

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

Lethal Means Counselling for Suicide Prevention: Clinical Effectiveness and Guidelines

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Research Questions

1. What is the clinical effectiveness of lethal means restriction as a suicide prevention intervention?
2. What are the evidence-based guidelines regarding lethal means restriction as a suicide prevention intervention?

Key Findings

One systematic review and six non-randomized studies were identified regarding the clinical effectiveness of lethal means restriction as a suicide prevention intervention. One relevant evidence-based guideline was identified.

Methods

A limited literature search, with main concepts appearing in title or major subject heading, was conducted on key resources including Ovid Medline, PubMed (for non-Medline records), the Cochrane Library, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2014 and January 2, 2019. 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 1: Selection Criteria

Population	Adult patients who are at risk for suicide
Intervention	Lethal means restriction/counselling (as an intervention for suicide prevention)
Comparators	No active comparator; Other active protocol
Outcomes	Q1: Effectiveness - minimizing suicidal ideation, minimizing deaths from suicide, minimizing suicide attempts Q2: evidence-based guidelines and recommendations, best practices of lethal means restriction
Study Designs	Health technology assessments , systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

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, and evidence-based guidelines.

One systematic review and six non-randomized studies were identified regarding the clinical effectiveness of lethal means restriction as a suicide prevention intervention. No relevant health technology assessments, meta-analyses, or randomized controlled trials were identified. One evidence-based guideline was identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Zalsman G, Hawton K, Wasserman D, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry*. 2016;3(7):646-659.
[PubMed: PM27289303](#)

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

2. Kivisto AJ, Phalen PL. Effects of risk-based firearm seizure laws in Connecticut and Indiana on suicide rates, 1981-2015. *Psychiatr Serv*. 2018;69(8):855-862.
[PubMed: PM29852823](#)
3. Konig D, Swoboda P, Cramer RJ, Krall C, Postuvan V, Kapusta ND. Austrian firearm legislation and its effects on suicide and homicide mortality: a natural quasi-experiment amidst the global economic crisis. *Eur Psychiatry*. 2018;52:104-112.
[PubMed: PM29777938](#)
4. Knipe DW, Chang SS, Dawson A, et al. Suicide prevention through means restriction: impact of the 2008-2011 pesticide restrictions on suicide in Sri Lanka. *PLoS One*. 2017;12(3):e0172893.
[PubMed: PM28264041](#)
5. Milner A, Witt K, Maheen H, LaMontagne AD. Access to means of suicide, occupation and the risk of suicide: a national study over 12 years of coronial data. *BMC Psychiatry*. 2017;17(1):125.
[PubMed: PM28376757](#)
6. Anestis MD, Anestis JC. Suicide rates and state laws regulating access and exposure to handguns. *Am J Public Health*. 2015;105(10):2049-2058.
[PubMed: PM26270305](#)

7. Crifasi CK, Meyers JS, Vernick JS, Webster DW. Effects of changes in permit-to-purchase handgun laws in Connecticut and Missouri on suicide rates. *Prev Med.* 2015;79:43-49.
[PubMed: PM26212633](#)

Guidelines and Recommendations

8. National Institute for Health and Care Excellence. Preventing suicide in community and custodial settings (*NICE Guideline NG105*) 2018;
<https://www.nice.org.uk/guidance/ng105/resources/preventing-suicide-in-community-and-custodial-settings-pdf-66141539632069>. Accessed 2019 Jan 10.

Appendix — Further Information

Systematic Reviews and Meta-analyses

Mixed Population – Intentional and Unintentional Injuries

9. Violano P, Bonne S, Duncan T, et al. Prevention of firearm injuries with gun safety devices and safe storage: an Eastern Association for the Surgery of Trauma systematic review. *J Trauma Acute Care Surg.* 2018;84(6):1003-1011.
[PubMed: PM29521806](#)
10. Crandall M, Eastman A, Violano P, et al. Prevention of firearm-related injuries with restrictive licensing and concealed carry laws: an Eastern Association for the Surgery of Trauma systematic review. *J Trauma Acute Care Surg.* 2016;81(5):952-960.
[PubMed: PM27602894](#)

Alternative Interventions

11. Riblet NBV, Shiner B, Young-Xu Y, Watts BV. Strategies to prevent death by suicide: meta-analysis of randomised controlled trials. *Br J Psychiatry.* 2017;210(6):396-402.
[PubMed: PM28428338](#)

Non-Randomized Studies

Alternative Population - Adolescents

12. Runyan CW, Becker A, Brandspigel S, Barber C, Trudeau A, Novins D. Lethal means counseling for parents of youth seeking emergency care for suicidality. *West J Emerg Med.* 2016;17(1):8-14.
[PubMed: PM26823923](#)

Qualitative Studies

13. Tung GJ, Pierpoint LA, Betz ME, Brooks-Russell A, Brandspigel S, Runyan CW. Gun retailers' willingness to provide gun storage for suicide prevention. *Am J Health Behav.* 2019;43(1):15-22.
[PubMed: PM30522563](#)
14. Betz ME, Knoepke CE, Siry B, et al. 'Lock to Live': development of a firearm storage decision aid to enhance lethal means counselling and prevent suicide. *Inj Prev.* 2018; [epub ahead of print].
[PubMed: PM30317220](#)
15. Pierpoint LA, Tung GJ, Brooks-Russell A, Brandspigel S, Betz M, Runyan CW. Gun retailers as storage partners for suicide prevention: what barriers need to be overcome? *Inj Prev.* 2018; [epub ahead of print].
[PubMed: PM29436398](#)
16. Knoepke CE, Allen A, Ranney ML, Wintemute GJ, Matlock DD, Betz ME. Loaded questions: internet commenters' opinions on physician-patient firearm safety conversations. *West J Emerg Med.* 2017;18(5):903-912.
[PubMed: PM28874943](#)

Guidelines and Recommendations - Methods unspecified

17. Transforming Health Systems Initiative Work Group. Recommended standard care for people with suicide risk: making health care suicide safe. Washington (DC): National Action Alliance for Suicide Prevention. 2018:
https://theactionalliance.org/sites/default/files/action_alliance_recommended_standard_care_final.pdf. Accessed 2019 Jan 10.
 See: "Is Safety Planning with Lethal Means Reduction Feasible?" page 5, Table 1 and "Summary of Recommended Standard Care Elements by Major Care Setting" page 7.
18. Allchin A, Chaplin V. Breaking through barriers: the emerging role of healthcare provider training programs in firearm suicide prevention. Washington (DC): Consortium for Risk-Based Firearm Policy. 2017:
<https://efsgv.org/wp-content/uploads/2017/09/Breaking-through-Barriers-September-2017-Consortium-for-Risk-Based-Firearm-Policy-FINAL.pdf>. Accessed 2019 Jan 10.
19. Suicide Prevention Resource Center. Caring for adult patients with suicide risk: a consensus guide for emergency departments. Waltham (MA): Education Development Center, Inc. 2015:
http://www.sprc.org/sites/default/files/EDGuide_full.pdf. Accessed 2019 Jan 10.
 See: section "3.3 Lethal Means Counselling", page 12.
20. World Health Organization. Preventing suicide: a global imperative. 2014:
http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/. Accessed 2019 Jan 10.
 See: "Relevant interventions for health system and societal risk factors" page 33, 4. Restriction of access to means"

Review Articles

21. