

SHARPS RISK ASSESSEMENT OUR EXPERIENCE . WHY WE USE PROCESS MANAGEMENT?



Dr. Luis Mazón Cuadrado.

This presentation highlights our experience carrying out a Sharps Risk Assessment in the Hospital Universitario de Fuenlabrada, Madrid on the 28th and 29th May 2012

The risk assessments were led by DNV with support from BD personnel.

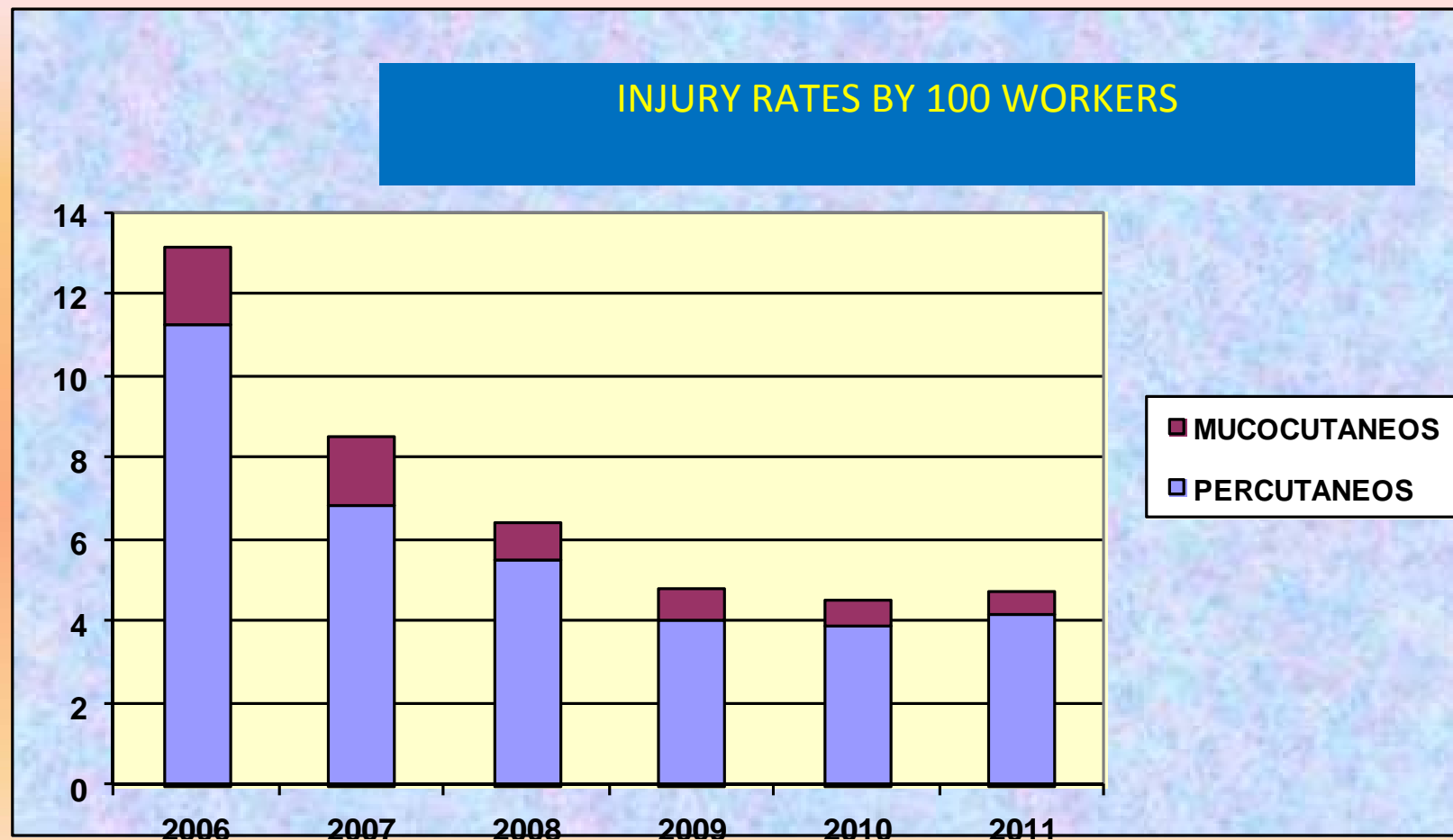
The risk assessment leader was Philip Comer of DNV, supported by Inmaculada Berenguer of BD as the recorder and other personnel from BD. The team participants were led by Dr Luis Mazón, the Head of Occupational Health Service at Hospital Universitario de Fuenlabrada together with other members of his team and nursing staff.



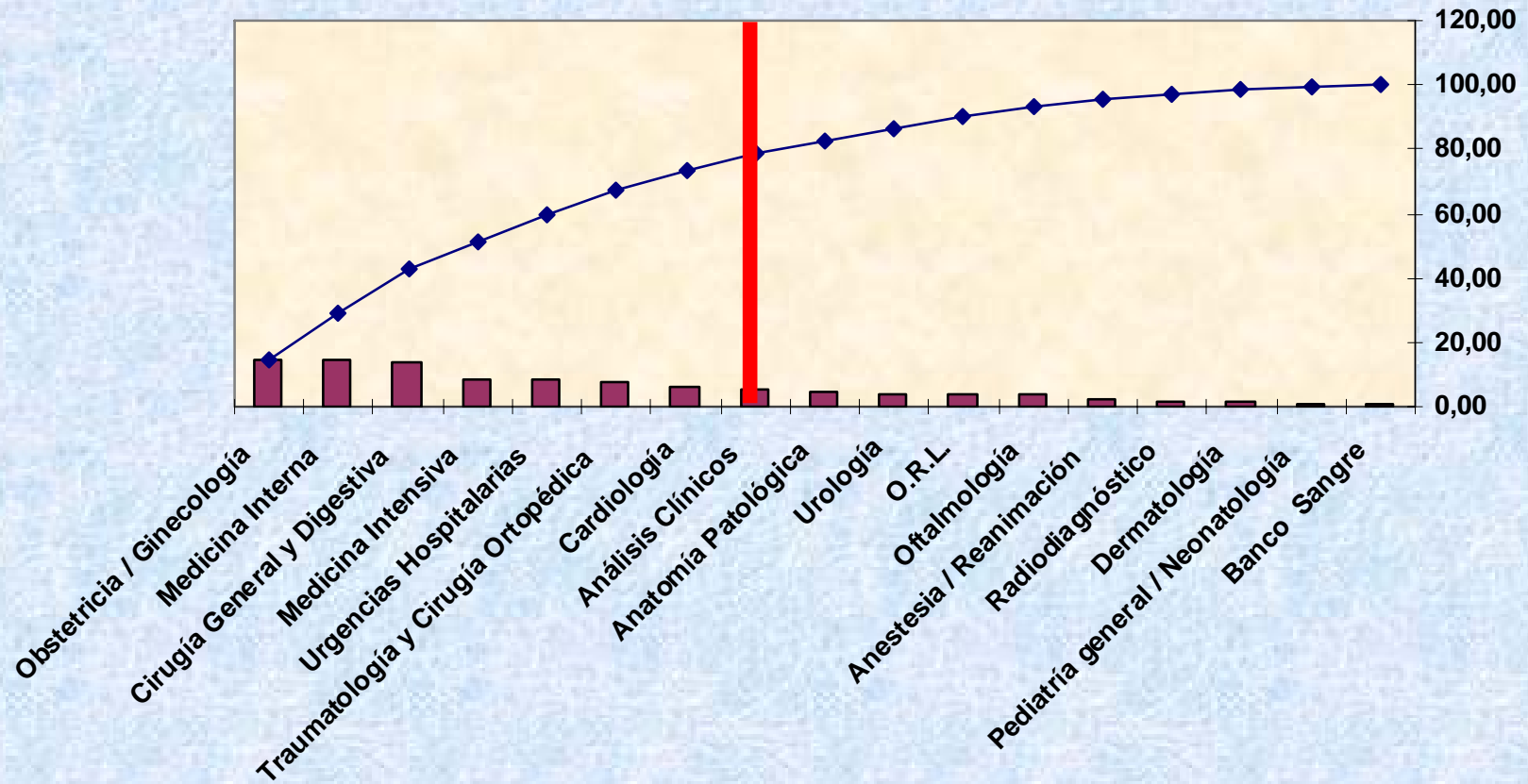
WHY?

