

NIOSH-Funded Studies on Home Care

Summary of findings on Sharps injuries & blood exposures

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Research Groups

- Columbia University (Gershon et al)
- Constella Consulting Group (Leiss et al.)
- University of Maryland-University of Illinois Chicago (Lipscomb et al.)
- University of Massachusetts Lowell-
Massachusetts Department of Public Health
(Quinn et al.)

UMass Lowell-Mass Dept of Public Health

- **University of Massachusetts Lowell**
 - Pia Markkanen, ScD
 - Catherine Galligan, MS,
 - Susan Sama ScD, RN
 - Rebecca Gore, PhD
 - Anila Bello, ScD
 - David Kriebel, ScD
 - Hyun Kim, ScD (now at Hofstra North Shore LIJ, School of Medicine)
 - Stephanie Chalupka, EdD, APRN (now at Worcester State College)

- **Massachusetts Department of Public Health, Occupational Health Surveillance Program**
 - Angela Laramie, MS
 - Letitia Davis, ScD

Studies' Objectives

1. Estimate rates of SIs & BBF exposure among HHC workers
2. Identify main risk factors for SIs & BBF exposures
3. Describe use & effectiveness of safety devices, personal protective equipment
4. Assess degree of under-reporting
5. Identify preventive interventions

Methods

1. Qualitative phase to characterize work, identify risk factors, and inform development of the survey
 - Focus groups, interviews, onsite observations
2. Questionnaire survey to quantify risk of sharps injuries, other blood exposures, and risk factors
3. Focus groups to interpret findings & recommend preventive interventions
4. Development of training & communication materials

Pre-Survey Qualitative Phase

- Focus groups, interviews, onsite observations
 - Gershon 2009 **Nurses in New York;**
 - Markkanen 2007 **Nurses & Aides in Massachusetts**
 - Zanoni 2007 in **PCAs in Wisconsin, Illinois**

“The patient was very combative and the needle that was placed in her arm punctured through her skin into my hand.”

Nurse, focus group participant, Markkanen 2007



“I was getting the patient out of bed....The syringe was in the bed; the patient was sitting on it. As she got up, it stuck me.”

Markkanen 2007



Photo by Earl Dotter, commissioned by U Maryland-U Illinois Chicago

“ I was putting out trash. The client had put an insulin syringe in the trash bag....As I was putting it down the chute, it came out of bag and I got stuck.” Home care aide, Focus group, Markkanen 2007



Home Health Aide

Photo by Earl Dotter, *commissioned by U Maryland-U Illinois Chicago*

Risk factors identified in focus groups & interviews

Gershon 2009; Markkanen 2007; Zaroni 2007


Sharp disposal or management	<ul style="list-style-type: none"> • handling trash, lack of containers, overfilled containers, poor container design
	<ul style="list-style-type: none"> • poor disposal technique by patient or clinician
	<ul style="list-style-type: none"> • patients leaving sharps around the house, in bed linens
Patient moving when clinician uses a sharp	<ul style="list-style-type: none"> •uncooperative patient •patient slip, trip, fall
Wound care	<ul style="list-style-type: none"> • dressing change/ disposal, bed sores, nosebleeds, wound irrigation, debridement
medical conditions/ procedures	<ul style="list-style-type: none"> • lancets, blood-draw, IV lines, insulin syringes
	<ul style="list-style-type: none"> • incidents with blood drawing equipment
	<ul style="list-style-type: none"> • incidents with IV equipment
	<ul style="list-style-type: none"> • pulling needle out from a vein when the tourniquet is tight
	<ul style="list-style-type: none"> • amputations, bleeding tumors

Survey Questionnaire


- Self-administered

- Collected onsite at agencies or via mail

- Questions: Closed-ended & open-ended text



Project SHARRP
Survey Questionnaire



Instructions

Please answer questions by marking an "X" in the appropriate box:

Note that some of your answers may guide you to go to a question further ahead, for example:
"Have blood or body fluids ever come in direct contact with your eyes, mouth, or broken skin during home healthcare work?"
 Yes No **IF NO, Go to Question A1, page 1**

A few questions will ask for your own answer. Please write a brief descriptive answer, such as: "*I was nicked by a lancet that a patient left on the bedside table*".

