



# LINKS OF INTEREST DISCLOSURE

**Name of the speaker: Fernando OTAIZA MD, MSc Epidemiology**

**I have no link of interest.**



# Pathways to improve surgical site infection (SSI) prevention

## REDUCTION AND SUSTAINABILITY OF CESAREAN SECTION SSI: A NATIONAL STRATEGY

Fernando OTAIZA MD MSc  
National IPC program, CHILE



# Plan

- **Describe main features of the national IPC program**
- **The strategy for obstetric infections prevention**
- **Results**

**HAIs = health care associated infections**



# Chile at a glance

- Politically is a democratic republic
- Surface: 756102 km<sup>2</sup>
- Population: ~17.000.000 pop (2009)
- Life expectancy at birth: 82 years women, 76 years men
- General mortality: 5.7/1000 inhabitants
- Infant mortality: 7.1/1000 live births
  
- Access to health services.
  - 72.7% Public insurance (FONASA )
  - 16.5% Private insurance (ISAPRE)
- World bank:
  - GNP → USD 240,8 billion
  - GNI per capita → USD 14,100





# The NIPC program briefly

- Started in 1982
- Directed by the MoH
  - Trained doctors/nurses
- Continuous
- National (public/private)
- Regulated (required by law)
  - Components defined by MoH
- Strategic alliances
  - Universities
  - Scientific Societies
  - Leaders/Champions

