



# Learning from past successes and challenges implementing Ontario's regulation on needle safety

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It's Not OK – Toronto

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# Ontario's regulation on needle safety

- When a worker is to do work requiring the use of a hollow-bore needle, the employer shall provide the worker with a safety-engineered needle that is appropriate for the work. O. Reg. 474/07, s. 3 (1).
- **“safety-engineered needle”** means,
  - a hollow-bore needle that is designed to eliminate or minimize the risk of a skin puncture injury to the worker
  - a needleless device that replaces a hollow-bore needle

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# Why regulate?

## Burden

- 1-5 needlestick injuries occur per 1000 workers per year without intervention<sup>1</sup>
- Primary source of occupational exposure to blood among healthcare workers
- Psychological impacts post-exposure
- \$65-\$4,800 post-exposure testing and treatment<sup>2</sup>

## Solution

Safety-engineered needles (SENs)

## Problem

Slow transition to SENs

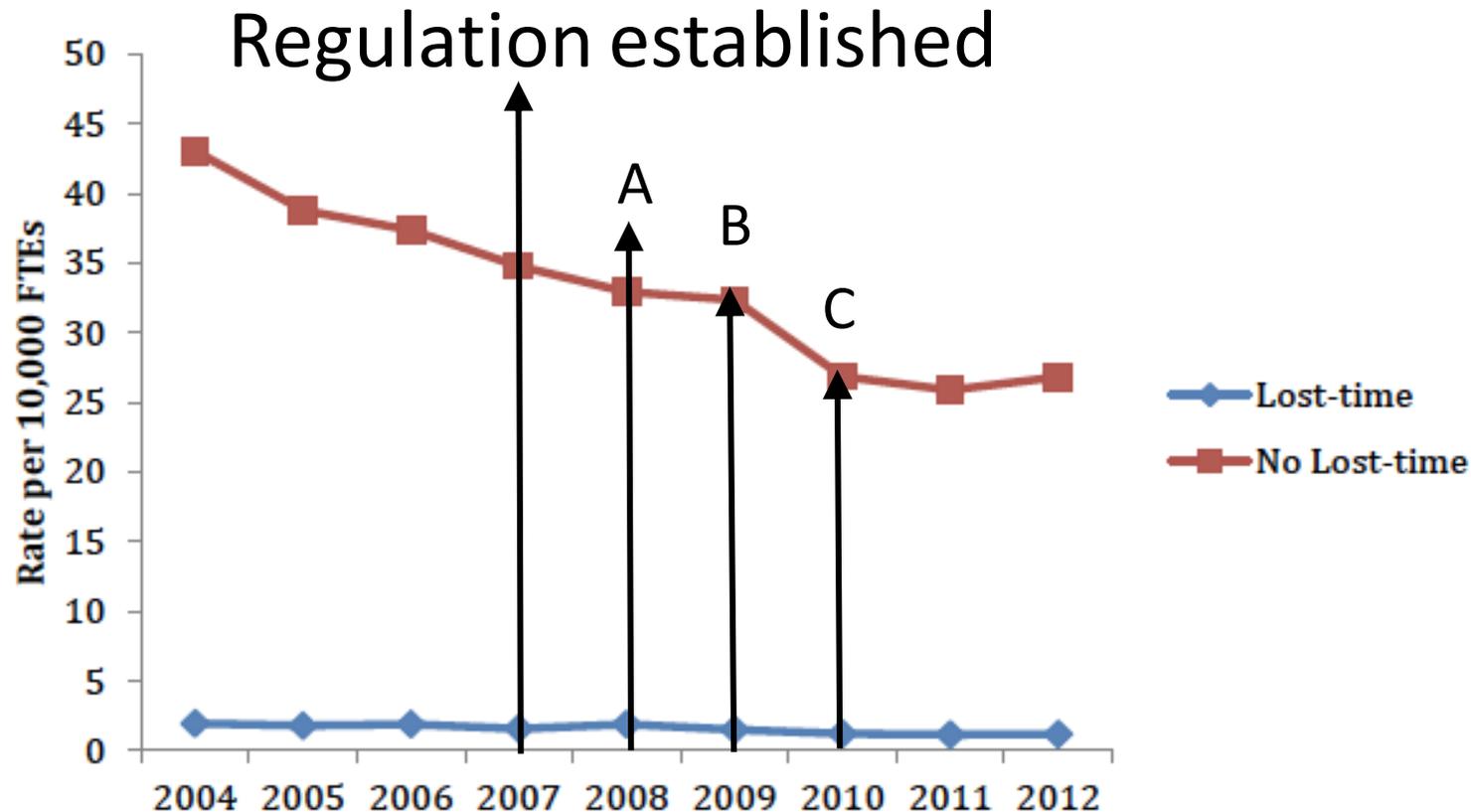
1. Reddy et al., 2017. Devices for preventing percutaneous explore injuries caused by needles in healthcare personnel. Cochrane Database of Systematic Reviews 2017, Issue 11. CD009740.

