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Device-Associated Nosocomial Infection Rates in 106 Intensive Care Units of 20 Developing Countries. Findings of INICC.

Rosenthal V, Map T, AiQin J, Hussain Y, Mitrev Z, Medeiros E, Fernández-Hidalgo R, Guanche-Garcell H, Udwadia F., Álvarez-Moreno C, Leblebicioglu H, Raka L, Kanj S, Abouqal R, Cuellar L, Berba R, Dueñas L, Sobreyra-Oropeza M, Diez Pratesi R, Abubakar S, INICC Group.

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Objectives**:** To determine the device-associated infection (DAI) rate in ICUs of INICC member hospitals in Argentina, Brazil, China, Colombia, Costa Rica, Cuba, India, Kosova, Lebanon, Macedonia, Mexico, Morocco, Nigeria, Panama, Pakistan, Peru, Philippines, El Salvador, Turkey and Uruguay.
CDC-NHSN pooled mean DAI rates at US medical surgical ICUs are as follow: 2.4 Central line associated bloodstream infection (CLABSI) per 1000 CL days; 3.4 catheter associated urinary tract infection (CAUTI) per 1000 device days; and 3.6 ventilator associated pneumonia (VAP) per 1000 device days.
Methods**:** An open label, prospective cohort, active DAI surveillance study was conducted on adult, pediatric and neonatal patients admitted to 106 tertiary-care ICUs of 48 cities in 20 countries. Rates of DAIs were recorded by applying CDC-NHSN system definitions. The protocol, forms, and outcome surveillance methodology were developed by INICC. Data collection was performed in the ICUs. Data uploading and analysis were conducted at INICC headquarters on proprietary software.
Results**:** From 01/02 to 05/08, 49,880 patients were enrolled representing 329,481 bed days. During that period we identified 1,909 CLABSIs, 2,394 VAPs, and 1,363 CAUTIs.

ICU type	# of ICUs	DAI per 100 admitted patient	DAI per 1000 Bed days	CLABSI per 1000 CL days	VAP per 1000 device days	CAUTI per 1000 device days
Overall	106	11.4%	18.0	10.6	18.9	6.4
Burn	1	1.8%	2.3	0.0	13.7	4.3
Coronary	7	5.5%	11.6	9.5	18.5	6.0
Surgical cardiothoracic	3	3.2%	8.3	1.6	12.9	0.7
Medical	4	9.6%	19.8	11.7	39.3	10.7
Medical/surgical	63	14.4%	22.0	10.5	19.9	6.5
Pediatric	3	8.8%	21.2	12.6	17.3	7.8
Neurosurgical	8	8.1%	13.8	10.4	8.8	4.0
Surgical	4	14.6%	17.8	14.8	17.5	4.5
Trauma	2	6.2%	18.3	10.0	19.5	5.9
Level III NICU	11	5.2%	4.4	13.9	6.4	-

Conclusions**:** This study identified that in intensive care units in developing countries, DAI rates are higher than those reported from US institutions.