## Components

1. Organization
2. Surveillance
3. Guidelines
4. Training
5. External Evaluation

## Principles

- Document success/failures
- “easy win” goals/targets



# Objectives of the NIPC

## I. Prevent HAIs

- Device/procedure associated HAIs
- Outbreak associated or prone HAIs

## II. Prevent infections transmitted to/from patients to Health Care Workers

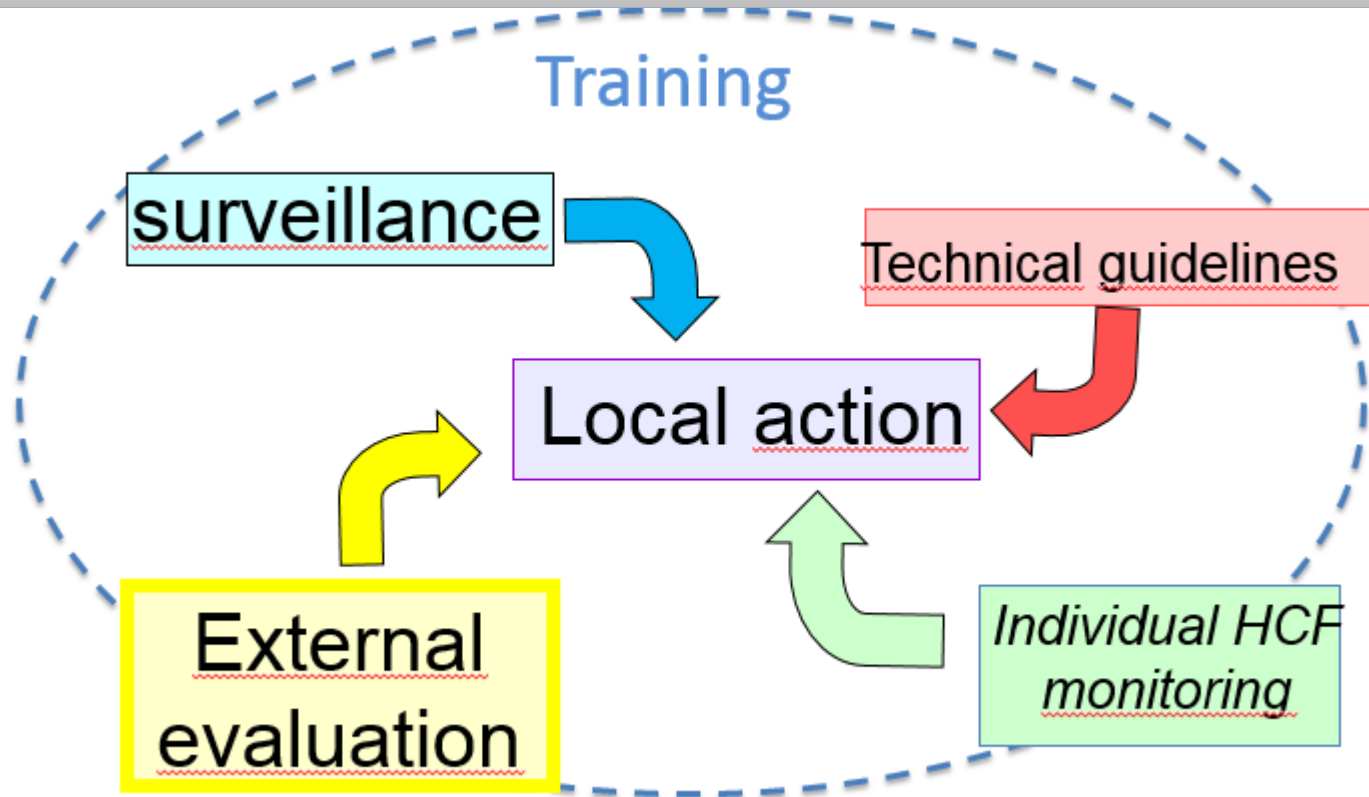
- prevent exposures

## III. Other objectives

1. Decrease dissemination of AMR
2. Decrease costs due to infections
3. Increase efficiency of measures and programs
4. Contribute to the response to infectious diseases crisis such as epidemics and pandemics
5. Prevent unnecessary damage to environment



# National IPC Strategy – in brief





# Organization

- IPC programs established in all hospitals
  - Trained IPC doctors and nurses
- Public and private sectors
- Regulated by law (mandatory):
  - Patients rights and duties in healthcare (law 20.584)
  - Bylaw for hospitals and clinics
  - Technical guideline N 124 on IPC programs





# Surveillance

- Active surveillance with selected indicators
  - Weekly chart review, lab results
- Trained nurses
- Standardized definitions and methods
- Online report (collated data)
- $\geq 80\%$  of HAIs reported (sensitivity of surveillance)
- National reference rates
  - Benchmarking



# National Guidelines & Norms

- Evidence based
- Most have a regulatory component
  - not just recommendations
- Scope: National (public/private)



## Main subjects/topics:

- **Sterilization/disinfection**
- **Standard Precautions**
  - Hand higiene
  - Isolation
- **Prevention of device & procedure associated infections**
  - Such as: SSI, UTI, puerperal endometritis, C difficile
- **Outbreak management**
- **Containment of AMR**
- **IPC in epidemics/disasters**



# Training

- IPC professionals have training in IPC, surveillance, assessment of compliance with practices + management of outbreaks
  - Training for clinical professionals (doctors, nurses) is done locally and checked during accreditation processes
- Training of chiefs of departments in IPC (80 hours minimum)

## Online

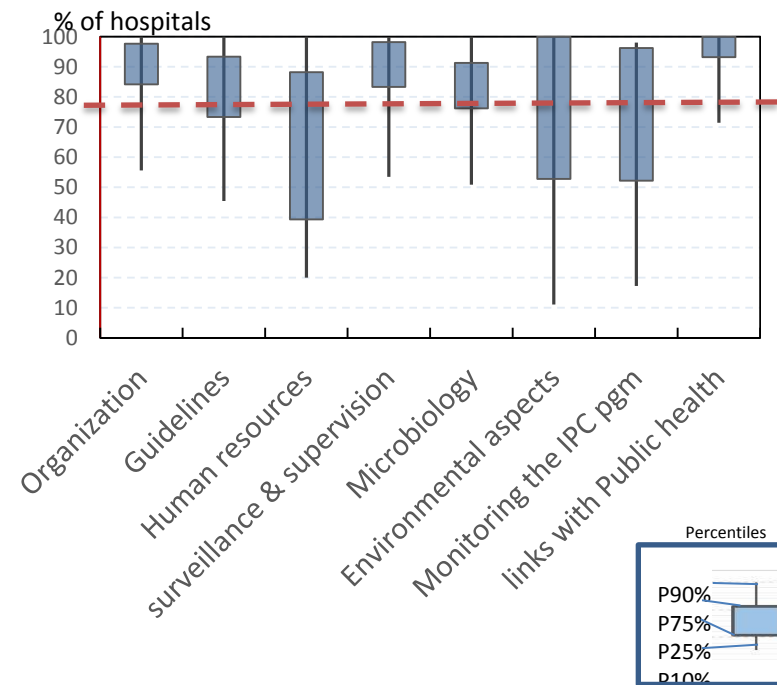
- Standard precautions
  - 20 hours
- Prevention and control of HAIs
  - 120 hours
- Management of outbreaks
  - 120 hours



## External evaluation aimed at assessing compliance with the local IPC program

- **Checklist applied by regional Health Services**
  - Health authority
- **Regulated**
- **Trained surveyors**
- **Non punitive**
- **Every 2-3 years**

Results of last assessment of 84 facilities



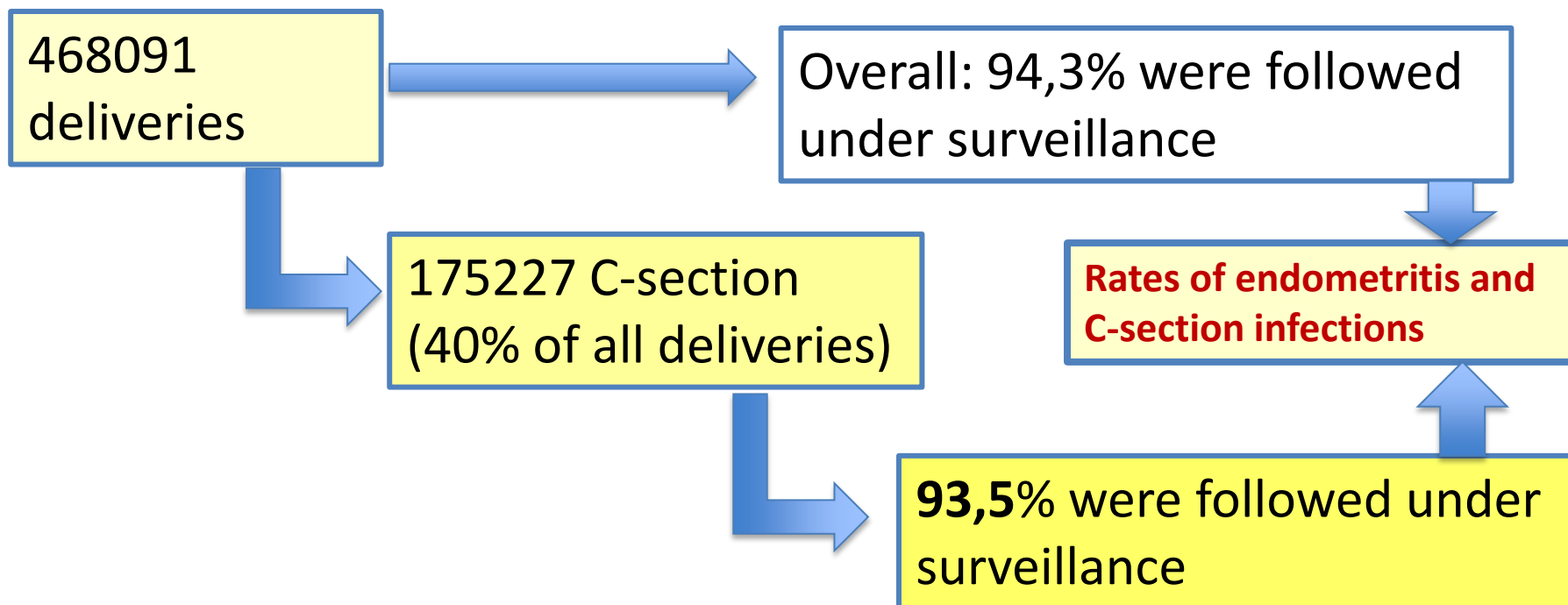


## Evaluation of impact in the period 2000 – 2014 of selected HAIs - Chile

Infection	Indicator	2000	2014	reduction
<b>Surgical Site Infection / laparoscopic colecistectomy</b>	Infections / 100 surgeries	0.50	0.18	<b>64.0%</b>
<b>Diarrhea in infants</b>	Infections / 100 discharges	10.00	2.08	<b>79.2%</b>
<b>Puerperal endometritis in vaginal delivery</b>	Infections / 100 deliveries	1.25	0.36	<b>71.2%</b>
<b>Central venous catheter bloodstream infections in children</b>	Infections / 1000 days of central catheter	4.90	2.33	<b>52.5%</b>
<b>Catheter associated urinary tract infections in internal medicine</b>	Infections / 1000 days of use of urinary catheters	6.90	4.48	<b>35.1%</b>
<b>Ventilator Associated Pneumonia in adults</b>	Infections / 1000 days of mechanical ventilation	20.30	10.27	<b>49.4%</b>