2. Lee et al. 2005. Needlestick injuries in the United States: Epidemiologic, economic and quality of life issues. AAOHN Journal 53(3):117-34.

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# Ontario workers' compensation claims (2004-2012)

## Rate of needlestick injuries per 10,000 FTEs (1)



Effective dates:

- A) Hospitals
- B) Long-term care
- C) All workplaces

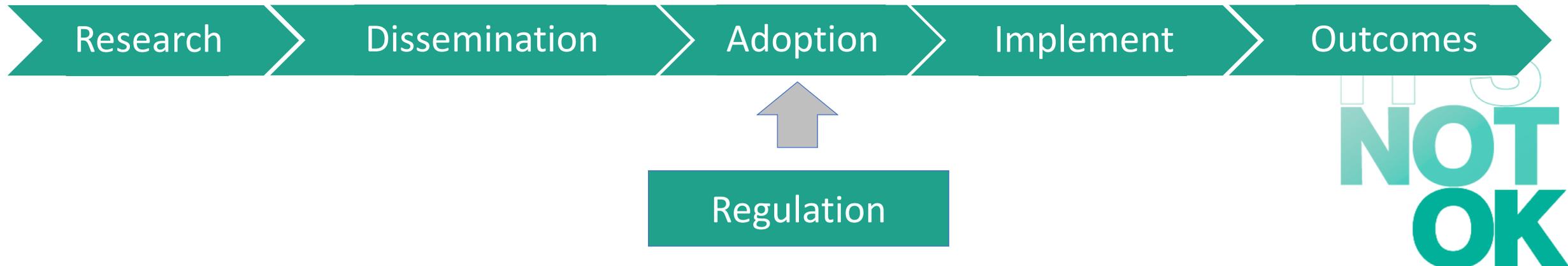
Chambers et al. 2015. Trends in needlestick injury incidence following regulatory change in Ontario, Canada (2004-2012): An observational study. BMC Health Services. 15: 127

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Taking a stand against Sharps Injuries.

# How can we further reduce injuries?

- Difficult to answer in the absence of information on how organizations responded, how organizations managed the change process, and what is contributing to ongoing injury risk.
- Ontario's regulatory standard on needle safety was designed to be *flexible* – how and what will be implemented is dependent on organizations



# Safety Needle Implementation Study 2013

How did hospitals respond and manage the implementation of SENs?...  
Consequences of integrating these devices?... Remaining issues?

## Case study research design

Ontario's Regulation

Key informants  
Document analysis

Acute Care Hospital

Acute Care Hospital

Acute Care Hospital

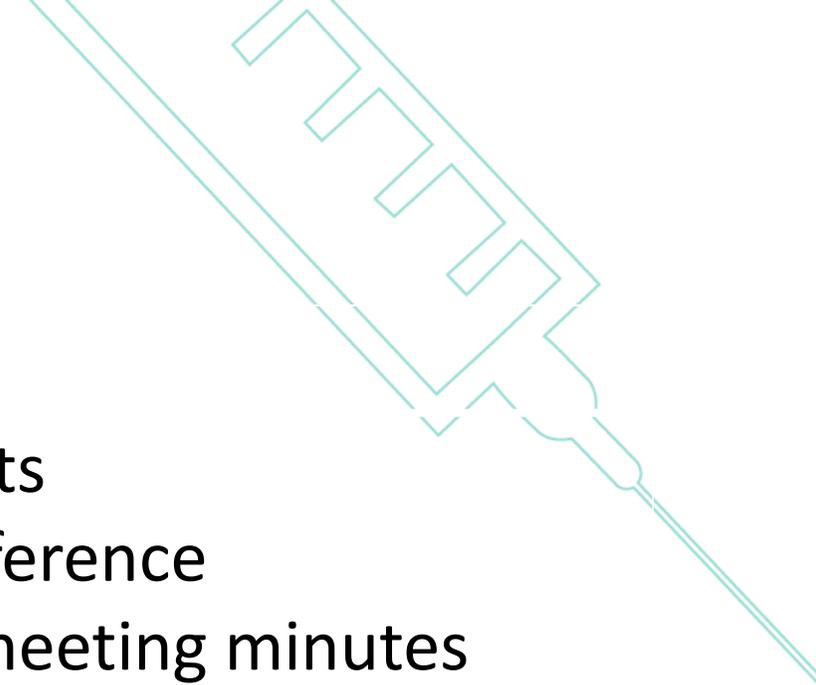
Organizational informants n = 9  
Front-line workers n = 21  
Documentation

