Single-Use Safety Syringes
Past, Present and Future Directions

Ottawa Public Health
Date: June, 2010
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Site Clean Needle & Syringe Program
May 2002 – Phase 1 Feasibility Study

- Study Motivation –
  - Community concern re. safe disposal of needles by Needle & Syringe Program (NSP) clients
  - HIV prevalence in Ottawa
  - Availability of appropriate needle technology
May 2002 – Phase 1 Feasibility Study

- New Medical Technology (NMT) Safety Syringe
  - Most likely to be accepted by clients
  - Automatic needle retraction with one hand
  - Available in appropriate size and gauge
  - No previous evaluation of NMT product with clients of Needle & Syringe Program (NSP)
OPH Needle & Syringe Program Pilot Study – 2002

May 2002 – Phase 1 Feasibility Study

- 50 Needle & Syringe Program (NSP) clients
  - Interviewed
  - Observed manipulation
  - Clients provided first impressions/views/reactions to features and functionality
  - Interviewers determined willingness to participate in trial
OPH Needle & Syringe Program Pilot Study – 2002

May 2002 – Phase 1 Feasibility Study

• Conclusions
  • Stiffness of plunger
  • Absence of lip
  • Difficulty retracting
  • Difficulty understanding “spring back” feature
  • Concern re. vein safety
    ➢ 2 vein experts – high probability of causing harm
      (interstitial damage, nerve damage, infection and hemorrhage)
May 2002 – Phase 1 Feasibility Study

- Options for discussion
  - Option 1 – no Phase 2 (trial of syringe with study volunteers) with NMT Safety Syringe
  - Option 2 – research other single-use syringes
  - Option 3 – proceed with Phase 2 to validate results
OPH Needle & Syringe Program Pilot Study – 2002

May 2002 – Phase 1 Feasibility Study

• Findings 2002
  • Significant concerns re. safety and feasibility of NMT syringe for 1-handed intravenous use
  • High risk of being discarded un-retracted
  • Liability if injury occurred
  • Substantially increased cost

• Decision 2002
  • Decision to not proceed with Phase 2
  • Continue to monitor the market for a suitable product
International Environmental Scan - 2007

- Worldwide, currently no Needle & Syringe Programs distributing single-use safety syringes to people who inject drugs

- Reasons cited
  - Cost prohibitive
  - Appropriate for health care professionals
  - Too dangerous for clients who inject drugs
  - Limiting current needle availability will lead to retention, borrowing and lending
Australian Retractable Needle Initiative – 2004-2005

- “Retractable Needle and Syringe Technology Initiative”
  - Technical limitations with retractable syringes
  - Participants open to use of retractable syringes in context of voluntary trial
  - DTR syringes should be limited to:
    - Clients with good relationship with NSP
    - Clients who know they are infected with Hep C and/or HIV and are in situations that place non-injectors at risk of needle stick injuries
Australian Retractable Needle Initiative – 2004-2005

- “Pulling Back on Retractables”
  - Complaints of blood splatters when needle retracted – risk of possible increased virus transmission, increased damage to veins
  - Actual risk of contracting blood-borne virus from a discarded needle extremely low
  - Cost prohibitive
International Environmental Scan - 2007

Australian Retractable Needle Initiative – 2004-2005

• “The Retractable Debate”
  • Arguments FOR distribution of single-use safety syringes
    ➢ Decrease risk of contracting blood-borne viruses through improperly discarded needles in public
    ➢ Prevent reuse and sharing of needles
    ➢ Designed to offer greater safety and reduction of viral transmission
Australian Retractable Needle Initiative – 2004-2005

Arguments **AGAINST** distribution of single-use safety syringes

- Syringes that become disabled after use are more likely to be used to administer partial loads between 2 or more people
- No recorded case of infection through needle stick injury from a discarded needle
- Automatic spring retractable needles have the potential to cause tissue damage and blood splatter
- Recommendation that funding better used to meet demand for regular needles
Single-Use Safety Syringes - 2008