Today's date: / / - / - - -

Personal Characteristics

A1. Age: Years

A2. Are you female or male? Female Male

A3. Are you Spanish/ Hispanic/ Latino?
 No, not Spanish/ Hispanic/ Latino
 Yes, Mexican, Mexican American, Chicano
 Yes, Puerto Rican
 Yes, Cuban
 Yes, South or Central American
 Yes, other Spanish/ Hispanic/ Latino (please explain) _____

A4. What race do you consider yourself to be? (*Mark all that apply*)
 American Indian or Alaskan Native
 Asian
 Native Hawaiian or Other Pacific Islander
 Black or African American
 White
 Other race (please explain) _____

	Location
NURSES	
Gershon, AJIC, 2009	NY
Leiss, AJIM, 2009	NC
Lipscomb, AJIM, 2009	MD
Quinn, AJPB, 2009	MA
Trinkoff, ICHE, 2009	NC, IL
AIDES	
Lipscomb, AJIM, 2009	IL
Quinn, AJPB, 2009	MA

	Population	Age (Mean, Years)	Years in Home Care (mean)
NURSES			
Gershon	738	50	22
Leiss	833	63	-
Lipscomb	794	49	11
Quinn	787	48	11
AIDES			
Lipscomb	980	46	7
Quinn	282	47	11

Definitions

Sharps injury (SI):

- Have you been stuck or cut by a contaminated/previously used sharp object such as a needle or lancet in home healthcare work?
 - Ever
 - In the past 12 months (36 months)

Blood/Body Fluid (BBF)

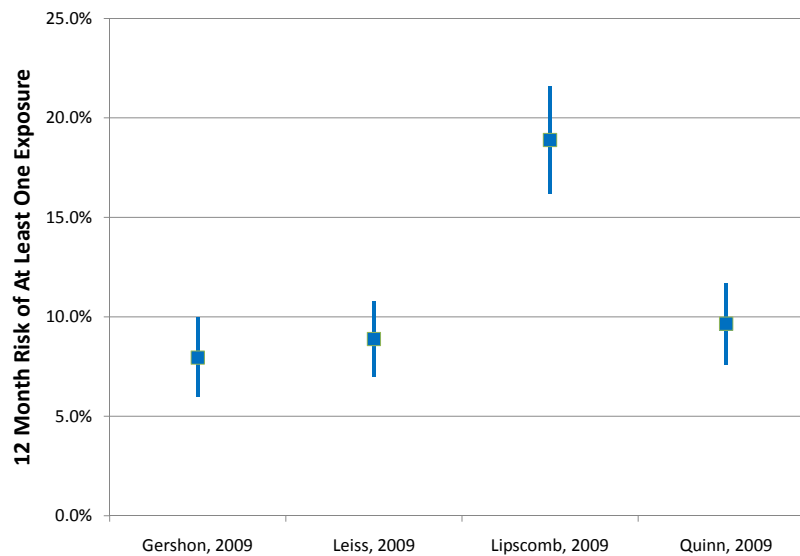
- Have you ever had blood or visibly bloody body fluid come into direct contact with your eyes, mouth/mucous membrane or with non-intact skin?
 - Ever
 - In the past 12 months (36 months)

