



**Pan American
Health
Organization**



**World Health
Organization**

REGIONAL OFFICE FOR THE **Americas**

Webinar

- Recommendations:
- Please turn off your microphone.
- There will be 40 minutes of presentation and 1 hour of questions and answers.
- Questions should be in writing, through the Chat or by email to: Infectioncontrol@paho.org
- The presentation will be available on the PAHO website in 48 hours.

Occupational exposures to bloodborne pathogens among Healthcare Workers

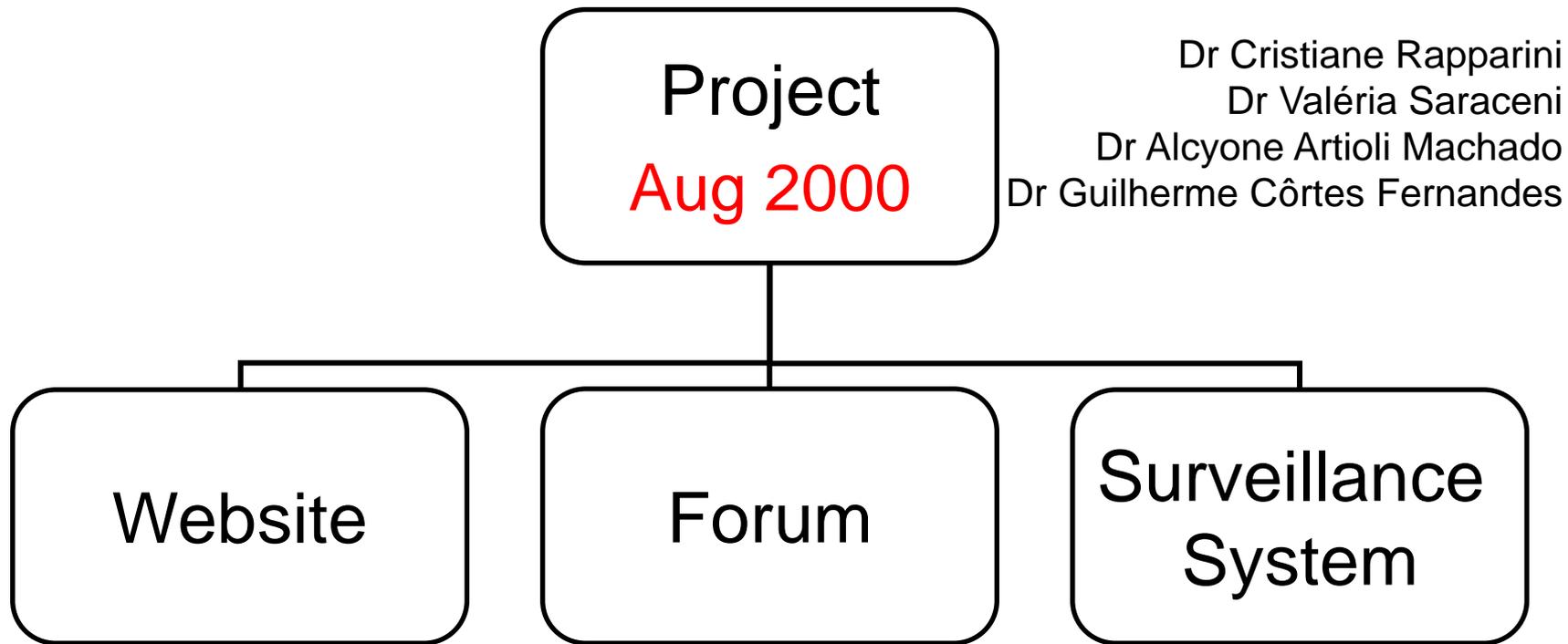
risco biologico.org



Dr Cristiane Rapparini
March 2017

Riscobiologico.org Network

Network – HCW & Healthcare facilities



Disclosure

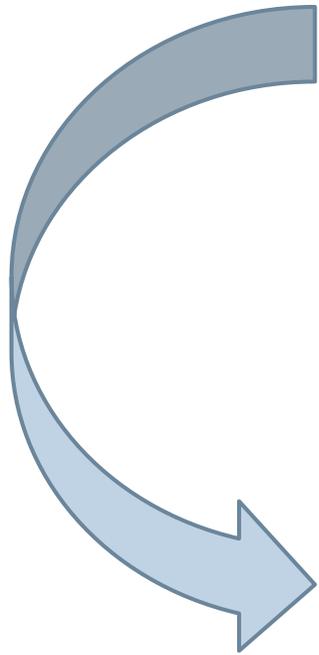
(CFM nº1.595/00 18/5/2000; ANVISA nº120/2000 30/11/2000)

Riscobiologico.org Project

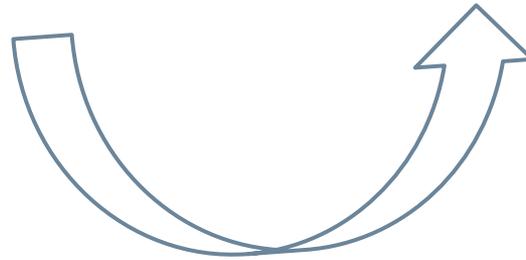
Lectures in meetings organized from several different companies (BD, BBraun, Biodina, AstraZeneca, etc.).
Educational Grants from BD.

The inclusion of photos of products from different companies in this presentation does not mean that they are endorsed by the Riscobiologico.org Project. The purpose is only educational, to show examples of products available in the market.





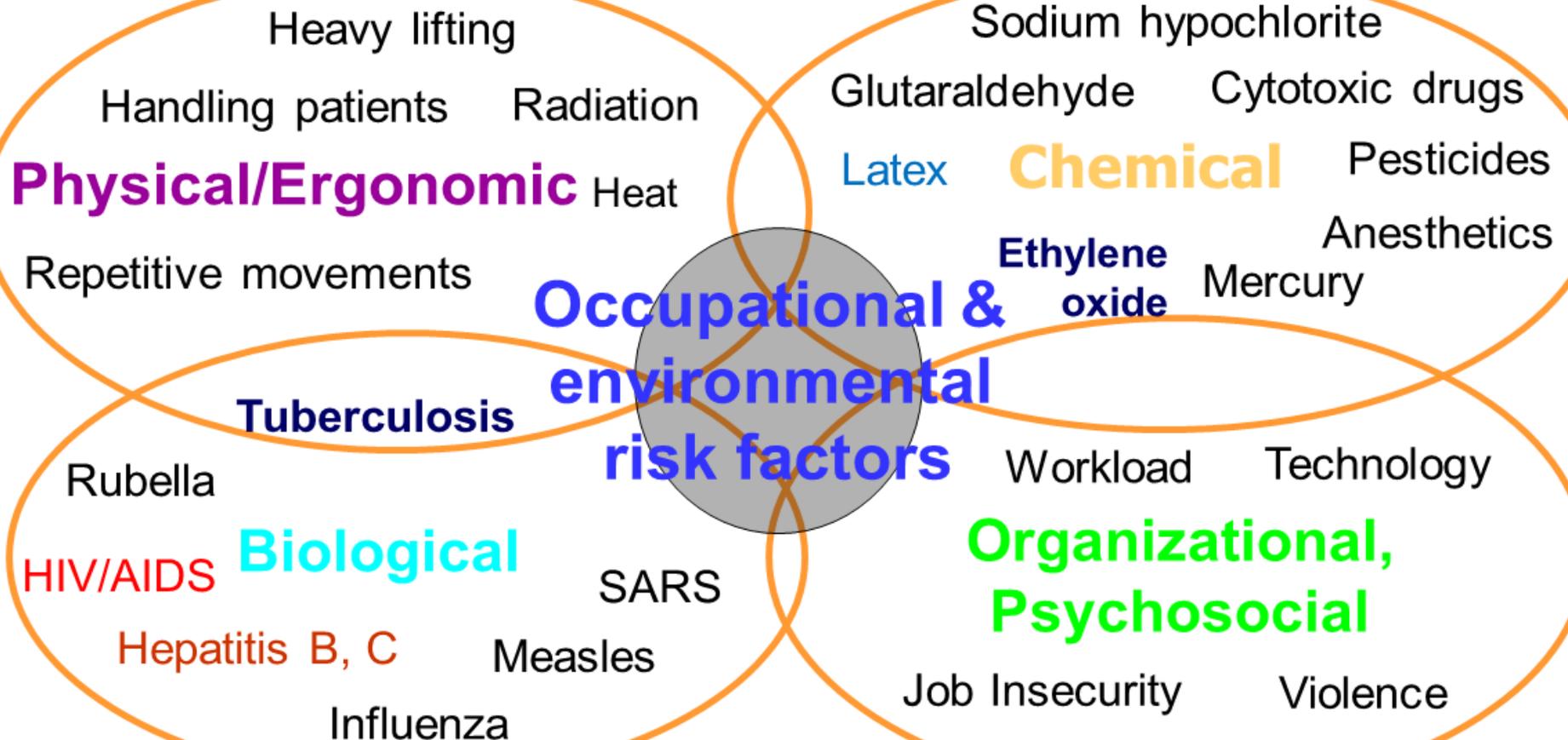
PATIENTS



**HEALTHCARE
WORKERS**



Hazards to health care workers



Occupational infections among HCW

HIV

HEPATITIS B

Bloodborne transmission

HEPATITIS C

(Total of 60 pathogens or species)

Published case reports were found for a total of 60 pathogens or species: 26 viruses, 18 bacteria/rickettsia, 13 parasites, and 3 yeasts.

Tarantola, AJIC 34(6): 367-75, 2006.

Burden of disease

Number of health-care workers at risk

Prevalence of HBV, HCV and HIV among patients and the general population

Annual incidence of sharps injuries

Risk of transmission

Use of postexposure prophylaxis

Occupational infections among HCW

- Worldwide, it was estimated that more than **three million** health-care workers will be exposed to a sharp object contaminated with HCV, HBV or HIV **every year**.

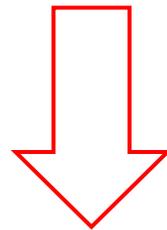
2,000,000 exposed to HBV, 900,000 to HCV, 300,000 to HIV

World Health Organization, 2002
Prüss-Üstün et al., 2003
Wilburn e Eijkemans, 2004

Occupational infections among HCW

- Worldwide, it was estimated that more than **three million** health-care workers will be exposed to a sharp object contaminated with HCV, HBV or HIV **every year**.

2,000,000 exposed to HBV, 900,000 to HCV, 300,000 to HIV



Year 2000

66.000 HBV
16.000 HCV
1.000 HIV

World Health Organization, 2002
Prüss-Üstün et al., 2003
Wilburn e Eijkemans, 2004

Occupational infections among HCW

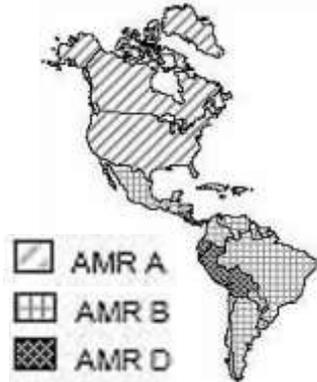
- Worldwide, it was estimated that more than **three million** health-care workers will be exposed to a sharp object contaminated with HCV, HBV or HIV **every year**.

2,000,000 exposed to HBV, 900,000 to HCV, 300,000 to HIV

~ 1,000 cases / 1 year
(HIV – Burden of Disease)

66.000 HBV
16.000 HCV
1.000 HIV

World Health Organization, 2002
Prüss-Üstün et al., 2003
Wilburn e Eijkemans, 2004



Sharps-associated infections in health-care workers – Amr B

	HIV (1,000)	HBV(66,000)	HCV (16,000)
HCW exposed to at least one percutaneous injury with a sharp object contaminated with HBV, HCV and HIV	23,000 (4,100–109,000)	61,000 (22,000–99,000)	57,000 (20,000–93,000)
Proportion of exposed HCW per year (%)	1.5 (0.3–7.1)	4.0 (1.4–6.5)	3.7 (1.3–6.1)
Number of infections among HCW attributable to sharps injuries	70 (13–360)	6 000 (1 800–25 100)	1 000 (360–5 500)

() Lower and upper estimates

Amr B Region - Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

Surveillance Systems & Case reports

Occupational Transmission to HIV

Summary of Published Reports. *National or regional systems for the surveillance of occupationally acquired HIV infection have been developed in most of the countries mentioned in this map. Early case descriptions appeared in mainstream journals but newly recognised cases are now likely to be included in aggregate data in routine surveillance output from national or regional surveillance centres.*



Occupational Transmission to HIV

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Occupational Transmission to HIV

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WHO (2000)

1,000 HIV / year

Burden of Disease

Number of HCW at risk

Prevalence of HBV, HCV and HIV

Annual incidence of sharps injuries

Risk of transmission

Use of postexposure prophylaxis

World Health Organization, 2002

Prüss-Üstün et al., 2003

Wilburn e Eijkemans, 2004

Surveillance System

106 (108) documented cases
238 (249) possible cases

+15

In 30 years !!

Surveillance System

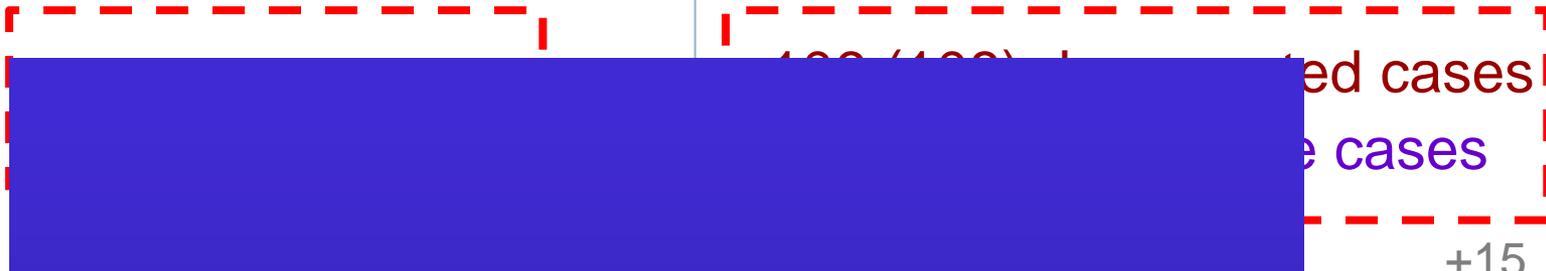
Summary of Published Reports

National or regional systems

HPA Cfl et al. 03/2005 Ed; 1-39

WHO (2000)

Surveillance System



No Data = No Problem

Janine Jagger
International Healthcare Worker Safety Center
University of Virginia

Wilburn e Eijkemans, 2004

WHO (2000)

Surveillance System

“... If You Can't Measure It,
You Can't Manage It

“... If You Can't Measure It,
You Can't Improve It...”

