

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

**Supplement report 2021**

# WHO WE ARE

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Sciensano can count on more than 850 staff members who commit themselves, day after day, to achieve 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.

## Sciensano

Epidemiology and public health - Healthcare-associated infections and antimicrobial resistance

### Indicators for infection prevention and control

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#### In collaboration with

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

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## RESULTS ON REGIONAL LEVEL

The median and range of the quality score of the various indicator groups and the total quality score, as well as the percentage of hospitals per quality class at the regional level, are presented in the report 'Indicators for infection prevention and control in acute care hospitals'. In this supplement, the percentage of hospitals complying with each individual indicator is shown per region (Table 1 to 9).

Differences can be seen between the regions for a number of indicators. For example, in Brussels, more training hours are recorded by the IPC team for hospital staff and there are more participants in these courses than in Flanders and Wallonia (Table 3). Also, the median alcohol-based hand rub consumption per 1,000 hospitalisation days is higher in Brussels hospitals and in Flemish compared to Walloon hospitals in 2020 (Table 9). Vaccination rates for nurses, midwives and nursing auxiliaries are higher in Flanders as in Brussels and Wallonia (Table 7).

**Table 1 • Proportion (%) of hospitals meeting each individual organisation indicator, regional level, 2013 - 2020**

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
Presence of a general long-term strategic plan (3-5 years) for IPC, approved by the IPC committee	67	83	100	100	100	100	83	93	100	100	98	96	100	98	63	97	100	100	100	100	100
The general strategic plan for IPC is integrated in the strategic plan of the hospital	25	67	83	92	75	75	50	56	76	87	89	89	100	98	21	62	65	81	76	80	81
The number of meetings for the IPC committee ≥4 per year	100	100	100	100	100	100	100	89	100	98	100	98	100	78	97	100	97	100	97	100	73
Presence of a detailed action plan for IPC, approved by the IPC committee	67	92	100	100	100	100	100	96	100	100	100	100	100	100	79	95	97	100	95	97	92
Presence of an annual report, approved by the IPC committee	75	100	92	100	100	100	100	96	100	100	100	100	98	93	76	100	100	100	100	100	100
The IPC nurse(s) is/are part of the nursing middle management	67 <sup>1</sup>	100 <sup>1</sup>	100 <sup>1</sup>	92	92	83	83	89 <sup>1</sup>	91 <sup>1</sup>	95 <sup>1</sup>	93	94	96	95	92 <sup>1</sup>	97 <sup>1</sup>	95 <sup>1</sup>	92	95	97	96
<b>Mean proportion</b>	<b>67</b>	<b>90</b>	<b>96</b>	<b>97</b>	<b>95</b>	<b>93</b>	<b>86</b>	<b>87</b>	<b>95</b>	<b>97</b>	<b>97</b>	<b>96</b>	<b>99</b>	<b>94</b>	<b>97</b>	<b>97</b>	<b>71</b>	<b>96</b>	<b>94</b>	<b>96</b>	<b>93</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

**Table 2 • Proportion (%) of hospitals meeting each individual resource indicator, regional level, 2013 - 2020**

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
The effective number of IPC physicians ≥ 90% of the funded number (expressed in number of FTE)	75	83	75	75	83	92	100	87	91	98	96	96	92 <sup>2</sup>	95	74	84	84	89	92	89	88
The effective number of IPC nurses ≥ 90% of the funded number (expressed in number of FTE)	92	92	92	100	100	100	100	98	96	98	94	92	96 <sup>2</sup>	100	84	84	78	89	89	89	92
Presence of referents for infection control	92	92	100	100	100	100	100	85	94	98	98	100	100	100	97	100	100	100	100	100	100
Number of referents in ICU / number of ICU ≥ 1	75	92	100	100	100	100	100	72	87	93 <sup>1</sup>	96	100	100	100	92 <sup>1</sup>	97 <sup>1</sup>	97 <sup>1</sup>	95 <sup>1</sup>	97 <sup>1</sup>	97 <sup>1</sup>	96 <sup>1</sup>
Number of referents in units (including ICU) / number of units (including ICU) ≥ 1	75	83	100	92	92	100	100	57	76	85	91	91	92	90	74	89	95	97	95	91	92
<b>Mean proportion</b>	<b>82</b>	<b>88</b>	<b>93</b>	<b>93</b>	<b>95</b>	<b>98</b>	<b>100</b>	<b>80</b>	<b>89</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>96</b>	<b>97</b>	<b>85</b>	<b>91</b>	<b>91</b>	<b>94</b>	<b>95</b>	<b>93</b>	<b>94</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 missing for 1 hospital

**Table 3 • Median and percentile 25 and 75 for the three numeric indicators belonging to the resource indicator group, national level, 2013-2020**

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=50	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
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)	32 (20-144)	35 (23-36)	31 (26-38)	34 (25-48)	34 (24-56)	31 (22-45)	45 (13-70)	12 (7-28)	19 (11-41)	19 (12-30)	20 (12-26)	15 (10-34)	18 (11-32)	33 (7-70)	17 (11-26)	20 (13-28)	19 (12-33)	19 (11-31)	18 (12-28)	17 (12-33)	37 (15-79)
Number of participants in these trainings, per funded number of FTE for IPC (physicians and nurses)	279 (192-362)	250 (160-393)	360 (241-443)	419 (235-608)	435 (209-470)	347 (190-492)	410 (286-431)	193 (111-318)	266 (152-384)	311 (146-500)	299 (244-468)	238 (140-404)	295 (153-452)	276 (168-661)	175 (61-265)	205 (105-313)	146 (99-238)	151 (107-287)	140 (93-318)	130 (53-305)	233 (67-460)
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 (0-0.3)	0 (0-4.4)	0 (0-6)	1.2 (0-20)				2 (0-91)	0.2 (0-57)	19 (0-99)	14 (0-77)				0 (0-0.5)	0 (0-0)	0 (0-19)	0 (0-35)

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

**Table 4 • 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	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=11	2020 n=5	2013 n=54	2015 n=54	2016 n=55	2017 n=51	2018 n=49	2019 n=47	2020 n=41	2013 n=35	2015 n=35	2016 n=37	2017 n=37	2018 n=33	2019 n=30	2020 n=22
Number of beds per full-time equivalent IPC professional (nurse or doctor) (median + IQR)	248 (128 - 320)	216 (113 - 302)	258 (151 - 326)	220 (152 - 338)	298 (152 - 338)	290 (127 - 324)	122 (120 - 182)	221 (162 - 301)	204 (157 - 298)	207 (149 - 316)	214 (157 - 301)	213 (164 - 305)	226 (178 - 316)	237 (178 - 316)	201 (107 - 283)	201 (104 - 257)	199 (128 - 264)	199 (130 - 268)	214 (113 - 271)	190 (106 - 263)	188 (104 - 238)
Number of beds per full-time equivalent IPC professional (nurse or doctor) ≤250 (proportion of hospitals)	50%	50%	50%	50%	33%	36%	80%	59%	63%	60%	59%	61%	60%	55%	69%	74%	68%	67%	67%	70%	77%
Number of beds per full-time equivalent IPC professional (nurse or doctor) ≤100 (proportion of hospitals)	8%	8%	0%	17%	0%	0%	0%	4%	7%	7%	6%	4%	6%	3%	17%	20%	16%	8%	15%	17%	18%

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

**Table 5 • Proportion (%) of hospitals meeting each individual activity indicator for the indicators also collected in all previous data sets, regional, 2013 - 2020**

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
<b>1. Meetings</b>																					
Participation of the management in the meetings of the IPC Committee	100	100	100	92	100	100	100	93	91	95	96	96	100	95	97	97	100	97	97	94	100
Participation of the infection control team in the meetings of the regional platform for IPC	92	100	83	100	100	83	100	96	89	89	96	94	96	98	97	97	100	95	100	100	100
<b>2. Surveillances</b>																					
MRSA (local)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	100	100	100	100	100	100
MRSA (national)	100	100	100	100	100	100	100	100	100	100	98	100	100	100	97	100	100	100	100	94	85
Bloodstream	92	100	100	100	100	100	100	89	100	100	98	100	100	100	92	100	100	97	100	100	96

