	2		
38. (A.28) Participation in the antibiotic prophylaxis in surgery audit from BAPCOG	1		
39. (A.29.a) Procedure for the prevention of contact/droplet/airborne transmission	1		
40. (A.29.b) The application of these preventive measures was audited	2		
41. (A.30.a) Procedure to prevent transmission by screening of patients	1		
42. (A.30.b) The application of these preventive measures was audited	2		
43. (A.31.a) Procedure related to admission of patients who are known MDRO carriers	1		
44. (A.31.b) The application of these preventive measures was audited	2		
45. (A.34) A preventive approach regarding the transmission of tuberculosis	4		
46. (A.35) A preventive approach regarding the risk of Creutzfeld Jacob disease	2		
47. (A.32) Procedure for the disinfection of endoscopes	2		
48. (A.33.a) Procedure for the disinfection of endocavity ultrasound probes	1		
49. (A.33.b) The application of these preventive measures was audited	2		

## METHODS

50. (A.36) An approach to prevent the risk of infection related to the management of construction works	2		
51. (A.37) An approach to prevent the risk of infection related to the cleaning and disinfection of surfaces and non-medical equipment	1		
52. (A.38) An approach to prevent the risk of infection related to the cleaning and disinfection of non-critical medical materials	1		
53. (A.39) Risk management plan with regard to the distribution of warm water for sanitary purposes	1		
54. (A.40.a) Procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques	1		
55. (A.40.b) The application of this procedure was audited	2		
56. (A.41.a) Procedure to prevent the risk of infection in delivery rooms	1		
57. (A.41.b) The application of this procedure was audited	2		
<b>4. Process indicator</b>			
1. (R.1) Alcohol-based handrub consumption (litres /1000 hospitalisation days) > mean of 2016	2	<p><i>Number of indicators: 1</i></p> <p><i>Quality score indicator group: maximum 2 – minimum 0</i></p> <p><i>Classification by quality class:</i> /</p>	<ul style="list-style-type: none"> <li>• The mean alcohol-based handrub consumption in 2016 was 24.7l/1000 hospitalisation days.</li> <li>• Each individual indicator was assigned the corresponding score if the answer was "yes" and the score "0" if the answer was "no".</li> </ul>
<b>All indicators for IPC</b>		<p><i>Overall quality score:</i> <i>Maximum 100 – minimum 0</i></p> <p><i>Classification by quality class:</i></p> <ul style="list-style-type: none"> <li>• Weak: score &lt;67</li> <li>• Moderate: score 67-79</li> <li>• Good: score ≥80</li> </ul>	<ul style="list-style-type: none"> <li>• The overall quality score is the sum of the results of the individual indicators. Indicators were no score was assigned to, were not included in the calculation of the overall quality score.</li> </ul>

BAPCOC, Belgian Antibiotic Policy Coordination Committee; FTE, full time equivalent; HAI, healthcare-associated infections; ICU, intensive care unit; IPC, infection prevention and control; MRSA, Methicillin-resistant *Staphylococcus aureus*



# RESULTS

In this chapter you will find aggregated quality scores at national level. The results at regional level can be found in the supplement of this report via <https://www.sciensano.be/en/biblio/quality-indicators-infection-prevention-and-control-acute-care-hospitals-supplement-report-2021>. Individual indicator results per hospital are available via [healthstat.be](http://healthstat.be).

## 1. Results at national level

In 2021, 73 out of 104 eligible hospitals<sup>1</sup> (70%) (identified by RIZIV/INAMI number) reported 2020 data for the IPC quality indicators project. For Brussels 6 hospitals, for Flanders 41 hospitals and for Wallonia 26 hospitals participated.

### 1.1. ORGANISATION-INDICATORS

The organisation indicator group contains 6 individual indicators (table 3).

95% of hospitals achieve a good quality score for the organisational indicator group. The median quality score is 10 at national level and for the Flemish and Walloon region, which is also to the maximum score. The variation in the quality score of the organisational indicator group between hospitals remains low.

Scores in this group are high (Table 2, 3 and Figure 6). In 2020, at least 95% of hospitals met 4 of the 6 individual indicators. 'The general strategic plan for IPC is integrated in the strategic plan of the hospital' (88% in 2020) and 'The number of meetings for the infection control committee  $\geq 4$  per year' (78% in 2020) have lower scores than the other organisational indicators (Figure 7, Table 3) in 2020.

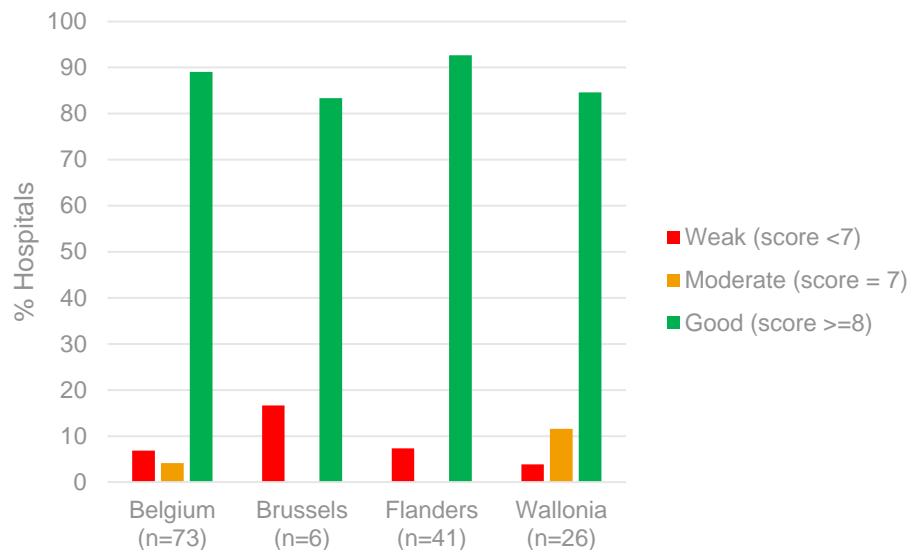
**Table 2 • Median and range of the quality score for the organisation indicator group in Belgian hospitals and proportion of hospitals per quality class, national and regional level, 2020**

	Belgium 2020 (n=73)	Brussels 2020 (n=6)	Flanders 2020 (n=41)	Wallonia 2020 (n=26)
Median quality score (range) (min.=0 – max.=10)	10 (3 – 10)	9 (3 – 10)	10 (5 - 10)	10 (6 – 10)
<b>Proportion (%) of hospitals per quality class</b>				
Weak (score <7)	7	17	7	4
Moderate (score = 7)	4	0	0	12
Good (score $\geq 8$ )	89	83	93	85

n, number of hospitals

<sup>1</sup> Based on the address list of general & psychiatric hospitals in Belgium on 01/01/2020, obtained from the FPS Public Health

## RESULTS



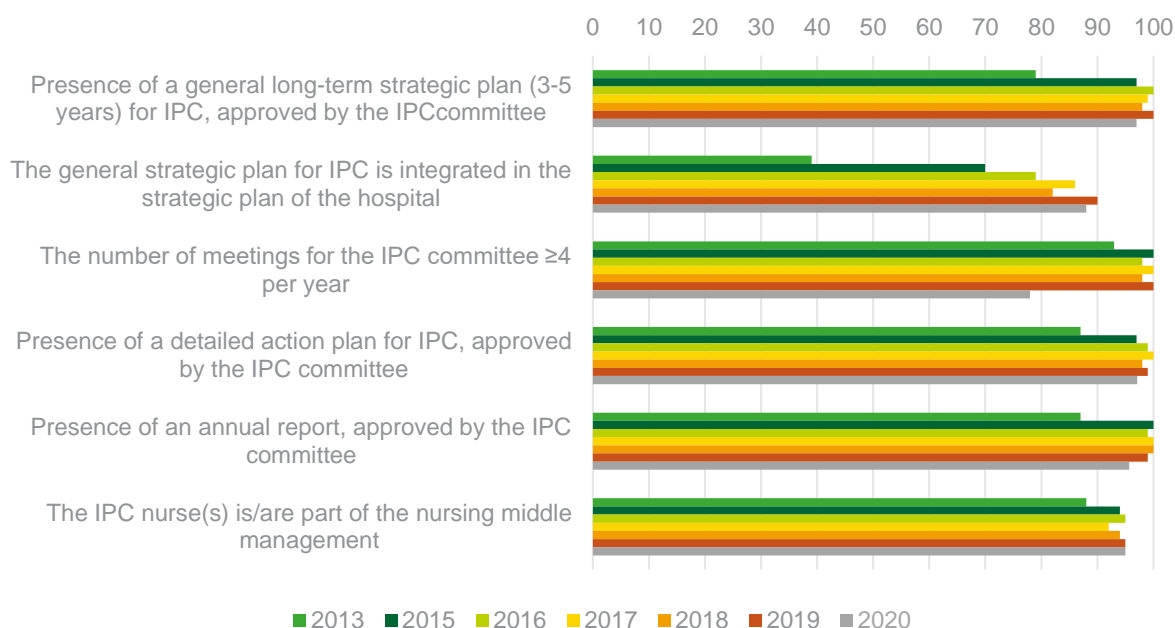
**Figure 6 • Organisation indicators: proportion of hospitals per quality class at national and regional level, 2020**

**Table 3 • Proportion (%) of hospitals meeting each individual organisation indicator, national level, 2013 - 2020**

Indicator Description	Belgium						
	2013 n=104	2015 n=103	2016 n=104	2017 n=103	2018 n=102	2019 n=98	2020 n=73
Presence of a general long-term strategic plan (3-5 years) for IPC, approved by the IPC committee	79	97	100	99	98	100	97
The general strategic plan for IPC is integrated in the strategic plan of the hospital	39	70	79	86	82	90	88
The number of meetings for the IPC committee ≥4 per year	93	100	98	100	98	100	78
Presence of a detailed action plan for IPC, approved by the IPC committee	87	97	99	100	98	99	97
Presence of an annual report, approved by the IPC committee	87	100	99	100	100	99	96
The IPC nurse(s) is/are part of the nursing middle management	88 <sup>1</sup>	94 <sup>1</sup>	95 <sup>1</sup>	92	94	95	95
<b>Mean proportion</b>	<b>79</b>	<b>93</b>	<b>95</b>	<b>96</b>	<b>95</b>	<b>97</b>	<b>92</b>

n, number of hospitals; IPC, infection prevention and control

<sup>1</sup>in 2013, 2015 and 2016 only one IPC nurse had to be a member of the nursing middle management



**Figure 7 • Proportion (%) of hospitals meeting each individual organisation indicator, national level, 2013 - 2020**

<sup>1</sup>in 2013, 2015 and 2016 only one IPC nurse had to be a member of the nursing middle management; IPC, Infection prevention and control

## 1.2. RESOURCE INDICATORS

The resource indicator group contains 8 individual indicators (table 5).