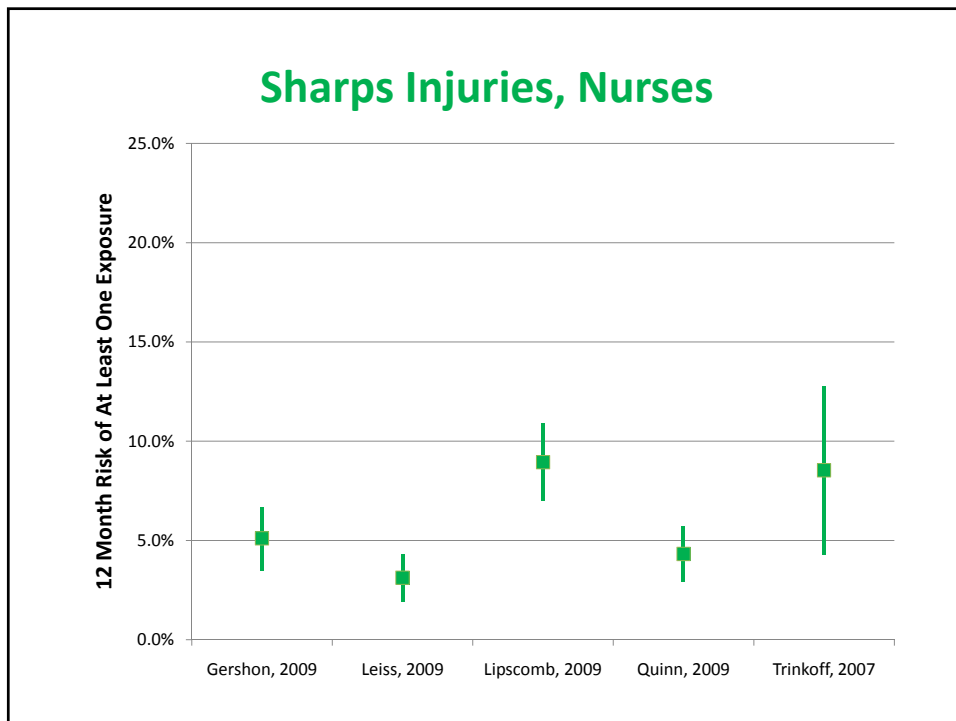
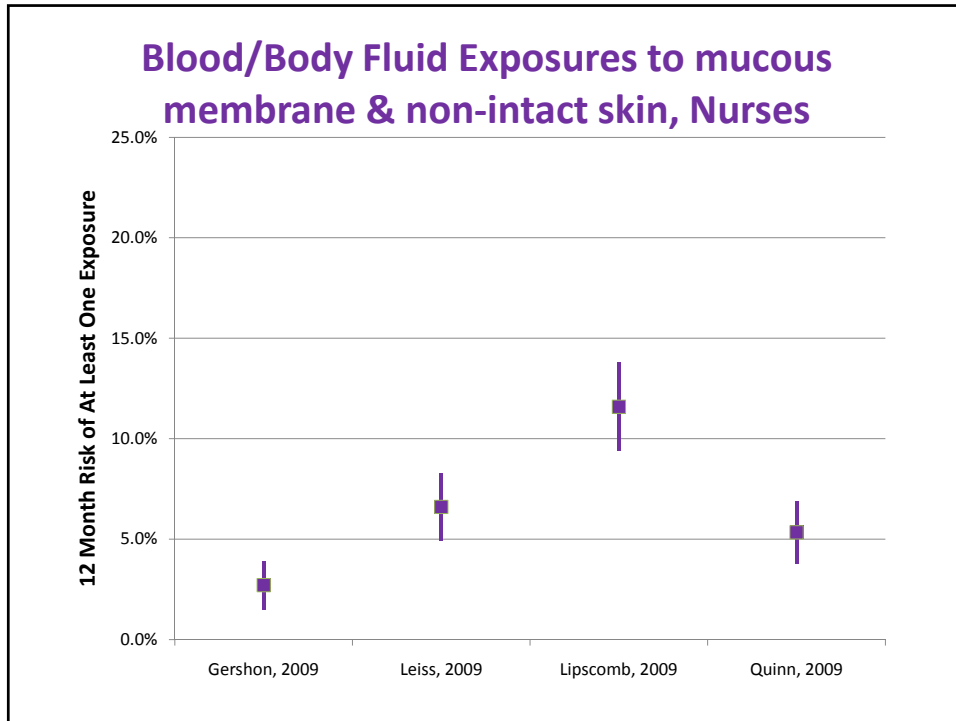
Definitions