To satisfy the requirements of the **new European Directive on Prevention From Sharps Injuries in the Hospital and Healthcare Sector (Council Directive 2010/32/EU)** and the European Directive on Protection of Workers from Risks Related to Exposure to Biological Agents at Work (Council Directive 2000/54/EC) and to **reduce the risks to healthcare workers from sharps injuries.**

“78% are percutaneous injuries.”

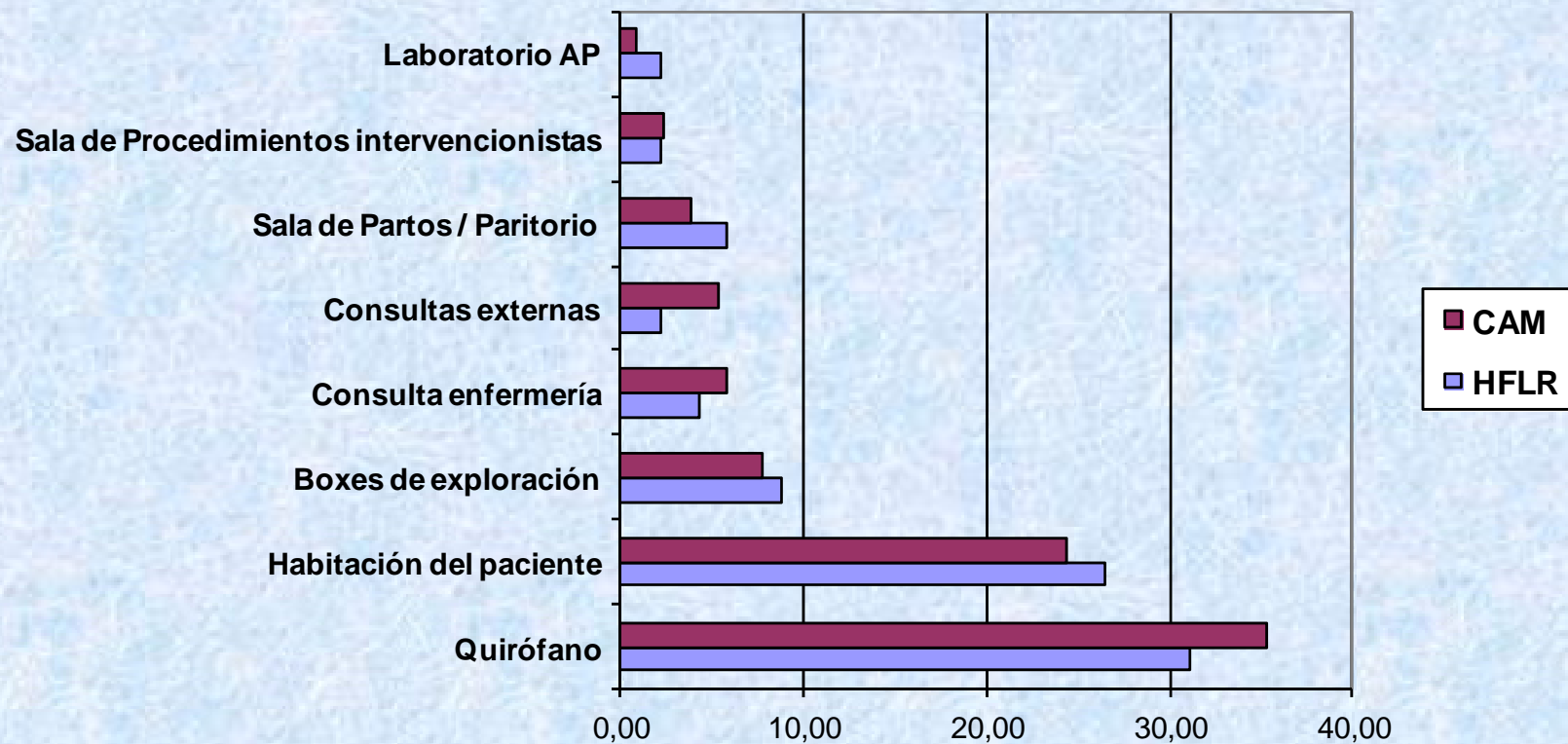


BIOLOGICAL INJURIES BY SPECIALIZATION AREA 2007-2011

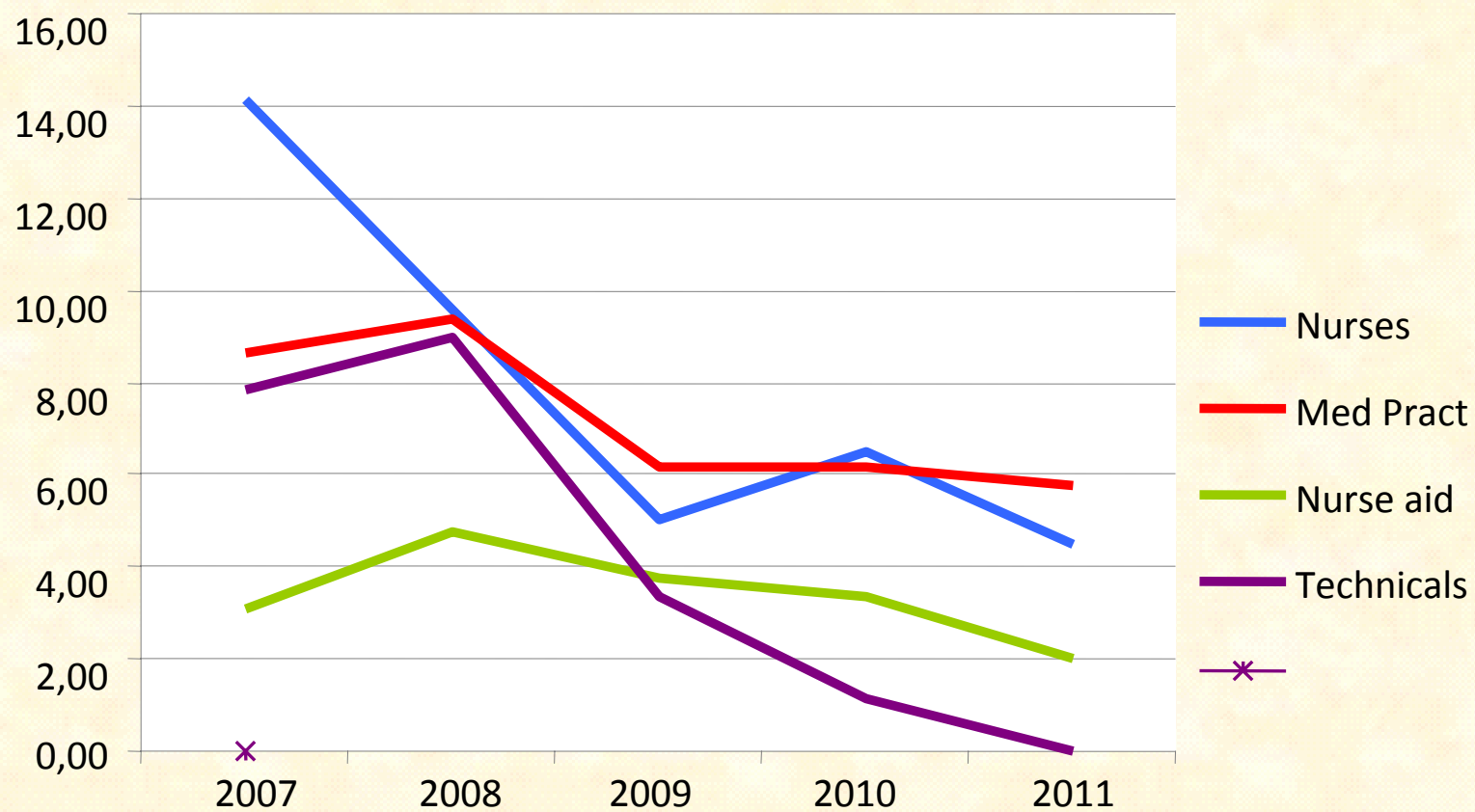


PARETO'S CHART

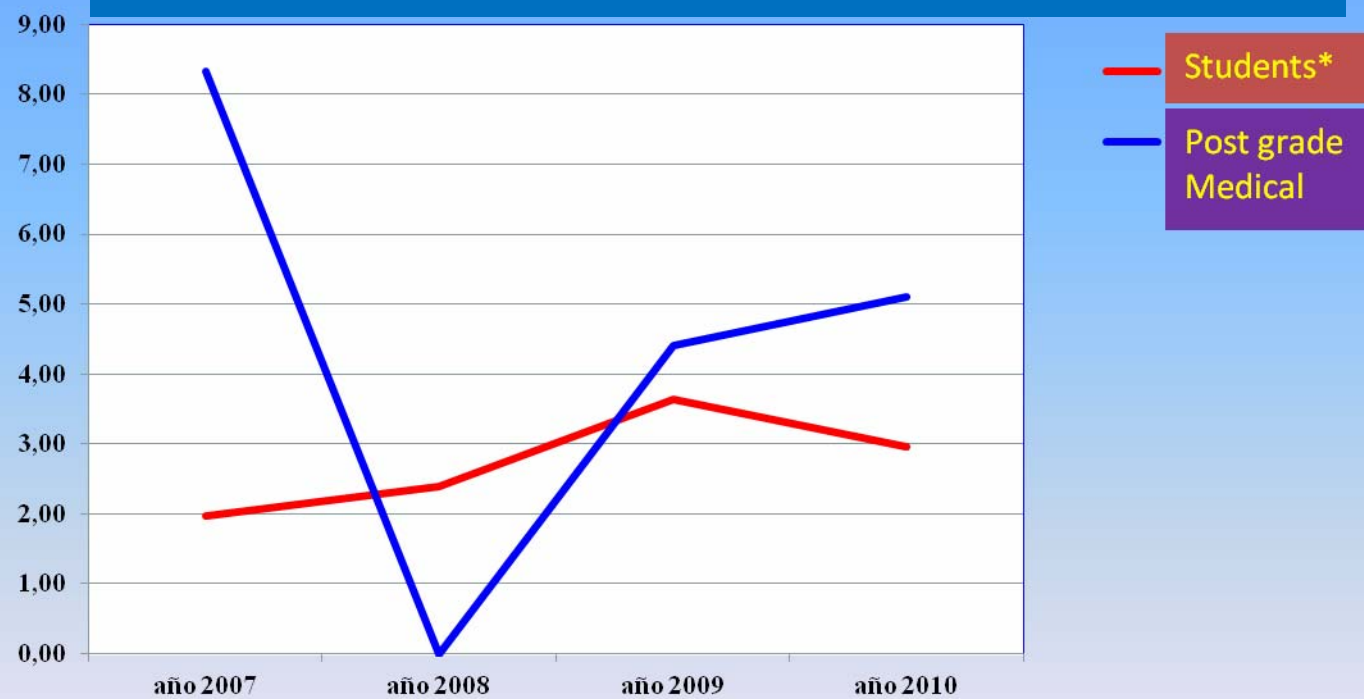
BIOLOGICAL INJURIES BY JOB AREA