Approximately 93% of hospitals achieve a good quality score for the resource indicator group (Table 4 and Figure 3). The median quality score at both national and regional levels is 9, which is equal to the maximum score (table 4). The variation in the quality score of the resource indicator group between hospitals remains low.

For all indicators in this group, hospitals achieve a score of at least 90% (table 4, 5 and figure 3). All hospitals work with IPC referents and in 92% of hospitals there are at least as many referents as units present. In 9 out of 10 hospitals, the effective number of IPC physicians and the effective number of IPC nurses are close to the funded number (expressed in FTE; calculated on the basis of the number of beds accounted for by the government to finance this activity, as described in the Royal Decree) (table 5). The median of the number of beds per FTE IPC professional is 209 (IQR: 157-291) in 2020. 65% of the hospitals have at least one FTE IPC professional per 250 beds. Only 8% of the hospitals have at least one FTE IPC professional per 100 beds.

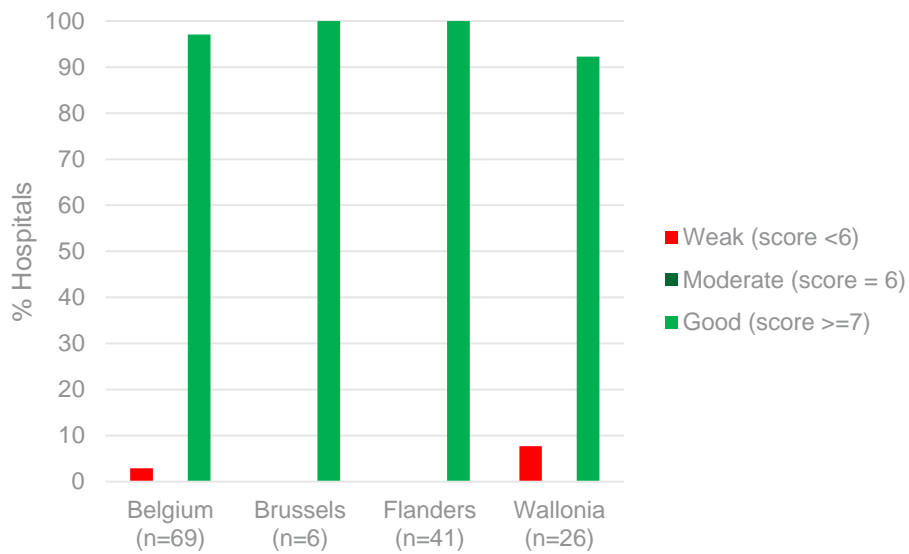
A large variation between hospitals regarding the number of IPC training courses and participants has been observed. E-learning tools are only registered to a limited extent as a training tool (Table 6).

**Table 4 • Median and range of the quality score for the resource indicator group in Belgian hospitals and proportion of hospitals per quality class, national and regional level, 2020**

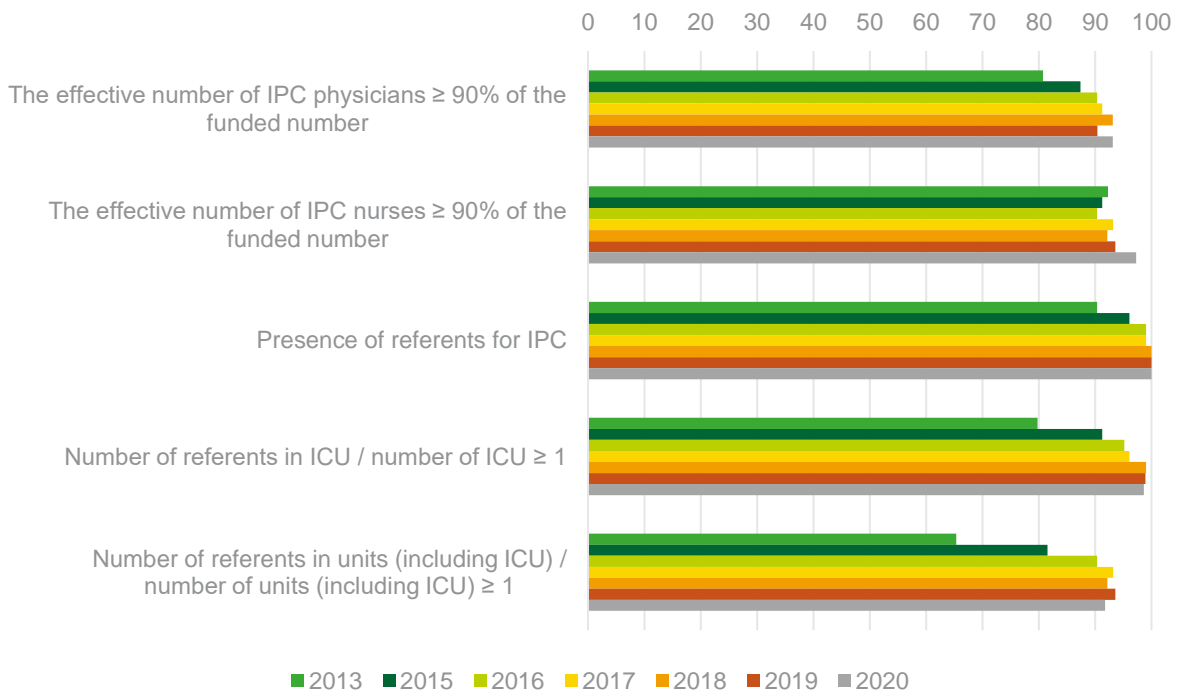
	Belgium 2020 (n=73)	Brussels 2020 (n=6)	Flanders 2020 (n=41)	Wallonia 2020 (n=26)
Median quality score (range) (min.=0 – max.=9)	9 (3 – 9)	9 (9 – 9)	9 (7 - 9)	9 (3 – 9)
<b>Proportion (%) of hospitals per quality class</b>				
Weak (score <6)	3	0	0	8
Moderate (score = 6)	0	0	0	0
Good (score ≥7)	97	100	100	92

n, number of hospitals

RESULTS



**Figure 8 • Resource indicators: proportion of hospitals per quality class at national and regional level, 2020**



**Figure 9 • Proportion (%) of hospitals meeting each individual resource indicator, national level, 2013 - 2020**

ICU, intensive care unit; IPC, infection prevention and control

RESULTS

**Table 5 • Proportion (%) of hospitals meeting each individual resource indicator, national level, 2013 - 2020**

Indicator Description	Belgium							
	2013 n=104	2015 n=103	2016 n=104	2017 n=103	2018 n=102	2019 n=98	2020 n=73	
The effective number of IPC physicians ≥ 90% of the funded number (expressed in number of FTE)	81	87	90	91	93	90 <sup>3</sup>	93	
The effective number of IPC nurses ≥ 90% of the funded number (expressed in number of FTE)	92	91	90	93	92	94 <sup>3</sup>	97	
Presence of referents for infection control	90	96	99	99	100	100	100	
Number of referents in ICU / number of ICU ≥ 1	80 <sup>1</sup>	91 <sup>1</sup>	95 <sup>2</sup>	96 <sup>1</sup>	99 <sup>1</sup>	99 <sup>1</sup>	99 <sup>1</sup>	
Number of referents in units (including ICU) / number of units (including ICU) ≥ 1	65	82	90	93	92	93	92	
<b>Mean proportion</b>	<b>82</b>	<b>89</b>	<b>93</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>96</b>	

FTE, fulltime equivalent; ICU, intensive care unit; IPC, infection prevention and control; n, number of hospitals

<sup>1</sup>This indicator was not applicable in 1 hospital, <sup>2</sup>This indicator was not applicable in 2 hospitals, <sup>3</sup>The financed number of FTEs was missing for 1 hospital

**Table 6 • Median and percentile 25 and 75 for the three numeric indicators belonging to the resource indicator group, national level, 2013-2020**

Indicator Description	Belgium							
	2013 n=104	2015 n=103	2016 n=104	2017 n=103	2018 n=102	2019 n=98	2020 n=73	
Number of hours for training on IPC provided by the IPC team to the hospital staff, per funded number of FTE for IPC (physicians and nurses)	15 (9-32)	22 (13-36)	21 (12-34)	20 (12-32)	18 (10-35)	19 (12-33)	37 (13-71)	
Number of participants in these trainings, per funded number of FTE for IPC (physicians and nurses)	191 (96-289)	237 (140-365)	238 (134-401)	277 (148-454)	204 (130-404)	247 (119-448)	276 (150-530)	
Number of hours of e-learning training on IPC followed by the hospital staff, per funded number of FTE for IPC (physicians and nurses).				0 (0-38)	0 (0-27)	0 (0-41)	3 (0-61)	

FTE, full time equivalents; IPC, infection prevention and control; n, number of hospitals

**Table 7 • Median and percentile 25 and 75 for the number of beds per IPC professional and the proportion of hospitals for the minimal and higher ratio's defined by the WHO, national level, 2013-2020**