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# The document sample

## Organizational Documents

- Policies and procedures
- Injury statistics
- Newsletters
- Training program
- Online educational resources
- Safety device evaluation results
- Email correspondence
- News reports
- Terms of reference
- Task force meeting minutes
- Exemption request forms
- Employee survey results
- Ministry of Labour orders
- SEN cost comparison



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# Three case reports

|                           | The Extrinsic Late Adopter                   | The Extrinsic Early Adopter                       | The Intrinsic Early Adopter       |
|---------------------------|--|---|-----------------------------------|
| Characteristics           | Large teaching hospital                      | Multi-site community hospital                     | Large teaching hospital           |
| Transition to SENs        | 2007, in response to safer needle regulation | 2006, in response to a workplace inspection order | 2003, voluntary transition        |
| Types of SENs             | Semi-automatic & manual                      | Semi-automatic & manual                           | Semi-automatic, manual, & passive |
| Relative decline in NSIs* | 28%  | 61%   | 85%                               |

\*from year of transition to 2011

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# Implementation Challenges

SENs were for the health and safety of front-line workers, it did not follow that the devices were immediately accepted and used...

## Issues with safety needle use

- Safety features not being used / modified
- Product hoarding

*“The other issue that does occur and I am sure its occurred in many hospitals is some staff will try to steal, hoard the old needles and we have found here and there stashes of non-safety needles that staff were hiding.”*

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# Performance First

Care providers prioritized their skill and performance, the ability to care for their patients, to get the job done.. these values appeared to influence how they responded to the new safety technology...

*“You’re taking people who are used to for example holding a wing set in a certain way and applying it and they’re now masters of that and now you’re suddenly asking them to use something in a different way and anybody who draws blood for a living will balk against it.”*

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# Learning Curve

**Learning Curve:** an initial period of poor performance that decreases over time with experience.

- Needlestick injuries increased ‘during a procedure’ following the implementation of SENs before declining.

In all three cases, there was a shared belief that issues with SENs had either been resolved or staff had learned to adapt...

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# Is there a need for ongoing focus on prevention?



## **Injury risk**

- Ongoing needlestick injuries occurring:
  - During activation
  - During a procedure as a result of patient action
  - Sharps disposal

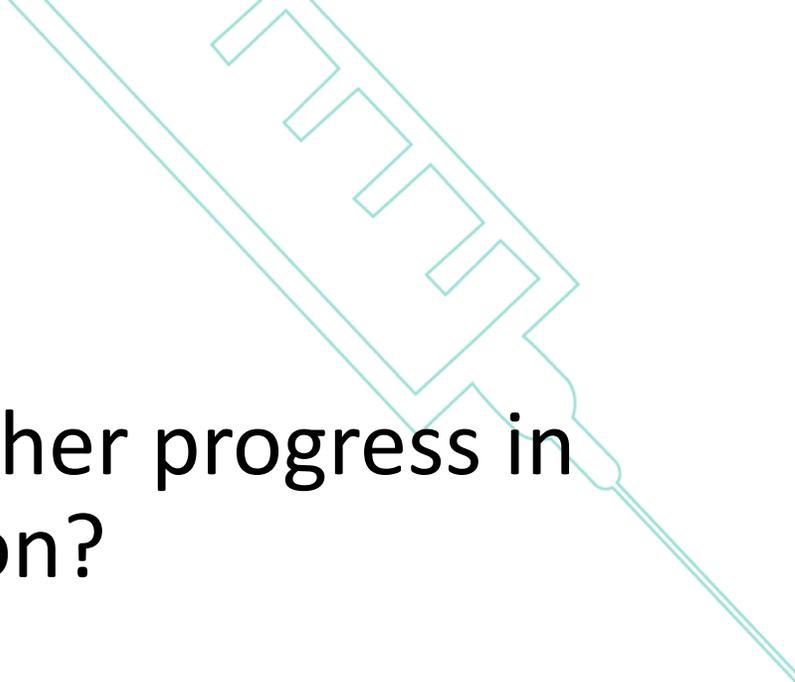
## **Practice issues**

- SEN activation process and sharps disposal

## **Ongoing monitoring and improvement**

- Exceptions only reviewed annually at one of the hospitals
- No future plans to integrate passive safety needles or other safety engineered medical sharps

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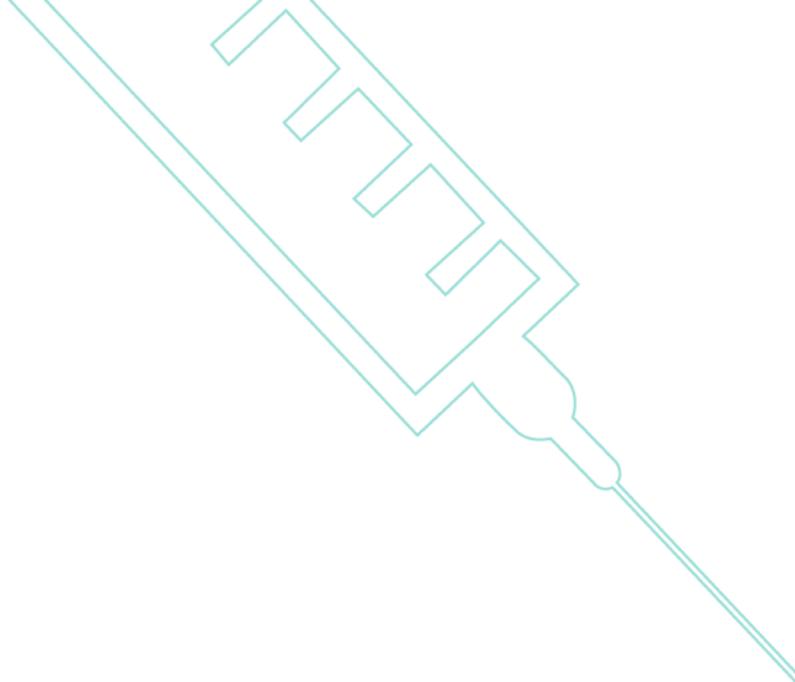


What might present a challenge for further progress in  
needlestick injury prevention?

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# Challenges to overcome

- Change fatigue
- Other occupational health priorities
- Perceptions of available financial resources
- Tension for change
  - Front-line workers were not always aware that injuries were continuing to occur
  - There were different perspectives over whether this mattered and what should be done about it
  - The belief that ongoing injury risk is largely due to individual practice issues



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# Moving Forward...

- **Awareness:** do healthcare workers and organizations know what their current rates are? Do they know what contributing to ongoing injury risk? Do they know what influences proper use of safety features?
- **Beliefs and values:** do HCWs perceive themselves to be at ongoing risk? Do they believe that better technology can reduce injury risk?
- **Evidence:** high quality studies that include cost-effectiveness measures are needed.
- **Change management and implementation support...**



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# Take Away

When we scale-up evidence-based innovations to prevent occupational injuries we need to also invest in change management and support for implementation.