Percutaneous rate by professional category

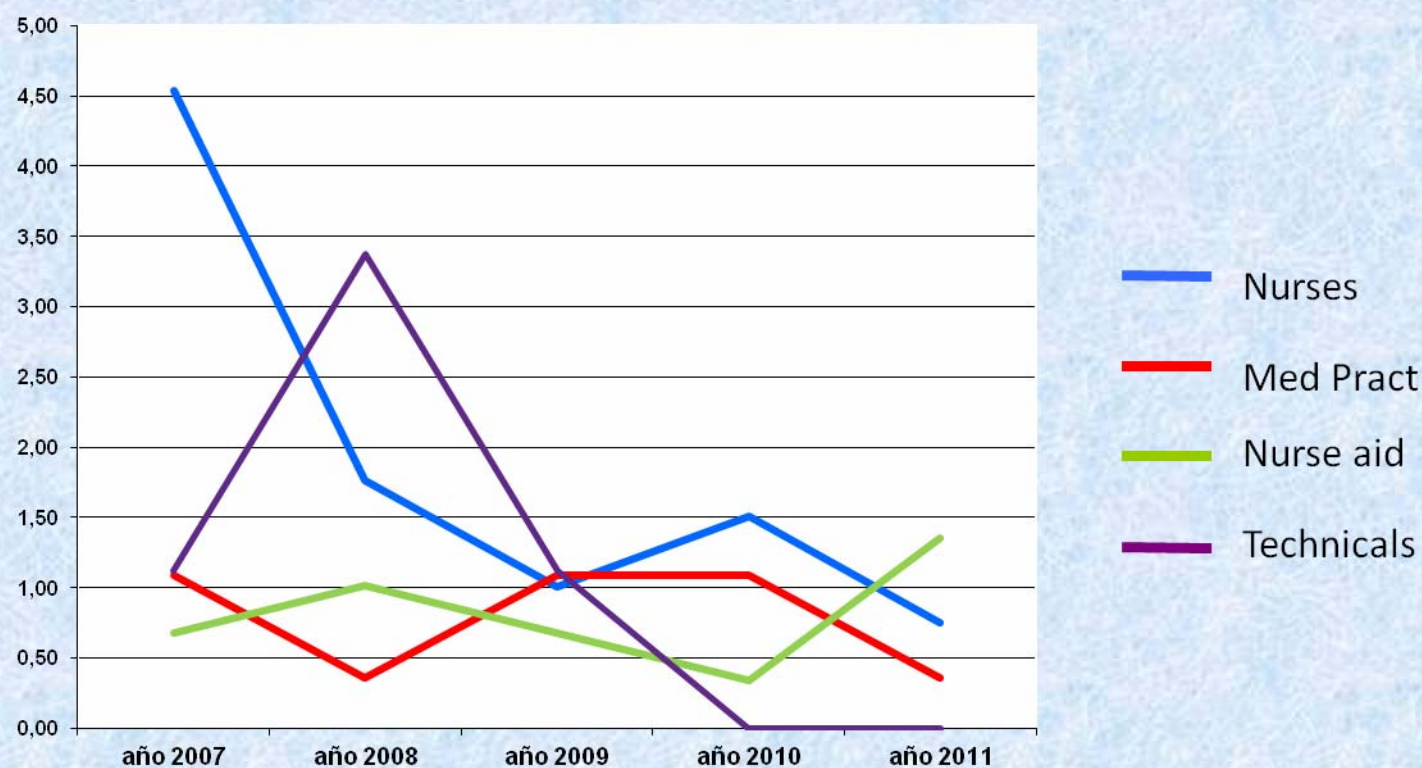


PERCUTANEOUS INJURY RATES BY PERSONAL IN TRAINING

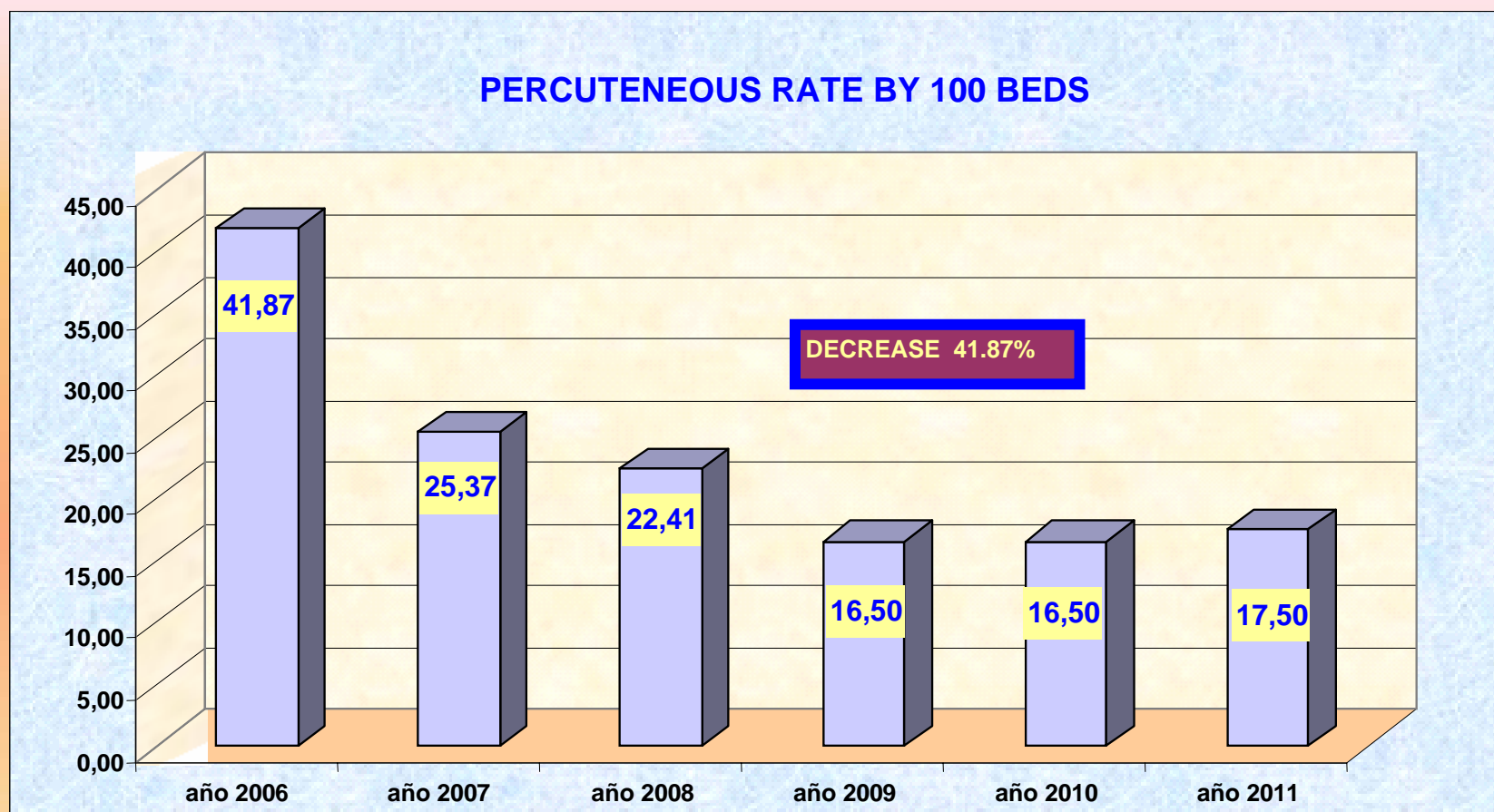


*Nurse + Nurse aid students

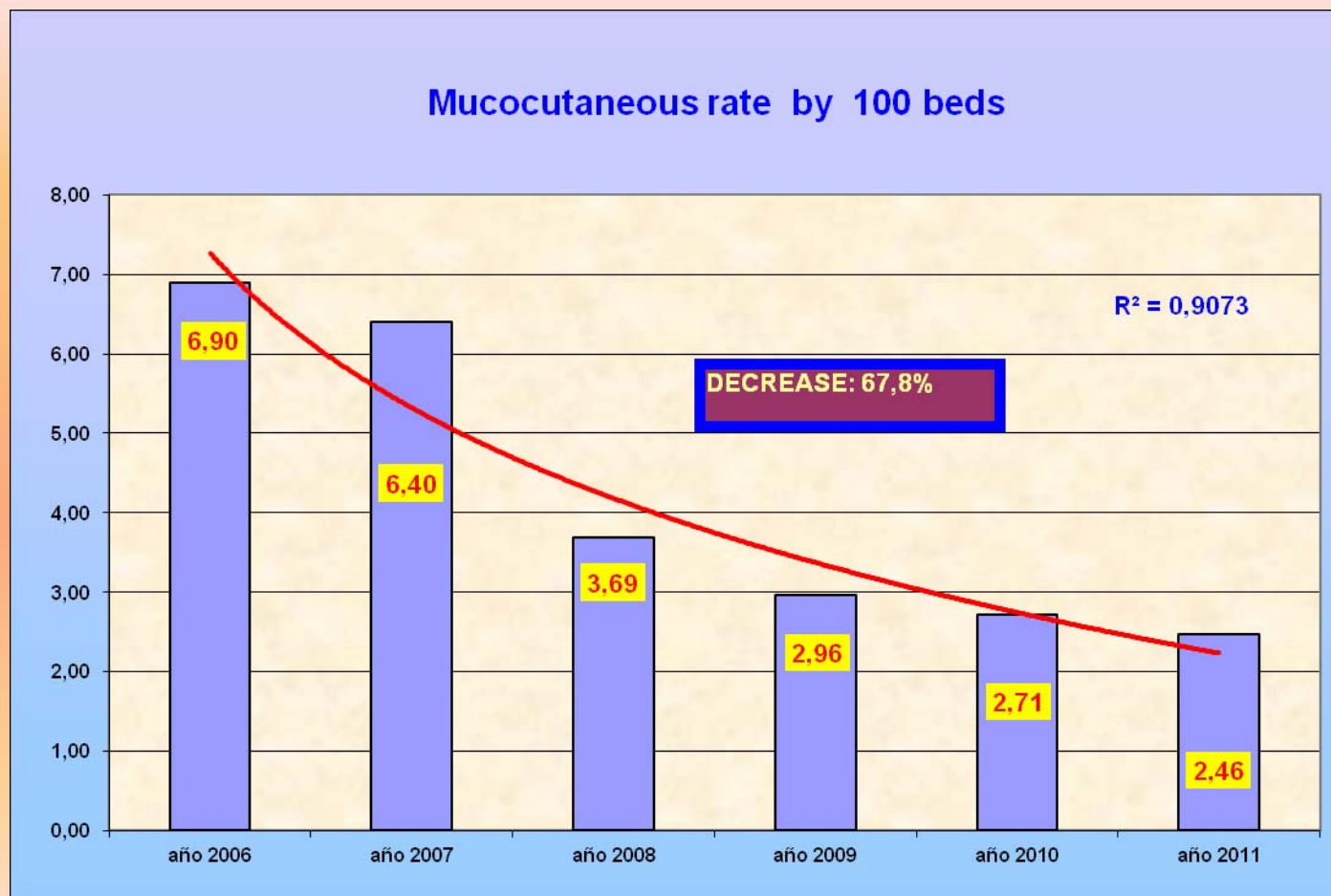
Mucocutaneous rate by professional category