# Obstetric HAIs: Data of cases under surveillance Public sector (mean 2012 – 2014)





# Activities & contents of the obstetric infection\* prevention strategy

- Surveillance + feedback

- Guidelines
- Education & training
  - Doctors
  - Nurses/midwives
- Supervision

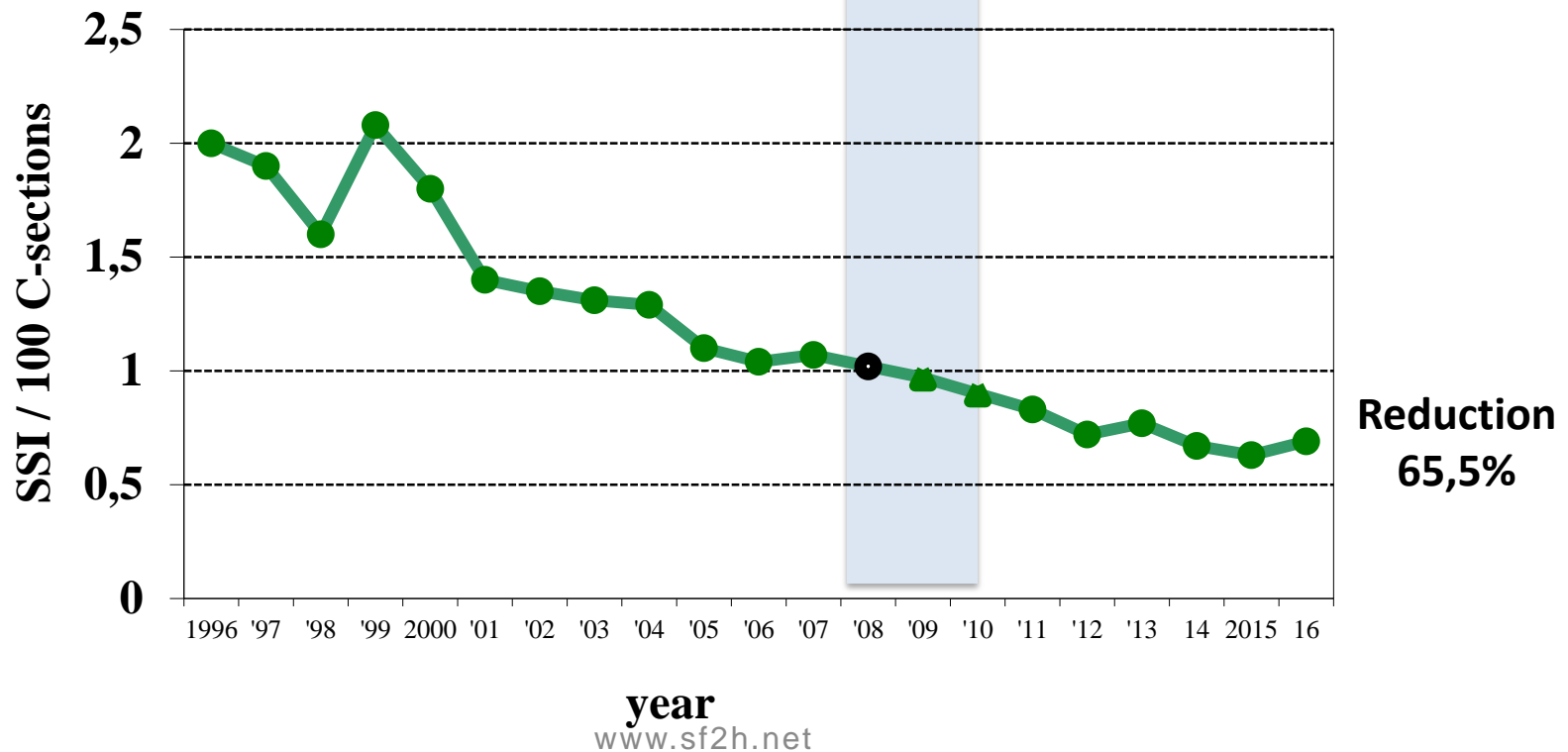
## contents

- Antimicrobial prophylaxis
- Skin preparation
  - Cleaning of the site
  - Hair removal ("clip don't shave")
  - Use of antiseptic on skin
- Sterile technique
  - Sterilization
  - Hand hygiene