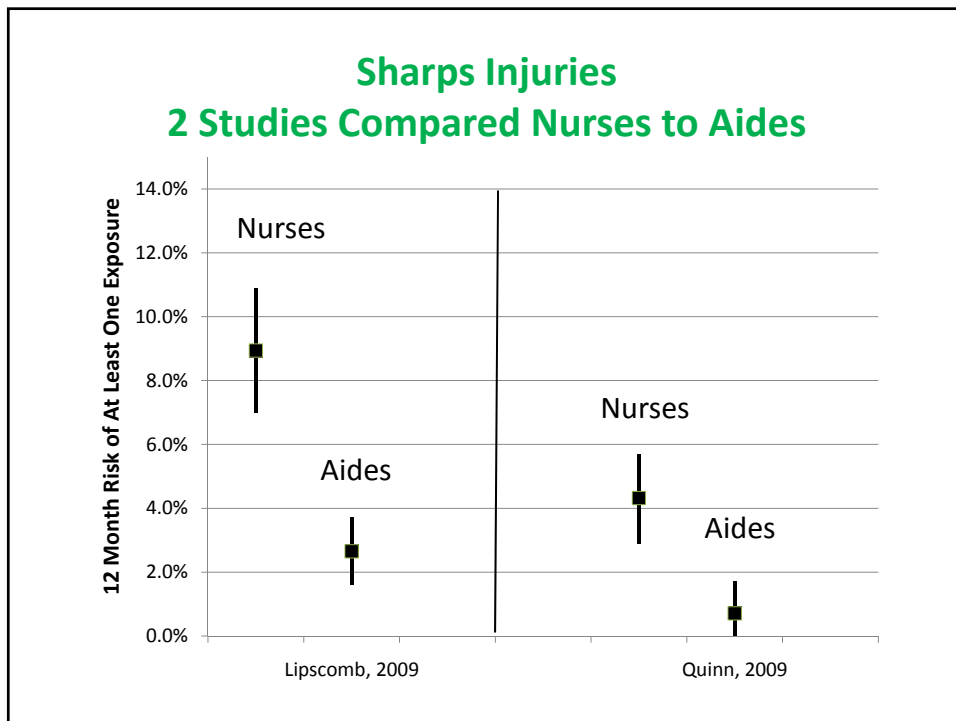
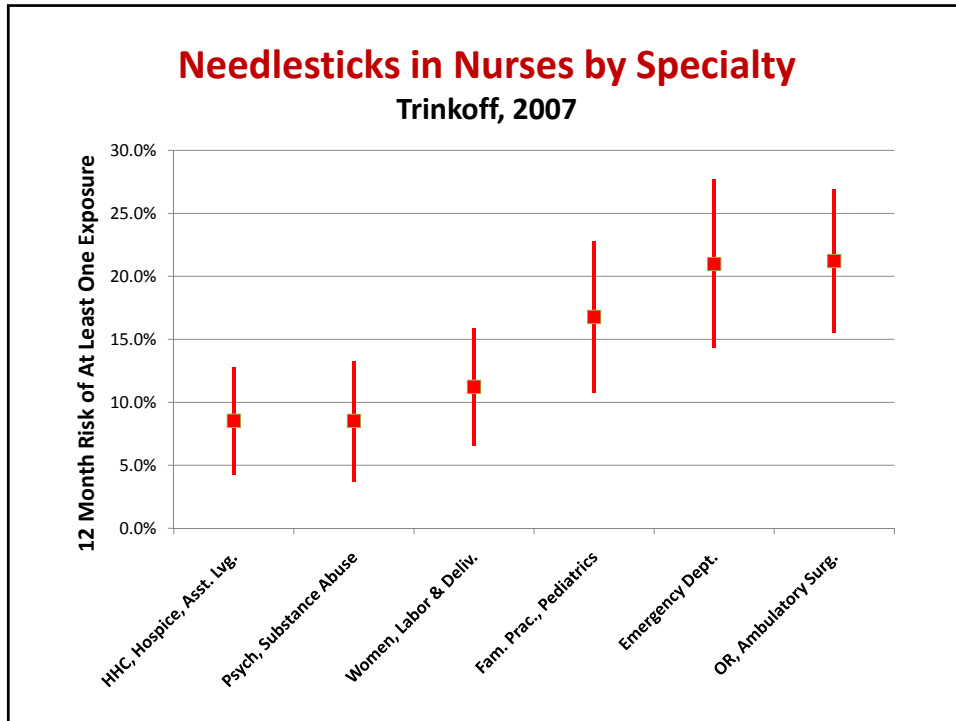
Total Blood Exposures

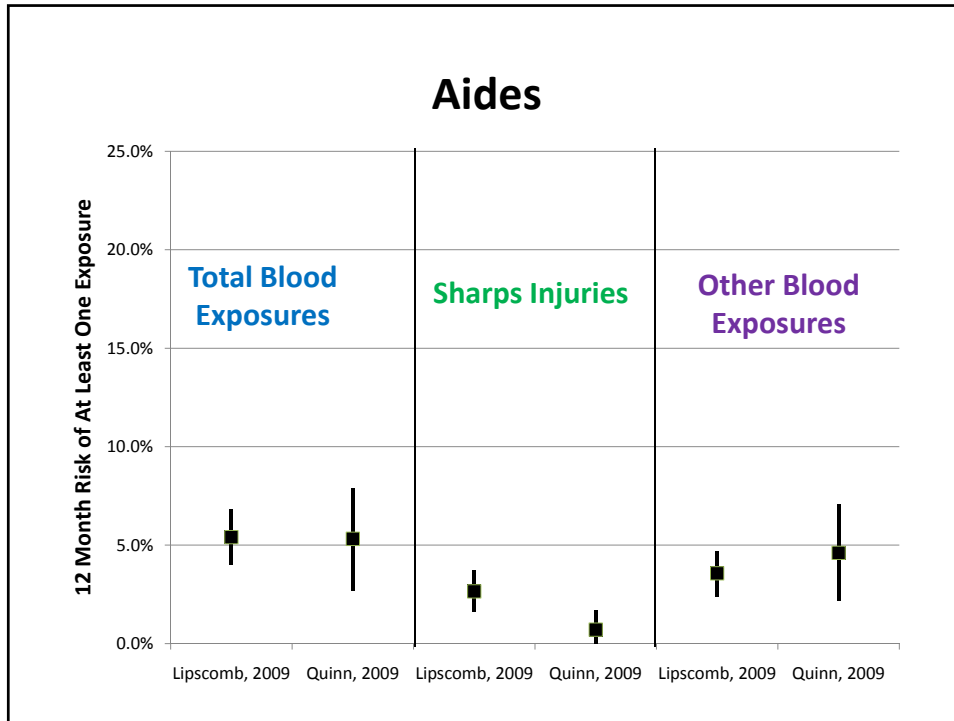
- **Sharps Injuries:** contaminated needles, lancets, other sharps
- **Needlesticks**
- **Blood and visibly bloody body fluid:** contact with mucous membranes or non-intact skin