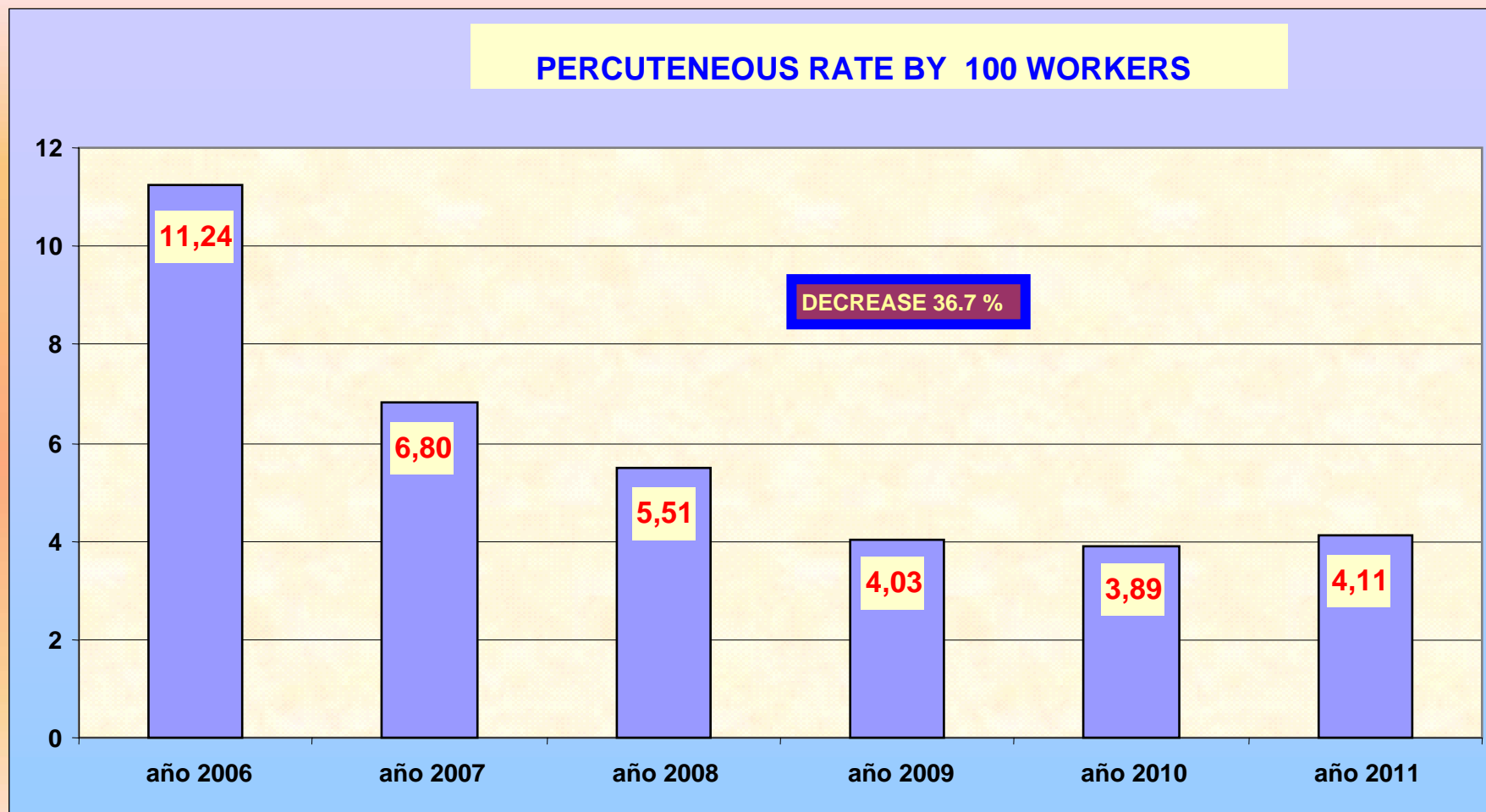
General Indicators: Percutaneous



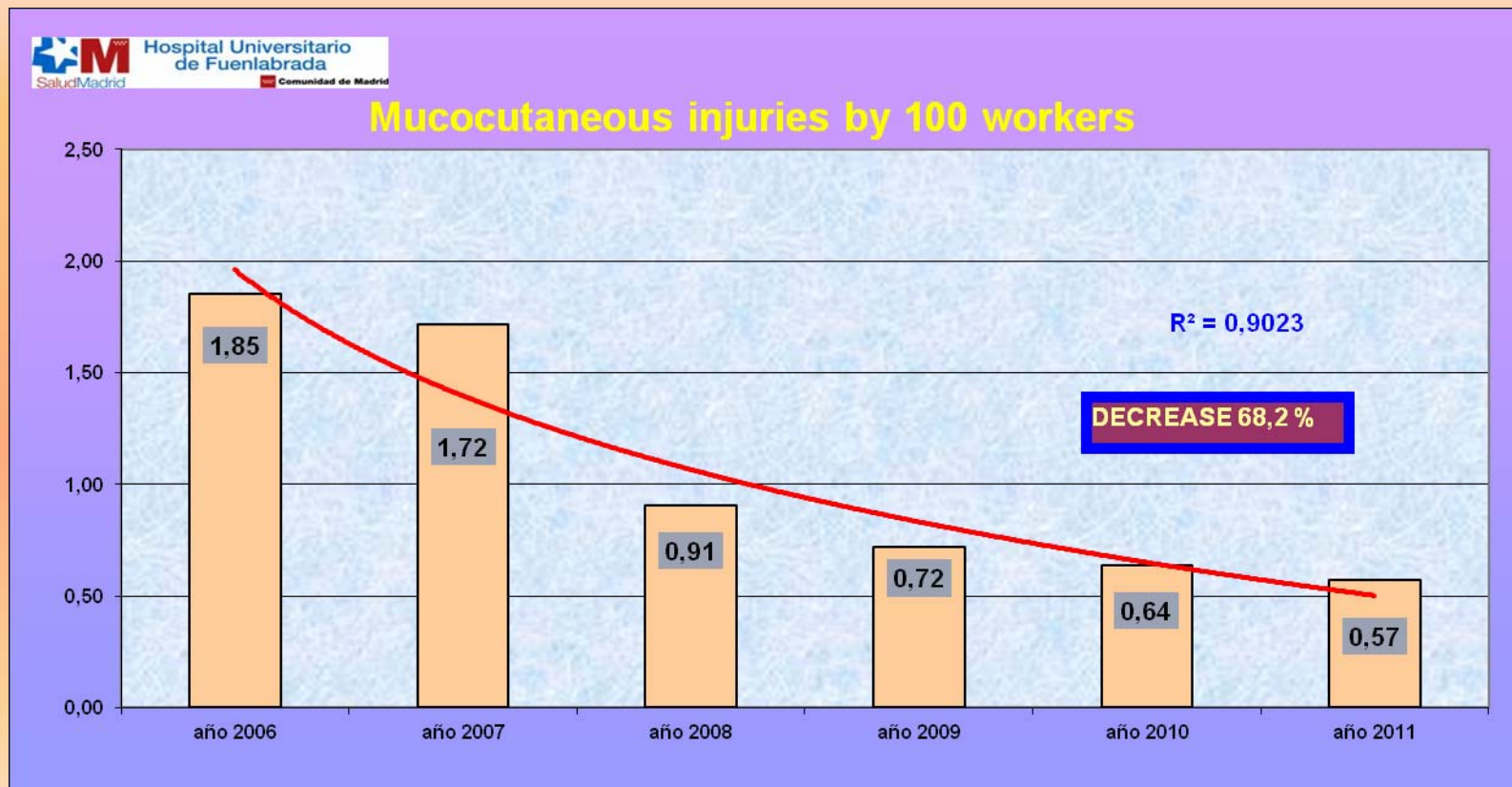
General Indicators: Mucocutaneous



General Indicators :Percutaneous



General Indicators

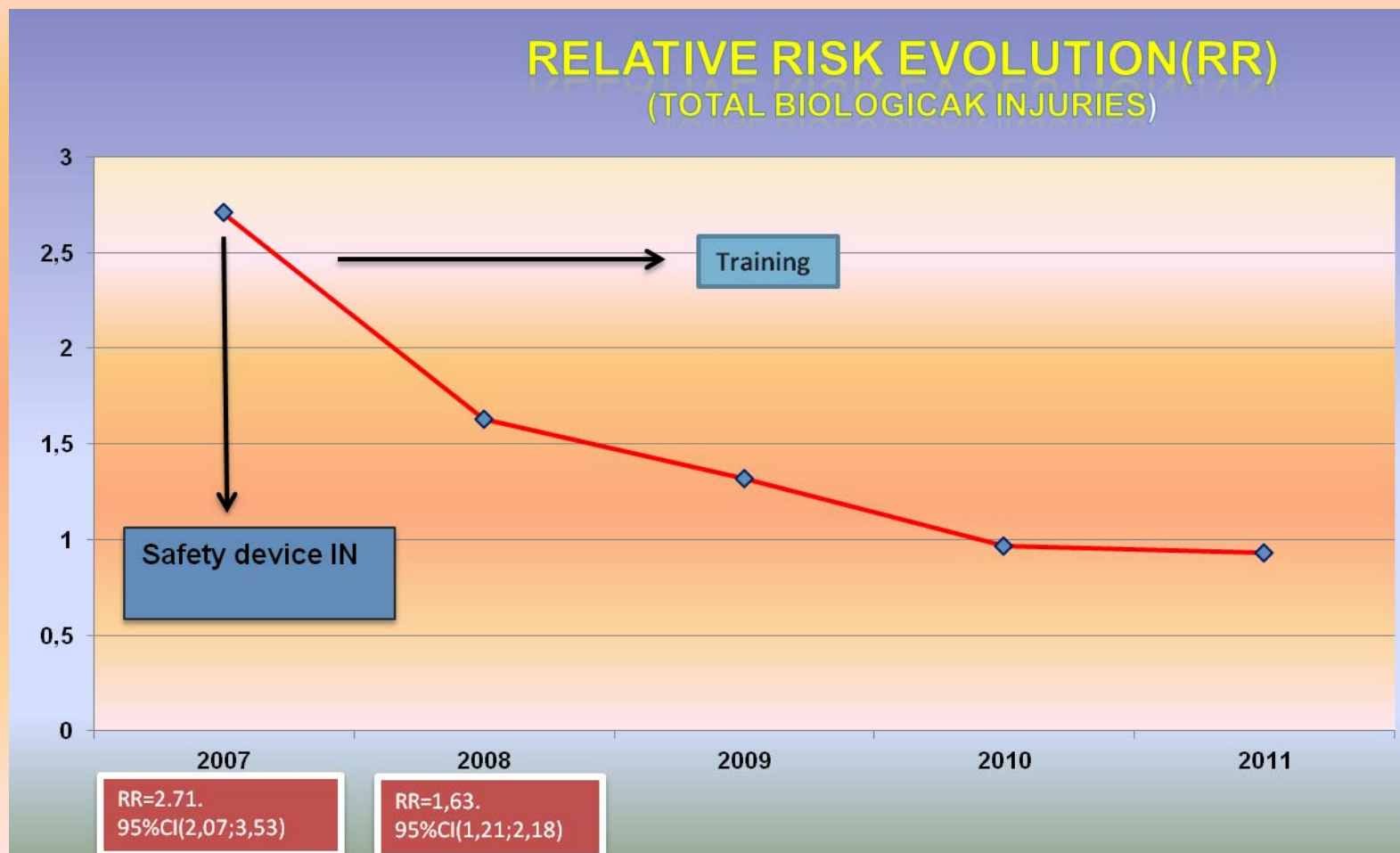


IMPACT FACTOR STUDY

Study: Cohorts. 2007-2011

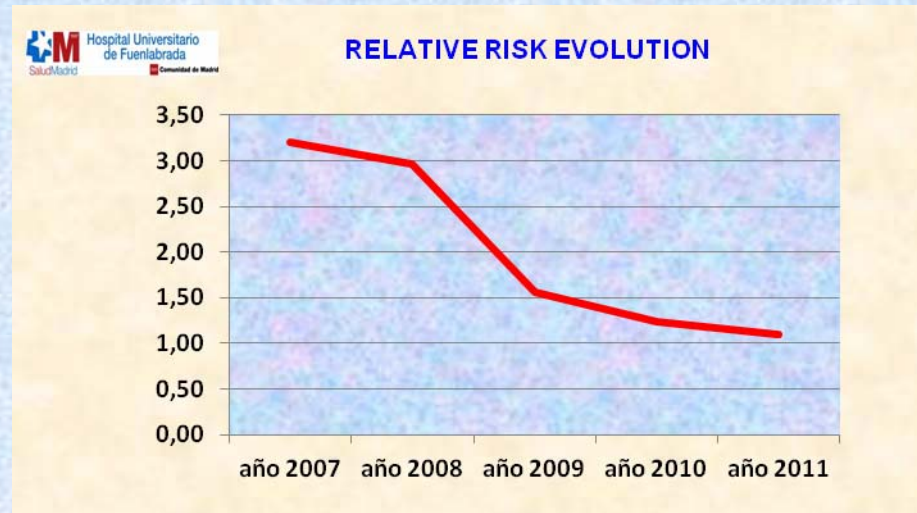
Date: Accumulate Incidence

CI: 95,0%



MUCOCUTANEOUS INJURIES

Study: Cohorts. 2007-2011
Date: Accumulate Incidence
CI: 95,0%



During 2007 :

We prevented 1 injury by 78 professionals
(NNT 77.9;95%CI (195,85 - 48,67))

During 2008 :

We prevented 1 injury by 88 professionals
