

## IN THIS STUDY,

## A strategic collaboration was leveraged to reduce needlestick injuries (NSIs).

Key components of this multifaceted approach to improve healthcare worker safety at an integrated, not-for-profit health system included:

### 1. Assessment of internal injection practices and products to inform implementation recommendations

### 2. Product selection and standardization

National trends and literature were reviewed to standardize from 36 different insulin needles (most of which were 8mm in length) to the BD SafetyGlide™ 6mm insulin syringe (in three different barrel sizes). This syringe is designed for one-handed use to help protect HCPs from NSIs.

### 3. Safe practice education + new device implementation

The health system and syringe manufacturer collaborated on introducing educational materials describing safe injection technique and disposal practices for BD SafetyGlide™. The manufacturer-led training included in-services, train the trainer sessions, training aids, etc.

### 4. Monitoring and compliance

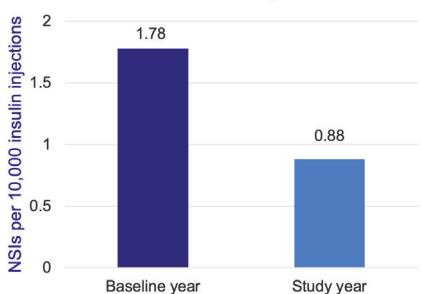
Monitored trends, evaluated sharps container placement, and observed insulin injections to provide feedback to nurses.

This quality improvement project resulted in reductions in both the incidence rate and costs attributable to NSIs.



#### Clinical outcomes

##### Average monthly incidence of needlestick injuries



#### Financial impact



1 year cost savings for supplies: **\$3,500**  
(accounted for supply chain optimization, inventory control, manufacturer pricing)



Annual mean estimated costs savings attributed to NSIs averted: **\$28,671\***

The average monthly incidence of NSIs (per 10,000 injections) was significantly lower during the study year, **approximately half** of that during the baseline year (incidence rate ratio, 0.49; 95% CI, 0.30-0.80; P = .004).

Strategies to reduce insulin related needlestick injuries and the results of this quality improvement project may provide other health systems with a practical template for improving health care worker safety.

\*Estimated total annual costs (direct and indirect) attributable to insulin NSIs in baseline and study years, using a mean of \$929.88 in estimated costs per NSI. Costs were estimated using data from Mannocci et al and adjusted to 2019 US dollars.

1. Friel BA, Sieradzan R, Jones C, Katz RA, Smith CM, Trener A, Gee J. Leveraging Partnerships to Reduce Insulin Needlestick Injuries: Nurse-Led System-Wide Quality Improvement Project. J Nurs Care Qual. 2022 Jan-Mar 01;37(1):14-20. doi: 10.1097/NCQ.0000000000000592. PMID: 34446664; PMCID: PMC8608009.

# Study design

Leveraging Partnerships to Reduce Insulin Needlestick Injuries.  
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January/March 2022 - Volume 37 - Issue 1 - p 14-20 doi: 10.1097/NCQ.0000000000000592



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## PUBLICATION:

*Journal of Nursing Care Quality*



## STUDY DESIGN:

Intermountain Healthcare is an integrated, not-for-profit health system headquartered in Salt Lake City, Utah, with numerous primary care clinics and home health agencies and hospitals.

The study utilized standard, cleared medical devices, and no personal identifiers for patients or caregivers were collected.



## STUDY OBJECTIVE:

To initiate a sharps safety assessment program with the goal of creating a comprehensive educational plan to reduce injuries from sharps across all Intermountain Healthcare facilities.



## STUDY LENGTH:

From June 2018 through May 2020



## STUDY LOCATION:

United States



## STUDY LIMITATIONS:

- Short timeline (2 years)
- Study was conducted within one type of health care system in the US. Results and study methodology may not be applicable to other facilities.
- The annual NSI-related cost savings were estimated using worldwide data and included all kinds of NSIs. Estimated NSI cost savings were modeled using data from Mannocci et al 2019 which included various types of NSIs globally.
- Some authors are current embecta, formerly BD, employees.

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