Wilburn e Eijkemans, 2004

Burden
Number
Prevalence
Age
Risk
Use

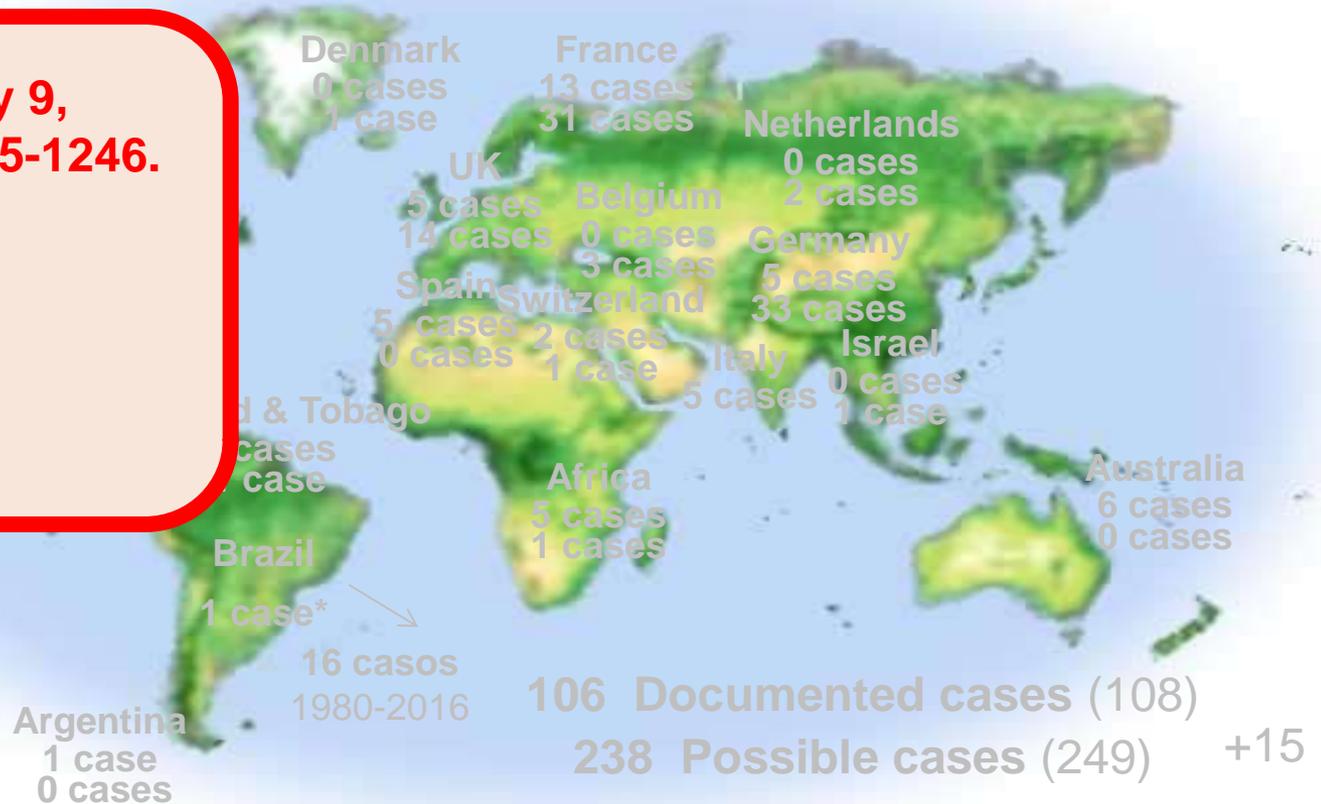
ases
ses
+15
n
ports
ems
1-39

Occupational Transmission to HIV

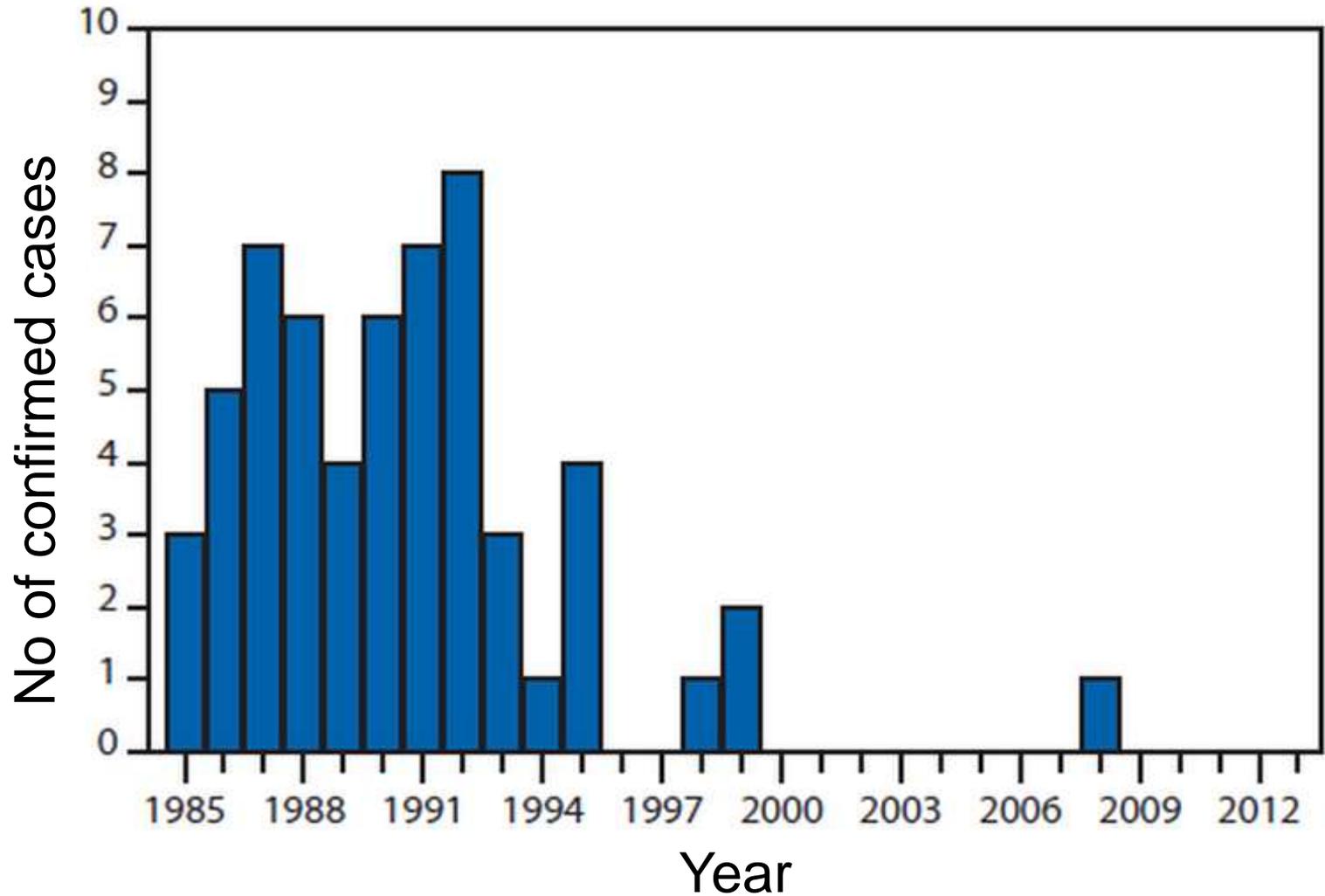
Summary of Published Reports. *National or regional systems for the surveillance of occupationally acquired HIV infection have been developed in most of the countries mentioned in this map. Early case descriptions appeared in mainstream journals but newly recognised cases are now likely to be included in aggregate data in routine surveillance output from national or regional surveillance centres.*

**MMWR – January 9,
2015 / 63(53);1245-1246.**

58 casos
150 casos
1985-2013

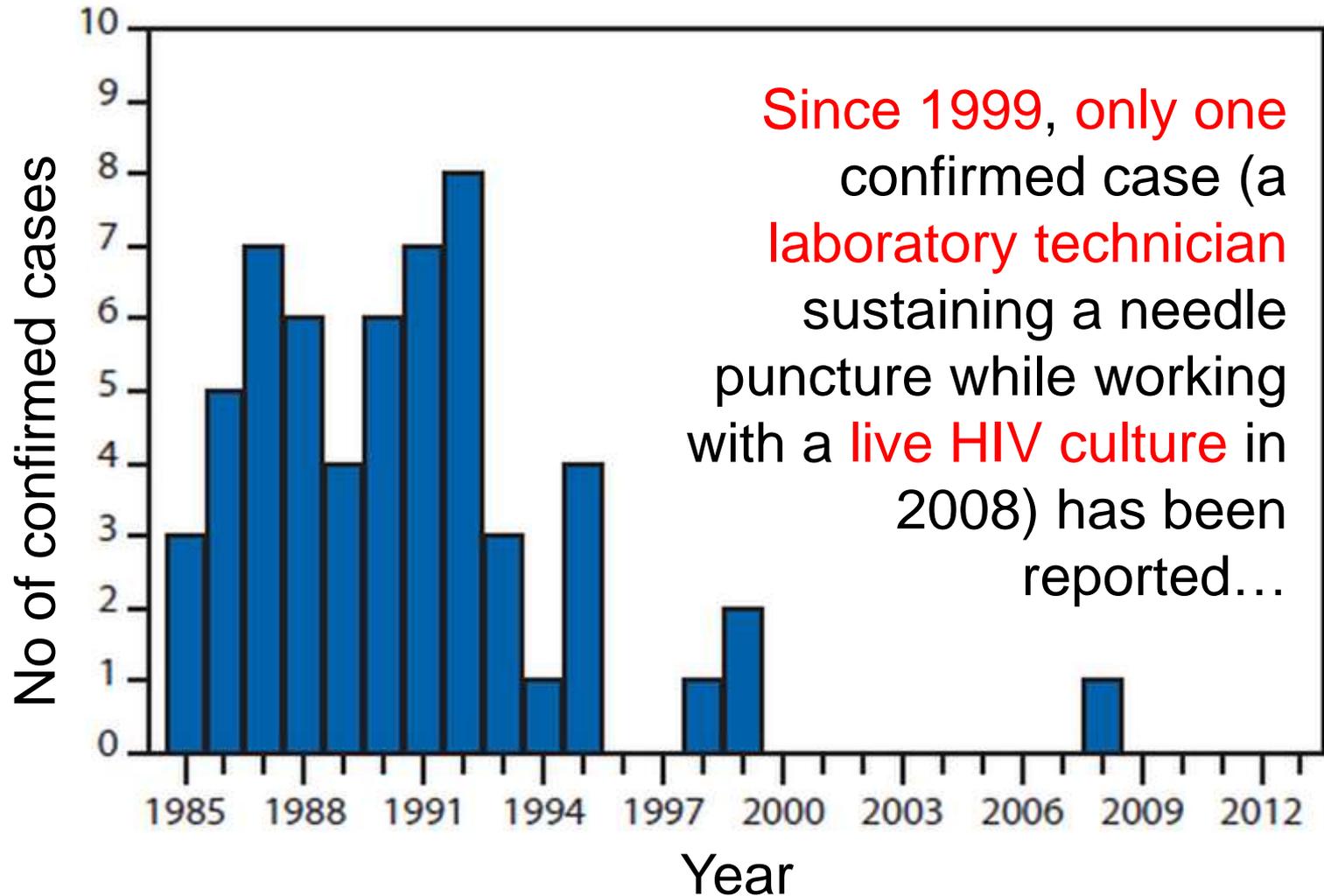


Occupationally Acquired HIV Infection Among Health Care Workers — United States, 1985–2013

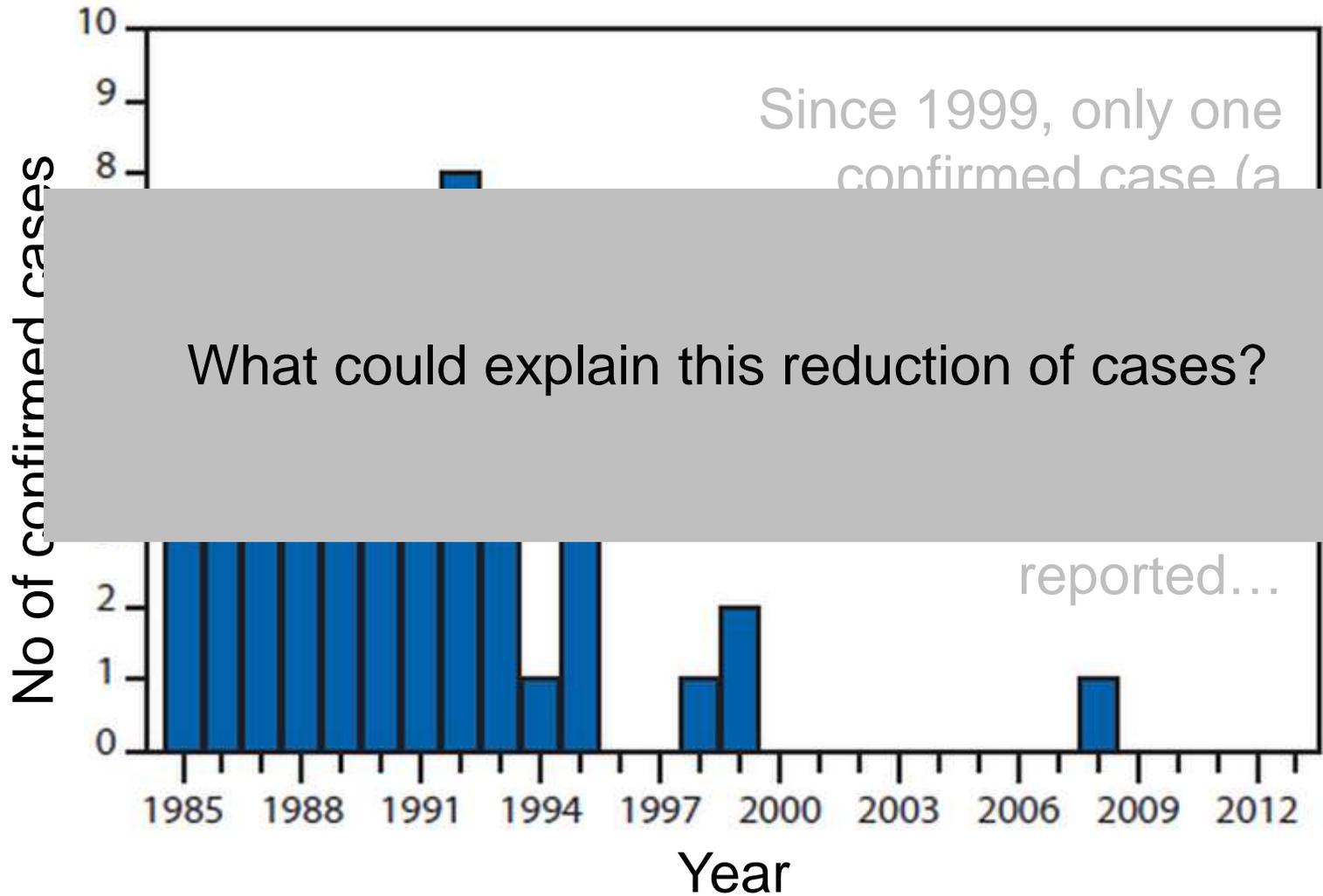


MMWR - January 9, 2015 / 63(53);1245-1246.

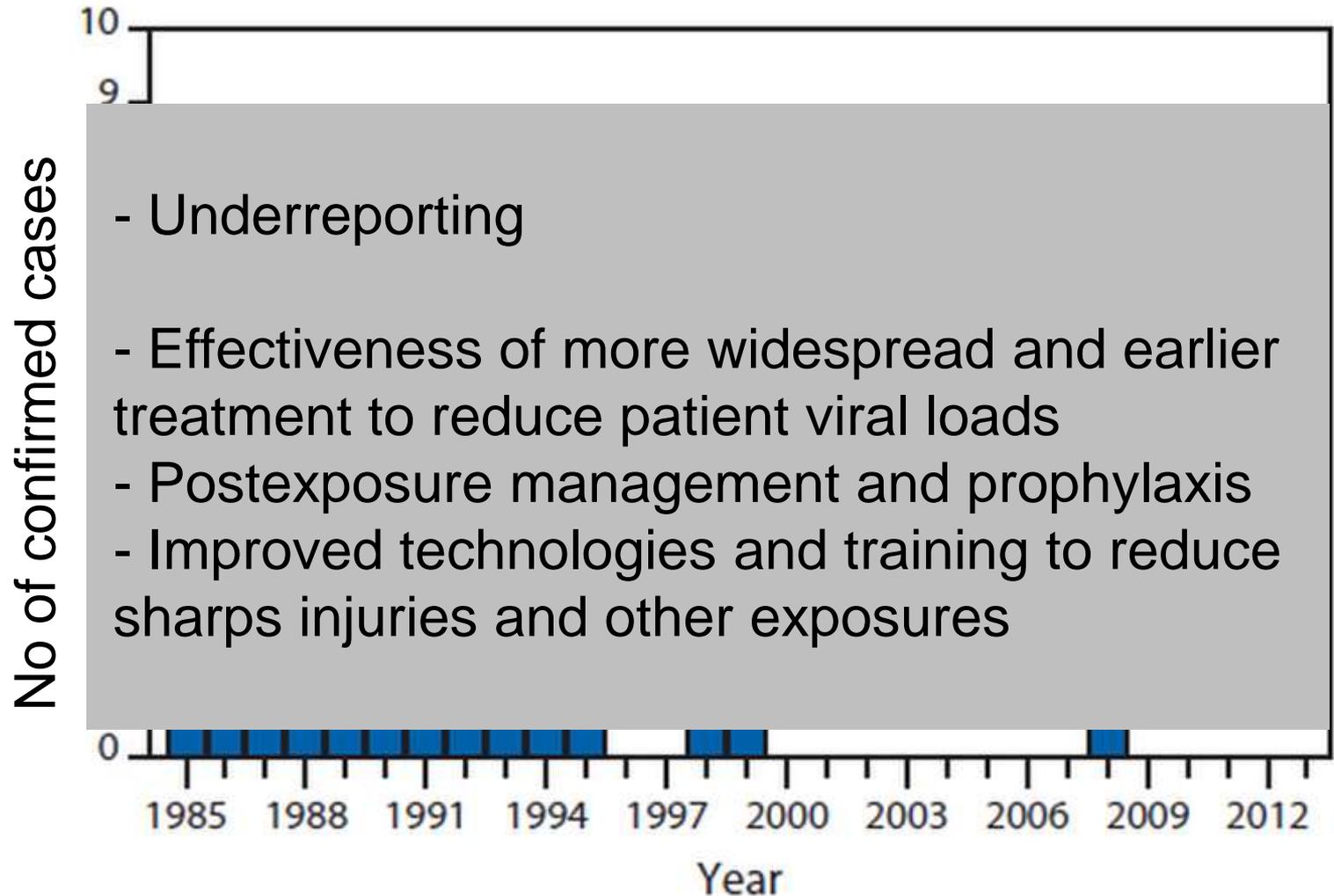
Occupationally Acquired HIV Infection Among Health Care Workers — United States, 1985–2013



Occupationally Acquired HIV Infection Among Health Care Workers — United States, 1985–2013



Occupationally Acquired HIV Infection Among Health Care Workers — United States, 1985–2013



