**Additional file 1**

Table e1. General characteristics of 1,442 hospitals in the Korean national IPC survey.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Characteristics |  | Tertiary hospital(n=42) | General hospital(n=260) | Hospital(n=167) | Long-term care hospital(n=973) |
| Response rate (%) |  | 100.0 | 87.2 | 61.4 | 65.0 |
| Location | Seoul and greater Seoul metropolitan area | 21(50.0) | 105(40.3) | 50(29.9) | 295(30.3) |
| Other | 21(50.0) | 155(59.7) | 117(70.1) | 678(69.7) |
| Number of hospital beds | Less than100 | - | - | 59(35.3) | 104(10.7) |
| 100~200 | - | 27(10.3) | 67(25.7) | 612(62.9) |
| 201~400 | - | 154(59.2) | 36(13.8) | 213(21.9) |
| More than 401 | 42(100.0) | 79(30.3) | 5(1.9) | 44(4.5) |

**Additional file 2**

Table e2. Results of the Korean national IPC survey in 1,442 hospitals in South Korea.

|  |  |  |
| --- | --- | --- |
| Survey questions  | Answer | Number (%) |
| Tertiary hospital(n=42) | General hospital(n=260) | Hospital(n=167) | Long-term care hospital(n=973) |
| **Component(1) : IPC teams and programs** |
| Availability of an IPC team  | Yes(Available) | 42(100.0) | 251(96.5) | 37(22.1) | 62(6.3) |
| Availability of an IPC program  | Yes(Available) | 42(100.0) | 249(95.8) | 56(33.5) | 745(76.6) |
| **Component(2) : IPC committee** |  |  |  |  |  |
| Availability of an IPC committee  | Yes(Available) | 42(100.0) | 257(98.8) | 64(38.3) | 704(72.4) |
| Number of IPC committee meetings held per year | 0~1 | 0(0.0) | 4(1.6) | 6(9.4) | 35(5.0) |
| 2 | 6(14.3) | 83(32.3) | 22(34.4) | 296(42.0) |
| 3 or more | 36(85.7) | 170(65.3) | 36(21.5) | 373(38.3) |
| Do you feel that committee meetings are helpful? | Yes | 42(100.0) | 234(90.0) | 48 (28.7) | 630 (64.7) |
| No | 0(0.0) | 23(8.8) | 16 (9.5) | 74 (7.6) |
| Not replied | 0(0.0) | 3(1.2) | 103(61.8) | 269 (27.7) |
| **Component (4) : IPC training and education** |
| Mode of IPC training (percentage to total number of training sessions, multiple answers allowed) | oral instruction | 88.9 | 86.7 | 77.0 | 61.6 |
| e-learning | 9.8 | 9.5 | 13.9 | 37.2 |
| interactive | 25.2 | 14.9 | 8.1 | 12.3 |
| Ongoing education for IPC staff (average hours of received education per year) | Doctors | 21.67 | 21.26 | 5.20 | 6.57 |
| Nurses | 44.82 | 46.10 | 12.97 | 12.15 |
| What do you think is the most effective mode of capacity building in IPC? | Exchange and collaboration between institutions | 19(45.2) | 194(74.6) | 108(64.7) | 583(59.9) |
| Participation in conferences etc. | 42(100.0) | 243(93.5) | 85(50.9) | 552(56.7) |
| Literature review | 38(90.5) | 131(50.4) | 31(18.6) | 161(16.5) |
| **Component (5) : IPC surveillance** |  |  |  |  |  |
| Participation in the Korean National Healthcare-associated Infections Surveillance (KONIS) | Yes | KONISICU survey | 42(100.0) | 162(62.3) | 5(3.0) | 12(1.2) |
| KONISSSI survey | 42(100.0) | 155(59.6) | 5(3.0) | 5(0.5) |
| No | none | 90(34.6) | 160(95.8) | 957(98.4) |
| Active surveillance culture in ICU | Yes | 33(78.6) | 162(73.0) | 8(40.0) | 4(25.0) |
| Surveillance conducted for: | SSI | 42(100.0) | 176(69.6) | 77(57.0) | 46(4.9) |
| Bloodstream infections | 42(100.0) | 206(81.4) | 40(29.6) | 114(12.1) |
| Urinary tract infections | 42(100.0) | 216(85.4) | 46(34.1) | 238(25.2) |
