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Effectiveness of Process Surveillance for Increasing Hand Hygiene Compliance in 50 Intensive Care Units of 12 Developing Countries. Findings of the International Nosocomial Infection Control Consortium (INICC).

Victor D. Rosenthal, MD, CIC, MSc, Hospital Epidemiology, and Infectious Diseases, International Nosocomial Infection Control Consortium, Buenos Aires, Argentina, **Claudia Linares, RN**, San Ignacio University Hospital, Pontificia Javeriana University, Bogota, Colombia, **Safdar Ghayur Khan, MD**, Hospital Epidemiology, and Infectious Diseases, Liaquat National Hospital, Karachi, Pakistan, **Ana Concepción Bran de Casares, RN**, Hospital Nacional de Niños Benjamin Bloom, International Nosocomial Infection Control Consortium, San Salvador, El Salvador, **Prithwiraj Chakraborty, MD**, AMRI Hospitals, International Nosocomial Infection Control Consortium, Kolkata, India, **Vilma Ampova, MD**, Hospital Epidemiology, and Infectious Diseases, Filip II Special Cardiosurgery Hospital, Skopje, The former Yugoslav Republic of Macedonia, **Imelda Asetre-Luna, MD**, Hospital Epidemiology, and Infectious Diseases, St. Luke's Medical Center, Quezon, Philippines, **Gürdal Yılmaz, MD**, Hospital Epidemiology, and Infectious Diseases, Karadeniz Technical University School of Medicine, Trabzon, Turkey, **Khalid Abidi, Prof.**, Ibn Sina, Medical ICU, Rabat, Morocco, **Manuel Jesús Mayorga-Espichan, MD**, Hospital Epidemiology, and Infectious Diseases, San Pablo Medical Center, Lima, Peru, **Gorki Grinberg, MD**, Hospital Epidemiology, and Infectious Diseases, Porto Alegre General Hospital, Porto Alegre, Brazil, **María de la Paz Herrera Bravo, RN**, Hospital Epidemiology, and Infectious Diseases, De la Mujer Hospital, Mexico, Mexico, **Beatriz Marta Alicia Di Núbila, MD**, Hospital Epidemiology, and Infectious Diseases, Presidente Perón Hospital, Avellaneda, Argentina, **Marena Rodríguez Ferrer, MD**, Hospital Epidemiology, and Infectious Diseases, Simón Bolívar University, Barranquilla, Colombia, **International Nosocomial Infection Control Consortium, Members**, Hospital Epidemiology, Infectious Diseases, Buenos Aires, Argentina.

Objectives:

To assess the effect of a multifaceted intervention to promote hand hygiene among health care workers.

Methods:

Interventional cohort study with two phases performed from 1998 to 2007 (10 years) in 50 intensive care units (ICUs) of 35 hospitals in 12 countries (Argentina, Brazil, Colombia, El Salvador, India, Macedonia, Mexico, Morocco, Pakistan, Peru, Philippines, and Turkey): members of the International Nosocomial Infection Control Consortium (INICC). Observation of health care workers hand hygiene practice during routine patient care stratified by different variables. The intervention consisted of education, performance monitoring and feedback, and peer support from high level hospital administrators.

Results:

From August 1998 to November 2007 (10 years and 4 months), we observed a total of 73,012 opportunities for HH before patient contact in 50 ICUs of 35 hospitals (15,342 during the baseline period and 57,670 during the intervention period). The baseline period lasted a mean of 4 months of each medical center in the study (range 1-9 months) and the intervention period lasted a mean of 15 months

(range 2-101 months). We found a significant increase in HH compliance in the participant ICUs. Overall compliance increased from 36.6% to 59.2% (RR, 1.62; 95% CI, 1.57-1.66; P <0.01) during the study.

	Variable	Baseline HH Compliance	Intervention HH Compliance	RR; 95% CI; P Value
Gender	Women (W)	39%	62%	RR= 1.59, 95% CI = 1.54 – 1.64, P = 0.0001
	Men (M)	30%	53%	RR= 1.78, 95% CI = 1.67 – 1.89, P = 0.0001
HCW	Nurses (NS)	39%	62%	RR= 1.59, 95% CI = 1.54 – 1.56, P = 0.0001
	Physicians (PH)	35%	57%	RR= 1.63, 95% CI = 1.54 – 1.74, P = 0.0001
	Ancillary Staff (AS)	28%	46%	RR= 1.63, 95% CI = 1.50 – 1.78, P = 0.0001
Procedure	Invasive (I)	41%	61%	RR= 1.50 95% CI = 1.43 – 1.57, P = 0.0001
	Non-invasive (NI)	34%	58%	RR= 1.69, 95% CI = 1.63 – 1.75, P = 0.0001
Unit	Adult ICU (Ad)	36%	59%	RR= 1.65, 95% CI = 1.60 – 1.70, P = 0.0001
	Pediatric ICU (Pe)	39%	63%	RR= 1.60, 95% CI = 1.35 – 1.90, P = 0.0001
	New born ICU (NB)	47%	72%	RR= 1.53 ,95% CI = 1.37 – 1.71, P = 0.0001

Conclusions:

In the participant INICC ICUs, our intervention consisted in hand hygiene observation, education, performance monitoring and feedback, and peer support from high level hospital administrators, resulted in a significant increase in HH compliance from 36.6% to 59.2% among ICU health care workers.