Brazil

HIV Ocupacional

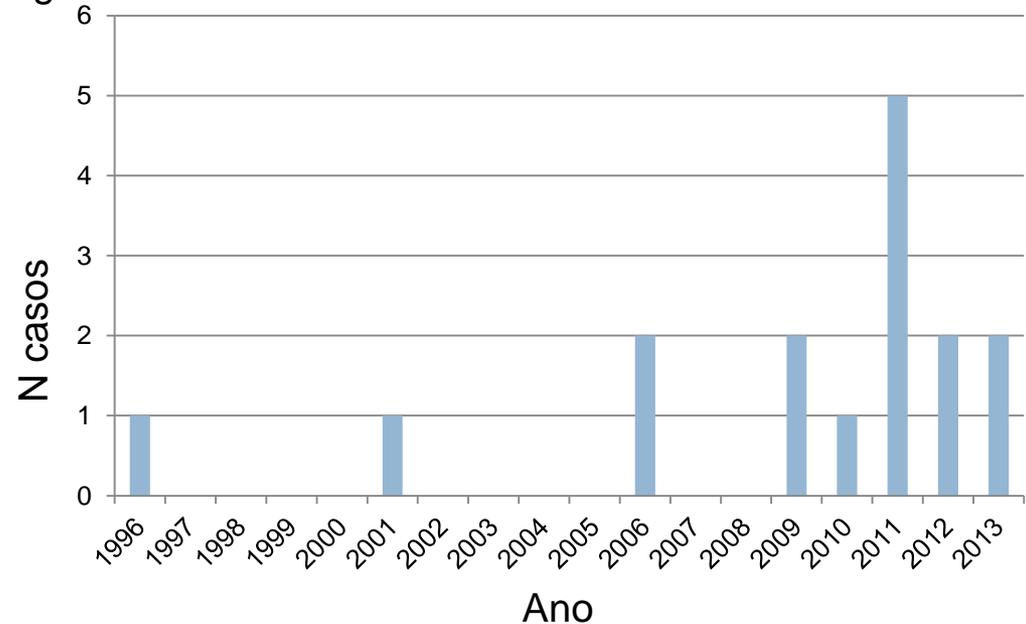


Frequência segundo Ano Diagnóstico

Categ Exp Hierar: Acid. Material Biológico

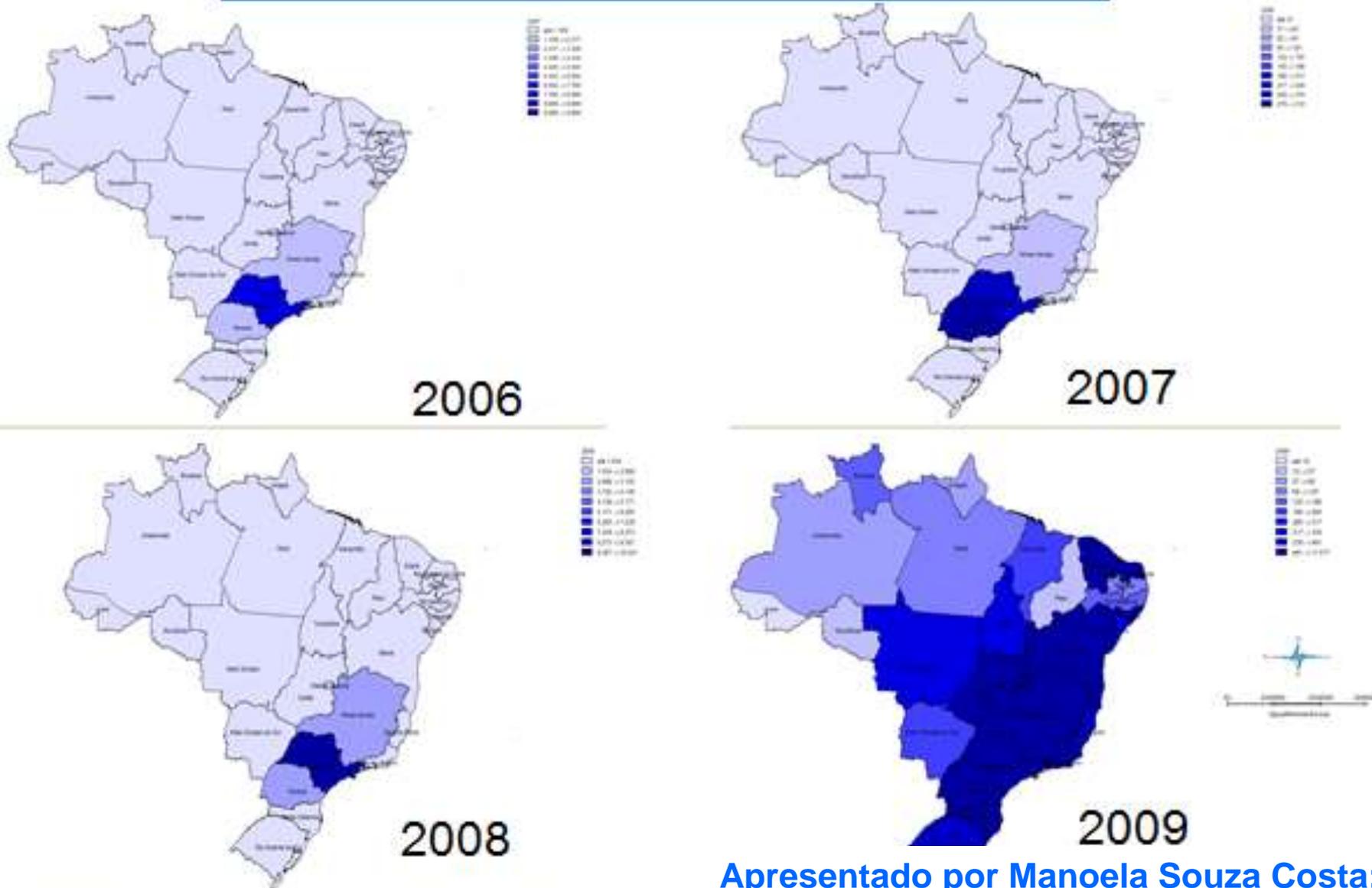
Período: 1980,1982-2016

Ano Diagnóstico	Frequência
TOTAL	16
1996	1
2001	1
2006	2
2009	2
2010	1
2011	5
2012	2
2013	2



Dados consolidados até 30/06/2016.

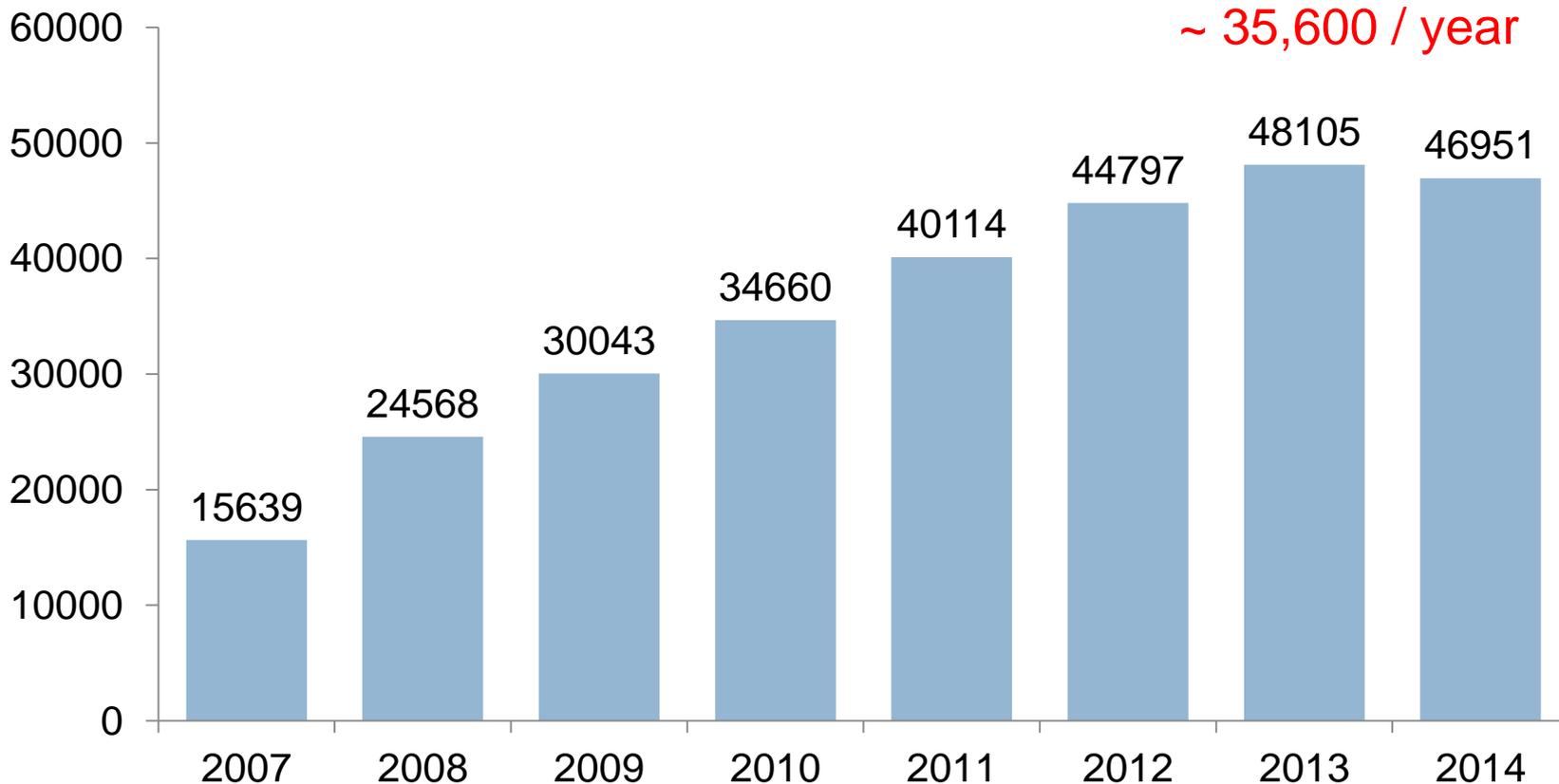
Figura 1: Notificações de Acidentes com Materiais Biológicos, segundo UF. Brasil, 2006 a 2009.



Fonte: Ministério da Saúde/SVS – SINAN-NET.

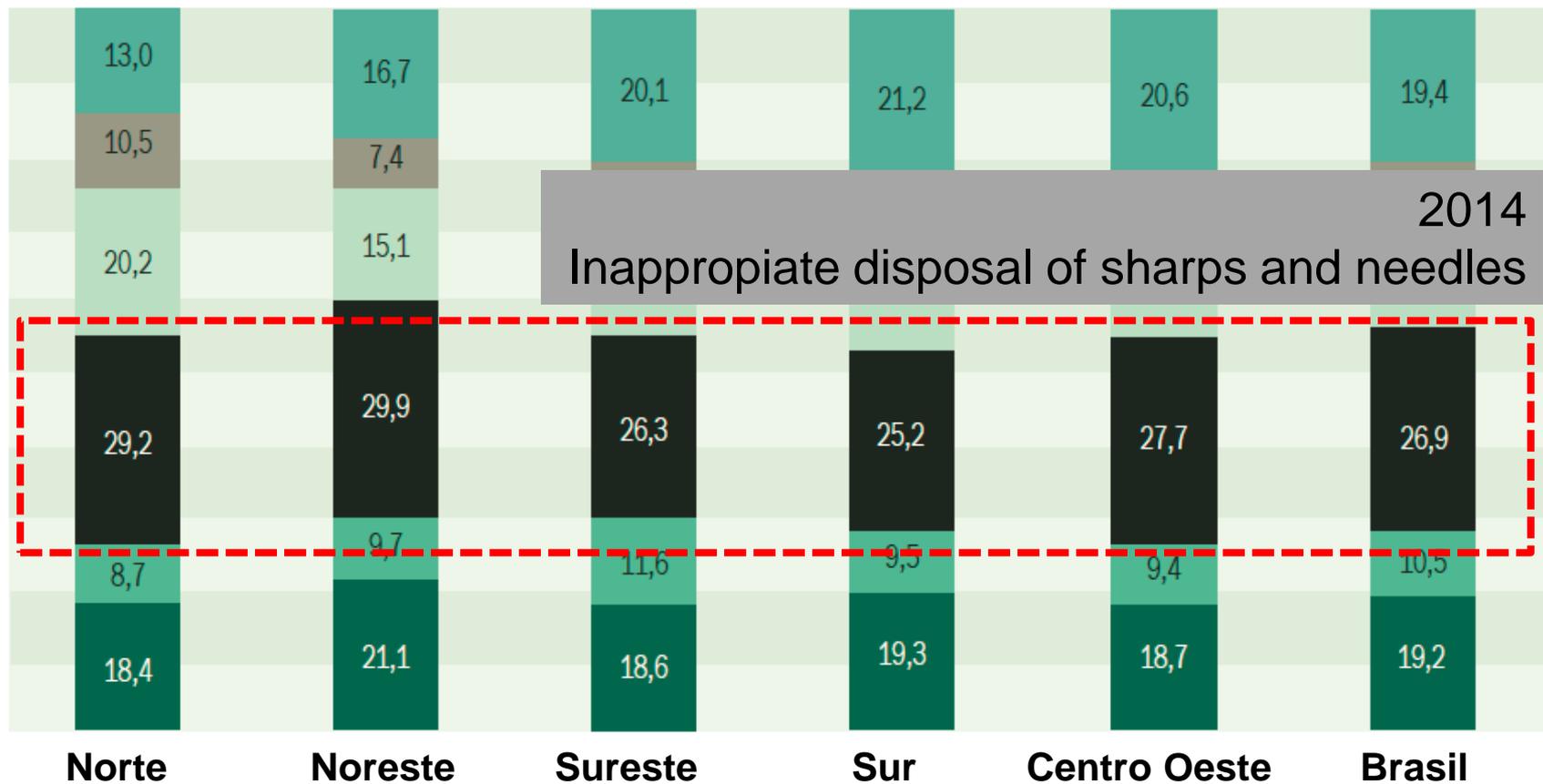
Apresentado por Manoela Souza Costa:
Rio de Janeiro, novembro de 2010.

Exposures to BBP among HCW / year of occurrence Brazil – 2007-2014 (N = 284,877)



Preliminary data – subject to change.
MS. Sinan, 2016. Miranda FMA, 2016.
2007 – 2014 - Total = 284,877 accidents

Distribución de los accidentes de trabajo con material biológico, según las circunstancias de ocurrencia, **por regiones y total**, Brasil 2014.



Fuente: MS. Sinan. DIIIESE. Anuário da Saúde do Trabalhador, 2015.

Brazil

Occupationally Acquired HIV Infection Among Health Care Workers

Occupationally Acquired HIV Infection

- Female, nursing aide
- Exposure 10/14/94 – venous catheter
- Source patient – AIDS diagnosis
- 10/17/94 = ELISA neg
- Nov/94 = fever + lymphadenopathy
- 29/12/94 = 2nd ELISA neg
- 04/11/95 = ELISA +, W.Blot +

Del Bianco, R. 2001.

Seabra-Santos NJ et al. Braz J Infect Dis 2002;6(3):140-1.

Occupationally Acquired HIV Infection

Rio de Janeiro, female, nursing technician

Percutaneous exposure, Winged steel needle, Jan 1996

Source patient - AIDS, previous undiagnosed

- Purpose or procedure for which sharp item was used or intended: To insert a peripheral intravenous line

Rapparini et al - 1996.

Rapparini, C. Am J Infec Control 2006;34:237-40.

Occupationally Acquired HIV Infection

Rio de Janeiro, female, nursing technician

Percutaneous exposure, Winged steel needle, Jan 1996

Source patient - AIDS, previous undiagnosed

- Purpose or procedure for which sharp item was used or intended: To insert a peripheral intravenous line
 - After the procedure, passing used device

Rapparini et al - 1996.

Rapparini, C. Am J Infec Control 2006;34:237-40.

Occupationally Acquired HIV+HCV Infection

Florianópolis - Santa Catarina

Male, nursing aide, 37 year-old

Percutaneous exposure, IV catheter stylet, 06/06/98

Neurotraumatology ward – Source patient HIV+

After the procedure, during device fixation
by stylet left on tray

Simultaneous co-infection with HIV and HCV
following an occupational exposure.

Araujo VC et al - ABIH 2000.

Rapparini, C. Am J Infec Control 2006;34:237-40

Occupationally Acquired HIV Infection

Percutaneous exposure - December 2007

Nursing aide, female, 42 year-old

Thumb injury, slight bleeding that was immediately washed

While performing a Capillary Blood Glucose (CBG) testing

The lancet had not been completely enclosed and was left on the table after the procedure

The HCW wore a latex glove during the procedure

PEP HIV (ZDV + 3TC + LPV/r) was initiated within the first 2 hours and maintained for 28 days

EIA neg jan/mar/may 2008, pos in June 2008

Source patient - AIDS, CD4 11 cels/mm³, not receiving any antiretroviral treatment, pulmonary TB

The patient had a history of neglect or irregular use of antiretroviral drugs (EFV, ZDV, 3TC)

Occupationally Acquired HIV+HCV Infection

- 27 year-old, female, **laboratory technician**, percutaneous exposure 01/12/2013, IV catheter – 20-gauge needle
- **IV access** – source patient – AIDS
- **Source patient**: homeless female, on irregular use of ZDV+3TC +LPV/r . She had been prescribed different regimens including NRTI, NNRTI and PI, since 2011, VL 4.56 log₁₀, CD4 143 cel/ml. She was HCV coinfectad (VL 5.9 log₁₀).

Occupationally Acquired HIV+HCV Infection

- **HCW: PPE ZDV + 3TC + LPV/r within 1 h of the accident.** The regimen was prescribed for 28 days, but she did not return to follow up.
- **Three months after the accident,** the HCW presented at an emergency unit with weakness, vomiting and ictericia, with high transaminases compatible to **acute HCV**. Anti-HCV+, VL 6.43 log₁₀, **anti-HIV+**, 1031 CD4 cels/ml, VL 3.9 log₁₀.