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
infections (local)																					
Bloodstream infections (national)	92	100	100	100	100	100	100	83	100	100	96	100	100	100	84	97	97	97	100	94	92
Multi-resistant Gram-negative bacteria (local)	92	100	100	100	100	100	100	91	100	100	98	100	100	100	84	100	100	100	100	100	96
Multi-resistant Gram-negative bacteria (national)	75	100	100	100	100	100	100	80	100	100	96	100	100	98	58	97	100	100	100	94	81
Toxigenic <i>Clostridioides difficile</i> infections (local)	92	100	100	92	100	100	100	100	98	100	98	100	100	100	95	95	95	100	100	94	96
Infections in Intensive Care Units (local)	42	58	75	58	75	50	33	69	83	84	89	89	88	88	34	49	51	51 <sup>1</sup>	54 <sup>1</sup>	54 <sup>1</sup>	65 <sup>1</sup>
Surgical site infections (local)	50	58	67	50	33	42	33	19	50	56	69	66	73	66	8	19	32	46 <sup>1</sup>	57 <sup>1</sup>	49 <sup>2</sup>	50 <sup>1</sup>
Vancomycin-resistant enterococci (local)	67	100	100	100	100	100	100	67	94	95	93	96	98	100	74	92	97	97	100	100	100
Other surveillances (local)			67	58	67	50	83			76	74	77	73	71			51	62	62	60	54
Presence of a systematic interaction between the laboratory and the IPC team (warning system)	100	100	100	100	100	100	100	100	98	100	100	100	100	100	92	97	97	97	100	100	100
<b>3. Process audits</b>																					
Audit of the procedure for the prevention of central line-associated bloodstream infections (CLABSI)	33	58	67	50	83	83	67	39	54	69	54	74	90	73	29	68	78	57	78	86	73
Audit of the procedure for the prevention of catheter-associated urinary tract infections (CAUTI)	17	67	58	67	67	67	67	22	39	58	50	70	78	68	16	70	81	68	81	80	62
Audit of the procedure	42	42	42	25 <sup>1</sup>	42	42	33	67	76	80	63	66	82	59	45	57	57	30 <sup>1</sup>	57 <sup>1</sup>	83 <sup>1</sup>	46 <sup>1</sup>

Indicator Description	Brussels							Flanders							Wallonia						
	2013 n=12	2015 n=12	2016 n=12	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2013 n=54	2015 n=54	2016 n=55	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2013 n=38	2015 n=37	2016 n=37	2017 n=37	2018 n=37	2019 n=35	2020 n=26
for the prevention of infections related to invasive mechanical ventilation																					
Audit of the procedure for the prevention of SSI	33	58	67	331	58	50	50	22	46	44	43	57	61	42	8	32	38	22 <sup>1</sup>	51 <sup>1</sup>	55 <sup>1</sup>	38 <sup>1</sup>
Other audits related to IPC			75	67	83	67	33			47	76	79	86	83			81	57	41	40	42
<b>4. National campaign/prevalence study</b>																					
Participation in the national campaign "You're in good hands".	92	100	100	100	100	92	/	96	98	96	98	100	96	/	92	89	95	100	97	100	/
Local audits related to hand hygiene compliance (outside the national campaign)	42	67	100	75	83	83	67	63	89	84	87	87	90	78	26	68	76	84	78	77	62
At least 150 hand hygiene opportunities (outside the national campaign) have been reported.	33	67	100	67	75	83	67	54	69	76	70	81	71	63	21	43	62	81	70	69	50
<b>Mean proportion</b>	<b>56</b>	<b>78</b>	<b>86</b>	<b>81</b>	<b>85</b>	<b>81</b>	<b>78</b>	<b>71</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>88</b>	<b>90</b>	<b>85</b>	<b>46</b>	<b>67</b>	<b>78</b>	<b>88</b>	<b>84</b>	<b>83</b>	<b>76</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

**Table 6 • Proportion (%) of hospitals meeting each individual activity indicator for the indicators collected since 2017, national, 2017 - 2020**

Indicator Description	Brussels				Flanders				Wallonia			
	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2017 n=37	2018 n=37	2019 n=35	2020 n=26
<b>3. Process audits</b>												
Approach for optimizing the choice of venous vascular access	58	92	92	83	63	74	78	83	68	76	83	88
Procedure for the prevention of central line-associated bloodstream infections	100	100	92	83	91	98	100	100	84	89	94	92