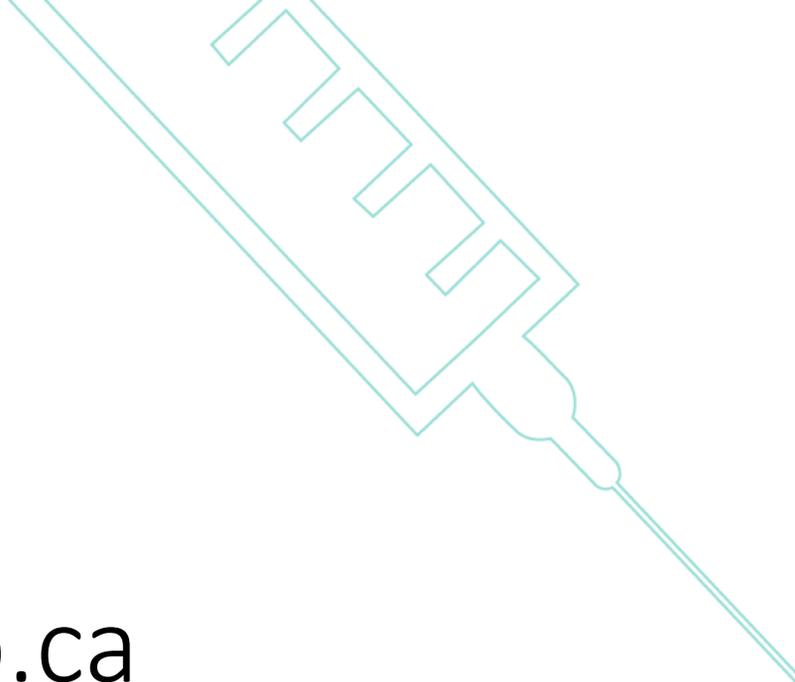
## Formula For Success



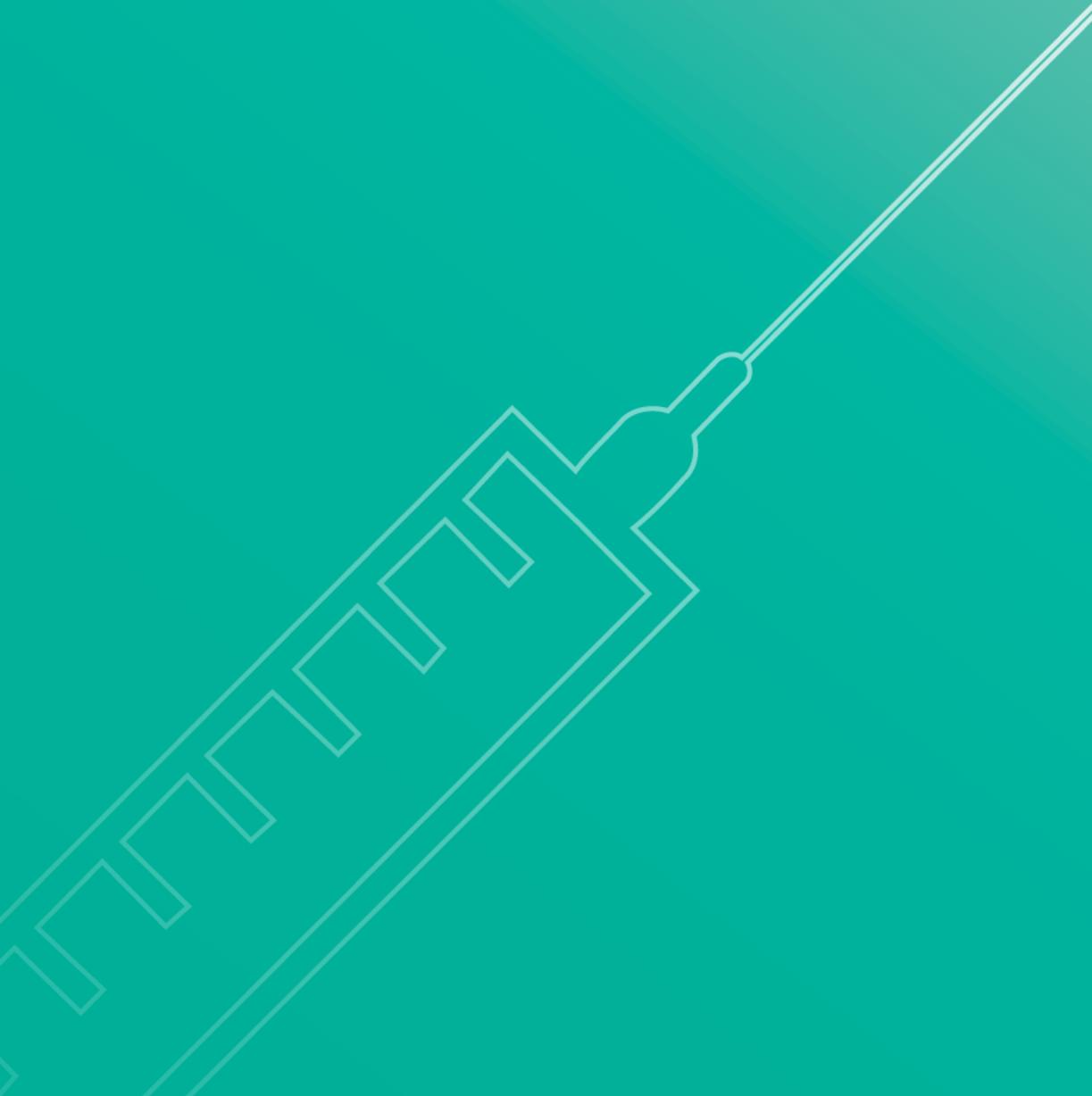
Source: Adapted from National Implementation Research Network

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Thank you!  
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