Indicator Description	Belgium							
	2013 n=101	2015 n=101	2016 n=104	2017 n=199	2018 n=94	2019 n=88	2020 n=65	
Number of beds per full-time equivalent IPC professional (nurse or doctor) (median + IQR)	211 (145-300)	201 (141-289)	215 (149-292)	207 (149 -292)	216 (156-304)	211 (153-299)	209 (157-291)	
Number of beds per full-time equivalent IPC professional (nurse or doctor) ≤250 (proportion of hospitals)	61%	65%	62%	61%	60%	60%	65%	
Number of beds per full-time equivalent IPC professional (nurse or doctor) ≤100 (proportion of hospitals)	9%	12%	10%	8%	7%	9%	8%	

FTE, full time equivalents; IPC, infection prevention and control; n, number of hospitals

### 1.3. ACTIVITY-INDICATORS

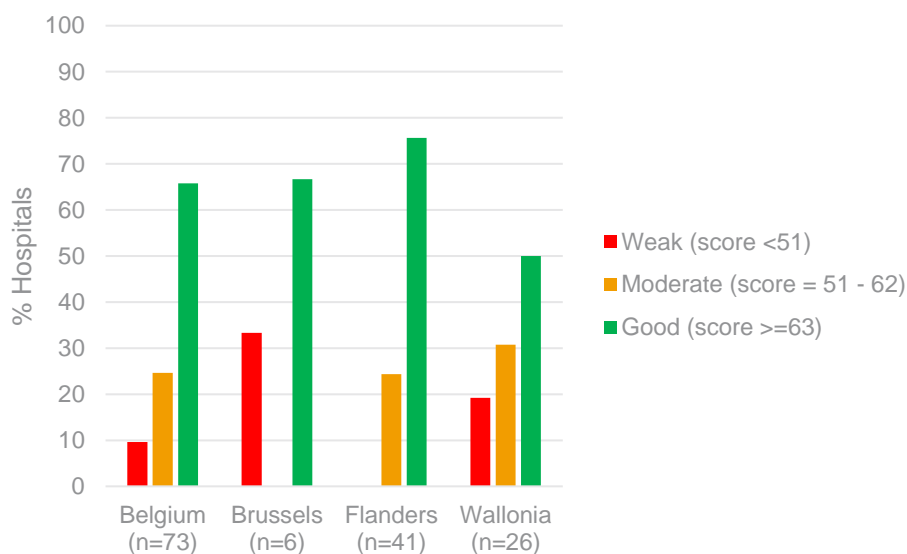
The activity indicator group contains 57 individual indicators (table 1). This indicator group contains the largest number of indicators. The majority of activity indicators achieve high scores (table 9 and 11).

About two-third (66%) of the hospitals achieve a good quality score for the activity indicator group for the reference year 2020 (figure 10). There are large differences in the quality score for the activity indicator group between the various regions. In Flanders, up to 26% more of the participating hospitals achieve a good quality score for this indicator group than in Wallonia (Table 8). The median quality score at the national level is 67 (Table 8), the maximum score is 79. The variation in the quality score of the activity indicator group is shown in a boxplot (Figure 11).

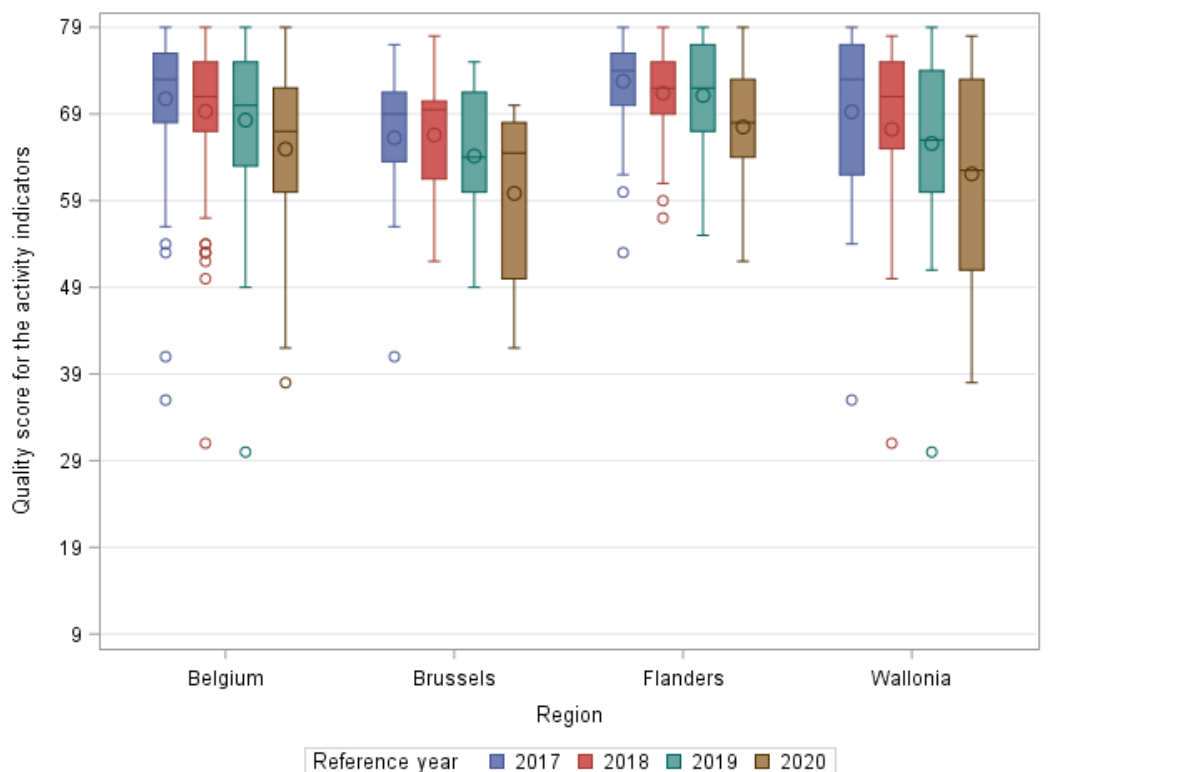
**Table 8 • Median and range of the quality score for the activity indicator group in Belgian hospitals and proportion of hospitals per quality class, national and regional level, 2020**

	Belgium 2020 (n=73)	Brussels 2020 (n=6)	Flanders 2020 (n=41)	Wallonia 2020 (n=26)
Median quality score (range) (min.=0 – max.=79)	67 (38 – 79)	65 (42 – 70)	68 (52 - 79)	63 (38 – 78)
<b>Proportion (%) of hospitals per quality class</b>				
Weak (score <51)	10	33	0	19
Moderate (score 51-62)	25	0	24	31
Good (score ≥63)	66	67	76	50

n, number of hospitals

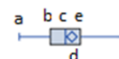


**Figure 6 • Activity indicators: proportion of hospitals per quality class at national and regional level, 2020**



**Figure 7 • Activity indicators: boxplot for quality scores at national and regional level, 2017-2020**

*Legend boxplot: a. maximum (without outliers, 1.5x interquartile range), b. 75th percentile (P75), c. median, d. mean, e. 25th percentile (P25), f. minimum (without outliers, 1.5x interquartile range)*



### 1.3.1. Activity indicators collected in all previous data collections (2013-2020)

In 97% of hospitals, the management participates to meetings of the IPC committee. In 99% of hospitals, the IPC team participates to meetings of the regional platform for IPC (Table 9).

Participation in surveillances organised at hospital (local) and/or national level have high scores (92% - 100%), except for 'infections in intensive care units' and 'surgical site infections' surveillance. Only 75% and 68% respectively of hospitals organise these surveillances at local level. However, since 2013, the number of hospitals organising these two surveillances increased (Table 9, Figure 12). A systematic interaction between the laboratory and the IPC team (alarm system) is present in all hospitals.

More than half of the hospitals conduct the process audits surveyed since 2013 (Table 9 and Figure 13). Figure 13 visually shows the proportion of hospitals that comply with these process audits and shows an increase in conducting these process audits until 2019. Between 2019 and 2020, a decrease in conducting these audits was observed.

The pre-campaign observation period of the national hand hygiene (HH) campaign has been cancelled in 2020 and only the post-campaign observation has been conducted in 2021. Nevertheless, local audits regarding HH compliance were conducted by 71% of hospitals (outside the national campaign). In the process, 59% of hospitals observe more than 150 HH opportunities (Table 9).

The organisation of and participation in other surveillances and audits than those mentioned in the questionnaire is also asked. The answers to these open questions are not used in the composition of the quality score. An overview of the most common answers to these questions can be found in chapter 2 (Tables 15 and 16).