Occupationally Acquired HIV+HCV Infection

- **HCW**: The patient was treated for hepatitis C and an antiretroviral regimen was subsequently instituted.

At the last follow-up evaluation, the patient had undetectable viraemia to both HCV and HIV.

Brazil

**Examples – Occupationally
Acquired HBV+HCV Infection**

Rio de Janeiro, Brazil

- 1 CASE - HEPATITIS B
Jan/98 - RS, 26 year-old, fem, **housekeeper**, inappropriate disposal of sharp - sharp in trash, unknown source patient, initiated PEP for HIV, no information about vaccination against HBV
- 1 CASE CO-INFECCION - HEPATITIS B & C
mar/98 - AAC, 22 year-old, fem, **housekeeper**, inappropriate disposal of sharp - sharp in trash, unknown source patient, no PEP for HIV, not vaccinated against HBV

SMSDC-RJ/SUBPAV /SAP/CLCPE/GSAIDS

Jan 1997 – Dec 2012 - Total = 32,796 accidents

Acute HCV Infection

- SÃO JOSÉ DO RIO PRETO - SÃO PAULO, Brazil
- ESF, 43 year-old, male, married, nursing aide - ICU
- Source Patient - chronic liver disease/cirrhosis related to HCV (Child-Pugh C), ascites and renal failure

→ Percutaneous exposure, hollow-bore needle left in bed.

HCW suffered the needlestick while the patient was given a bath in bed.

Multi-causality in nursing work accidents with biological material

Contributing Factors

Insufficient number of workers

Work overload

Fatigue

Physical and emotional exhaustion

Poor technical training

Assistance in continuous shifts and at night shifts

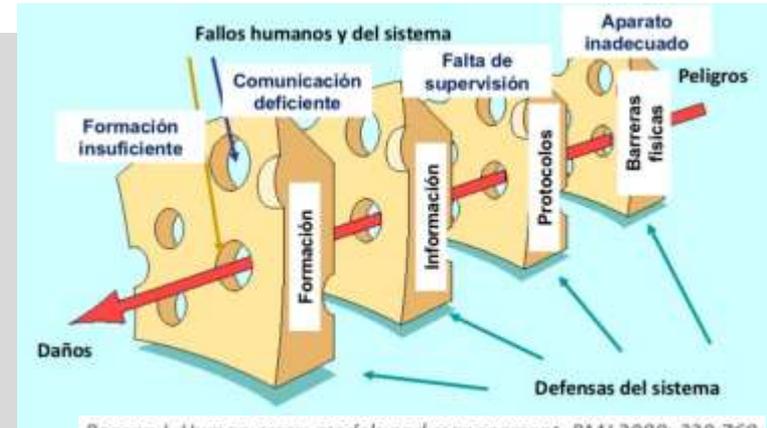
Lack of attention

Overconfidence

Inadequate equipment

Stress

Non-adoption of standard precautions



Reason J. Human error: models and management. BMJ 2000; 320:769

Pérez, PP. España, 2011.

Plan de Prevención de Riesgos de Accidentes con Punzocortantes

Decreto MTE n. 1.748, del 30 de agosto de 2011

Designing, Implementing and Evaluating a Sharps Injury Prevention Program

Continuous quality improvement

Integrated into existing programs

Determine Intervention Priorities

Develop and Implement Action Plans

I.V. ACCESS (venous, arterial):

- While inserting needle in patient
- While inserting/manipulating needle in line
- While withdrawing needle from patient
- While withdrawing needle from line



DISPOSAL:

In transit to disposal

Placing sharp in container - Injured by sharp being disposed

Placing sharp in container - Injured by sharp already in container

While manipulating container

Over-filled sharps container / Punctured sharps container

Identify the location of the sharps disposal container; place it as close to the point-of-use as appropriate for immediate disposal of the sharp.

Avoid bringing the hands close to the opening of a sharps container; never place hands or fingers into a container to facilitate disposal of a device. Use a mechanical device to pick up the sharp if it cannot be performed safely by hand.

DISPOSAL:

In transit to disposal

Placing sharp in container - Injured by sharp being disposed

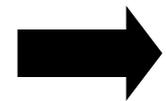
Placing sharp in container - Injured by sharp already in container

While manipulating container

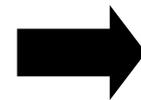
Over-filled sharps container / Punctured sharps container

Is it necessary to change the size or shape of sharps containers ? More frequent removals and a new container obtained ?

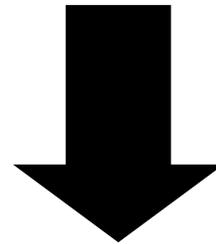
Data



Information



Decision

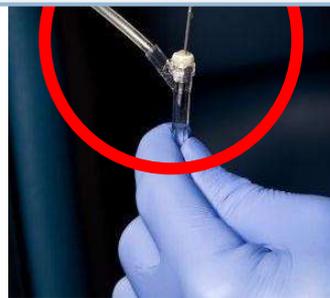


Action

Power in Numbers – Using EPINet Data to Promote Protective Policies for HCW

DATA

The single most important tool for promoting change.



Jagger J & Perry J.
Journal of Infusion Nursing
25 (6S), S15-S20, 2002.

Power in Numbers – Using EPINet Data to Promote Protective Policies for HCW

In 1992, EPINet data showed that needles used to connect IV lines or access IV ports were responsible for a large proportion of needlestick injuries.



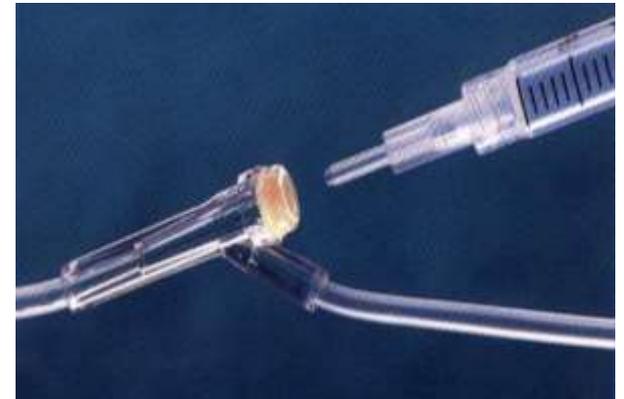
Jagger J & Perry J.
Journal of Infusion Nursing
25 (6S), S15-S20, 2002.

Needleless IV systems, recommended by the FDA (1992)

Food and Drug Administration (FDA). (1992). FDA safety alert: Needlestick and other risks from hypodermic needles on **secondary I.V. administration sets – piggyback and intermittent I.V.** Rockville, MD: FDA.

The FDA was very responsive and sent out the requested safety **alert in only 6 weeks.**

**Inyectores
laterales, terapia
IV intermitente, etc.**



Red Latinoamericana de Bioseguridad en Servicios de Salud (Febrero 2015)



Colombia:

- Alba Cecilia Garzón, Auditoría y Consultoría en Garantía de Calidad Ltda.
- Martha Luz Bernal, Avenir Ltda, Bioseguridad y Salud Ocupacional
- Consuelo Granja, Universidad Javeriana
- Beatriz Carvallo, Comité Permanente en Salud Ocupacional
- Zulma García, Ex Presidente de COPERSO

Panamá:

- Argelis Olmedo, Gerente de Control de infecciones y seguridad del paciente, Hospital Punta Pacífica.

México

- Florencia Cabrera Ponce, Presidente de Asociación Mexicana para el Estudio de las Infecciones Nosocomiales AMEIN
- Roxana Trejo, Secretaria General de Asociación Mexicana para el Estudio de las Infecciones Nosocomiales AMEIN, Hospital ABC
- Martha Huertas, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán
- Raúl Sánchez Román, Instituto Mexicano del Seguro Social IMSS
- Elia Enríquez, Federación Nacional de Salud en el Trabajo FeNaSTAC



España –@NTAB – Consejería de Sanidad y Consumo -
Comunidad de Madrid

EE.UU. – EPINet – International Safety Center

EE.UU. – CDC – National Healthcare Safety Network

EE.UU. – Massachusetts Sharps Injury Surveillance System –
Massachusetts Department of Public Health

Brasil. - PSBio – Riscobiologico.org Network



REDLATAMBIOS

**Registro de Accidente de Trabajo
con Patógeno de Transmisión Sanguínea**

THE HUMAN FACE OF THE NUMBERS...

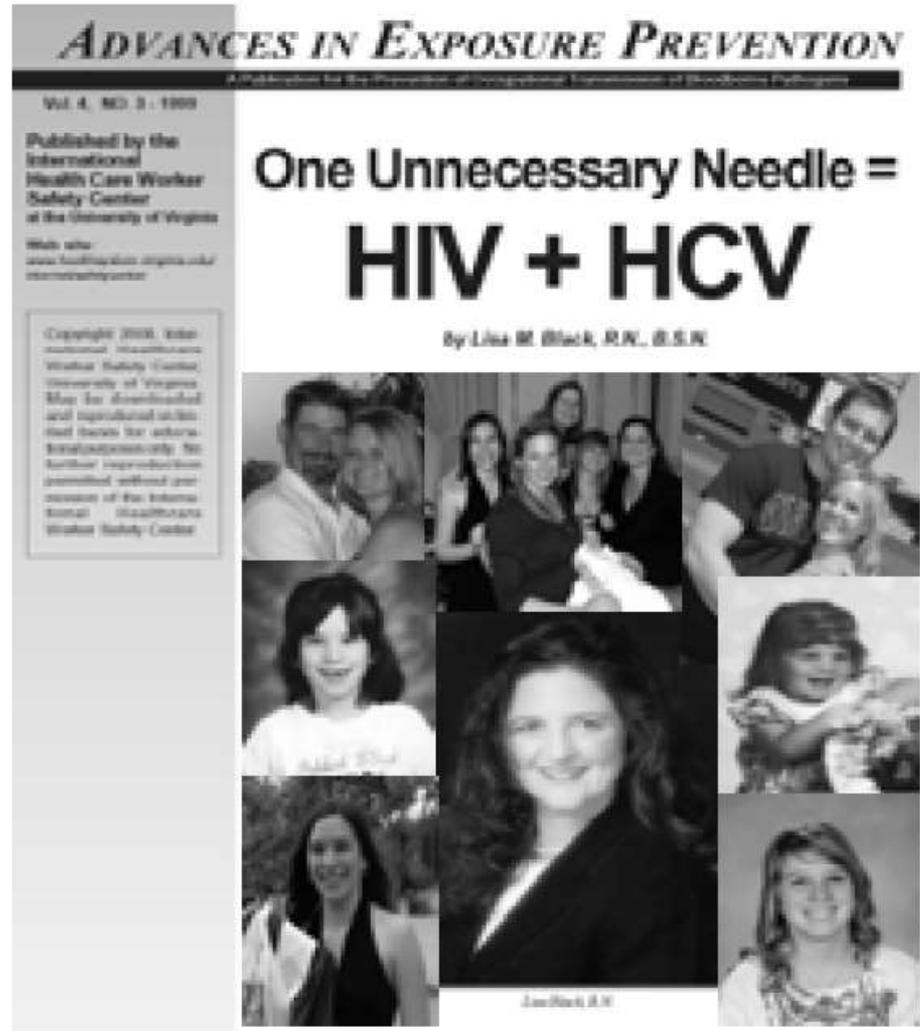
Workplace Accidents and Their Consequences

- Estimated risks for infection
- **Social and psychological impact**
 - Medical costs
 - Personal costs
 - Legal liability

Post-traumatic stress disorder (PTSD)

- Nurse technician
- São Paulo, Brazil
- Exposure to a Source Patient HIV+
- **Suicide**

October 18, 1997



One night ...

One needle ...

So many lives changed

Lisa Black – Presentación
– Univ Virginia – Nov 2011

Life after an HIV/HCV Diagnosis



Kaitlyn



Rebecca



Occupational HIV + HCV

Lisa Black

“Dying in 10 years” x “Become
part of
the solution”

Occupational HIV + HCV

Lisa Black

“Was a specific law really necessary? Why?”

Yes, a specific law was needed. “FDA had issued a needlestick prevention alert five years prior to my injury, and the facility at which I was employed failed to heed this recommendation to eliminate using needles to access IV lines after initial insertion.”

PREVENTION

FLUJO Y CONSUMO

Empleados: 3.540

Flujo: cerca de 11 personas/día

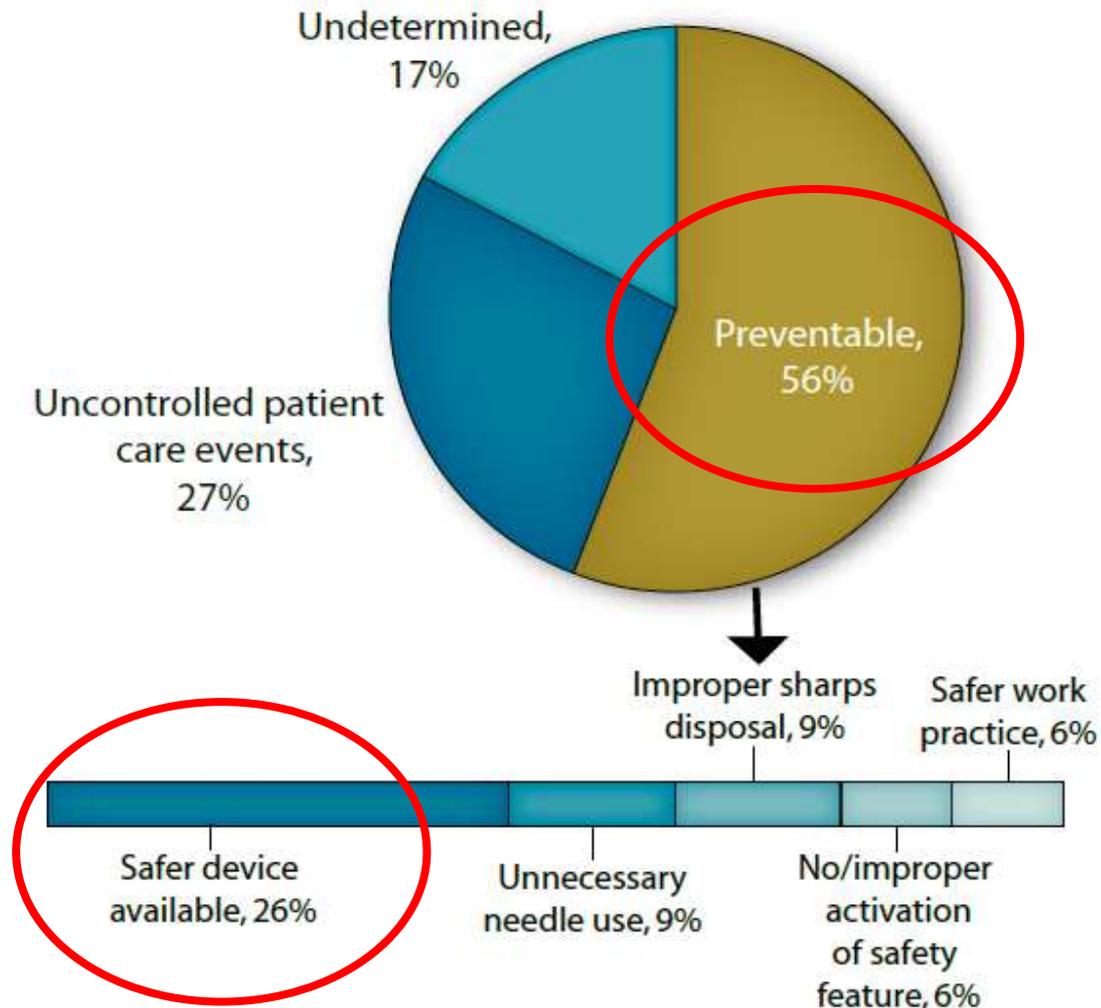
~ **500** camas

5 toneladas de ropas lavadas/día

4.500 jeringas y agujas desechables/día

3 millones de pares de guantes/año ó 10 mil/día

Estimated Preventability of Percutaneous Injuries Involving Hollow-bore Needles (n=13,847)



The Needlestick Safety and Prevention Act

November 6th 2000



JAGGER, 2001.



Directive (2010 / 32 / EU)

“Where there is a risk it must be eliminated”

Deadline for transposition and mandatory implementation of this Directive in all EU countries – **May 2013.**

US – *The Needlestick Safety and Prevention Act.* signed into law in November, 2000. The effective date of the regulations was April 18, **2001**.

EU countries – Directive UE 2010/32/EUA of 10 May 2010 - is required to be implemented as national law in all EU countries by May **2013**.

Brazil – NR 32 (Sept **2005**) – NR32 established and required that healthcare employers had to implement safety-engineered sharp devices in order to reduce employees' occupational exposure to HIV, HBV, HCV and other bloodborne diseases.

Decreto MTE n. 1.748, 30 Aug **2011**. Employers should elaborate and implement a Sharps Injury Prevention Program in no more than 120 days (December, 2011).