\* C-section, puerperal endometritis



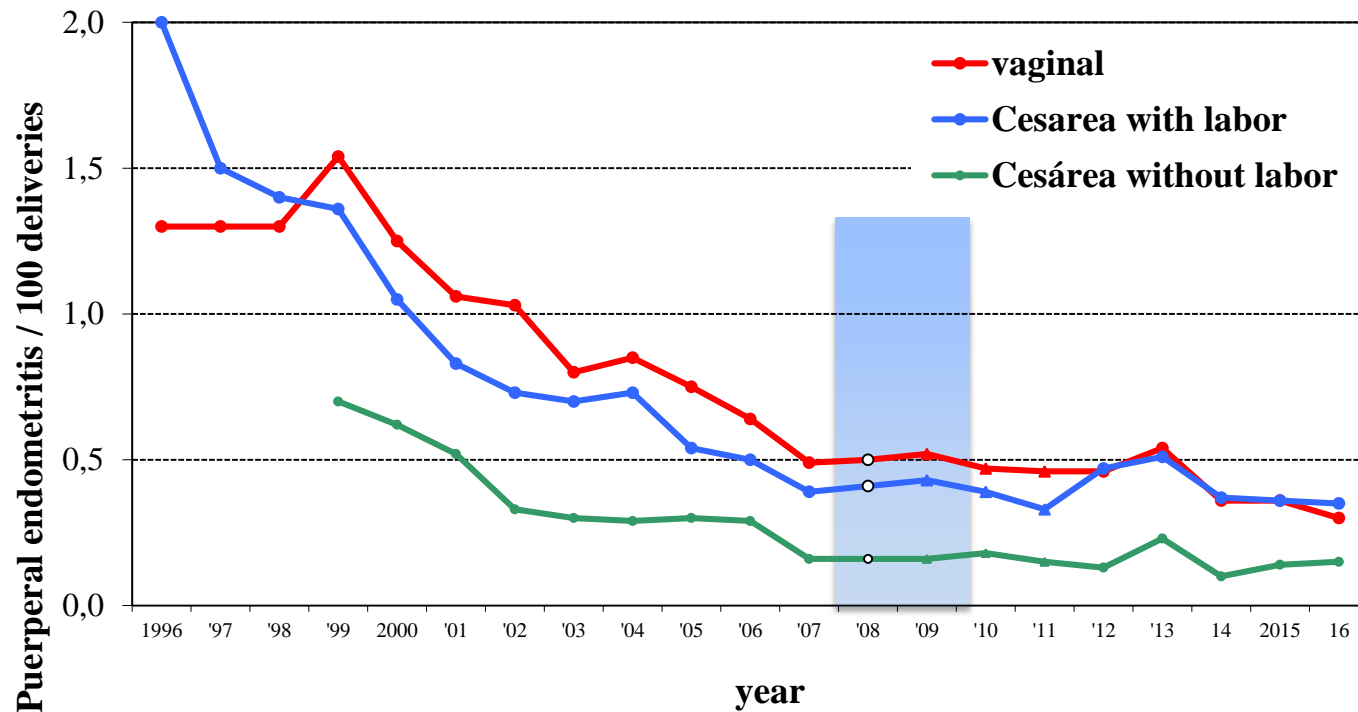
# SSI in cesareas 1996 – 2016 Chile





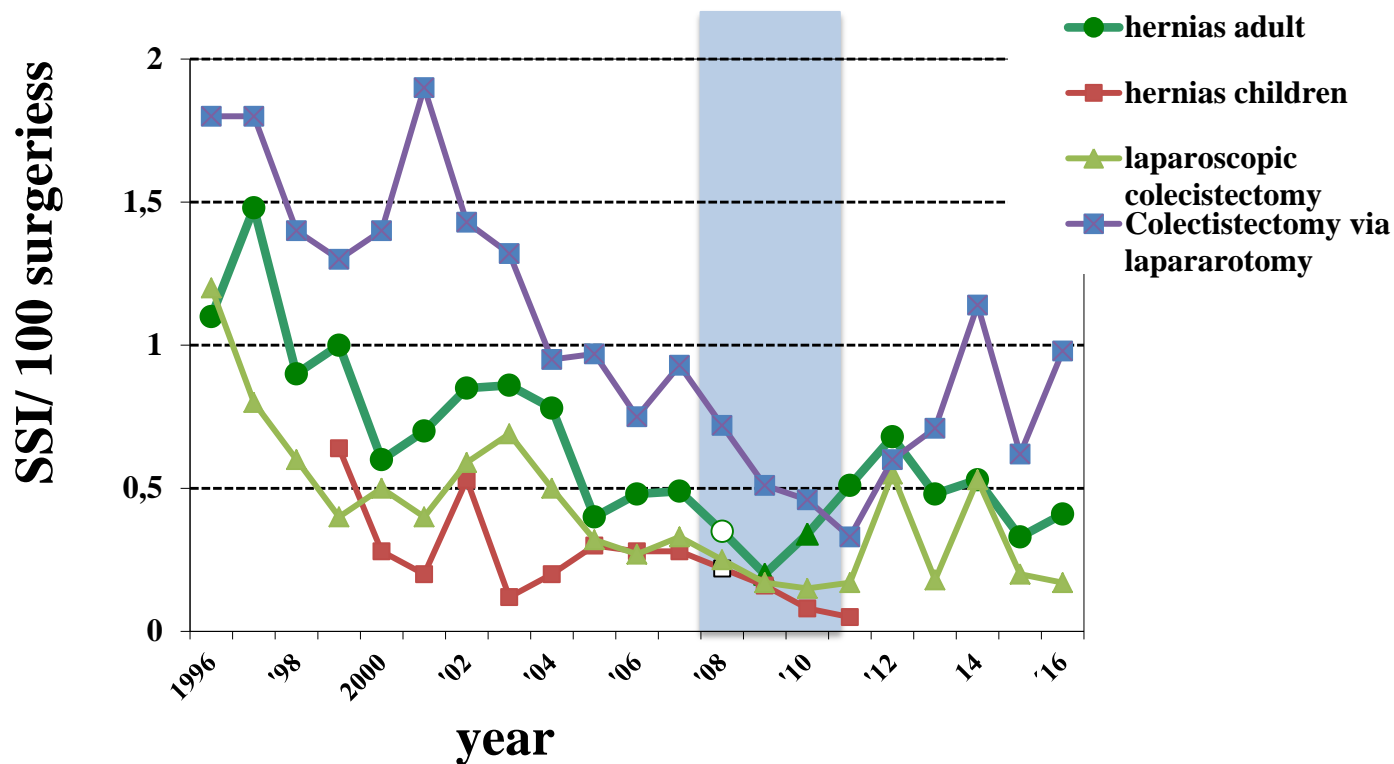


# Puerperal endometritis / 100 deliveries according to type of delivery. Chile 1996 - 2016





# SSI rates in several selected surgeries Chile 1996-2016





# Conclusions

- National IPC has demonstrated reduction of SSI rates in C-section (65,5%)
- Reduction of rates in all targeted sites of infection
- Comprehensive IPC program
  - Local core components
- National & local multimodal:
