Needlestick Safety and Prevention Act of 2000: Impact and Limitations

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CDC 1987
Universal Precautions Guidelines

OSHA 1991
Bloodborne Pathogens Standard

FDA 1992 1999
medical device Safety Alerts

state legislatures 1998
California then others

medical device Safety Alerts

national law 2000

Pulling Levers guidelines, regulations, legislation

Clinton signs Nov 6, 2000
FDA SAFETY ALERT:
Needlestick and Other Risks from Hypodermic Needles on Secondary I.V. Administration Sets -- Piggyback and Intermittent I.V.

April 16, 1992

Dear Colleague:

This is to alert you to the risk of needlestick injuries from the use of hypodermic needles as a connection between two pieces of intravenous (I.V.) equipment. The use of exposed hypodermic needles on I.V. administration sets or the use of syringes to access I.V. administration set ports or injection sites are unnecessary and should be avoided. Hypodermic needles should only be used in situations where there is a need to penetrate the skin.

Injury Rates from Needles on IV Lines Before & After the 1992 FDA Safety Alert
EPINet hospitals, International Healthcare Worker Safety Center

- 1986: 1 teaching hospital (84/513 injuries per 100 hospital beds)
- 1993: 1 teaching hospital (14/550 injuries per 100 hospital beds)
- 1999: 9 teaching hospitals (17/4,454 injuries per 100 hospital beds)

The FDA alert reduced the injury rate from 85% to 99.9%.
**IV catheter injury rates per 100,000 devices**

<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Hospitals</th>
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<tbody>
<tr>
<td>1986</td>
<td>Conventional</td>
<td>1</td>
</tr>
<tr>
<td>1993</td>
<td>Conventional</td>
<td>3</td>
</tr>
<tr>
<td>1993</td>
<td>Safety</td>
<td>3</td>
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</tbody>
</table>

Injuries per 100,00 devices:
- 1986: 18.4
- 1993: 7.5
- 1993: 1.2

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**The Needlestick Safety and Prevention Act**

November 6, 2000


International Healthcare Worker Safety Center, University of Virginia
U.S. Estimated percent market share* of safety compared to conventional devices, 1998 – 2009

* Market share (reflects $ spent/purchase volume) and is a proxy for conversion or use


87 hospitals; total injuries = 24,440 (excludes injuries occurring before use of device)

International Healthcare Worker Safety Center, University of Virginia
Device Specific Injury Rates

US EPINet 1993-2004: 87 hospitals; total injuries = 10,778. Excludes injuries occurring before use of device

Two areas where progress lags:
Operating Room
Non-hospital settings
OR versus Non-OR Injury Rates


International Healthcare Worker Safety Center, University of Virginia

Figure 2

Conventional phlebotomy needle injuries = 425  Safety phlebotomy needle injuries = 253

U.S. law
Syringes Used for Venous Blood Drawing: Percent of Injuries from Safety Syringes

<table>
<thead>
<tr>
<th>Year</th>
<th>US</th>
<th>Italy</th>
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<tbody>
<tr>
<td>1997</td>
<td>40%</td>
<td>50%</td>
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<td>45%</td>
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<td>85%</td>
<td>95%</td>
</tr>
<tr>
<td>2007</td>
<td>90%</td>
<td>100%</td>
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</table>

Syringes Used for Arterial Blood Drawing: Percent of Injuries from Safety Syringes

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<tbody>
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<tr>
<td>2006</td>
<td>55%</td>
<td>60%</td>
</tr>
<tr>
<td>2007</td>
<td>60%</td>
<td>65%</td>
</tr>
</tbody>
</table>

U.S. law

syringe injuries (venous blood draw), U.S. = 1,038
syringe injuries (venous blood draw), Italy = 554

U.S. law

syringe injuries (arterial blood draw), U.S. = 220
syringe injuries (arterial blood draw), Italy = 179
Winged Steel Needles: Percent of Injuries from Safety Winged Steel Needles

Figure 5

Phlebotomy Needle Injuries: Percent of Injuries from Safety Phlebotomy Needles

Figure 6
Lancet Injuries: Percent of Injuries from Safety Lancets

Figure 7

U.S. law


Figure 9


syringes (venous blood draw), syringes (arterial blood draw), winged steel needles, phlebotomy needles, lancets

occupied beds, U.S. = 67,573  occupied beds, Italy = 85,409
injuries, U.S. = 3,439  injuries, Italy = 2,264

6.9%  - 46.4%
2.9%  3.7%
- 13.8%
2.5%

Injuries per 100 occupied beds


US  Italy
Distance traveled

Look behind you to see how far you have come.