Sharps Injury Prevention Program

Ministry of Labour and Employment

Decreto MTE n. 1.748, 30 August 2011

- Needlestick prevention committee / Multidisciplinary Management Committee
- Baseline Profile of Sharps Injuries
- Determine Intervention Priorities / Sharps Injury Prevention Priorities
- Hierarchy of control measures
- Selection of Sharps Injury Prevention Devices
- HCW Training
- Implementation Plan and Schedule
- Perform Post-implementation Monitoring

Ahora lo ves



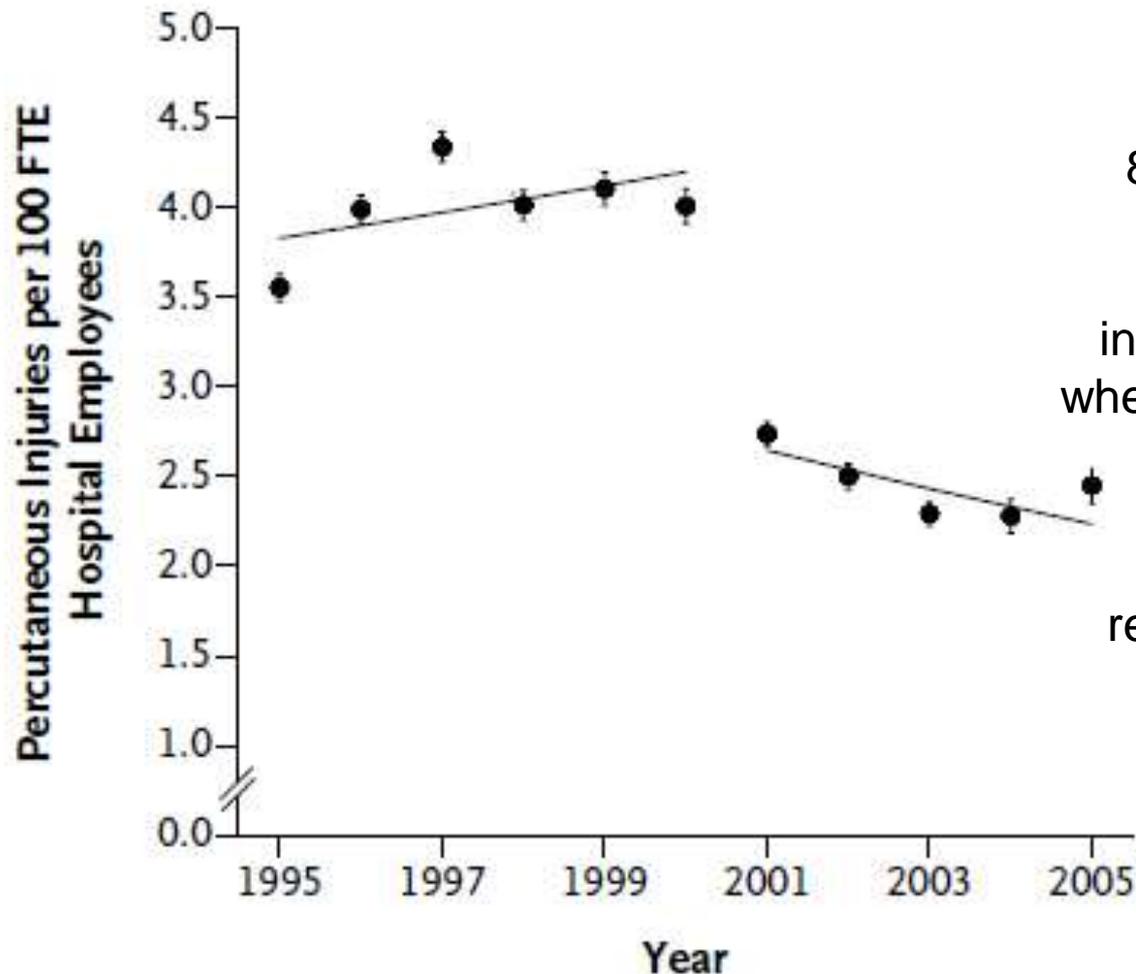
Ahora no



Protégete y protege a los demás utilizando dispositivos punzocortantes de seguridad



Percutaneous Injuries before and after the Needlestick Safety and Prevention Act



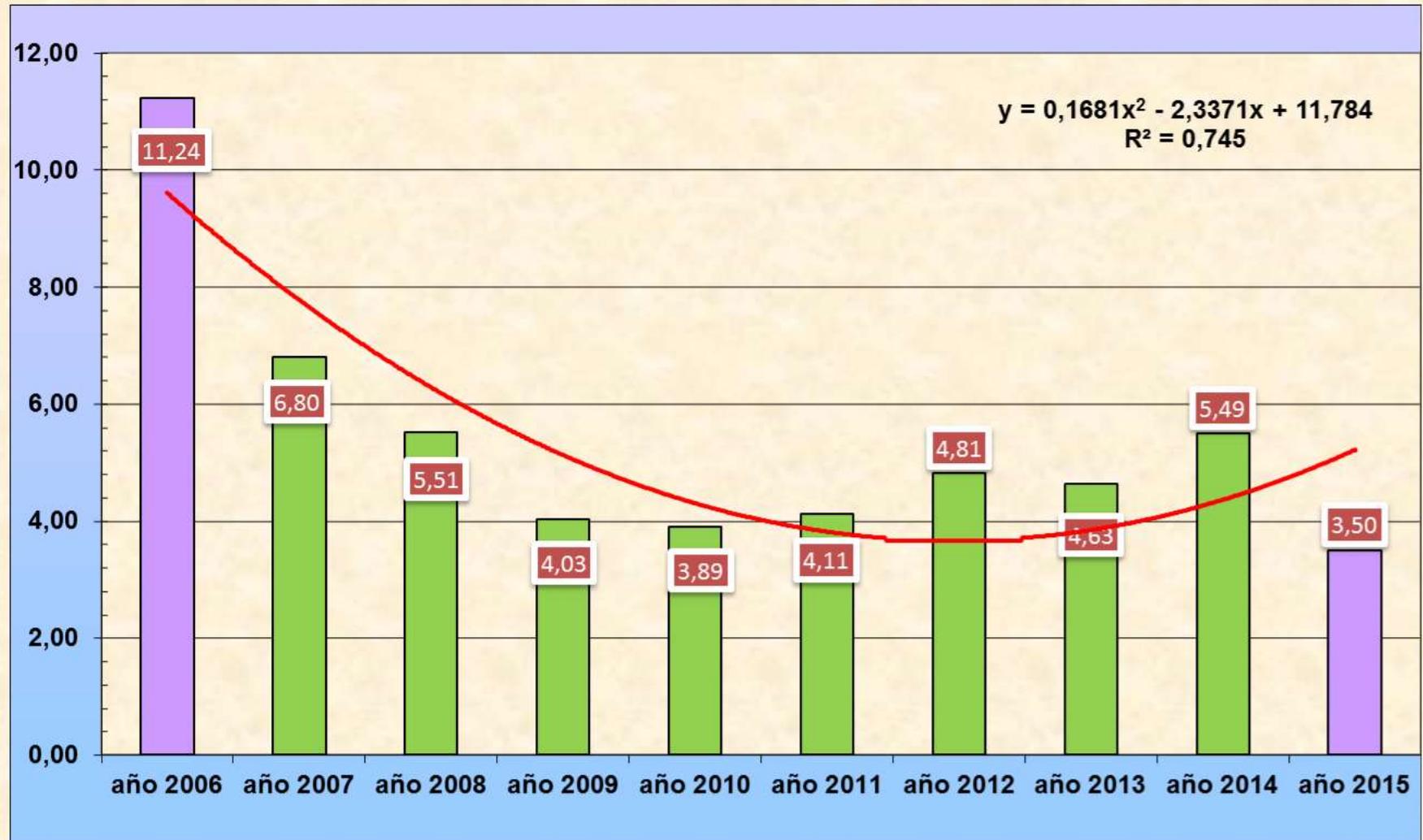
23,908 injuries
85 hospitals in 10 states

38% (95% confidence interval, 35 to 41) in 2001 when the NSPA took effect.

Subsequent injury rates, through 2005, remained well below pre-NSPA rates.

Indicadores Generales:

Lesiones Percutáneas por cada 100 trabajadores



How we get there . . .

Hierarchy of Controls



Elimination

Substitution

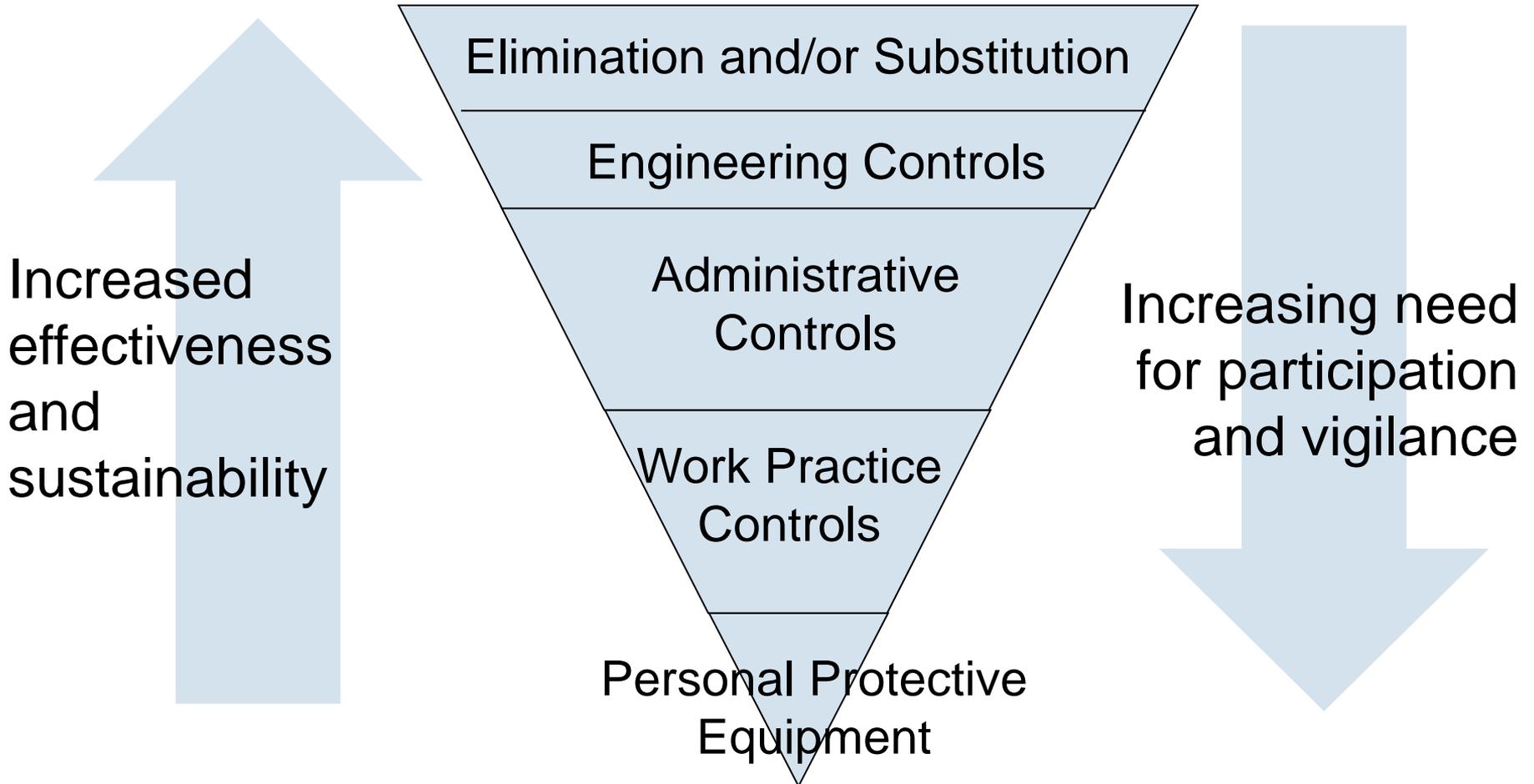
Engineering Controls

Administrative Controls

Work Practice Controls

Personal Protective Equipment

Hierarchy of Controls



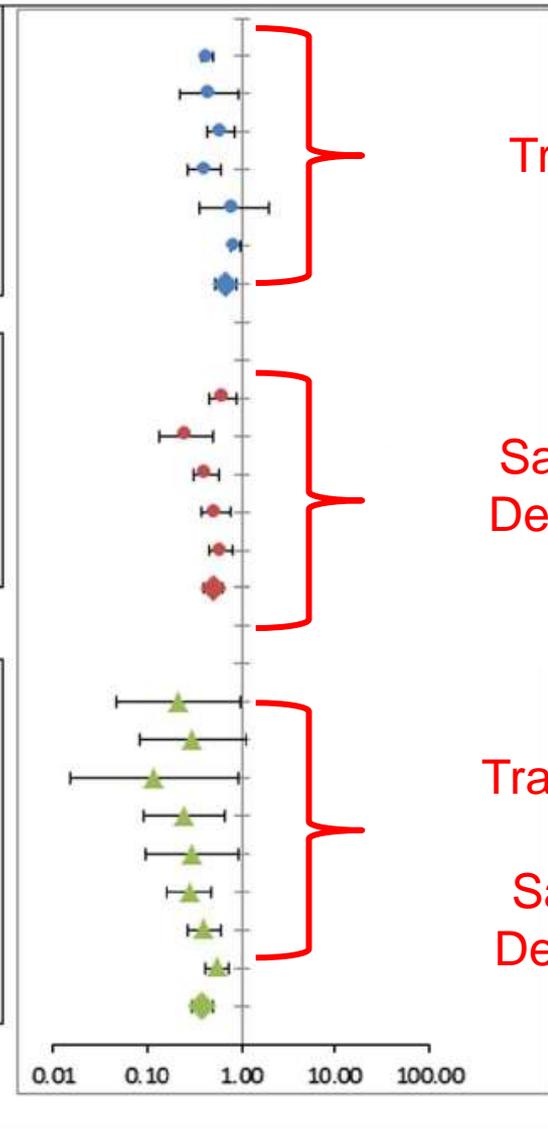
Prevention of Needle-Stick Injuries in Healthcare Facilities: A Meta-Analysis

Training	RR*	LCL	UCL
El Beltagy K, 2012	0.44	0.38	0.50
Van der Molen, H.F. 2011	0.41	0.14	1.21
Zafar, Afia 2009	0.60	0.43	0.84
Brusaferro, S. 2009	0.41	0.28	0.61
Adams, D. 2006	0.83	0.36	1.95
Moens, G. 2004	0.85	0.75	0.95
Summary	0.66	0.50	0.89

Safety devices	RR	LCL	UCL
Whitby M, 2008	0.64	0.46	0.88
Lamontagne, F. 2007	0.26	0.13	0.51
Sohn, S. 2004	0.42	0.31	0.57
Rogues, A M. 2004	0.53	0.37	0.76
Alvarado-Ramy, F. 2003	0.60	0.45	0.79
Summary	0.51	0.40	0.64

Devices plus training	RR	LCL	UCL
Van der Molen, H. F. 2011	0.22	0.05	0.99
Sossai, Dimitri 2010	0.30	0.08	1.10
Valls, V. 2007	0.12	0.01	0.93
Azar-Cavanagh, M. 2007	0.25	0.09	0.67
Adams, D. 2006	0.29	0.09	0.91
Mobasherizadeh, S 2005	0.28	0.16	0.47
Trape-Cardoso, M. 2004	0.40	0.27	0.61
Mendelson, MH. 2003	0.54	0.41	0.72
Summary	0.38	0.28	0.50

* RR = Rate ratio
 LCL = Lower confidence limit
 UCL = Upper confidence limit



Training

Safety Devices

Trainings + Safety Devices

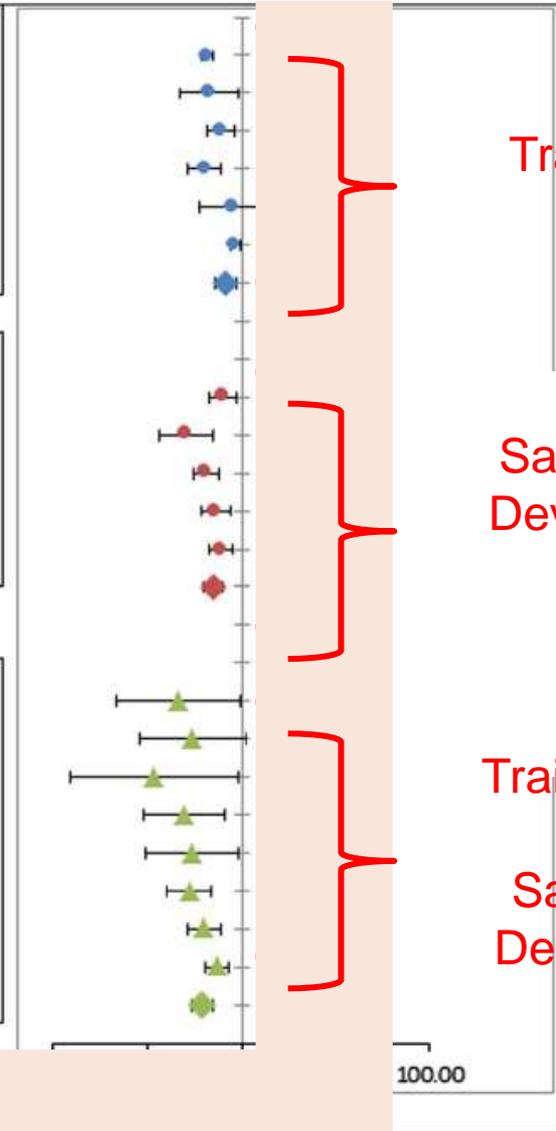
Prevention of Needle-Stick Injuries in Healthcare Facilities: A Meta-Analysis