**Table 9 • Proportion (%) of hospitals meeting each individual activity indicator for the indicators collected in all previous data sets, national, 2013 - 2020**

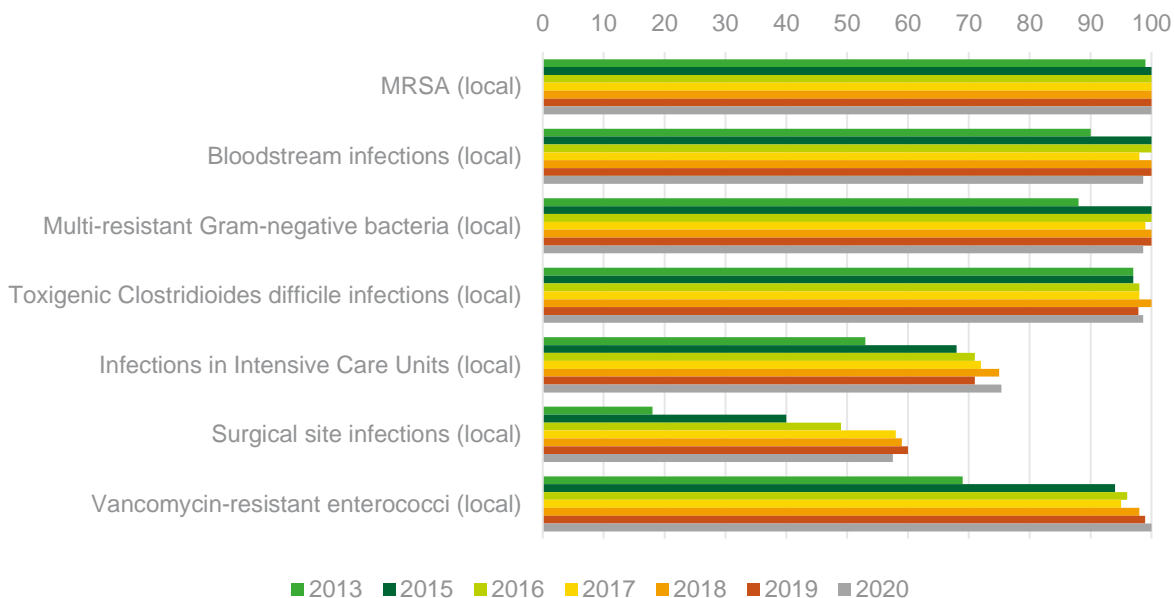
Indicator Description	Belgium						
	2013 n=104	2015 n=103	2016 n=104	2017 n=103	2018 n=102	2019 n=98	2020 n=73
<b>1. Meetings</b>							
Participation of the management in the meetings of the IPC committee	95	94	97	96	97	98	97
Participation of the infection control team in the meetings of the regional platform for IPC	96	93	92	96	97	96	99
<b>2. Surveillances</b>							
MRSA (local)	99	100	100	100	100	100	100
MRSA (national)	99	100	100	99	100	98	95
Bloodstream infections (local)	90	100	100	98	100	100	99
Bloodstream infections (national)	85	99	99	97	100	98	97
Multi-resistant Gram-negative bacteria (local)	88	100	100	99	100	100	99
Multi-resistant Gram-negative bacteria (national)	71	99	100	98	100	98	92
Toxigenic <i>Clostridioides difficile</i> infections (local)	97	97	98	98	100	98	99
Infections in Intensive Care Units (local)	53	68	71	72 <sup>1</sup>	75 <sup>1</sup>	71 <sup>1</sup>	75 <sup>1</sup>
Surgical site infections (local)	18	40	49	58 <sup>1</sup>	59 <sup>1</sup>	60 <sup>2</sup>	58 <sup>1</sup>
Vancomycin-resistant enterococci (local)	69	94	96	95	98	99	100
Other surveillances (local)			66	68	71	66	66
Presence of a systematic interaction between the laboratory and the IPC team (warning system)	97	98	99	99	100	100	100
<b>3. Process audits</b>							
Audit of the procedure for the prevention of central line-associated bloodstream infections (CLABSI)	35	59	72	54	76	88	73
Audit of the procedure for the prevention of catheter-associated urinary tract infections (CAUTI)	19	53	66	58	76	78	66
Audit of the procedure for the prevention of infections related to invasive mechanical ventilation	56	65	67	47 <sup>1</sup>	60 <sup>1</sup>	69 <sup>1</sup>	52 <sup>1</sup>
Audit of the procedure for the prevention of SSI	18	43	44	34 <sup>1</sup>	55 <sup>1</sup>	57 <sup>1</sup>	41 <sup>1</sup>
Other audits related to IPC			63	68	66	67	64
<b>4. National campaign/prevalence study</b>							
Participation in the national campaign "You're in good hands".	94	95	96	99	99	97	/
Local audits related to hand hygiene compliance (outside the national campaign)	47	79	83	84	83	85	71
At least 150 hand hygiene opportunities (outside the national campaign) have been reported.	39	59	74	74	76	71	59
<b>Mean proportion</b>	<b>60</b>	<b>78</b>	<b>84</b>	<b>86</b>	<b>86</b>	<b>86</b>	<b>82</b>

CLABSI, central line-associated bloodstream infections; MRSA, Methicillin-resistant *Staphylococcus aureus*; n, number of hospitals; SSI, surgical site infections; CAUTI, catheter-associated urinary tract infections; IPC, infection prevention and control

<sup>1</sup>This indicator was not applicable in 1 hospital, <sup>2</sup>This indicator was not applicable in 2 hospitals



RESULTS



MRSA: methicillin resistant *Staphylococcus aureus*

Figure 12 • Proportion of hospitals meeting the individual activity; local surveillances, national level, 2013 - 2020

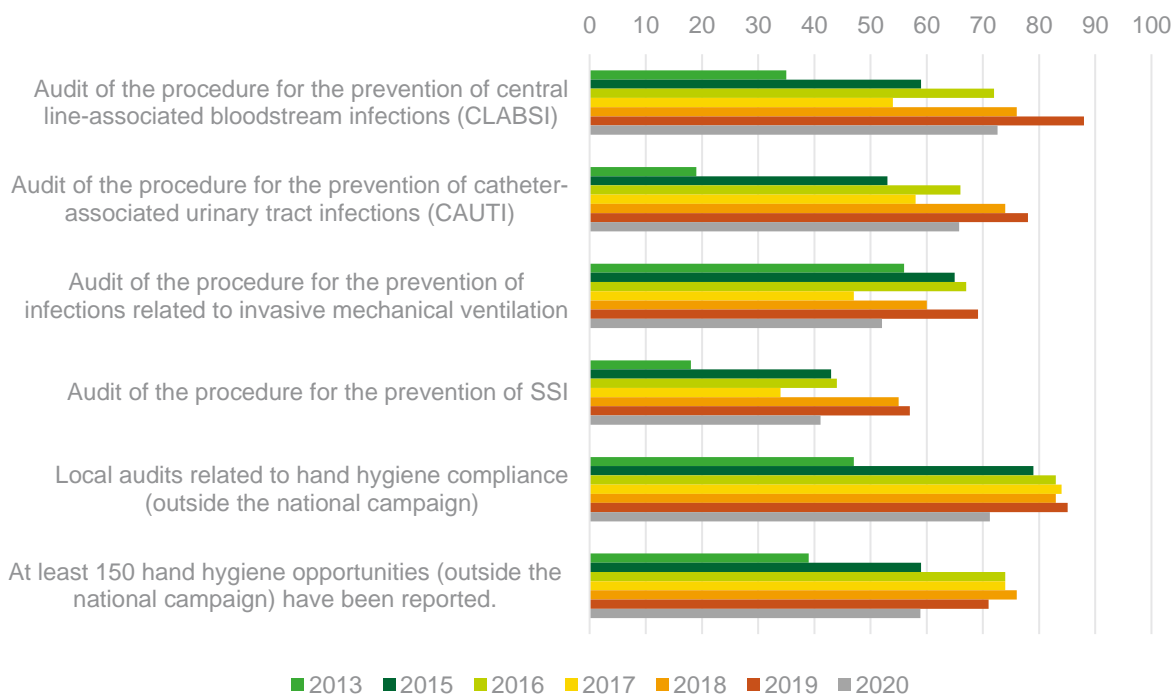


Figure 13 • Proportion of hospitals meeting the individual activity; process audits, national level, 2013 - 2020

### 1.3.2. Activity indicators collected since 2017 (2017-2020)

The indicators on the presence of procedures score high (>85%), with the exception of the indicators 'Procedure for the prevention of surgical site infections' (84%) and 'Procedure to prevent infection risk in delivery rooms' (73%) (table 11).

In contrast to previous years, only two procedures were audited by at least 70% of hospitals. The following procedures were audited by less than half of the hospitals:

- Audit of the procedure for antibiotic prophylaxis in surgery (40%);
- Audit of the procedure for disinfection of endocavitary ultrasound probes (32%);
- Audit of the procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques (45%); and
- Audit of the procedure to prevent the risk of infection in delivery rooms (40%).

In 2020, the surgical antibiotic prophylaxis audit of BAPCOC did not take place. Only 30% of hospitals participated in a point prevalence study related to HAI and antimicrobial use.

Figure 14 documents the activity indicators on the implementation of an audit, collected since 2017. Until 2019, an increase in the number of hospitals meeting these activity indicators for all 7 audits was observed whereas for 2020 a decrease in conducting these audits was observed.

Participation in the medical device committee meetings by the IPC team and participation in the antibiotic therapy policy group meetings by the IPC physician score high (96%). Information on infection risk for the patient is present in 96% of hospitals (Table 10).

All hospitals (100%) carried out an influenza vaccination campaign. The median vaccination coverage among nurses, midwives and nursing assistants is 64% and is higher compared to previous years (table 9).

