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# The Hospital infections in Peru
# [Las infecciones intrahospitalarias en Peru]

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**Resumen**

Las infecciones intrahospitalarias son un problema latente en todo el mundo. Miles de personas mueren en los hospitales. Es por ello que, se requiere de información epidemiológica y microbiológica, de una eficiente administración hospitalaria y del involucramiento del personal de salud en las acciones de prevención y control y, asumiendo cada grupo ocupacional las responsabilidades que le competen.

**Palabras clave:** Infecciones Hospitalarias, estrategia, pacientes

**Abstract**

Hospital infections are a latent problem throughout the world. Thousands of people die in hospitals. That is why epidemiological and microbiological information is required, an efficient hospital administration and the involvement of health personnel in prevention and control actions and, assuming each occupational group the responsibilities that correspond to it

**Keywords**: Hospital infections, strategy, patients.

## 1. Introduction

Intra-hospital Infection (IIH) is the Infection that is acquired after 48 hours of staying in the Hospital and that the patient did not carry upon admission. Only in the case of neonates is the infection acquired after 72 hours of hospital stay considered as IIH. It also includes infections contracted in the hospital but that appear after the patient has been discharged and those that are recorded among staff and visitors (crede and Hierholzer, 1988; Goldmann and Hopkins, 1992; Gammer et al., 1988; Garson et al., 1991).

The prevention and control of intrahospital infections is based on strategies mainly linked to good care practices. However, various characteristics of health care delivery, including invasive examination methods, surgical procedures, surgery in the elderly, or the management of premature infants today pose new challenges, one of which is decrease the incidence of nosocomial infections (PPCCIH, 1997; Protocolo, 1999; Spengler and Greenugh, 1978).

In practice, the prevention and control of infections represent a broad and complex task for which the availability of epidemiological and microbiological information, the existence of an efficient hospital administration and the involvement of health personnel in prevention and prevention actions is essential. control and, assuming each occupational group the responsibilities that correspond to it (MINSA, 2004; NTS, 2020).

Specific patterns of resistance to antimicrobials of public health importance are monitored to identify the emergence of resistance in a timely manner:



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- Staphylococcus aureus or Staphylococcus coagulase negative intermediate or Vancomycin resistant and resistant to linezolid.
- Enterococcus spp. Intermediate or resistant to Vancomycin and resistant to linezolid.
- Enterococcus faecalis resistant to ampicillin or penicillin (beta lactamase positive).
- Enterobacteriaceae with resistance to carbapenems and resistance to colistin ≥4 µg / mL.
- Pseudomonas aeruureginosas resistant to carbapenems.
- Acinetobacter baumannii resistant to carbapenems.

**2. Healthcare Associated Infections (IAAS)**

That local or systemic condition resulting from an adverse reaction to the presence of an infectious agent or its toxin (s), which occurs in a patient in a health care setting (hospitalization or outpatient care) and was not present at the time of admission, unless the infection is related to a previous admission. They also include occupational infections contracted by health personnel (MINSA, 2004; NTS, 2020).

The following are excluded from the definition of IAAS:

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Table 1. Healthcare Associated Infections