Training	RR*	LCL	UCL
El Beltagy K, 2012	0.44	0.38	0.50
Van der Molen, HF. 2011	0.41	0.14	1.21
Zafar, Afia 2009	0.60	0.43	0.84
Brusaferro, S. 2009	0.41	0.28	0.61
Adams, D. 2006	0.83	0.36	1.95
Moens, G. 2004	0.85	0.75	0.95
Summary	0.66	0.50	0.89

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Summary	0.38	0.28	0.50

* RR = Rate ratio
 LCL = Lower confidence limit
 UCL = Upper confidence limit



Training
34%

Safety
Devices
49%

Trainings
+
Safety
Devices
62%

GUÍAS WHO

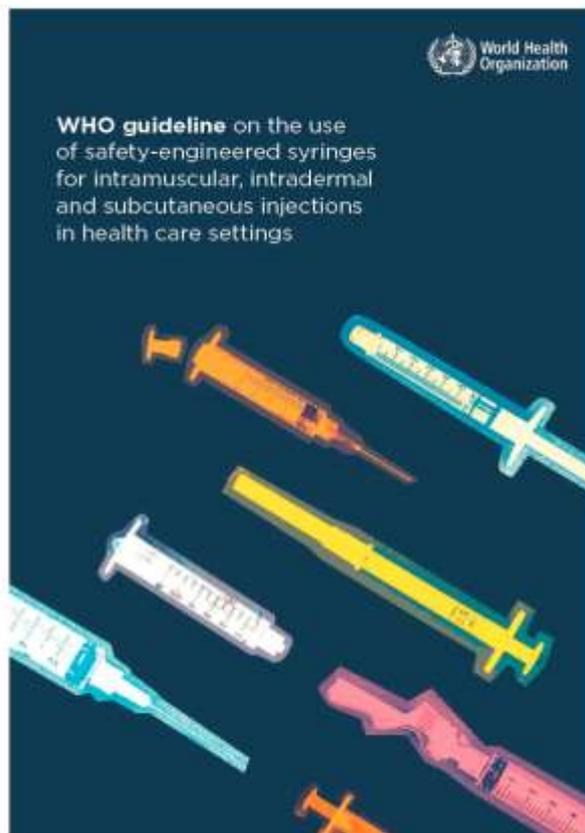
(WORLD HEALTH ORGANIZATION)

Uso de jeringas de seguridad en el cuidado de la salud

WHO calls for worldwide use of "smart" syringes



WHO guideline on the use of safety-engineered syringes for intramuscular, intradermal and subcutaneous injections in health-care settings (Feb 2015)



SMART SYRINGES



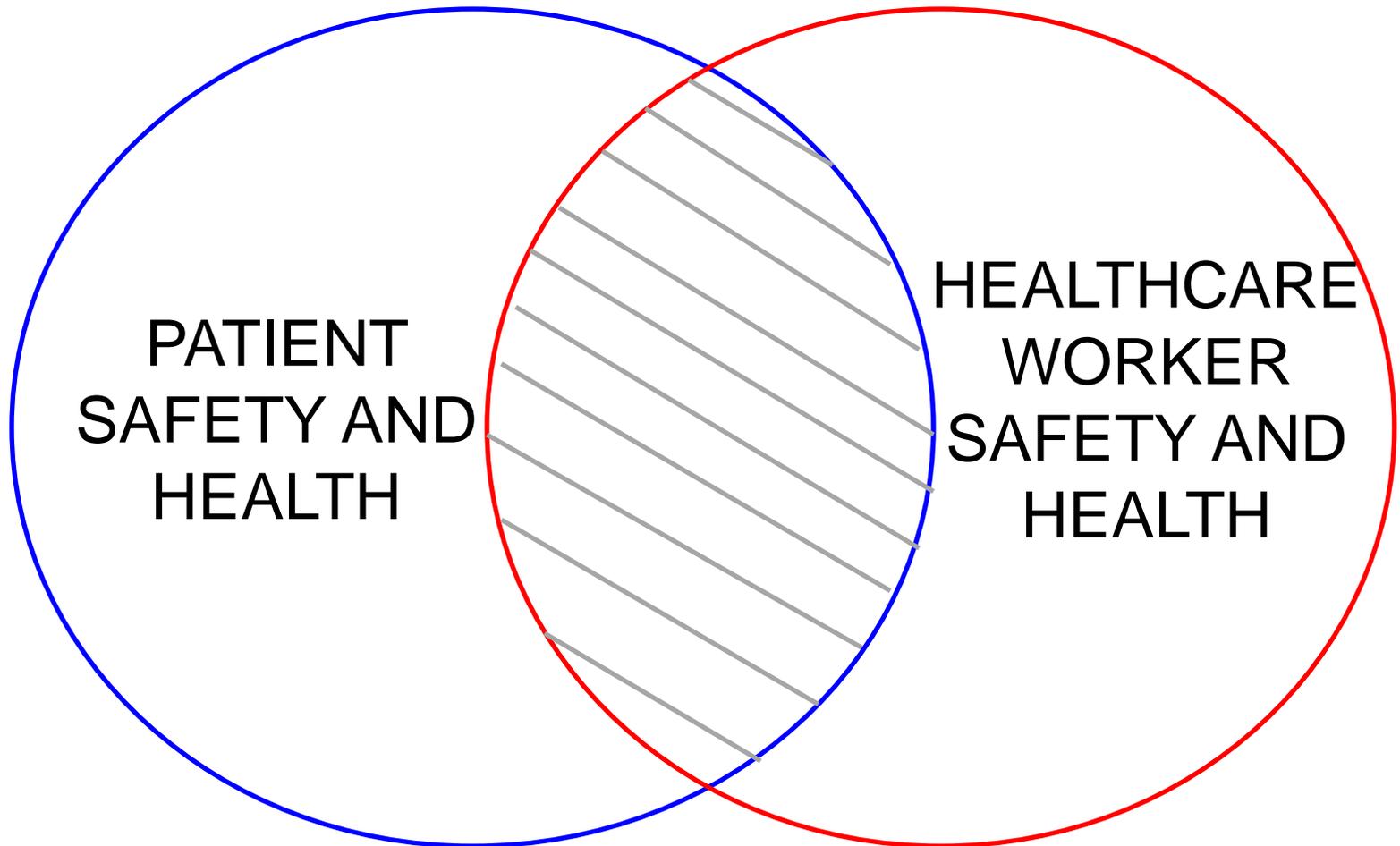
WHO calls for worldwide use of "smart" syringes

February 2015

Good injection safety and waste management practices deliver injections that result in:

no harm to the recipient,
no harm to the health worker, and
no harm to the community.

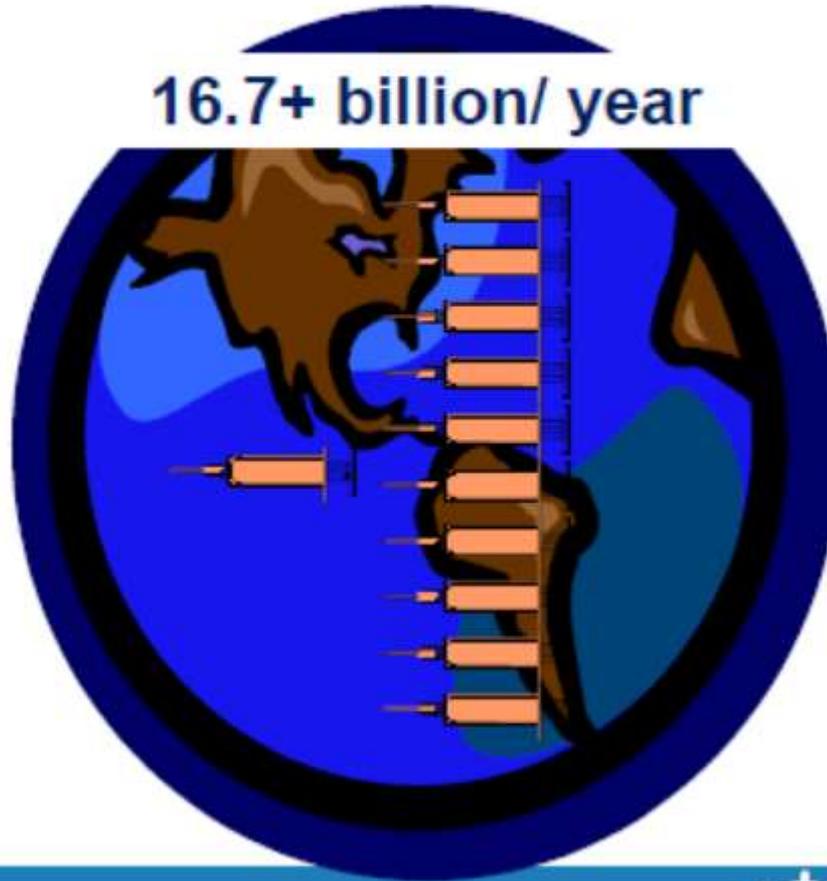
INTERRELATIONSHIP BETWEEN PATIENT AND HCW HEALTH AND SAFETY



Use of injections worldwide

16.7+ billion/ year

Immunization
injections
5% to 10%



Therapeutic
injections
90 to 95%



World Health
Organization

WHO calls for worldwide use of "smart" syringes

February 2015

Prevention of reuse

Inmunization -
Children

Sharps waste
management

Prevention of reuse

Prevention of needlesticks

Sharps waste management

Therapeutic injections

2000

2015

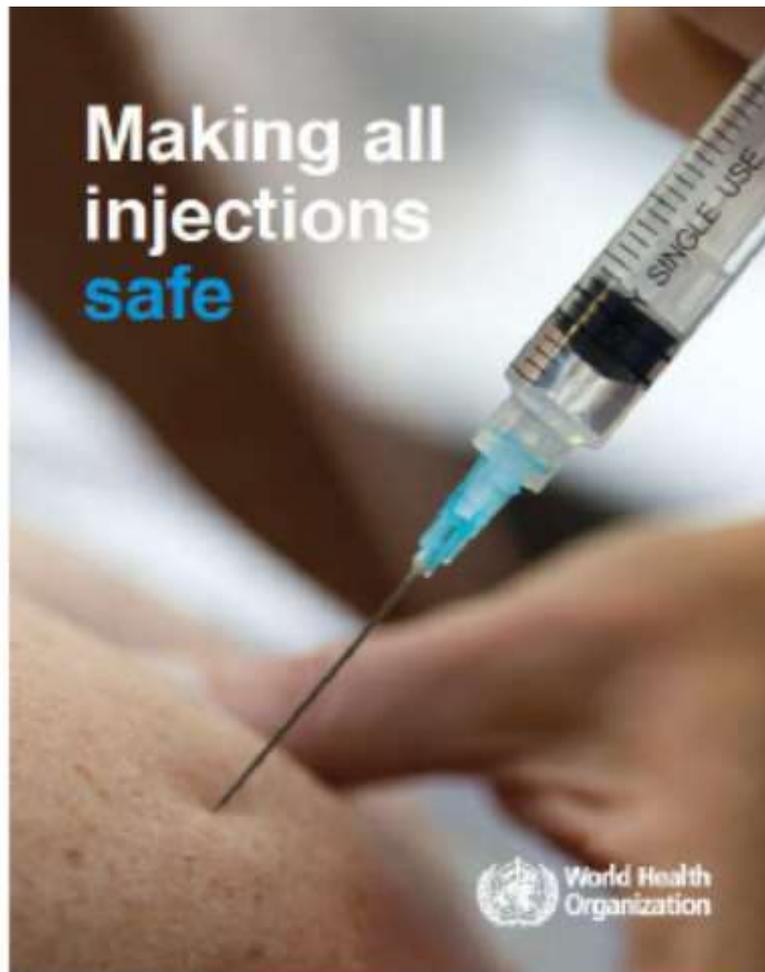
2020

WHO calls for worldwide use of "smart" syringes

February 2015

What needs to happen, who needs to do it ?

The injection safety policy and global campaign is a three to five year initiative that engages many public and private sector stakeholders such as Ministries of Health, international donor programmes, industry players and umbrella organizations representing injection device manufacturers and health care workers.



Making all
injections
safe



To reduce:

- Reuse of injection equipment
- Accidental needle-stick injuries
- Overuse of injections
- Unsafe sharps waste

New policy
2015

Safety-engineered injection devices

Exclusive use by
2020



World Health
Organization

WHO calls for worldwide use of "smart" syringes

February 2015

UNSAFE INJECTIONS

**Overuse of
injections**

**Accidental
needle-stick
injuries in
HCWs**

**Re-use of
injection
equipment**

**Unsafe sharps
waste
management**

WHO calls for worldwide use of "smart" syringes

February 2015

UNSAFE INJECTIONS

**Overuse of
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Accidental
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Re-use of
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Unsafe sharps
waste
management

WHO calls for worldwide use of "smart" syringes

February 2015

Unsafe Injections

Overuse of Injections

1.7 to 11.3 per person per year

WHO, with the support of SIGN, has developed and assisted countries in the implementation of a behavior change strategy between patients and HCW with the aim of reducing unnecessary injections and ensuring safe injecting practices.

http://www.who.int/injection_safety/global-campaign/en/

WHO calls for worldwide use of "smart" syringes

February 2015

Between 2000 and 2010, in developing countries worldwide, there was a decrease in the number of unnecessary injections: the average number of injections per person decreased from 3.4 to 2.9



Average number of injections per person in developing countries

WHO calls for worldwide use of "smart" syringes

February 2015

UNSAFE INJECTIONS

Overuse of
injections

**Accidental
needle-stick
injuries in
HCWs**

Re-use of
injection
equipment

Unsafe sharps
waste
management

WHO calls for worldwide use of "smart" syringes

February 2015

UNSAFE INJECTIONS

Overuse of
injections

Accidental
needle-stick
injuries in
HCWs

**Re-use of
injection
equipment**

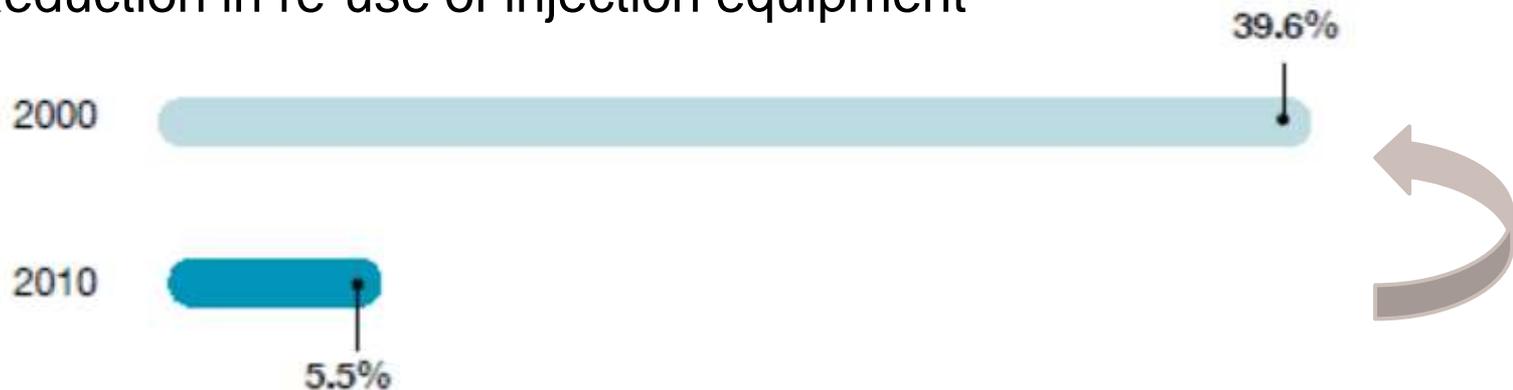
Unsafe sharps
waste
management



Between 2000 and 2010, in developing countries worldwide, **re-use of injection equipment decreased from 39.6% to 5.5%.**

86%

Reduction in re-use of injection equipment

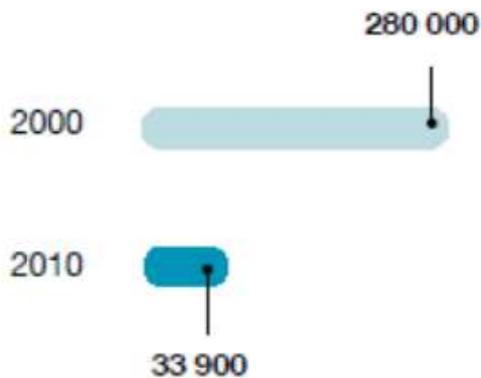


Infection safety has played a crucial role in progress on **reducing the global burden** of HIV and hepatitis.