Purpose

• To continue to demonstrate the commitment of Site Clean Needle & Syringe Program to both clients and community at large
  • May reduce the risk of contracting HIV and/or Hep B/C through needle sharing
  • May reduce risk of needle stick injuries in non-health care settings and in the community
Single-Use Safety Syringes - 2008

Process

• December 2007-January 2008 – Extensive Yahoo/Google Internet search re. companies distributing single-use safety syringes
  • 16 companies worldwide contacted
  • 6 companies excluded i.e. insulin products, glass products only
  • Letter of inquiry – Canadian distribution, products, history of product use with clients who inject drugs
Single-Use Safety Syringes – Progress 2008

Findings

• No company can provide all the products requested
  • 2 companies indicated they would investigate possibility of manufacturing size required

• No studies have been conducted with Needle & Syringe Programs
  • Vein safety could not be explicitly guaranteed

• No Needle & Syringe Programs currently using single-use safety syringes
Single-Use Safety Syringes – Progress 2008

Findings

- Three types of single-use safety syringes available:
  - Manual (active) retraction
  - Spring (passive) retraction
  - Plastic sheath
Findings

- Manipulation and evaluation meeting
  - 6 products evaluated
  - 3 products met criteria for further investigation:
  - 3 subsequent meetings with manufacturers following manipulation session
    - 1 additional product included
Single-Use Safety Syringes – Progress 2008

Next Steps

- Presentations to stakeholders
- Call for proposals completed
  - Hiring of consultants
  - Project design, implementation and evaluation (Phase 1)
Single-Use Safety Syringes – Where Are We Now?

- Call for proposals
- Search did not find any suitable consultant to complete the study
- Recommendation from Internal Proposal Review Committee that Ottawa Public Health update the 2008 product market search
Single-Use Safety Syringes – Where Are We Now?

- Consulting firm was contracted to complete this task and a report was received in November 2009.
- The updated search did not find any new additional products on the market other than those already identified by Ottawa Public Health.
<table>
<thead>
<tr>
<th>Key Criteria</th>
<th>Becton Dickson</th>
<th>Covidien</th>
<th>Domrex Pharma</th>
<th>Inviro Medical*</th>
<th>Retractable Technologies</th>
<th>Safety First Medical</th>
<th>Terumo Medical</th>
<th>Unilife</th>
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<tbody>
<tr>
<td>Applicable Product(s)</td>
<td>Integra</td>
<td>Magellan</td>
<td>OMI Retractable Syringe</td>
<td>Baksnap</td>
<td>InvroSnap</td>
<td>Vanishpoint</td>
<td>Safe-1 Safety Syringe</td>
<td>SurGuard</td>
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<td>Canadian Approval</td>
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<td>28G 1/5 1ml standard</td>
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<td>Yes</td>
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<td>Other available sizes (if 28G 1/2 1ml standard not available)</td>
<td>21G 3ml</td>
<td>25G 3ml</td>
<td>25G 5/8' 1ml</td>
<td>25G 1' 1ml</td>
<td>26G 1/2' 1ml</td>
<td>26G 5/8' 1ml</td>
<td>27G 1/2' 1ml</td>
<td>29.5G u-100</td>
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<td>Applicable sites</td>
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<td>Price (% of conventional)</td>
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**Other Comments**
- Toronto Public Health has introduced the product into their clinical immunization program. Various 3ml sizes also available.
- Vancouver declined to introduce any safety syringe product. (1) Thunder Bay declined to introduce any safety syringe product. (1) Product design was developed and commercialized through work with the United States National Institutes of Health
- Currently in trials in the noted American and European sites. Although Australian project was abandoned, trial review determined that Unitract met all rated standards.

**Notes**
1 - It is our understanding that these decisions do not necessarily reflect on the product itself, but on an overall programatic concern with user utilization.
Single-Use Safety Syringes – Where Do We Go From Here?

Direction to move ahead with Phase 2 of study

- Key informant and stakeholder interviews
- Focus groups with clients
  - Interviews
  - Observed manipulation sessions
  - Clients to provide first impressions/views/reactions to features and functionality
  - Interviewers will determine willingness to participate in trial

...stay tuned!
Questions?