  - Surveillance, dedicated staff, guidelines, several training strategies, external evaluation
- Local IPC required by law and regulations

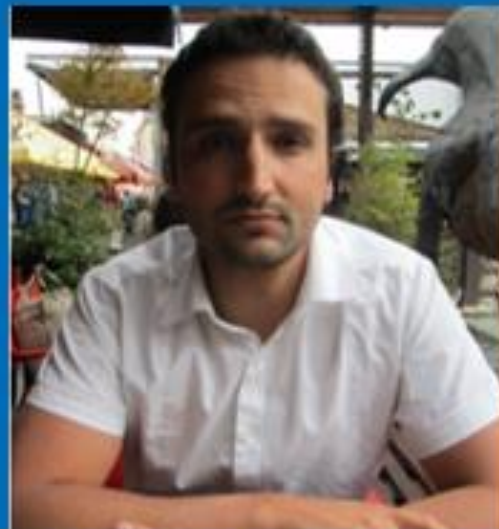


# Key factors

- Continuity of the national IPC program (> 30 years)
- Surveillance and reliable local data
- Trained IPC professionals
- Medical involvement in the local program
- Local multimodal strategies
- External evaluation and documented local impact



# Merci



[fotaiza@minsal.cl](mailto:fotaiza@minsal.cl) [mauro.orsini@minsal.cl](mailto:mauro.orsini@minsal.cl) [mpohlenz@minsal.cl](mailto:mpohlenz@minsal.cl)