| Clinical service | Type of HAI and associated risk factor | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Tendency | % rate Variation 2018- 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Neonatology | Ventilator-associated pneumonia* | 5.25 | 10.11 | 7.01 | 7.87 | 6.47 | 6.67 | 4.82 | 4.46 | 5.66 | 4.05 | 3.56 | 3.19 | 2.88 | 3.36 | 2.91 | | **-13%** |
| | Peripheral venous catheter-associated bloodstream infection* | 5.85 | 4.98 | 3.50 | 3.91 | 3.08 | 2.10 | 2.50 | 1.78 | 1.84 | 1.77 | 1.76 | 1.23 | 1.05 | 0.84 | 0.81 | | **-4%** |
| | Central venous catheter-associated bloodstream infection* | 13.24 | 16.47 | 14.12 | 8.16 | 8.77 | 5.33 | 6.42 | 4.67 | 4.94 | 5.87 | 7.06 | 6.04 | 5.89 | 4.67 | 4.80 | | **3%** |
| Adult Intensive Care Unit | Ventilator-associated pneumonia* | 24.09 | 23.11 | 16.74 | 20.83 | 14.92 | 11.74 | 11.57 | 10.67 | 12.35 | 11.21 | 11.38 | 9.69 | 8.31 | 7.56 | 7.73 | | **2%** |
| | Urinary tract infection associated with indwelling urinary catheter* | 4.49 | 3.49 | 3.91 | 4.73 | 3.03 | 3.32 | 2.82 | 2.98 | 3.60 | 3.30 | 3.35 | 2.89 | 2.52 | 2.50 | 2.09 | | **-16%** |
| | Central venous catheter-associated bloodstream infection* | 2.74 | 2.87 | 2.27 | 3.40 | 2.85 | 2.52 | 2.69 | 1.98 | 2.64 | 1.85 | 2.15 | 1.99 | 1.44 | 1.43 | 1.39 | | **-3%** |
| Gynecology-Obstetrics | Post vaginal delivery endometritis** | 0.58 | 0.57 | 0.48 | 0.39 | 0.36 | 0.28 | 0.25 | 0.26 | 0.20 | 0.17 | 0.17 | 0.14 | 0.14 | 0.12 | 0.12 | | **-1%** |
| | Endometritis after cesarean delivery** | 1.11 | 1.02 | 0.87 | 0.85 | 0.62 | 0.50 | 0.41 | 0.49 | 0.48 | 0.36 | 0.38 | 0.31 | 0.27 | 0.24 | 0.26 | | **6%** |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Operative Wound Infection after cesarean delivery** | 1.72 | 1.75 | 1.79 | 1.74 | 1.62 | 1.38 | 1.25 | 1.27 | 1.14 | 1.25 | 1.22 | 1.23 | 1.29 | 1.16 | 1.12 | | **-3%** |
| Surgery | Post-cholecystectomy Operative Wound Infection** | 1.18 | 1.41 | 0.96 | 0.62 | 0.69 | 0.47 | 0.69 | 0.32 | 0.36 | 0.32 | 0.25 | 0.26 | 0.26 | 0.24 | 0.21 | | **-13%** |
| | Post-hernioplasty Operative Wound Infection** | 1.13 | 1.22 | 0.78 | 0.46 | 0.56 | 0.70 | 0.53 | 0.36 | 0.32 | 0.36 | 0.45 | 0.28 | 0.37 | 0.28 | 0.40 | | **40%** |
| | Urinary tract infection associated with indwelling urinary catheter* | 4.46 | 4.55 | 3.10 | 2.78 | 2.92 | 2.60 | 3.02 | 1.89 | 2.18 | 2.27 | 2.33 | 1.87 | 1.71 | 1.46 | 1.47 | | **1%** |
| Medicine | Urinary tract infection associated with indwelling urinary catheter* | 9.63 | 7.93 | 5.92 | 5.61 | 3.66 | 3.48 | 3.78 | 3.41 | 3.19 | 2.90 | 3.25 | 2.58 | 2.43 | 2.07 | 1.88 | | **-9%** |

** Incidence density x 1000 days of associated risk factor*
*** Cumulative incidence x 100 monitored procedures*

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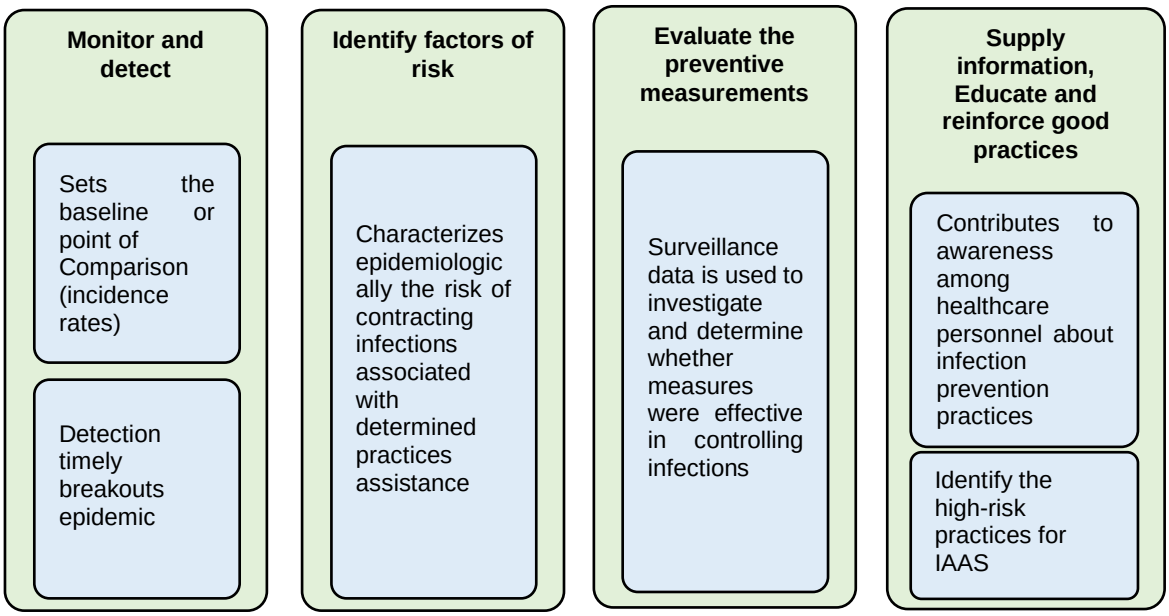
### 3. Results of the epidemiological surveillance of Infections Associated with the Care of the Health




Source: NTS N°163-MINSA/2020/CDC. Norma Técnica de Salud para la Vigilancia de las IAAS

### 4. Conclusions

- The prevention and control of intrahospital infections is based on strategies mainly linked to good care practices.
- Nosocomial infections pose a high socioeconomic burden, with much longer hospital stays and much higher hospital costs.
- Various recommendations have been made in the fields of surveillance and prevention, but few have led to the implementation of high-impact measures

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