(NNT 87.96;95%CI (255.98 – 53.10))

PERCUTANEOUS INJURIES

2007 vs 2006

Study: Cohorts. 2007-2011

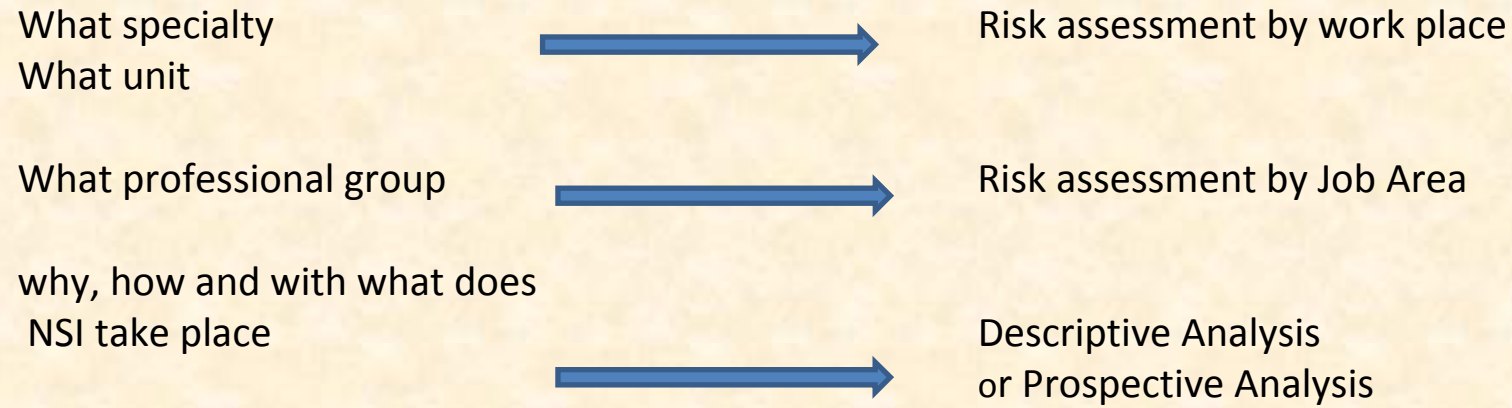
Date: Accumulate Incidence

CI: 95,0%

In 2006 there aren't safety device. The implementation began in 2007.
Analyzed 2007 vs 2006

- 1.- The implementation of a safety device decrease the injury risk
(DAR -0,45;95CI -0,06 -0,02;P<0.05)
- 2.- We prevent 1 injury by 22 professionals
(NNT22.2;P<0,05)

What?.....Risk Evaluation Pattern



**We know where NSIs are taking place,
with what supplies and where the
mistakes are happening, but.....**

CONTINUE TO REPORT NSIs IN “CONTROLLED
AREAS”WHAT CAN WE DO?