Indicator Description	Brussels				Flanders				Wallonia			
	2017 n=12	2018 n=12	2019 n=12	2020 n=6	2017 n=54	2018 n=53	2019 n=51	2020 n=41	2017 n=37	2018 n=37	2019 n=35	2020 n=26
Procedure for the prevention of catheter-associated urinary tract infections	92	92	92	83	87	89	94	98	95	92	94	96
Procedure for the prevention of infections related to invasive mechanical ventilation	58	83	100	100	94	94	96	93	70 <sup>1</sup>	81 <sup>1</sup>	83 <sup>1</sup>	81 <sup>1</sup>
Procedure for the prevention of surgical site infections	67	83	82	83	80	87	90	90	81 <sup>1</sup>	81 <sup>1</sup>	77 <sup>1</sup>	73 <sup>1</sup>
<b>4. National campaign/ prevalence study</b>												
Participation in the point prevalence study related to HCAI and antimicrobial use	75	33	67	50	78	47	59	27	81	43	74	31
<b>5. Other</b>												
Information for the patient regarding the risk of infections	75	75	83	83	100	100	96	98	95	95	97	96
Approach for the prevention of accidental blood exposure	100	100	100	100	98	100	100	100	95	97	97	92
Procedure for the management of accidental blood exposure	100	100	100	100	100	100	100	100	95	97	91	96
An influenza vaccination campaign for staff	100	100	100	100	100	98	100	100	100	100	100	100
Participation of the IPC team in the medical devices committee meetings	100	100	100	100	94	98	98	98	89	97	97	92
Participation of the IPC physician in the antimicrobial stewardship group meetings	100	100	75	67	100	100	100	98	97	97	100	100
Procedure for antibiotic prophylaxis in surgery	83	83	100	83	98	100	100	100	87 <sup>1</sup>	78 <sup>1</sup>	89 <sup>1</sup>	92 <sup>1</sup>
Audit of the procedure for antibiotic prophylaxis in surgery	50	25	17	0	76	66	73	44	51 <sup>1</sup>	46 <sup>1</sup>	66 <sup>1</sup>	42 <sup>1</sup>
Participation in the antibiotic prophylaxis in surgery audit from BAPCOG	75	/	/	/	81	/	/	/	70 <sup>2</sup>	/	/	/
Procedure for the prevention of contact/droplet/airborne transmission	92	100	100	100	100	100	100	100	100	95	100	100
Audit of the procedure for the prevention of contact/droplet/airborne transmission	50	75	92	50	72	89	96	88	27	70	83	73
Procedure to prevent transmission by screening of patients	92	92	100	100	96	94	98	100	95	100	100	54
Audit of the procedure to prevent transmission by screening of patients	42	58	75	33	67	83	86	85	14	54	63	54
Procedure related to admission of patients who are known MDRO carriers	75	92	83	100	93	96	98	100	89	97	100	96
Audit of the procedure related to admission of patients who are known MDRO carriers	25	33	50	33	56	89	86	80	19	49	57	50
Procedure for the disinfection of endoscopes	83	92	100	100	94	96	100	100	89	87	97	96
Procedure for the disinfection of endocavity ultrasound probes	58	83	100	100	72 <sup>2</sup>	75 <sup>2</sup>	78	83	78	89	94 <sup>1</sup>	96
Audit of the procedure for the disinfection of endocavity ultrasound probes	8	25	42	33	19 <sup>2</sup>	42 <sup>2</sup>	51	29	11	89	37 <sup>1</sup>	35
A preventive approach regarding the transmission of tuberculosis	100	100	100	100	96	100	100	100	89	92	91	92
A preventive approach regarding the risk of Creutzfeldt Jacob disease	67	75	83	83	72	79	86	95	73	81	83	81
An approach to prevent the risk of infection related to the management of construction works	92	83	92	100	100	98	98	100	78	92	89	92
An approach to prevent the risk of infection related to the cleaning and disinfection of surfaces and non-medical equipment	83	92	92	83	100	100	100	100	100	100	94	100
An approach to prevent the risk of infection related to the cleaning and disinfection of non-critical medical materials	50	92	100	100	98	98	98	100	89	89	91	96
Risk management plan with regard to the distribution of warm water for sanitary purposes	92	92	83	67	98	100	100	98	70	76	94	81
Procedure to prevent the risk of infection in operating rooms and rooms for interventional techniques	75	75	83	67	98	98	100	98	78 <sup>1</sup>	81 <sup>1</sup>	80 <sup>1</sup>	77 <sup>1</sup>



Hand consumption, median	rub	30.4 (23.9 - 47.2)	25.1 (20.8 - 34.6)	30.7 (23.6 - 41.2)	33.6 (24.5 - 44.6)	33.2 (20.0 - 50.4)	34.6 (24.9 - 49.7)	59.4 (47.0 - 103.4)	18.5 (14.8 - 23.1)	21.5 (18.2 - 28.3)	23.5 (18.0 - 31.4)	24.1 (19.6 - 38.2)	24.7 (21.0 - 37.7)	27.0 (21.3 - 44.2)	62.6 (37.4 - 83.8)	20.8 (14.9 - 28.7)	19.6 (16.6 - 25.2)	17.4 (15.7 - 22.2)	20.5 (17.5 - 24.5)	21.0 (15.4 - 24.5)	23.2 (17.2 - 32.7)	35.7 (29.4 - 47.6)
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n, number of hospitals



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## MORE INFORMATION

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