Reduction in HIV/HBV/HCV infections due to unsafe injections

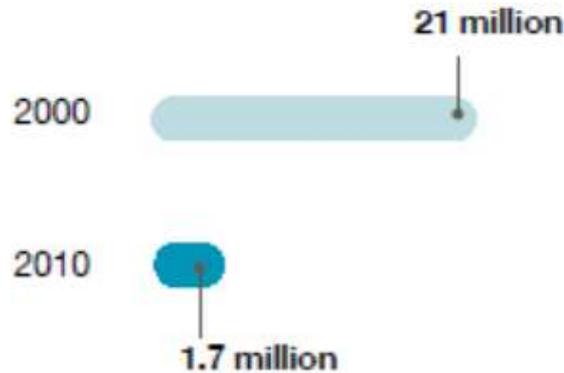
87%

VIH



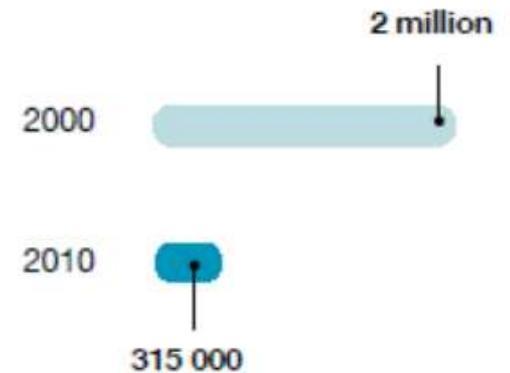
83%

VHB



91%

VHC



To Prevent Transmission of Infections in Healthcare



**ONE NEEDLE,
ONE SYRINGE,
ONLY ONE TIME.**



Safe Injection Practices Coalition

www.**ONEandONLY**campaign.org

Injection Safety is Every Provider's Responsibility



11/05/2002

• RIO O GLOBO 2ª edição • Sábado, 11 de maio de 2002

Paciente é contaminado por Aids em hospital

Atendente de enfermagem foi internada no Centro Previdenciário de Niterói com dengue; auxiliar de enfermagem usou seringa de soropositivo

Um vendedor de 38 anos foi contaminado pelo vírus da Aids durante sua internação no Centro Previdenciário de Niterói (CPN), no bairro de Itim, em abril do ano passado. O paciente havia se internado para tratar de dengue hemorrágico. Acusado ter usado uma seringa contaminada com o HIV no atendimento ao paciente soropositivo, o auxiliar de enfermagem Paulo Roberto Martins, de 43 anos, está foragido. Ele já foi multado e está indiciado por tentativa de homicídio em inquérito policial aberto na DP (Centro).

— Tenho planos de ter mais filhos e não posso mais. Não sei o garoto de 6 anos e não sabe de nada ainda. É meu pai, que morreria se eu não fosse. Nunca usei preservativo com a minha esposa e agora temo de fazer isso. Sou evangélico e tenho muita esperança de que ele acubra logo a cura. Não há na morte, mas em viver o máximo possível com a minha família, vendo o meu filho crescer — disse o vendedor.



O VENDEDOR contaminado pelo vírus da Aids. "Tenho planos de ter mais filhos e não posso mais"

Vítimas do dengue pedem indenização

Ação critica omissão governamental

• O Centro de Assistência e Defesa da Cidadania e do Consumidor (Cadecon), uma organização não governamental (ONG) formada por um grupo de advogados cariocas, está pedindo, em ação indenizatória, reparação por danos morais e materiais para duas pessoas que contraíram o dengue no Rio. Marcel Felipe Machado Lopes e Rosângela Rodrigues foram contaminados este ano. Rosângela ficou doente duas vezes: em janeiro e em fevereiro.

Na ação inédita, o Cadecon diz que a contaminação dos dois é resultado da omissão dos governos federal, estadual e municipal. Ainda segundo a ONG, eles teriam permitido a proliferação do mosquito trans-

missor do dengue.

Os autores da ação não fixaram o valor do ressarcimento, o que deverá ser feito pela Justiça federal caso ela dê ganho de causa à Cadecon. Os advogados de Marcel Felipe e Rosângela Rodrigues pedem ainda à Justiça que leve em conta "a malignidade da doença e as seqüelas daí advindas". Os autores pedem também a condenação dos governos federal, estadual e municipal "por danos materiais, a serem fixados em liquidação de sentença".

— Somos uma instituição sem fins lucrativos, que nasceu da necessidade do cidadão e do consumidor de exercer seus direitos — disse o advogado Hélio Dager, presidente do Cadecon.

Paciente entra com dengue e sai com Aids

• Um vendedor de 38 anos, internado no Centro Previdenciário de Niterói para se tratar de dengue hemorrágico, foi contaminado em março passado pelo vírus HIV quando um auxiliar de enfermagem do hospital municipal usou nele a mesma seringa que havia acabado de utilizar num paciente de Aids. O vendedor está processando a prefeitura de Niterói. **Página 24**

Serra: denúncia é ataque especulativo

• José Serra (PSDB) disse que sua candidatura virou "alvo de um ataque especulativo movido a denúncias e boatos sobre pesquisas". Ao comentar reportagem da "Folha de S.Paulo", disse que não se envolveu na negociação do Banco do Brasil que teria favorecido um parente seu. O BB divulgou nota dizendo que já investiga o caso. **Página 8**



PANELAS, BOTOQUES e restos de alimentos no interior da igreja da Nova...

JORGE BASTOS MORENO

Acaba o Cativoim da M...

Acusado ter usado uma seringa contaminada com o HIV no atendimento ao paciente soropositivo, o auxiliar de enfermagem Paulo Roberto Martins, de 43 anos, está foragido. Ele já foi multado e está indiciado por tentativa de homicídio em inquérito policial

Rx for Safe Injections in Healthcare

1 Needle
1 Syringe
+ 1 Time

0 Infections

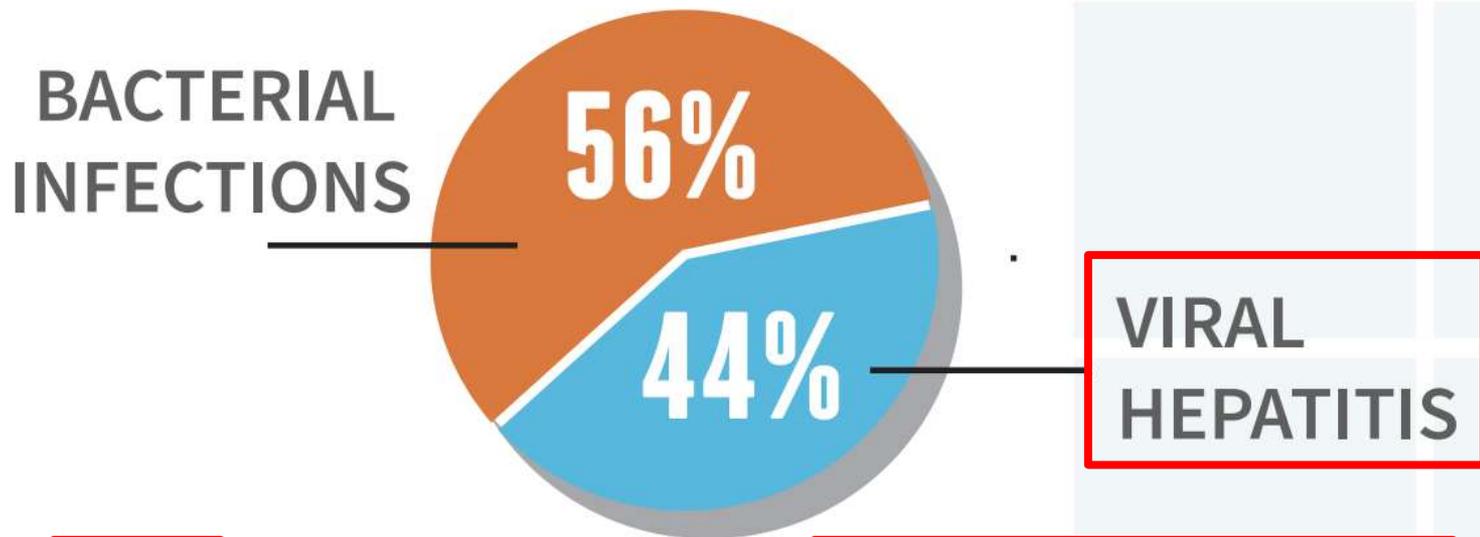
Safe injection practices prevent transmission of infectious diseases. Patients and healthcare providers must insist on nothing less than ***One Needle, One Syringe, Only One Time*** for each and every injection.

For more information, please visit:

OneandOnlyCampaign.org

50 OUTBREAKS AND COUNTING

Since 2001, at least 50 outbreaks involving unsafe injection practices were reported to CDC



- 90% (n=45) occurred in outpatient settings
- Many hundreds of infected patients
- Over 150,000 patients notified and tested

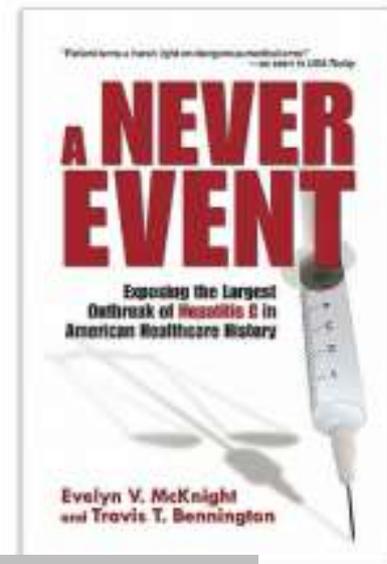
Evelyn McKnight's Story



Dr. Evelyn McKnight, mother of three, was battling breast cancer and was infected with hepatitis C during treatment because of syringe reuse to access saline flush solution.

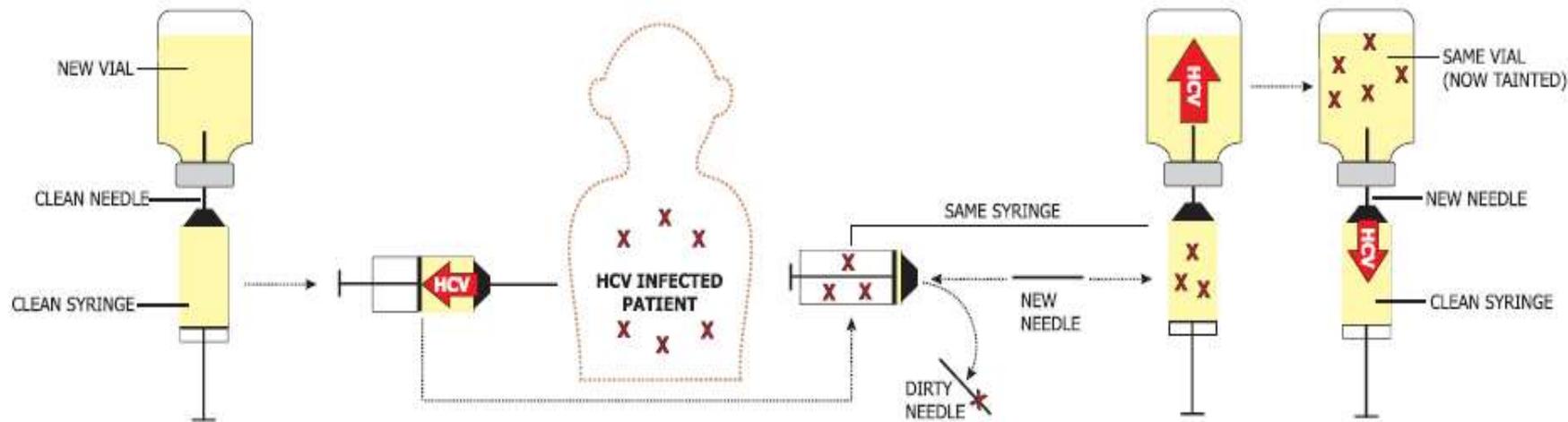
Along with Evelyn, a total of 99 cancer patients were infected in what was one of the largest outbreaks of hepatitis C in American healthcare history.

Evelyn co-founded HONORreform, a foundation dedicated to improving America's injection safety practices, and was the catalyst of the formation of the Safe Injection Practices Coalition.



Indirect syringe reuse

Nevada endoscopy center HCV investigation, 2008. Acute Hepatitis C Virus Infections Attributed to Unsafe Injection Practices Nevada, 2007



1. Clean needle and syringe is used to draw medication

2. When used on an HCV-infected patient, backflow from the injection or removal of the needle contaminates the syringe

3. When again used to draw medication, contaminated syringe contaminates the medication vial

4. Contaminated vial that is reused exposes subsequent patients to risk of HCV infection

Injection Practices Among Clinicians in United States Health Care Settings

Survey of 5,500 U.S. healthcare professionals

- 1 percent “sometimes or always” reuse a syringe on a second patient
- 1 percent “sometimes or always” reuse a multidose vial for additional patients after accessing it with a used syringe
- 6 percent use single-dose/single use vials for more than one patient

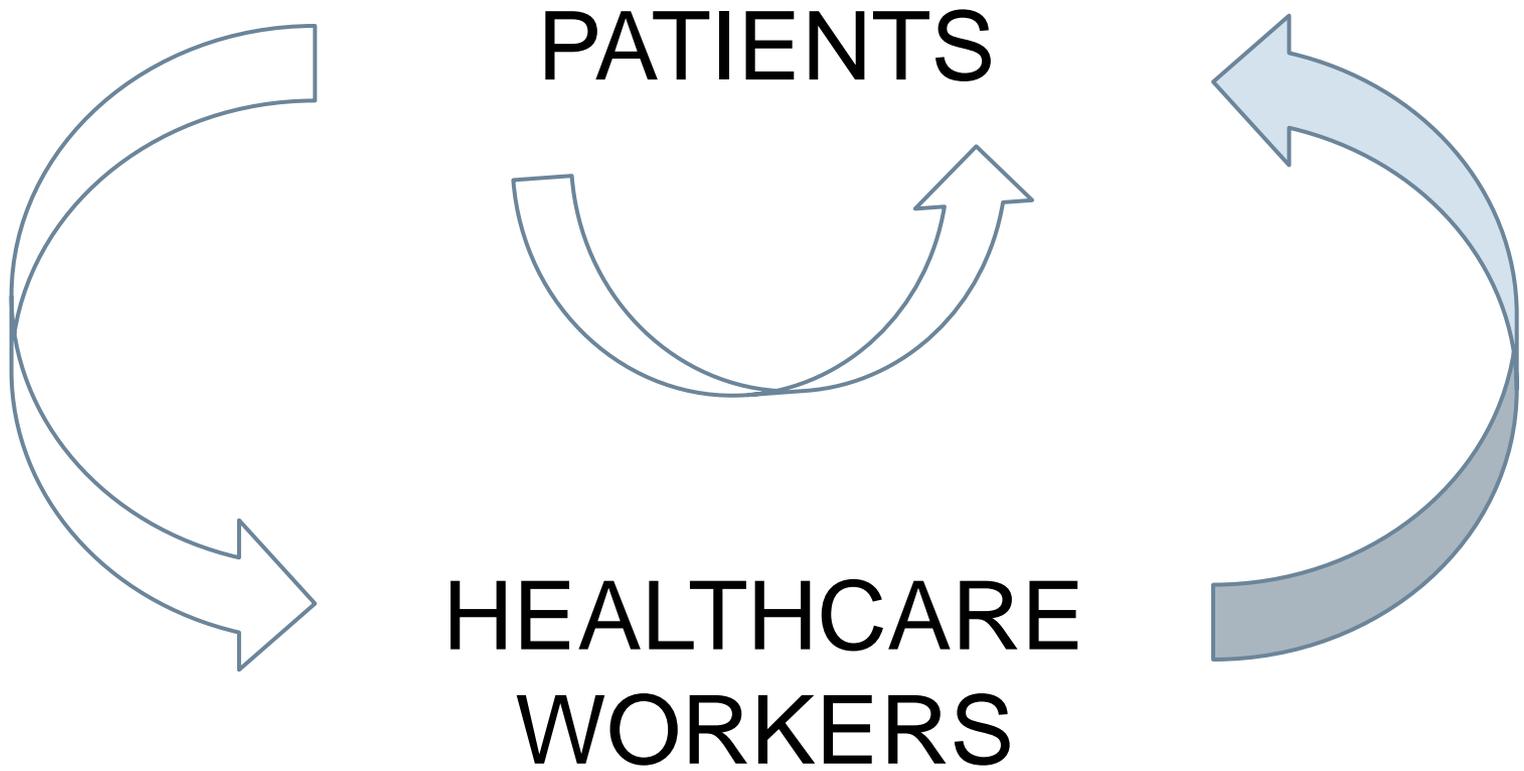
Pugliese G et al. Am J Infect Control 2010;38:789-98.

http://www.oneandonlycampaign.org/sites/default/files/upload/pdf/ProviderToolkitPowerPoint_508.pdf

