

# Hand Hygiene in an Argentine Tertiary Hospital Quantitative and Qualitative Analysis

**Epidemiology Area  
Hospital Italiano de Buenos Aires,  
Argentina**

**Gomez Saldaño A; Dawidowski A; Pereiro  
N; Blanco J; Salazar E; Almada G; Litzi A;  
Taliercio V; Aliperti V; Clara L; Figar S.**

# Introduction

- **There is universal agreement about the importance of hand hygiene in the prevention of nosocomial infections**
- **The adherence of health workers to hand hygiene guidelines is generally low.**

# Background

- **In Argentina little research has been done about possible reasons for low rates of health care personnel hand hygiene.**

**A better understanding about physician' s hand hygiene perspectives is needed**

- **Hand hygiene adherence is regularly measured in closed units in our hospital.**
  - In our hospital the hand hygiene rates are similar to other settings
  - It is suspected that the difficulties are similar to those referred by the literature.
- **Cultural change strategies have been considered to apply in our hospital**
  - which can be sustained by the health team members through time.

# Objectives

- To determine basal physicians hand hygiene rates in the internal wards.
- To identify the meaning physicians assign to hand hygiene practices.

# Methods: Design

- **Quantitative Design:** cross-sectional study through non-obtrusive observation of physician hand-washing opportunities by trained observers.
- **Qualitative Design:** Based on ethnographic field notes produced by observers and interviews with staff physicians

# Quantitative Design

## Opportunity of Hand Hygiene

Possibility of hand washing before or after the possible unit patient or procedure contacts.

- **Inclusion criteria:**
  - Consecutive opportunities for hand hygiene of physicians (both staff and residents) in the internal wards
- **Exclusion criteria:**
  - Opportunities for hand hygiene regarding EVR isolated patients

# Quantitative Methodology

- **Setting:** Hospital Italiano de Buenos Aires, Argentina
- **Time:** October 2007
- **Sample size:** Was calculated to find a prevalence of hand hygiene of 40% accepting an accuracy of 5% and an alpha level of error of 0.05

# Variables Assessed

## Dependent variable

- Opportunities hand hygiene:
  - Unit of the study: Hand hygiene opportunities of in staff and residents
  - Unit Patient: Patient + bed + sheets + pijamas, bed side telephone + oxygen tube, etc.
  - Procedures: Procedures + the use of gloves

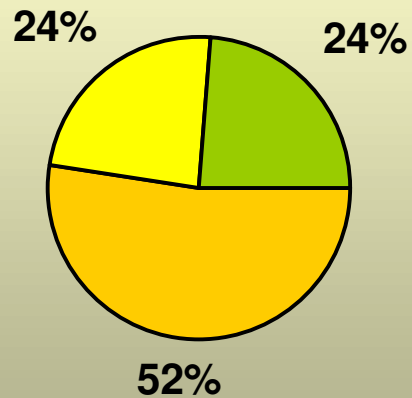
## Independent Variables

- **Physician:** Age; Sex; Position
- **Contact Type:** Unit patient / Procedura
- **Hand Hygien type:** Alcohol / Soap



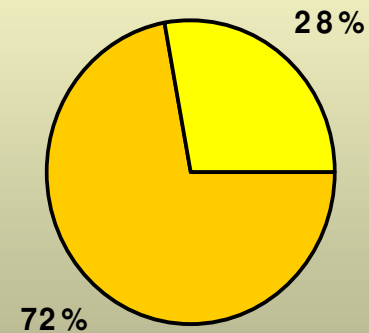
# Physician Characteristics

Status Physician  
n=21



■ 1<sup>o</sup> Resident ■ 3<sup>o</sup> Resident ■ Staff

Physician Sex  
n=21



■ Male ■ Female

# Hand Hygiene Adherence Rates

## Distribution opportunities as type of contact

	Patient-Unit Contacts n = 383		Procedures Contacts n = 21		Overall
<b>Opportunities for Hand Hygiene</b> (n)	Prior 375	Posterior 375	Prior 21	Posterior 20	791 (100%)
<b>Hand Hygiene adherence</b> (n %) CI 95	22 (5,87%) CI 95 3.8-8.6 *	144 (38,1%) CI 95 33.3- 43.1 *	0	15 (75%) CI 95 50.6- 90.4	<b>181 (22,8%)</b> CI 95 20-26