Total Blood Exposures, Nurses









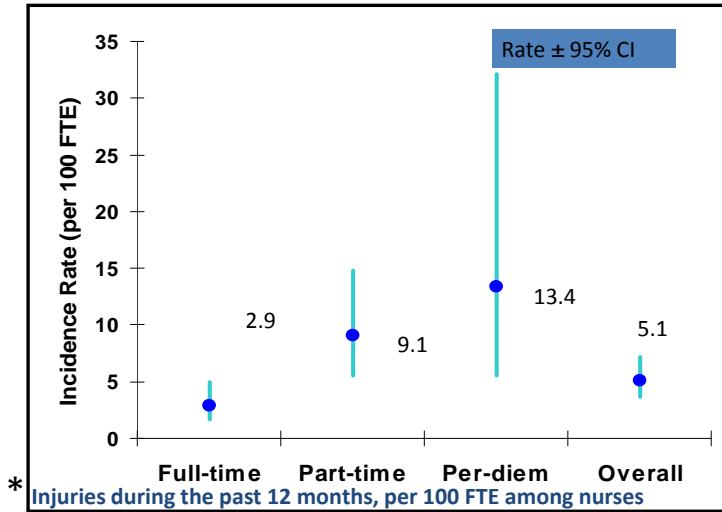
Half of all nurses have had *at least one* blood exposure in their HHC career

Prevalence of SI & BBF Exposure

<u>Ever</u> in HHC Career	Nurse	Aides
	n=787	n=282
	%	%
Sharps Injury	35	6
Blood/Body Fluid Exposure	15	7



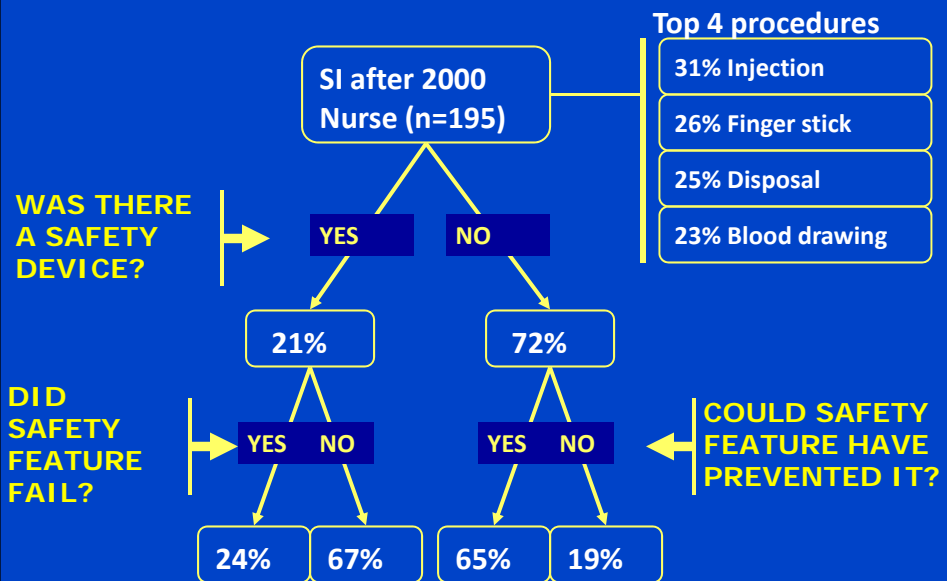
Employment Status of RNs and Sharps Injuries