**Table 10 • Median and percentile 25 and 75 for the two numeric indicators in % belonging to the activity indicator group, national level, 2017-2020**

Description	Belgium			
	2017 (n=103)	2018 (n=102)	2019 (n=94)	2020 (n=73)
Staff vaccination coverage for influenza (expressed in percentage)	39% <sup>3</sup> (20% – 54%)	45% <sup>2</sup> (28%-65%)	52% <sup>1</sup> (31%-67%)	64% (33%-79%)
Number of observed hand hygiene opportunities (outside the national campaign)	440 (155 – 1077)	570 (187 – 1105)	641 (169 – 1766)	204 (151 – 743)

n, number of hospitals;

<sup>1</sup>This indicator was missing for 1 hospital, <sup>2</sup>This indicator was missing for 2 hospitals, <sup>3</sup>This indicator was missing for 3 hospitals

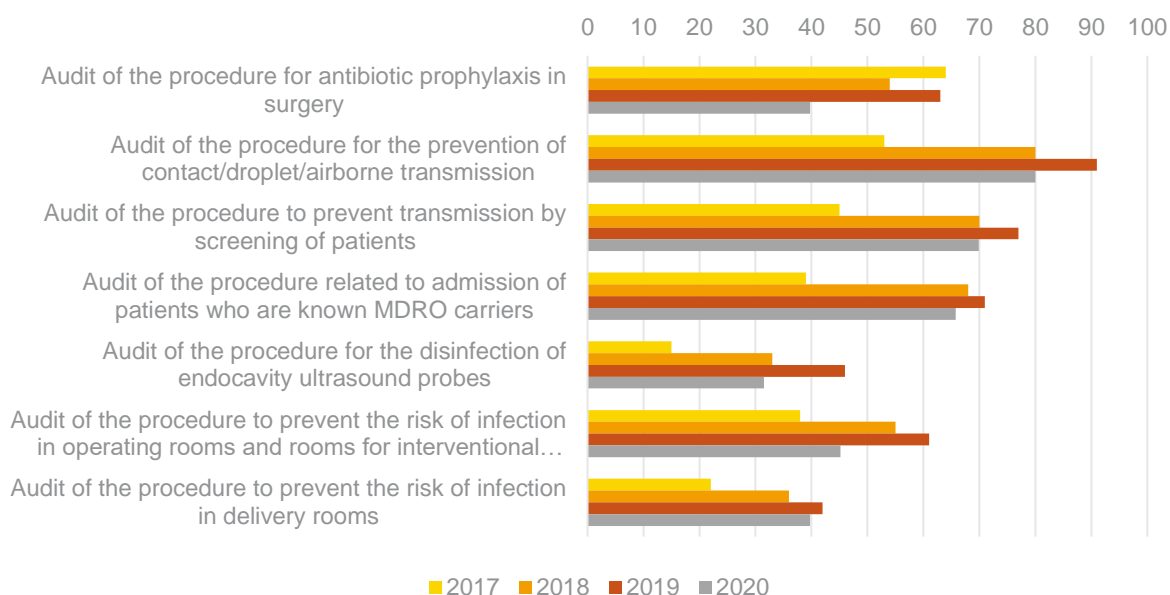
**Table 11 • Proportion (%) of hospitals meeting each individual activity indicator for the indicators collected since 2017, national, 2017 - 2020**

Indicator Description	Belgium			
	2017 n=103	2018 n=102	2019 n=98	2020 n=73
<b>3. Process audits</b>				
Approach for optimizing the choice of venous vascular access	64	76	82	85
Procedure for the prevention of central line-associated bloodstream infections	89	95	97	96
Procedure for the prevention of catheter-associated urinary tract infections	90	90	94	96
Procedure for the prevention of infections related to invasive mechanical ventilation	82 <sup>1</sup>	88 <sup>1</sup>	92 <sup>1</sup>	89 <sup>1</sup>
Procedure for the prevention of surgical site infections	79 <sup>1</sup>	84 <sup>1</sup>	85 <sup>1</sup>	84 <sup>1</sup>
<b>4. National campaign/ prevalence study</b>				
Participation in the point prevalence study related to HAI and antimicrobial use	79	44	65	30
<b>5. Other</b>				
Information for the patient regarding the risk of infections	95	95	95	96
Approach for the prevention of accidental blood exposure	97	99	99	97
Procedure for the management of accidental blood exposure	98	99	97	99
An influenza vaccination campaign for staff	100	99	100	100
Participation of the IPC team in the medical devices committee meetings	93	98	98	96
Participation of the IPC physician in the antimicrobial stewardship group meetings	99	99	97	96
Procedure for antibiotic prophylaxis in surgery	92 <sup>1</sup>	90 <sup>1</sup>	96 <sup>1</sup>	96 <sup>1</sup>
Audit of the procedure for antibiotic prophylaxis in surgery	64 <sup>1</sup>	54 <sup>1</sup>	63 <sup>1</sup>	40 <sup>1</sup>
Participation in the antibiotic prophylaxis in surgery audit from BAPCOC	77 <sup>2</sup>	/	/	/
Procedure for the prevention of contact/droplet/airborne transmission	99	98	100	100
Audit of the procedure for the prevention of contact/droplet/airborne transmission	53	80	91	80
Procedure to prevent transmission by screening of patients	95	96	99	100
Audit of the procedure to prevent transmission by screening of patients	45	70	77	70
Procedure related to admission of patients who are known MDRO carriers	89	96	97	99
Audit of the procedure related to admission of patients who are known MDRO carriers	39	68	71	66
Procedure for the disinfection of endoscopes	91	92	99	99
Procedure for the disinfection of endocavity ultrasound probes	73 <sup>2</sup>	81 <sup>2</sup>	87 <sup>1</sup>	89
Audit of the procedure for the disinfection of endocavity ultrasound probes	15 <sup>2</sup>	33 <sup>2</sup>	46 <sup>1</sup>	32
A preventive approach regarding the transmission of tuberculosis	94	97	97	97
A preventive approach regarding the risk of Creutzfeldt Jacob disease	72	79	85	89
An approach to prevent the risk of infection related to the management of construction works	91	94	93	97
An approach to prevent the risk of infection related to the cleaning and disinfection of surfaces and non-medical equipment	98	99	97	99
An approach to prevent the risk of infection related to the cleaning and disinfection of non-critical medical materials	89	94	96	99
Risk management plan with regard to the distribution of warm water for sanitary purposes	87	90	96	89
Procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques	88 <sup>1</sup>	89 <sup>1</sup>	91 <sup>1</sup>	88 <sup>1</sup>
Audit of the procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques	38 <sup>1</sup>	55 <sup>1</sup>	61 <sup>1</sup>	45 <sup>1</sup>
Procedure to prevent the risk of infection in delivery rooms	73 <sup>3</sup>	76 <sup>4</sup>	75 <sup>5</sup>	75 <sup>3</sup>
Audit of the procedure to prevent the risk of infection in delivery rooms	22 <sup>3</sup>	36 <sup>4</sup>	42 <sup>5</sup>	40 <sup>3</sup>
<b>Mean proportion</b>	<b>78</b>	<b>83</b>	<b>87</b>	<b>83</b>

BAPCOC, *Belgian Antibiotic Policy Coordination Committee*; MDRO, multidrug resistant organisms; n, number of hospitals; IPC, infection prevention and control; HAI, healthcare-associated infections

<sup>1</sup>This indicator was not applicable in 1 hospital, <sup>2</sup>This indicator was not applicable in 2 hospitals, <sup>3</sup>This indicator was not applicable in 6 hospitals, <sup>4</sup>This indicator was not applicable in 7 hospitals, <sup>5</sup>This indicator was not applicable in 8 hospitals

## RESULTS



MDRO: multidrug resistant organisms

**Figure 8 • Proportion of hospitals meeting the individual activity indicators collected since 2017; process audits, national level, 2017 - 2020**

### 1.4. PROCESS INDICATOR

Only one process indicator was included within the IPC indicators, being the 'total alcohol-based hand rub consumption'.

In 2020, more than 90% of hospitals reported an alcohol-based hand rub consumption that was higher than the 2016 average (Table 12). The median alcohol-based hand rub consumption for 2020 was 79 litres/1,000 hospitalisation days (Table 13).

**Table 12 • Proportion (%) of hospitals meeting the process indicator, national, 2017-2020**

Indicator Description	Belgium			
	2017 (n=103)	2018 (n=102)	2019 (n=98)	2020 (n=73)
Hand rub consumption (litres/1,000 hospitalisation days) ≥ mean in 2016 (24,7 litres/1,000 hospitalisation days)	43	42	55	92

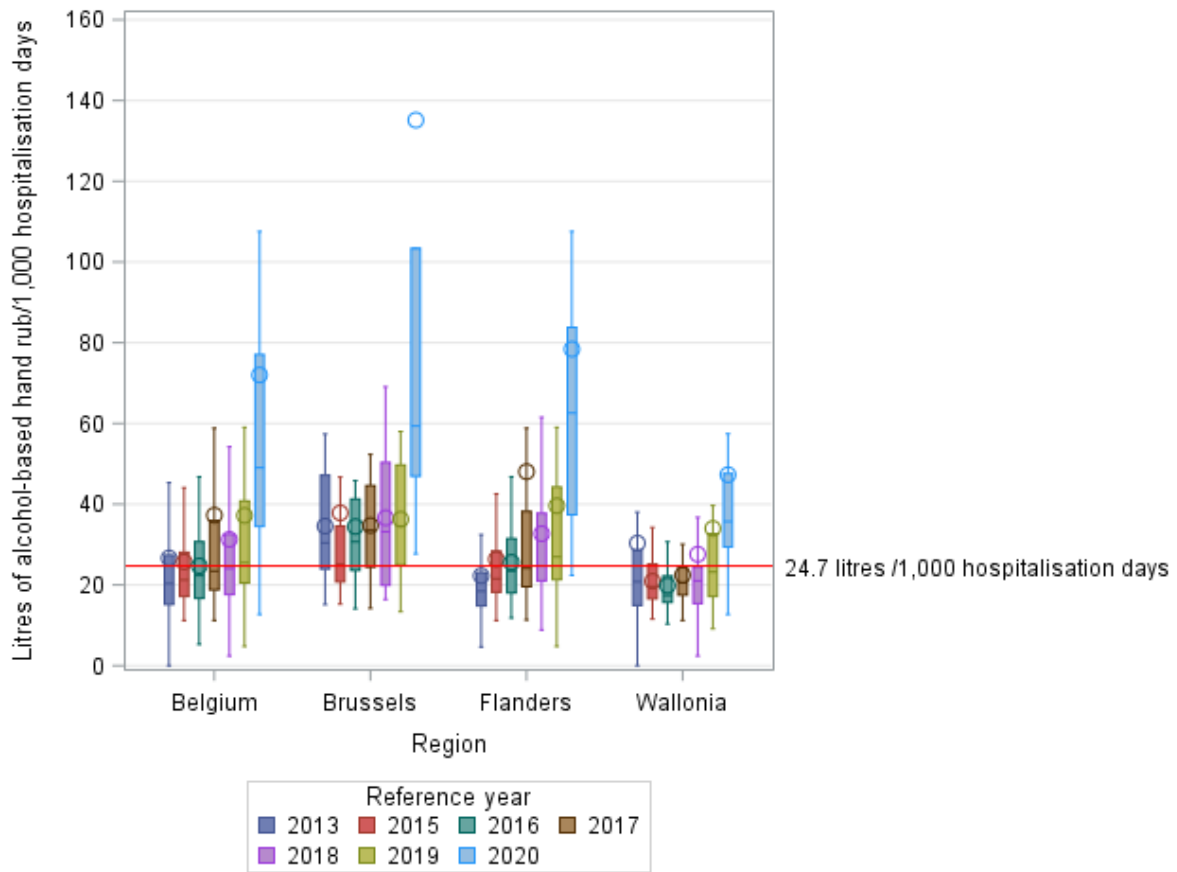
n, number of hospitals

**Table 13 • Median and percentile 25 and 75 for the alcohol-based hand consumption (in litres/1,000 hospitalisation days) in care unites in Belgian hospitals, national level, 2013-2020**