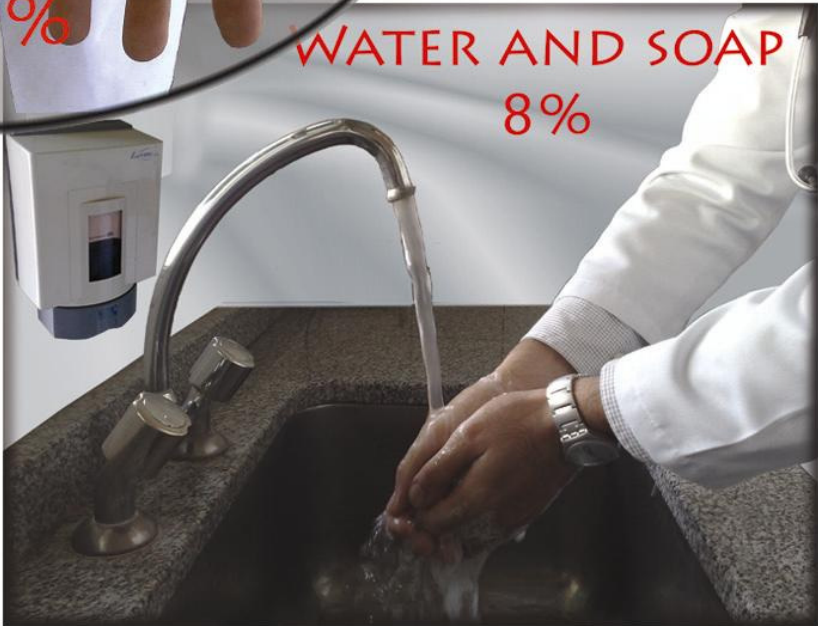
\*p<0.05

ALCOHOL  
14,8 %



DIRTY HANDS  
77.2 %

WATER AND SOAP  
8%



# Adherence Stratified Analysis

Rate adherence hand Hygiene (IC95)				
Status Physician	Patient-unit contacts		Procedures Contacts	
	n = 383		n = 21	
Resident 1 <sup>a</sup>	4,88 (1,9-7,85)	34,78 (28,2-41,3)	0	5,71 (2,5-8,9)
Resident 3 <sup>a</sup>	5,81 (0,7-10,86)	43,18 (38,6-53,7)	0	2,27 (0,9-5,4)
Staff	7,95 (2,1-13,7)	39,08 (28,6-49,5)	0	1,1 (1,1-3,4)
<b>Sector</b>				
Second	9,6 (5,2-13,9)	43,42 (36-50,8)	0	1,68 (0,22-3,5)
Third	3,15 (0,4-6,7)	35,05 (25,4-44,7)	0	7,1 (1,95-12,3)
Fourth	6,89 (2,9-16,7)	17,24 (2,6-31,8)	0	3,44 (3,6-10,5)
<b>Sex</b>				
Female	1,6 (0,6-3,8)*	37 (20,9-46)	0	3,93(0,5-7,3)
Male	7,8 (4,5-11,2)*	37,79 (31,8-43,8)	0	3,8(1,5-6,2)
*p<0.05				

# Qualitative Methodology

- **Ethnographic Field Notes:**
  - 2 weeks daily observations of the residents rounds
    - 2 observers
    - Notes written immediately after each site visit.
      - Narrative descriptions
- **Staff Interviews**
  - Head of the Clinical Department
  - Chief Resident (Internal Medicine)
  - 1 Physician Staff (Clinician)
- **Qualitative Analysis**
  - Grounded theory
    - Codification line-by-line to identify emergent categories
    - Categories refinement by discussion with the interviewees

# Instances of Hand Hygiene

- **Positive Hand Hygiene**

- After procedures with unpleasant or awful patients (i.e. disgusting smell, dirty, sweaty, terminal Alzheimer, etc).
- After examination of "crock" patients

- **Negative Hand Hygiene**

- When the physician attempts to comfort the patient:
  - as a meaning of comprehension, empathy and nearness

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- **Negative Hand Hygiene**

- When the physician attempts  
  - as a meaning of comprehensive nearness

*All are put gloves before entering, is a patient who is in his last moments, has Alzheimer's.*

*Her extremities are tightly bound to her body exerting a strong resistance against the attempts of the physician for examining her.*

*Her body is also full of wounds, is one of the strongest images of the deterioration of the human body that I saw so far.*

*a suicide attempt. We are going to visit the patient. She (the doctor) speaks to her how is going to follow everything from now on... that a doctor is coming to see her.*

*The woman is very sad and has begun to cry, but the doctor tries to console her. She takes her hand and says that everything to her is going to be well*

# Related Meanings of Hand Hygiene

- **Distance, Coldness**

- A distant and cold approach of residents and staff with the patient is related to a greater amount of hands hygiene
- No hand hygiene was related to cordiality, closeness and comforting.

**Hygiene Could Partly Disrupt  
Physician-Patient Relationship.**



# Related Meanings of Hand Hygiene

- **Distance, Coldness**

- A distant and cold approach of residents with the patient is related to a greater amount of hands hygiene
- No hand hygiene is related to cordiality, closeness and comfort... suggesting that hygiene is related to a professional attitude

Guillermo is different from other residents, although his professional attitude he is a bit cold....

Another difference I've found is the highest rate of hands hygiene in comparison with others....

On one occasion he recommended me fixing my buttons to avoid germs, and another time he insisted me to wash my hands despite not having touched the patient...

# Organizing Categories

*Positive Hand Hygiene*

**Distance**

**Coldness**

**Crok  
Patient**

*Negative Hand Hygiene*

**Nearness**

**Empathy**

**Interesting  
Patient**



*Pontious  
Pilates*

# Conclusion

- **These observations seem to indicate that the act of hand hygiene itself, in addition to the technical sense, could be loaded with negative meanings in terms of human values**
  - Disengagement
- **In this sense the guides (not to seat in the bed, not to give the hand to the patient, etc) may be in contradiction with cultural signs of doctor-patient relationship based on empathy.**

## In Summary

- **Quantitative analysis: A low rates of adherence was found**
  - Similar to international rates.
  - Most of the hand hygiene was after patient contacts.
- **Qualitative analysis: it shows that hands hygiene may mean patient-physician distance, discourtesy, and disrespect**



**There is a need to work on positive  
associations between**

**Hand Hygiene  
Human Values  
and  
Patient-Physician Relationship.**