CADTH RAPID RESPONSE REPORT: REFERENCE LIST

Closed-System Transfer Devices for the Handling of Hazardous Drugs: Clinical Effectiveness, Cost-Effectiveness, and Guidelines

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**Authors:** Calvin Young, Kelly Farrah


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**About CADTH:** CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.
Research Questions

1. What is the clinical effectiveness of closed-system transfer devices for the handling of hazardous drugs?

2. What is the cost-effectiveness of closed-system transfer devices for the handling of hazardous drugs?

3. What are the evidence-based guidelines regarding the use of closed-system transfer devices for the handling of hazardous drugs?

Key Findings

One randomized controlled trial, three non-randomized studies, one economic evaluation, and one evidence-based guideline were identified regarding the clinical effectiveness or cost-effectiveness of closed-system transfer devices for adults receiving or administering hazardous drugs.

Methods

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2015 and August 3, 2017. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

<table>
<thead>
<tr>
<th>Population</th>
<th>Adults receiving or administering hazardous drugs</th>
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<tbody>
<tr>
<td>Intervention</td>
<td>Closed-system transfer device (CSTD)</td>
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<tr>
<td>Comparator</td>
<td>Q1-2: No comparator; Other CSTDs (including PhaSeal, ChemoClave Genie and Spiros, Texium, OnGuard, and Equashield); Biohazard safety cabinet</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Q1: Clinical effectiveness (e.g., drug contamination, safety and harms, etc.) Q2: Cost-effectiveness Q3: Guidelines</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines</td>
</tr>
</tbody>
</table>
Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One randomized controlled trial, three non-randomized studies, one economic evaluation, and one evidence-based guideline were identified regarding the clinical effectiveness or cost-effectiveness of closed-system transfer devices for adults receiving or administering hazardous drugs. No relevant health technology assessments, systematic reviews, or meta-analyses were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-Analyses

No literature identified.

Randomized Controlled Trials


Non-Randomized Studies


Economic Evaluations


Guidelines and Recommendations

Appendix — Further Information

Previous CADTH Reports


Clinical Practice Guidelines – Uncertain Methodology

See “D.2.14 Closed System Drug Transfer Devices”


Review Articles