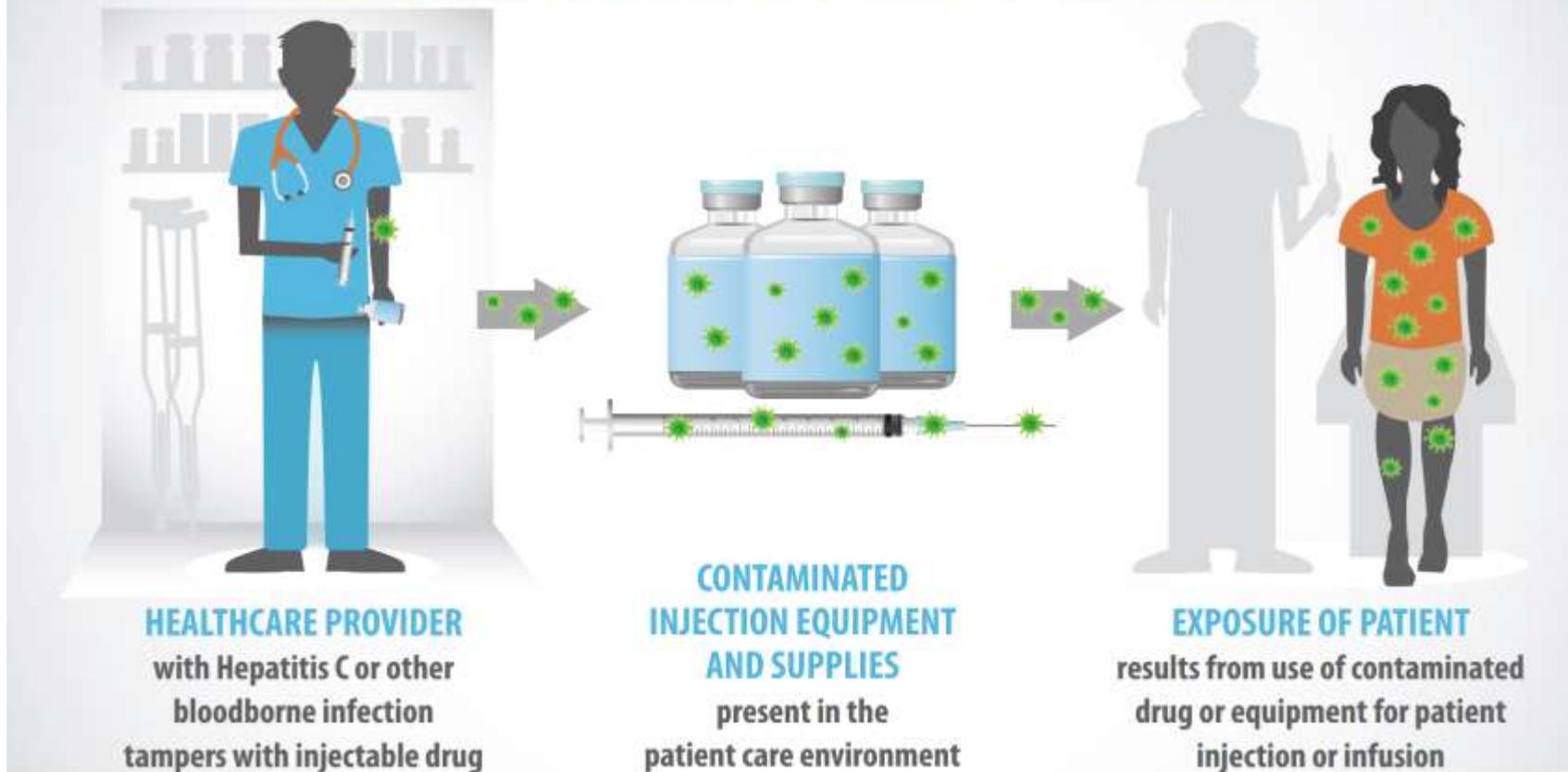




Aquino, S. Rio de Janeiro, 2006.



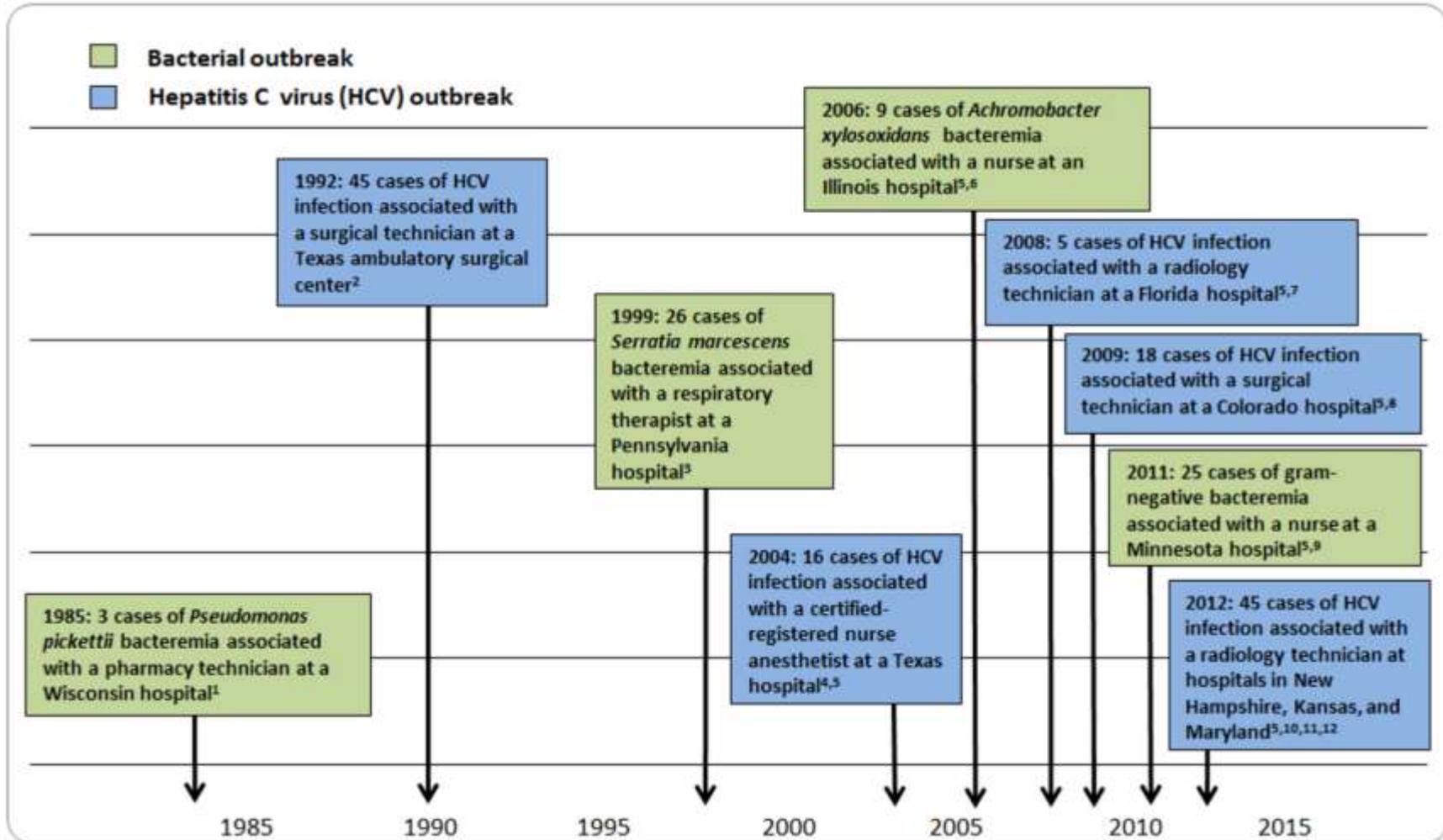
DRUG DIVERSION* SPREADS INFECTION FROM HEALTHCARE PROVIDERS TO PATIENTS



Drug diversion is a medical and legal concept involving the transfer of any legally prescribed controlled substance from the individual for whom it was prescribed to another person for any illicit use.

<http://www.oneandonlycampaign.org/>

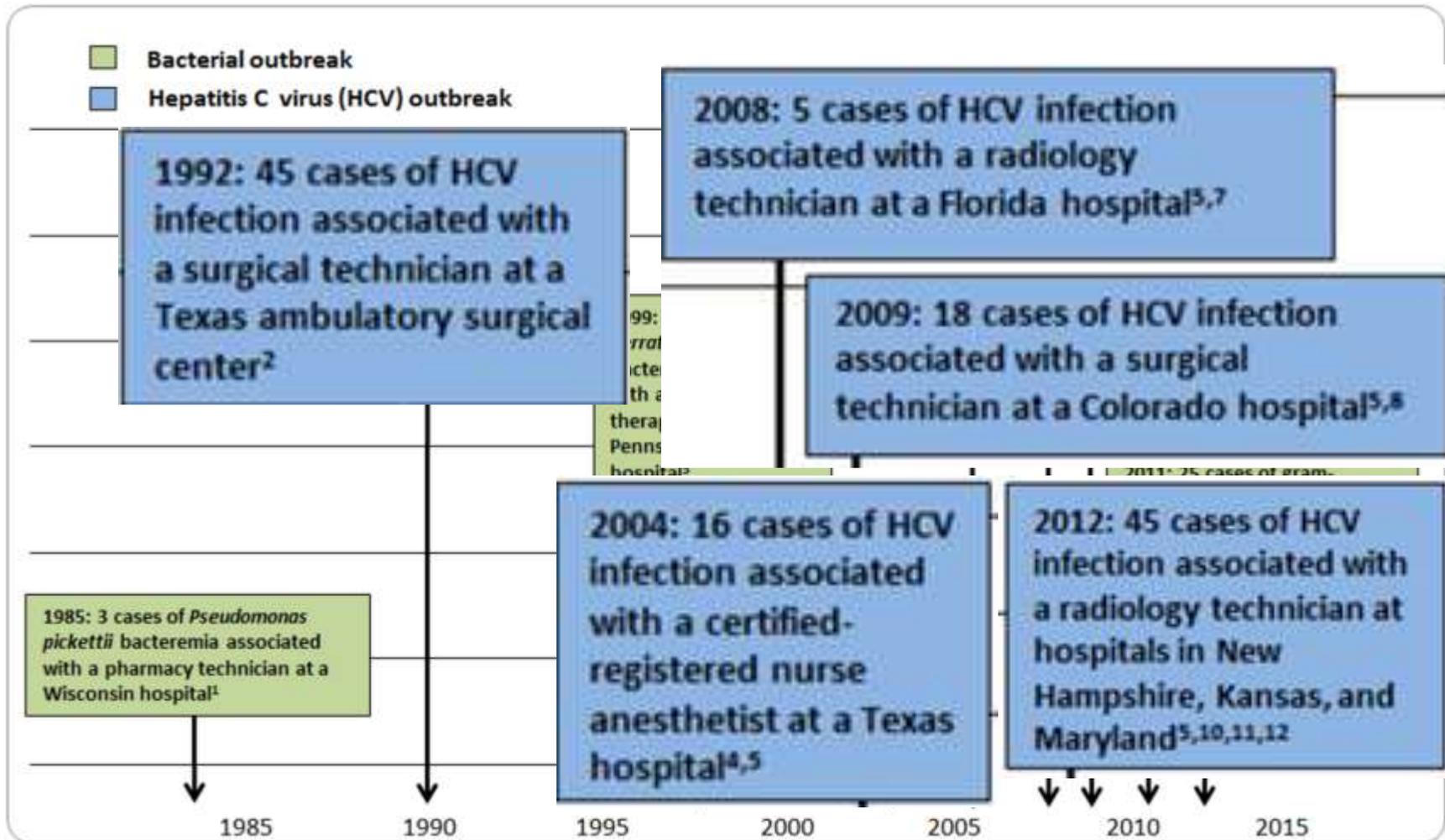
U.S. Outbreaks Associated with Drug Diversion by Healthcare Providers, 1983-2013



<http://www.oneandonlycampaign.org/>

<https://www.cdc.gov/injectionsafety/drugdiversion/drug-diversion-2013.html>

U.S. Outbreaks Associated with Drug Diversion by Healthcare Providers, 1983-2013



<http://www.oneandonlycampaign.org/>

<https://www.cdc.gov/injectionsafety/drugdiversion/drug-diversion-2013.html>

Exposure-prone invasive procedures

Characteristics of exposure-prone procedures include digital palpation of a needle tip in a body cavity or the simultaneous presence of the HCW's fingers and a needle or other sharp instrument or object in a poorly visualized or highly confined anatomic site.

Updated CDC Recommendations for the Management of HBV–Infected HCP and Students

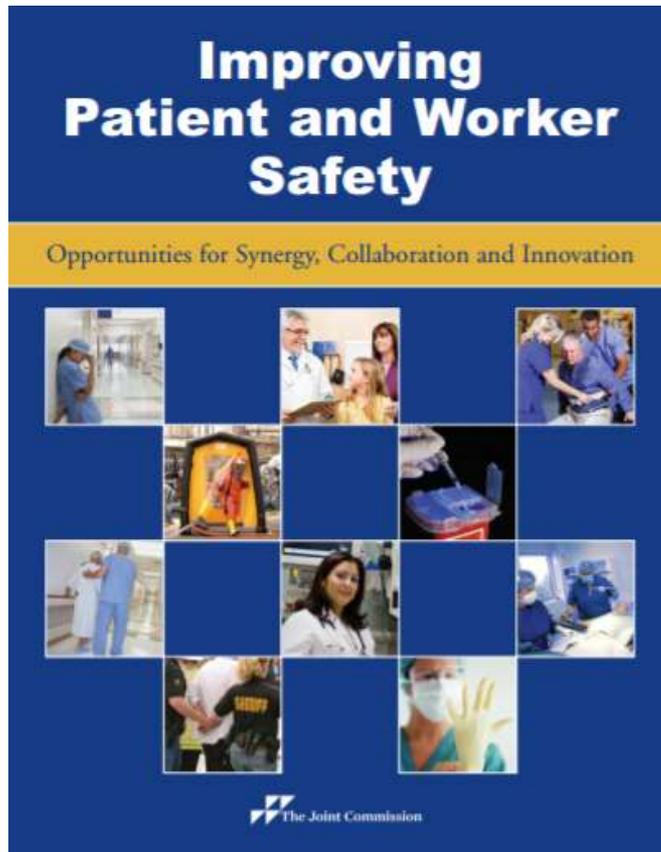
HCP – The health-care provider must be sufficiently **viremic** (i.e., have infectious virus circulating in the bloodstream)

+

HCP must have an **injury** (e.g., a puncture wound) or a **condition** (e.g., nonintact skin) that allows exposure to his/her blood or other infectious body fluids

+

HCP's **blood or infectious body fluid must come in direct contact** with a patient's wound, traumatized tissue, mucous membranes, or similar portal of entry during an exposure-prone procedure



“SAFETY is avoiding both short- and long-term harm to people ...

“This definition does not differentiate among patients, their families, staff and licensed independent practitioners, visitors,

And yet, many health care organizations have **“siloed” safety programs**, creating one for patients, another for workers, and yet another for others who may be at risk.

The organizational culture, principles, methods, and tools for creating safety **are the same, regardless of the population** whose safety is the focus.”

Hippocratic Oath

“First, do no harm.”

In health care, the primary ethical imperative is “First, do no harm.” Although we have traditionally applied this obligation to our patients, it is important to establish it also as our obligation to those with whom we work—and to all within the health care setting.

El ciclo de investigación en Seguridad del Paciente



Organización
Mundial de la Salud

Seguridad del Paciente

Una alianza mundial para una atención más segura



Alianza Mundial para la Seguridad del Paciente

La Investigación en Seguridad del Paciente

Mayor conocimiento para una atención más segura

Value of Institutionalizing a **Culture of Safety** to Healthcare Organizations:

A culture of safety is the shared commitment of management and employees to ensure the safety of the work environment.

Occupationally Acquired HIV Infection

- “For better or worse, my life took a new direction the day a contaminated needle punctured my hand. I'm telling my story on behalf of all nurses who face this hazard daily, and my message is this: It doesn't have to happen.”

Lynda Arnold, Nursing 1997.



- ▶ [Quem Somos](#)
- ▶ [Riscos Profissionais](#)
- ▶ [Imunizações](#)
- ▶ [Biointeratividade](#)
- ▶ [Bioinformações](#)
- ▶ [Biodidática](#)
- ▶ [Prevenção](#)
- ▶ [Vigilância](#)
- ▶ [Bibliografia](#)
- ▶ [Links](#)

Agenda

29 de março

Spring 2017 Conference -
Society for Healthcare
Epidemiology of America

16 de maio

XVIII Congresso Panamericano
de Infectologia

▶ [ver agenda](#)

TIVE UM ACIDENTE O que fazer?

▶ [clique aqui para conhecer os procedimentos](#)

BioNews

28/02/2017

Precarização e intensificação do trabalho ampliam casos de LER/Dort

Thank you very much!

Acidentes com resíduos perfurantes em hospitais somam 21%

▶ [ver todas](#)

Lista de Discussão

" Bom dia colegas,
Trabalho em um hospital do estado de pequeno porte
Estou tentando sensibilizar os funcionários quanto a NR32
Tenho casos quanto ao uso de ..."

**Mais de 5.000
profissionais
inscritos.
CADASTRE-SE**



Bioslide

Risco Biológico em Acidentes Percutâneos e Mucocutâneos >>
Dra Lessandra Michelim

Risco Biológico e NR-32 >>
Dra Valéria Saraceni

▶ [ver todas](#)

Bioinformações

Protocolo Clínico e Diretrizes Terapêuticas para Profilaxia Antirretroviral Pós-Exposição de Risco à Infecção pelo HIV >>
Departamento de DST, Aids, e Hepatites Virais - MS

Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis >>
[Riscobiologico.org](#)

Acknowledgment

This seminar was possible thanks to the auspices and cooperation of the Infection Control Center (CDC), according to the cooperation agreement CDC-RFA-CK13-1301. "BUILDING CAPACITY AND NETWORKS TO ADDRESS EMERGING INFECTIOUS DISEASES IN THE AMERICAS"

Next Webminar

April 11 – 2pm EST

- “Costs of healthcare associated infections in Latin American and Caribbean countries: Systematic Review of the literature”
- Dr. Cristiana Toscano– Universidade federal de Goias