	Belgium						
	2013 n=104	2015 n=103	2016 n=104	2017 n=103	2018 n=102	2019 n=98	2020 n=73
Alcohol-based hand rub consumption, median	20.3 (15.2 – 27.4)	21.3 (17.2 – 28.1)	22.3 (16.7 – 30.7)	23.4 (18.8- 35.9)	24.1 (17.6 – 32.5)	25.5 (20.5 – 40.8)	79.0 (34.5 – 77.0)

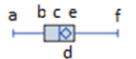
n, number of hospitals

RESULTS



**Figure 15 • Alcohol-based hand rub consumption in care units of Belgian hospitals, national and regional level, 2013 - 2020**

*Legend boxplot: a. maximum (without outliers, 1.5x interquartile range), b. 75th percentile (P75), c. median, d. mean, e. 25th percentile (P25), f. minimum (without outliers, 1.5x interquartile range)*



### 1.5. OVERALL QUALITY SCORE FOR IPC

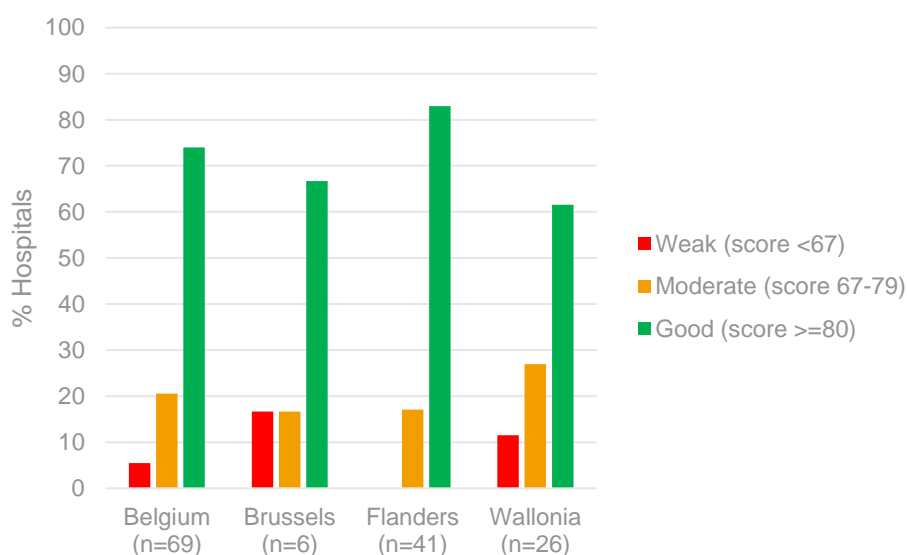
74% of hospitals achieve a good overall IPC quality score (Table 14 and Figure 16). However, there are differences in the quality scores between the regions. In Flanders, 16% and 21% more hospitals achieve a good overall quality score compared to Brussels and Wallonia respectively.

The median overall quality score at the national level is 90, the maximum score is 100 (Table 13). The variation in the overall quality score is shown in a boxplot (Figure 11).

**Table 14 • Median and range of the overall quality score in Belgian hospitals and proportion of hospitals per quality class, national and regional level, 2020**

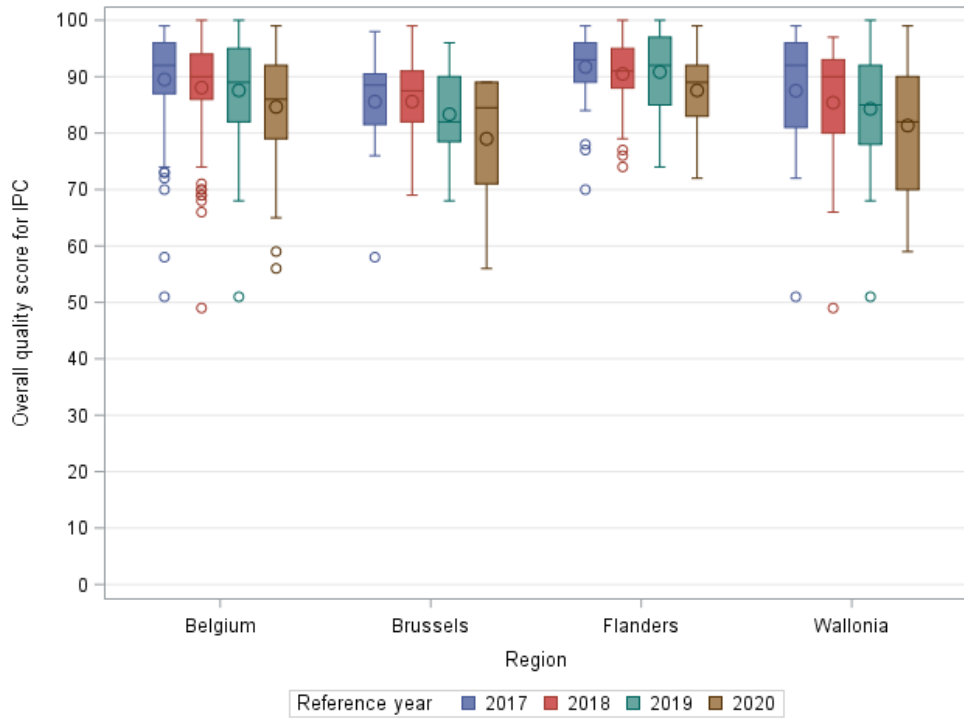
	Belgium 2020 (n=73)	Brussels 2020 (n=6)	Flanders 2020 (n=41)	Wallonia 2020 (n=26)
Median quality score (range) (min.=0 – max.=100)	86 (56 – 99)	85 (56 – 89)	89 (72 - 99)	82 (59 – 99)
<b>Proportion (%) of hospitals per quality class</b>				
Weak (score <67)	5	17	0	12
Moderate (score 67 - 79)	21	17	17	27
Good (score ≥80)	74	67	83	62

n, number of hospitals

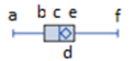


**Figure 16 • Indicators: proportion of hospitals per quality class at national and regional level, 2020**

## RESULTS



**Figure 17 • Indicators: boxplot for quality scores at national and regional level, 2017-2020**  
*Legend boxplot: a. maximum (without outliers, 1.5x interquartile range), b. 75th percentile (P75), c. median, d. mean, e. 25<sup>th</sup> percentile (P25), f. minimum (without outliers, 1.5x interquartile range)*



## 2. Participation in surveillances and audits other than those mentioned in the questionnaire

### 2.1. PARTICIPATION IN A LOCAL SURVEILLANCE SYSTEM FOR HEALTHCARE-ASSOCIATED INFECTIONS/MULTIRESISTANT BACTERIA

Answers to this question included surveillances that were already included in the general list, such as participation in a surveillance of carbapenemase-producing *enterobacteriaceae* (CPE) or *Pseudomonas aeruginosa*. Both are part of the surveillance of multi-resistant Gram-negative bacteria.

Table 15 gives an overview of the most common surveillances that were given as an answer to this open question and that do not appear in the general questionnaire.

**Table 15 • Overview of the most common answers given by the hospitals on the question to which surveillances beside these included in the questionnaire, they participated, Belgium, 2020**

Surveillance related to	Surveillance
1. Infections associated with the use of an invasive device	<ul style="list-style-type: none"> <li>• Catheter-associated urinary tract infections (and urinary tract infections)</li> </ul>
2. Other infecties	<ul style="list-style-type: none"> <li>• Influenza</li> <li>• COVID-19</li> <li>• Norovirus</li> <li>• RSV</li> <li>• <i>Legionella</i></li> </ul>

COVID-19: coronavirus disease by SARS-CoV-2; RSV: respiratory syncytial virus

### 4.2. PARTICIPATION IN LOCAL AUDITS OF HEALTHCARE PROCESSES AND/OR HEALTHCARE-ASSOCIATED INFECTIONS

Again, answers included audits that were already included in the general questionnaire, such as conducting a local hand hygiene audit.

Table 16 gives an overview of the most common audits given as an answer to this open question and that do not appear in the general questionnaire.

**Table 16 • Overview of the most common answers given by the hospitals on the question to which audits beside these included in the questionnaire, they participated, Belgium, 2020**

Audits of	Audit
1. Infrastructure	<ul style="list-style-type: none"> <li>• Kitchen, kitchen on the service and milk kitchen (HACCP)</li> <li>• Cleaning and disinfection</li> <li>• Linens and laundry</li> <li>• Construction, renovation and technical work</li> </ul>
2. Medical Equipment	<ul style="list-style-type: none"> <li>• Endoscopes</li> </ul>
3. IPC guidelines	<ul style="list-style-type: none"> <li>• Basic requirements for hand hygiene and staff clothing<sup>1</sup></li> <li>• COVID-19</li> <li>• Isolation measures</li> <li>• Standard and additional precautions</li> </ul>
4. Other audits	<ul style="list-style-type: none"> <li>• Audits within the framework of accreditation</li> </ul>

<sup>1</sup>An audit of the compliance with the basic requirements is an (optional) part of the hand hygiene campaign and therefore does not belong in this list. Within the VIP<sup>2</sup> project, both internal and external audits are set up to check to what extent the basic requirements for good hand hygiene are being observed. As it is not clear whether the hospitals mean an external or internal audit, the non-mandatory nature of the hand hygiene campaign and the large number of hospitals that gave this answer, this audit has been included in the overview.