| Pneumonia | 42(100.0) | 205(81.0) | 51(37.8) | 196(20.7) |
| **Component (6) : Staffing** |  |  |  |  |  |
| Availability of at least one full-time IPC professional | Full-time IPC nurse | 42(100.0) | 255(98.1) | 112(67.0) | DNA |
| Years of previous work experience as IPC professional(years) | Full-time IPC nurse | 3.3 | 3.0 | 2.8 | 2.4 |
| Average number of doctors and nurses in the IPC team (number) | Doctors | 4.74 | 1.66 | 0.91 | 0.68 |
| Nurses | 7.31 | 2.23 | 0.95 | 1.00 |
| **Component (7) Equipments and built environment** |
| PPE and IPC facilities in isolation rooms within ICU (percentage among hospitals with isolation rooms within ICU) | Masks | 42(100.0) | 221(99.5) | 17(85.0) | 16(100.0) |
| Alcohol-based hand rub | 42(100.0) | 221(99.5) | 20(100.0) | 16(100.0) |
| hand hygiene station | 41(97.6) | 175(78.8) | 6(30.0) | 5(31.2) |
| Hand hygiene stations | Average number of patients per station | 1.6 | 2.8 | 4.1 | 6.8 |
| Isolation rooms (negative pressure) in ER | Average number of isolation rooms in ER | 2.4 | 0.6 | DNA | DNA |
| Injection safety: area where fluid/injections are prepared before administration† | Sterile compound/ clean rooms | 10(23.8) | 9(3.5) | 1(0.6) | 11(1.1) |
| Dedicated/separate preparation area in wards | 28(66.7) | 167(64.2) | 116(69.5) | 483(49.6) |
| Other areas | 4(9.5) | 84(32.3) | 50(29.9) | 479(49.3) |
| Bed spacing in ICU (meters) | Average distance between patient beds  | 1.8 | 1.6 | DNA | DNA |
| **Component (8) : IPC activities** |  |  |  |  |  |
| Monitoring IPC practices  | Hand hygiene | 41(97.6) | 235(92.9) | 121(89.6) | 935(98.8) |
| Transmission-based precautions | 37(88.1) | 149(58.9) | 49(36.3) | 186(19.7) |
| Surgical scrub | 40(95.2) | 204(78.5) | 123(73.6) | DNA |
| MDR pathogen screening | 35(83.3) | 128(57.7) | 5(25.0) | 4(25.0) |
| Disinfection and sterilization | 42(100.0) | 253(97.3) | 108(64.7) | 830(85.3) |
| Availability of IPC guidelines | IPC in Emergency rooms | 42(100.0) | 251(96.5) | 69(67.0) | 5(55.6) |
| Environmental management of operation rooms | 42(100.0) | 249(95.8) | 120(77.9) | 3(100.0) |
| Disinfection and sterilization | 42(100.0) | 251(96.5) | 123(73.6) | 889(91.3) |
| Environmental cleaning | 42(100.0) | 249(95.8) | 120(71.9) | DNA |
| Prioritization/identification of HCAI and risk factors to be targeted for surveillance | Yes | 41(97.6) | 192(73.8) | 50(29.9) | 383(39.4) |
| **Component (9) : IPC activities to prevent Antimicrobial resistance** |
| Isolation of MDR positive patients | Yes | 42(100.0) | 207(93.2) | 12(70.6) | 6(54.5) |
| Operation of in-facility antibiotics prescription management system | Yes | 42(100.0) | 171(65.7) | 86(51.5) | 302(31.0) |
| Availability of antibiotic stewardship guidelines | Yes | 42(100.0) | 171(65.7) | 86(51.5) | 302(31.0) |

IPC, Infection prevention and control; ICU, Intensive care unit; SSI, Surgical site infection; ER, Emergency room; MDR, Multidrug-resistant; DNA, Data not available; HCAI, Healthcare-associated infection. \*Includes costs pertaining to: hand hygiene equipment and materials, personal protection equipment, etc. KRW; Korean Won. †Exchange into USD based on the exchange rate of 2 Apr 2022. Data regarding component (3): IPC costs and expenditures not available due to data instability.