ADVANCE

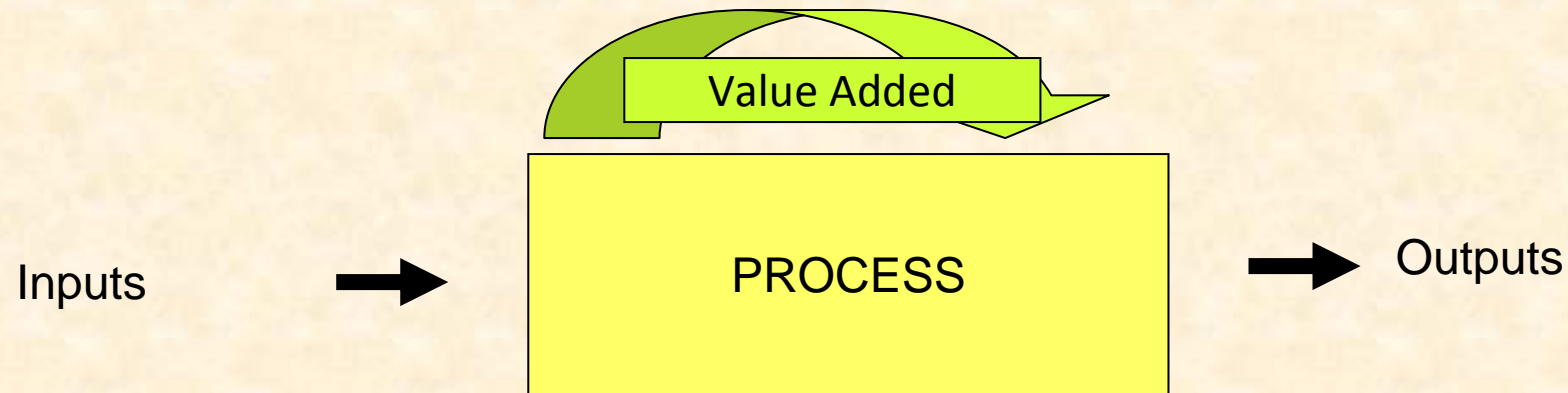


Complementing our own NSIs management
system with



SHARPS RISK ASSESSMENT SYSTEM

Process Definition



Process: Decision tree, activities and tasks carried out by a logical and sequential order to produce a result.

Critical elements of a process:

- Mission that can be defined
- Clear borders
- Sequence of actions and stages
- Measures that can be identified

Risk Assessment

Case Study 1: Insertion of Peripheral Vascular Catheter

Case Study 2: Blood collection

Case Study 3: Insulin Injection using an Insulin Pen Needle

Case Study 4: Insulin Injection using a safety syringe

Case Study 5: Medication Aspiration

Case Study 6: Intramuscular Injection

Case Study 7: Arterial Blood Sampling

Risk Assessment

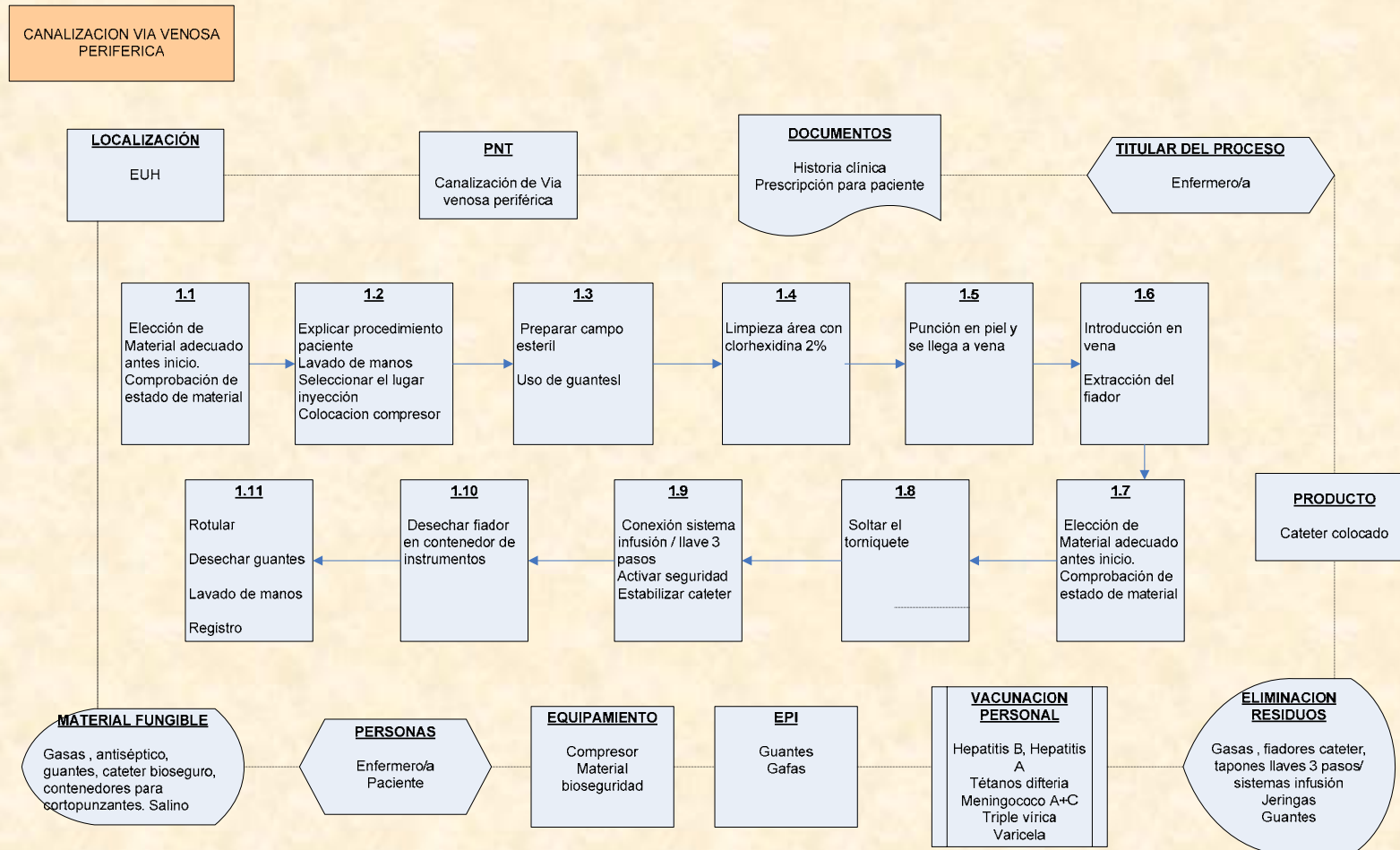
Process Maps

Process maps for each of the procedures to be assessed were prepared in advance by Luis Mazón and his team. These were then discussed, adjusted and agreed at the start of each risk assessment session. The set of sub-tasks for each of the case studies is provided with each case study report in Sections 3 to 10.

Description	Insertion of peripheral vascular access catheter (using the BBraun Introcan Safety device)
Location	EUH, Emergency Room, Surgery, Ambulatory Care
Owner	Nurse
Background Information	Clinical data sheet Patient's information Risk assessment procedure

Subtask No.	Subtask Name	Description
1	Select supplies	Select proper materials before starting the process Check that all materials are correct
2	Preparation	Explain the process to the patient HCW wash hands Select puncture area Apply tourniquet to patient's arm
3	Prepare site	Prepare convenient site & put on gloves

PROCESS MAP: INSERTION OF PERIPHERAL VASCULAR CATHETER



Risk Assessment

Risk Assessment Record Sheet

Process:				Subtask:			
Hazard	Causes	Harm	Existing Controls	Risk Evaluation			Recommendations
				S	L	R	

Hazard	Causes	Harm	Existing Controls	Risk Evaluation			Recommendation	
				S	L	R	No.	
Sub Task 5.	Skin Puncture & Catheter Insertion							
5.1 Exposed clean needle	High work load / Lower level of concentration	Needlestick injury/ scratch with clean needle	Best practice / Manual for new staff / Training / Wearing gloves	1	1	L	1.1	Gloves selection criteria as per European legislation 455(123) 474(123) and ASTM6978/1670/1671
	Low degree of experience and education							
	Unexpected patient movement							
	Inappropriate environment							

Risk Assessment

Risk Matrix

After some discussion of the risk management approach at the Hospital Universitario de Fuenlabrada it was decided that the risk matrix as proposed in the sharps risk assessment procedure would be used in these assessments.