# DISCUSSION

Many of the discussion points from the previous reports (2017, 2018 and 2019 data) still apply. These points are addressed to a limited extent in this report.

## 1. Effect of the COVID-19 pandemic on the IPC quality indicator results

Between 15 March 2020 and 30 November 2021 90,130 patients were admitted to a hospital in Belgium due to a laboratory-confirmed COVID-19 infection (6). In addition to providing care to these patients, many COVID-19 related IPC procedures had to be written, implemented and updated and the fight against the COVID-19 pandemic became a priority for all IPC teams and by extension many other healthcare workers. Depending on the situation in the hospital sector, different phases of the Surge Capacity Plan were activated including at some periods the cancellation of routine and planned non-urgent care (7). Support was offered to long-term care facilities and other institutions in need of assistance. All this caused a considerable burden on all Belgian acute hospitals.

The current set of indicators was originally developed to be used three years (up to and including 2019) (4). A project protocol describing a set of indicators to be used for this project from 2020 onwards, is not yet available. Nevertheless, in 2020 due to the COVID-19 pandemic the importance of infection prevention measures such as general precautions (including cough hygiene), the importance of cleaning and disinfection, principles of isolation became very clear. It was therefore decided that the 2019 version of the protocol would continue to be used on a voluntary basis in 2020 and 2021, in order to assess the effect of COVID-19 on these IPC indicators.

Since 2017 a decrease in the median of the overall quality score has been observed. Before 2020 this decrease could be explained by methodological differences (8). However in 2020 the same protocol and scoring as in 2019 was used. Most 2020 findings were similar to 2015-2019 results. At least 95% of the participating hospitals met 33 of the 65 indicators and six of these were met by all hospitals. A decrease of more than 10% was seen in the proportion of hospitals that complied with specific indicators (n=12), of which most were related to auditing (n=10). In the quality indicator project 13 indicators related to auditing were included, which account for 27 out of 100 points. This might explain the decrease in the median of the overall quality score. Recommendations on how hospitals can evaluate and improve their scores (Significant Event Analysis) can be found in the previous report (8).

A decrease has been observed in the proportion of hospitals that complied with an audit for the procedures for contact, droplet or airborne transmission. It is more than worrying that this indicator no longer was set a priority in times of an epidemic with an airborne micro-organism. In 2020 (unlike in 2019), there was no national call to participate in the Global-PPS, a point prevalence study (PPS) on antibiotic use organised by the University of Antwerp and BAPCOC. This may explain the strong decrease in participation in a prevalence study on HAI and antibiotic use.

Despite an increase since 2013, performing a local surveillance of infections in the intensive care units and a local surveillance of surgical site infections still scores weaker compared to the other surveyed surveillances. Compared to 2019, the proportion of hospitals performing these surveillances remains more or less stable. Explanations as to why participation is lower can be found in the previous report (8).

There are several potential effects of the diversion of IPC resources to the COVID-19 response; for example compromised surveillance efforts and compromised process measures (e.g. compliance with hand hygiene) (9). The effect of the COVID-19 pandemic seems to be limited to IPC process measures, as indicators showed a decrease in conducting of IPC related audits. Possible hypotheses for this decrease are (1) time constraints due to additional tasks by the COVID-19 pandemic for the IPC team and the absence of IPC staff due to a COVID-19 infection or quarantine ; and (2) COVID-19 mitigation measures have hindered the implementation of these components hospital wide (9,10). However, the high scores for many indicators indicate that the efforts made by the hospitals in recent years continue to have an effect in 2020.

Despite a decrease in monitoring of HH compliance, an increase in the alcohol-based hand rub consumption (litres / 1,000 hospitalisation days) in care units of the Belgian hospital has been observed (2019: 25.4/ 1,000 hospitalisation days; 2020: 79.0/1,000 hospitalisation days). Alcohol based hand rub consumption can be seen as an indicator of HH compliance (11). Since 2013, alcohol-based hand rub consumption has been increasing annually, but a sharp increase has been observed between 2019 and 2020. This might indicate a possible effect of the COVID-19 pandemic on HH compliance among healthcare workers (HCW). Monitoring HH with direct observation (currently the most common method used) will remain important yet given the need for social distancing to control COVID-19 this strategy is more difficult to implement (9,10). Several studies used electronic HH monitoring systems, mostly to observe HH compliance at entries and exits of patient rooms, to evaluate the impact of the COVID-19 pandemic on HH compliance (12–16). Four of these studies observed an improvement in compliance rates during the COVID-19 pandemic (12–15), but these compliance rates gradually decreased again over time (12,13,15,16). Further follow-up in 2021 is therefore recommended. In 2021, in Belgium, the HH campaign took place, which may give additional information on HH compliance by HCW.

The median of hours for training on IPC provided by the IPC team to the hospital staff, per funded number of FTE for IPC (physicians and nurses) increased, after remaining stable during several years. Several of the participating hospitals indicated that many of the (on the ward) training concerning COVID-19 and frequently changing guidelines were not registered and therefore this might be an underestimation. As in previous years, the vaccination coverage for influenza continued to increase. In literature, an increased willingness among HCWs to be vaccinated for influenza, in the context of the COVID-19 pandemic has been observed (17). Information is lacking to determine whether this increase is due to the effect of the COVID19 pandemic or whether the increase is a continuing effect of the awareness-raising efforts of recent years.

The report following the visit of the European Centre for Disease Prevention and Control (ECDC) to Belgium in 2017 stated that the number of FTE doctors and nurses for IPC was rather low compared to the accepted standards (18). WHO recommends a minimum ratio of one full-time equivalent IPC professional (nurse or doctor) per 250 hospital beds. In the IPC full requirements conditions, they even recommend a ratio of one IPC professional per 100 beds (1). In 2020, 65% of the Belgian hospitals (for who data was available) met this minimal requirement and only 8% had the higher ratio. As mentioned before, the COVID-19 pandemic caused a considerable burden on the hospitals and IPC resources were diverted to the COVID-19 pandemic, in addition to the already increased patient acuity and complexity, the multiple roles and increased responsibilities of the IPC professional (1).

## 2. Strengths and limitations

### 2.1. STRENGTHS

- For 2020, 73 Belgian acute hospitals participated in the quality indicator project, which corresponds to a response rate of 70%. Despite the COVID-19 pandemic and the voluntary basis, participation is good, which can be seen as a strength of this project.
- This indicator set was developed in response to the need to develop IPC programmes in hospitals in a coordinated and project-based way. The protocol and the IPC quality indicators project can be seen as an instrument to enhance the IPC strategy of the federal IPC platform.
- The quality indicator project contains indicators selected and developed at federal level whose results are publicly available. However, the use of these indicators to assess the quality of IPC programmes are widely supported and we feel that this project is initiating improvement of IPC processes within hospitals. This project does not only mobilise the IPC teams within the hospitals, but also the hospital management and even the regional IPC platforms.

### 2.2. LIMITATIONS

- The data provided by the hospitals to compile the indicators have not been and are not being validated to date. The need for data validation was already mentioned in the feasibility study for this project (19) and in the previous reports (8,20–22).
- The quality of the IPC programme in hospitals is in this project mainly evaluated by whether certain tasks that belong to the IPC programme are performed in the hospital or not. The quality of how these tasks are performed and their impact on the IPC and the overall quality of care is not evaluated by this project (22).
- Achieving a good score on predefined IPC indicators does not automatically mean that the IPC related care provided to individual patients and at hospital level is of good quality. Most indicators require further research and validation before it can be stated with certainty that the IPC is 'good' or 'weak' (23,24). It can be questioned whether the use of indicators and quality scores is the best way to measure and improve the quality of care in Belgian hospitals (8,20,21).
- No specific indicators related to prevent the IPC of COVID-19 were added to the protocol. As a result, the protocol might no longer covers fully IPC for HAI. This report shows the impact on the indicators that were available before the COVID-19 pandemic. Through these indicators it was not possible to identify the effect of the COVID-19 pandemic on the workload or on the emotional burden of the IPC teams. Other conducted surveys (e.g. Survey done by Belgian Infection Control Society (BICS), the COVID-19 Health Interview Survey, the COVID-19 HEROES study) may provide additional information.

## 3. Recommendations

### 3.1. RECOMMENDATIONS FOR HOSPITALS

- Continue to register IPC activities and outcomes in order to be able to monitor and improve the quality of the IPC programme within their hospital.

### 3.2. RECOMMENDATIONS FOR THE BAPCOC WORKING GROUP ON 'QUALITY INDICATORS FOR IPC' AND FOR THE RESEARCHERS RESPONSIBLE FOR THE DATA COLLECTION, ANALYSIS AND REPORTING OF THE QUALITY INDICATOR PROJECT (SCIENSANO)

- Define a limited set of indicators that provide the best possible assessment of the IPC quality in the hospital. Important in the choice of these indicators is that they are sensitive enough to detect improvement and differences in IPC quality and to identify weaker performances. A first step could be a systematic literature review.