Quinn et al. (2009)



Role of safety devices in Sharps Injuries (SI)



Under-reporting

NURSES

Gershon: 54% of Sharps Injuries reported

- Needlesticks: 65%

Lipscomb: 48% of total blood contacts reported

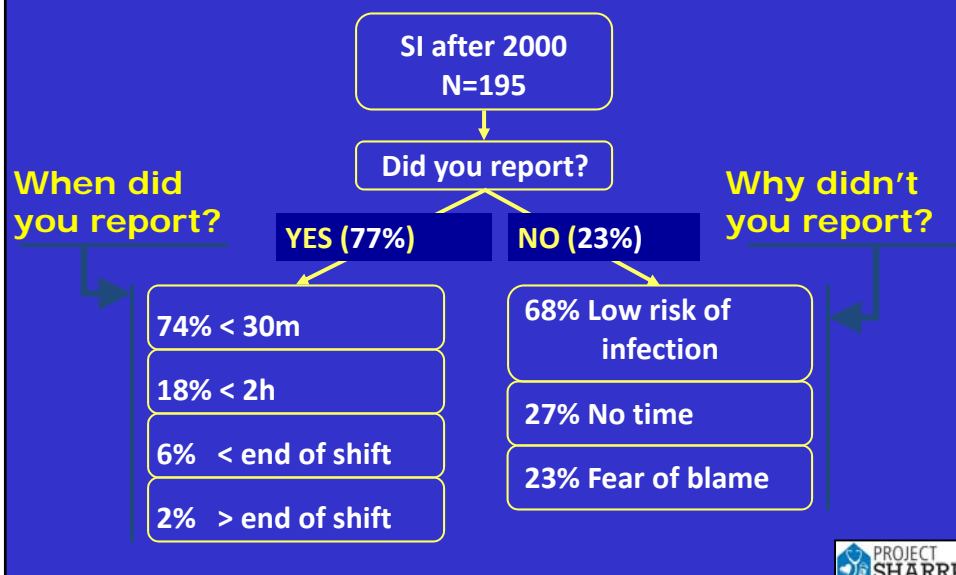
Quinn: 77% SI reported in survey

50% reported in worksite surveillance

AIDES

Lipscomb: PCAs reported 17% total blood contacts

Reporting of Sharps Injuries (SI)



Risk Factors: Employment Conditions

- Mandatory overtime
- Extended Shifts
- Weekend Shifts
- Poor safety Climate
- Per diem and part-time, compared to full time

Risk Factors: Medical procedures

- Injections, use of hollow bore needles, re-capping needles
- Disposing of sharps, sharps containers
- Patient handling

Risk Factors: Home Environment Hazards

- Slip, trip, fall
- Sharps left in bed linens, around the house

Risk Factors: Patient Characteristics

- Uncooperative, combative

Overall Job Satisfaction

	Nurse (n=787)	Aide (n=282)
Job satisfaction	%	%
Satisfied	94	92
Not satisfied	2	2



Conclusions

- **HC nurses & aides have substantial risks of sharps injuries and other blood exposures**
 - **Aides, even those that do not do direct care, should be covered by the OSHA BBP standard**
- **Under-reporting is substantial**
- **The risk of sharps injuries in nurses is similar to that in some hospital depts**
- **There are multiple risks factors related to the patient, medical procedure, activity, and employment status and conditions**
- **Sharps without safety features are common**

Future Needs

- Better understanding of how sharps enter the home
- Identification of hazards & interventions
 - Improved sharps & needless systems
- Policies & procedures that address safety climate, reporting

Interventions need to enhance those aspects of work that make meaningful, dignified care possible

Autonomy:

“I’m on my own time, all my equipment is there. I know exactly what I need to do to get the job done and go to the next person.”

Personal Care Attendant, focus group participant, **Zanoni et al. 2007**

Meaningful relationships with patients:

“She [the hospice patient] took this big bag out, and she [had] hand-knitted an afghan for me. She said, “I wanted you to have this...I wanted to hand it to you personally before I go...” “...I wrapped up in that the other night, and I just [thought] about her, you know. The hands, here’s a person that’s in hospice, they knitted a blanket....That’s what makes this job worth while, not the gift, the love.”

Home Care Nurse, focus group participant, **Markkanen et al. 2007**

Thank you!



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