	Likely	3	Medium	High	High
	Possible	2	Low	Medium	High
	Rare	1	Low	Low	Medium
Risk Matrix for Risk Assessment of Sharps Injury			1	2	3
			Minor	Moderate	Severe
			Consequence / Severity (S)		

Low	Risk is acceptable: no further risk reduction required
Medium	Risk is not acceptable: Further risk reduction is required
High	Risk is not acceptable: further risk reduction is very urgently required

Study Conclusions and Recommendations

The study has shown that the **use of sharps** at the Fuenlabrada Hospital is **well controlled**. A number of **Medium level risks were identified** for all of the processes covered, but most of these are the result of the intrinsic hazard associated with procedures that use sharps.

Thus, in blood collection, any Needlestick injury with a used needle has the potential to result in an infection unless the infection status of the patient is already known. This is therefore automatically classed as severity level 3, and will result in a Medium risk class even with at the lowest probability class. In these cases the recommendations proposed by the team are mainly to ensure that the existing risk controls are in place, being followed correctly and functioning as intended. Thus these are risk control recommendations rather than risk reduction recommendations.

Study Conclusions and Recommendations

From the 7 case studies there was only one High risk identified. This was for Case 3; and was for the risk of a Needlestick injury when the needle is **Insulin injection using a needle pen** being detached prior to disposal. The severity is level 3 - Severe due to the potential for infection. The team judged that the likelihood for this event was Level 2 - Possible making this a **High risk**.

The risk assessment study demonstrated that the general use of safety devices at the Fuenlabrada hospital has resulted in low levels of risk to the healthcare workers.

No.	Recommendation	Ref	Risk	Type	
				RC	RR
3.1	Use of safety devices	3.1/4.1 6.1/8.1	M	X	
3.2	Training	3.1/4.1 6.1/8.1	M	X	
3.3	Use of safety devices	7.1	H	X	
3.4	Training	7.1	H	X	

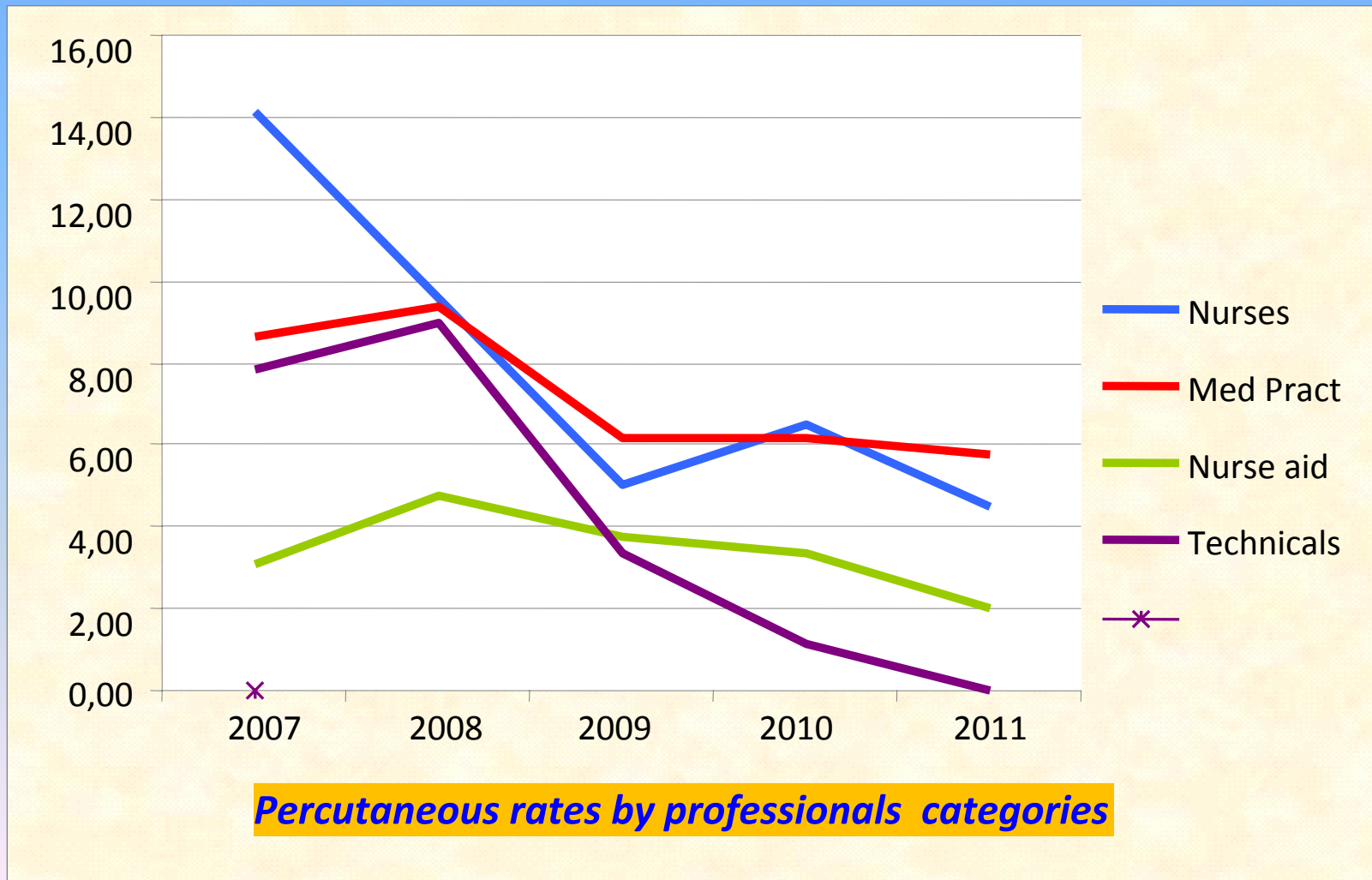


CONCLUSIONS

1. It is critical to comply with new European Directive and carry out a specific sharps risk assessment
2. There are several risk assessment methodologies all with the same final objective
3. We took into account assessments carried out to date as well as hospital protocols but needed to use new procedure as it is unique to comply with new EU Directive



4. It should be highlighted that the **OBJECTIVE** of the European Directive is to **DECREASE THE NUMBER OF NSIs**





WHY is the risk assessment we have carried out with DNV/BD proven to be so satisfactory and effective for us?

- New focus on processes has enabled the **organization to be geared** towards the accomplishment of desired outcomes, in our case, it has signified a critical change in our mentality:
- It will allow us to **guarantee safety** for the patient as well as the HCW.

We have formed teams to review working procedures at the nursing level.



CONCLUSIONS

- It will allow us to **define and compare safety products** for tenders, understanding their performance in **critical phases** that will be known in advance
- NSI decrease, effective management of the consumption of safety products and good working practices



BENEFITS OF THIS APPROACH BASED ON PROCESSES

- Integrates and aligns processes to enable the accomplishment of planned outcomes.
- Focuses efforts on process efficacy and effectiveness.
- Provides confidence to customers and other stakeholders regarding a good performance of the organization.
- Fosters transparency of procedures in the organization.
- Reduces costs y cycle times through an effective use of resources.
- Improves results.
- Identifies opportunities to focus and prioritize areas of improvement
- Stimulates staff participation and clarification of their roles and responsibilities.

Results and methodology will be available shortly

Sharps Risk Assessment Case Studies at the Hospital Universitario de
Fuenlabrada:
Final Report

Report for BD Europe
Report No: PP044235-1 v3

22nd August 2012

MANAGING RISK



MANY THANKS FOR YOUR ATTENTION



Hospital de Fuenlabrada

Servicio de Prevención de Riesgos Laborales