- Investigate how a new set of indicators should look like and develop a new protocol. Suggestions were given in the previous reports. Many hospitals comply with a high number of the current indicators for several years and most indicators remain stable. Now that the most quality indicators have been implemented in many hospitals, it may be possible to look more in depth to certain aspects (per theme) in order to further improve IPC management and implement more detailed indicators.
- Examine the extent to which data collected in other quality projects can be coordinated and integrated within this IPC quality indicator project, in order to reduce the workload of staff and to improve the efficiency of healthcare quality measurement. Additional research is needed for this.
- Investigate the extent to which the selected indicators can be harmonised with the minimal requirements for IPC programmes proposed by the World Health Organisation (WHO) (1).
- Assess how the protocol for the surveillance of post-operative wound infections can be made more user friendly and feasible to implement, to enhance participation in this surveillance (local and/or national). Assess how the lack of resources/time to participate in the surveillance of intensive care unit infections and post-operative wound infections can be addressed.
- Examine what could explain the differences in vaccination coverage among nurses, midwives and nursing assistants for influenza between different regions and hospitals.
- Continue to improve and optimise the data collection tool (Healthdata) and the online reporting platform with individual feedback reports at hospital level (Healthstat).

### 3.3. RECOMMENDATIONS FOR POLICY MAKERS

- Assess whether the current legislation regarding the number of fulltime equivalents (FTE) physicians and nurses assigned to IPC should be revised and adapted to current IPC needs in Belgium.
- Support the development and implementation of an external quality control (validation) of the data collected for the IPC indicator project. This external quality control could be conducted by Sciensano in collaboration with the BAPCOC working group 'Quality indicators for IPC'.
- Integration of the quality indicator project in one general project on measuring and improving the quality of care in the hospital in order to reduce the workload of staff and to promote efficiency in care quality measurement. Improving cooperation at all (policy) levels can contribute to an integrated approach and vision.
- Continuing to support this IPC quality indicator project so that the quality of the IPC programme within hospitals can be further monitored and improved. The current COVID-19 crisis emphasizes the importance of strengthening and supporting a well-functioning IPC policy and management at national and hospital level.

# CONCLUSION

A set of quality indicators was developed to measure and evaluate the quality of the programme for the prevention and control of healthcare-associated infections in hospitals. The project mainly uses structure and process indicators. This set of indicators fulfils the objective of the project by giving an overview of the presence or absence of conditions necessary to minimise HAIs.

The current COVID-19 crisis emphasises the importance of strengthening and supporting a well-functioning IPC policy and management at national and hospital level. It is therefore important to continue this registration and reporting in order to evaluate the effect of the COVID-19 crisis on the quality of care and infection prevention and control in hospitals and, if necessary, to formulate measures, guidelines and actions to adjust and optimise the quality of care and IPC policy and management in times of health crisis.

Despite the COVID-19 pandemic, at least 95% of the participating Belgian hospitals met half of the IPC related activities measured by the project indicators in 2020. Less implemented IPC core measures were often related to auditing for which between 2019 and 2020 a clear decrease was observed. Possible hypotheses for this decrease are (1) time constraints due to additional tasks by the COVID-19 pandemic for the IPC team and the absence of IPC staff due to a COVID-19 infection or quarantine; (2) COVID-19 mitigation measures have hindered the implementation of these components hospital wide. Since the COVID-19 pandemic, a sharp increase in the consumption of alcohol-based hand rub has also been observed. Through this registration we could not verify if this implied better hand hygiene compliance.

# VISION OF THE FEDERAL PLATFORM FOR HOSPITAL HYGIENE (BAPCOC) AND THE FPS OF HEALTH, FOOD CHAIN SAFETY AND ENVIRONMENT

## 1. Nederlandstalige versie

Dit verslag over kwaliteitsindicatoren bevestigt de bevindingen van voorgaande jaren en toont aan dat de meeste ziekenhuizen de IPC-vereisten geleidelijk aan implementeren.

We kunnen het onmogelijk hebben over de infectiepreventie en -bestrijding van de voorbije twee jaar zonder te spreken over de grote impact die de pandemie heeft gehad, zowel op de werklust van de gezondheidswerkers als op de uitputting van de teams. Ondanks het feit dat er bij uitzondering vrijwillig aan het project kon worden deelgenomen, heeft toch 70% van de Belgische acute ziekenhuizen gereageerd. De resultaten van deze gegevensverzameling tonen aan dat sommige programma's in de loop van dit pandemiejaar zijn stopgezet, zoals blijkt uit de matige score van de activiteitsindicatoren. Er dient onderstreept dat dit in hoofdzaak een weerspiegeling is van de overheveling van beschikbare middelen binnen de instellingen zelf, die dan voor het beheer van de covidcrisis werden ingezet. Bovendien kon met deze verzameling van indicatoren geen aandacht gaan naar de vele bijkomende activiteiten van de Infection Control teams, zoals covid-surveillance, opleiding in beschermingsmiddelen, tracing en vaccinatie, om er maar een paar te noemen.

Dat brengt ons onvermijdelijk bij de kwestie van de kwaliteitsindicatoren. Nu zou het nuttig zijn om te bekijken of er enerzijds indicatoren met meer geavanceerde vereisten geselecteerd kunnen worden en of er anderzijds een systeem van externe validering door de bevoegde autoriteiten kan worden ingevoerd.

Dit zou moeten resulteren in een meer nauwkeurige analyse van zowel de verbeteringen als de vastgestelde moeilijkheden en zou de invoering van een betere surveillancecultuur in het algemeen moeten bevorderen.

De FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu (FOD VVVL) heeft van zijn kant een Belgisch nationaal actieplan 'One Health' opgezet om antimicrobiële resistentie te bestrijden (NAP-AMR) en dat werd op 17 november 2021 gevalideerd.

Dit nationale actieplan bestaat uit tien strategische krachtlijnen, waarvan het eerste 'Infectiepreventie en -bestrijding' is. Deze krachtlijn is gericht op het uitwerken en stimuleren van preventieve of curatieve maatregelen waarmee infecties voorkomen of bestreden kunnen worden en waarmee dus zorggerelateerde infecties en bijgevolg ook het gebruik van antimicrobiële middelen beperkt kunnen worden.

Om daartoe bij te dragen heeft de FOD Volksgezondheid ook 'Hospital Outbreak Support Team'-proefprojecten (HOST) gelanceerd op het niveau van locoregionale ziekenhuisnetwerken. Die projecten zullen er met name op gericht zijn de programma's voor ziekenhuishygiëne en IPC te harmoniseren en een gecoördineerde transmurale en transversale aanpak uit te werken met de bedoeling de expertise van de ziekenhuizen te delen met de actoren van de eerstelijnszorg en de residentiële collectiviteiten. Het tweede jaar van het project is gericht op surveillance. Het lijkt geen twijfel dat de inzet van HOST's zal bijdragen tot de ondersteuning van infectiepreventieprogramma's omdat die zo extra middelen krijgen waarmee omkaderingsnormen gehaald zouden moeten kunnen worden die meer in overeenstemming zijn met de internationale aanbevelingen. De reikwijdte van deze projecten zou ook de samenwerking tussen gezondheids- en zorginstellingen moeten bevorderen.

De aanbevelingen van Sciensano worden gesteund door zowel het Directoraat-generaal Gezondheidszorg als BAPCOC.

## 2. Version en français

Ce rapport sur les indicateurs de qualité corrobore les conclusions des précédentes années et démontre l'implémentation progressive par la plupart des hôpitaux des exigences requises en IPC.

On ne peut parler de la prévention et de la maîtrise des infections de ces dernières deux années sans évoquer l'impact majeur qu'a eu la pandémie, tant sur la charge de travail des professionnels de la santé que sur l'épuisement des équipes. Cependant, malgré l'aspect exceptionnellement volontaire de la participation au projet, 70% des hôpitaux aigus belges ont répondu présents. Les résultats de cette collecte montrent au cours de cette année de pandémie l'abandon de certains programmes comme en témoigne le score moyen des indicateurs d'activité. Il est important de souligner que ceci reflète essentiellement le détournement des ressources disponibles vers la gestion de la crise covid à l'intérieur des institutions elles-mêmes. De surcroît cette collecte d'indicateurs n'a pas pu mettre en lumière les très nombreuses activités supplémentaires assumées par les équipes d'Infection Control telles que la surveillance du covid, la formation aux équipements de protection, le tracing, la vaccination pour n'en nommer que quelques-unes.

Cela nous mène inévitablement à la question des indicateurs de qualité. À présent, il serait utile d'envisager de procéder à la sélection d'indicateurs aux exigences plus avancées d'une part et d'autre part à la mise en place d'un système de validation externe par des autorités compétences.

Cela devrait avoir pour résultat d'analyser plus sensiblement tant les améliorations que les difficultés constatées ainsi que d'encourager l'instauration d'une meilleure culture de surveillance de manière générale.

De son côté, le SPF Santé publique, Sécurité de la chaîne alimentaire et Environnement (SPF SPSCAE) a mis en place un plan d'action national belge « One Health » de lutte contre la résistance aux antimicrobiens (NAP-AMR) validé le 17 novembre 2021.

Ce plan d'action national se compose de dix axes stratégiques dont le premier est la « Prévention et le contrôle des infections ». Cet axe vise à développer et stimuler la mise en place de mesures préventives ou curatives qui permettent de prévenir ou de lutter contre les infections et donc de limiter les infections associées aux soins et en corollaire le recours aux antimicrobiens.

Pour y contribuer, le SPF Santé publique a également lancé des projets-pilotes Hospital Outbreak Support Team (HOST) au niveau des réseaux hospitaliers locorégionaux. Ces projets auront pour mission notamment d'harmoniser les programmes d'hygiène hospitalière, d'IPC, et de développer une approche transmurale et transversale coordonnées dans un but de partage de l'expertise des hôpitaux envers les acteurs de soins de première ligne, et les collectivités résidentielles. La seconde année de pilotage du projet vise à mettre l'accent sur les surveillance. Nul doute alors que le déploiement des HOST contribuera à soutenir les programmes de prévention des infections en leur donnant accès à des ressources supplémentaires qui devraient leur permettre d'atteindre des normes d'encadrement plus conformes aux recommandations internationales. Le périmètre de ces projets devrait également stimuler la collaboration entre institutions de soins et de santé.

De ce qui est des recommandations de Sciensano, celles-ci sont soutenues tant par la Direction générales des soins de santé que de BAPCOC.

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