HEALTH CARE WORKER RISK OF BBP TRANSMISSION: U.S. PUBLIC HEALTH SUCCESS STORY

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Annual Infections Attributable to Sharps Injuries Among HCWs in 14 WHO Regions

F	<u>Region</u> <u>I</u>	HCV (#)	HBV(#)	<u> </u>
	Africa 1	580	3,600	100
	Africa 2	1,000	6,200	620
	Americas 1	390	40	51
	Americas 2	1,000	6,000	70
	Americas 3	180	760	14
	E. Mediterranean 1	310	2,300	1
	E. Mediterranean 2	3,200	6,800	7
	Europe 1	290	210	6
	Europe 2	690	6,400	1
	Europe 3	1,700	8,200	40
	Southeast Asia 1	500	1,500	20
	Southeast Asia 2	1,000	7,300	70
	Western Pacific 1	830	110	0
	Western Pacific 2	4,700	16,000	30
	Total	16,400	65,600	1,000

Source: Pruss-Ustun et. al. American Journal of Industrial Medicine 2005; 48(6):482-490.

World-wide cases of documented and possible occupational HIV infection among HCW through 1997

Occupation	Documented	Possible	<u>Total</u>
Nurse	49 (52.1%)	45 (26.5%)	94 (35.7%)
Laboratory Worker (cl)	17 (18.0)	19 (11.2)	36 (13.6)
Laboratory Worker (ncl)	3 (3.2)	4 (2.3)	7 (2.6)
Physician (nonsurg)	9 (9.6)	17 (10.0)	26 (9.8)
Physician (surg)	1 (1.1)	14 (8.2)	15 (5.7)
Health Aide	1 (1.1)	15 (8.8)	16 (6.1)
Housekeeper/Maint	3 (3.2)	8 (4.7)	11(4.2)
Emergency Technician	-	10 (5.9)	10 (3.8)
Dental	-	9 (5.3)	9 (3.4)
Embalmer	-	2 (1.2)	2 (0.7)
Respiratory Therapist	1 (1.1)	2 (1.2)	3 (1.1)
Dialysis Technician	1 (1.1)	3 (1.8)	4 (1.5)
Technician (surgical)	2 (2.1)	3 (1.8)	5 (1.9)
Other/Unspec	7 (7.4)	19 (11.2)	26 (9.8)
TOTAL	94 (100)	170 (100)	264 (100)

Source: Ippolito G et.al. Occupational human immunodeficiency virus infection in health care workers: worldwide cases through September 1997. *Clinical Infectious Diseases* 1999; 28(2):365-383.

Perception of Most Significant Reason for Needlestick Injuries, 1983 (n=307)

Reason	Total # (%)	Nurses (%)	MD
(%)			
Carelessness	124 (40)	(38)	(49)
Recapping	76 (25)	(30)	(2)
Perform task	71 (23)	(23)	(32)
Transport	8 (3)	(2)	(4)
Trash	12 (4)	(3)	(4)
Disposal deposit	7 (2)	(2)	(0)
Lack of knowledg	ge 9 (3)	(1)	(9)
re: disposal tec	hnique		

Source: Jackson MM et.al. Perceptions & beliefs of nursing and medical personnel about needlestick handling practices and needlestick injuries. *AJIC* 1986;14(1): 1-10.

Estimated Incidence of HBV infections among HCW and General Population, United States, 1985-1999



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Needlestick injury rates per 100,000 items purchased (1988)



Source: Jagger JC et.al. Rates of needle-stick injury caused by various devices in a university hospital. *NEJM* . 1988;(319)5:284.

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0	Date of Injury: D D D D D D D D D D D D D D D D D D D	preceo	EXPOSURE PREVENTION>
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	Department where incident Occurred:		Windows is a registered trademark of Microsoft (Corporation is to United States and/or other countries, Operates in Windows 55 and Windows 38 Environments, 8 2000 Environ, Divisions and Company, and
"	nome Department:		V1.2/U5 3/20
0	What is the Job Category of the Injured Worker: (check one bo	x only)	
	Doctor (attending/stall); specify specialty Doctor (attending/stall); specify specialty	0 10	0 Clinical Laboratory Worker
n	3 Medical Student	0.1	2 Destist
	4 Nurse: specify → 1 RN	0.13	2 Dentist 3 Dentel Husianiet
	5 Nursing Student 2 LPN	D 14	4 Housekeener
	18 CNA/HHA 3 NP	0.19	9 Laundry Worker
	6 Respiratory Therapist 4 CRNA	D 20	0 Security
Π.	7 Surgery Altendant D 5 Midwife	0.16	6 Paramedic
	8 Other Attendant	0 17	7 Other Student
	9 Phlebotomist/Venipuncture/IV Team	0.15	5 Other, describe:
۷	A Rational Room		Plate a franklik and a start a
	Cutside Patient Room (Influence purson station and)	0.9	Dialysis Facility (hemodialysis and peritoneal dialysis)
	3 Emergency Department	0.10	 Procedure Room (x-ray, EKG,etc) Clinical Laboratorian
	4 Intensive/Critical Caro unit: specify type:	0.42	1 Clinical Laboratories
	5 Operation Room/Recovery	0.12	2 AutopsylPathology 3 Section I tills: //aunda.control supply loadies dock atch
	6 Outpatient Clinic/Office	0.16	 Serviceroning (numbry, contral supply, logaling dock, etc) Labar and Delanar Room
	7 Blood Bank	0.13	7 Home-care
	8 Venipuncture Center	0 14	4 Other describe:
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	The Share Here were Johnsh and have asked		
0	Contaminated (known exposure to patient or contaminated equin	ment) -	was there blood on the device?
	2 Uncontaminated (no known exposure to patient or contaminated	equipm	nent) as there blood on the devicer 1 1 tes
	3 Unknown		
0)	For What Purpose was the Sharp Item Originally Used? (check	one br	or only)
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0	2 Intestion later supervised to be descent or fut of the state	- 0	To Obtain a Body Fluid or Tissue Sample
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EPINet

(Exposure Prevention Information Network)

A New Generation of Protective Devices safety-engineered devices conventional devices



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The Needlestick Safety and Prevention Act November, 2000



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Percutaneous Injury Rates for Hollowbore Needles Before and after passage of Needlestick Safety & Prevention Act



Source: Exposure Prevention Information Network, University of VirginiaInternational Healthcare Worker Safety Center



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Effective Prevention Strategies

- **1.Universal Hepatitis B vaccination**
- 2. Elimination of unnecessary sharps
- 3. Gloves, gloves, gloves
- 4. Moisture-proof barrier garments and eye protection with seals
- 5. Safety-engineered devices
- 6. Antiretroviral medications

Hepatitis B Vaccination Among African Surgeons Fully vaccinated (3 doses) 39.5% Partially vaccinated (1-2 doses) 18.5% Not vaccinated 42.0%

Source: Phillips EK, Jagger JC, Owusu-Ofori A. Blood Exposure Risks to African Surgeons: Survey. Pan African Association of Surgeons, Annual Meeting, Blantyre, Malawi, December, 2006.

1. Surveillance

2. Collaboration

3. Protection

A Final Thought . . .

Healthcare workers in every country are a vital national asset

A Final Thought . . .

Although we know how to protect their lives the question is often asked:

Can we afford to pay?

A Final Thought . . .

Can we afford not to?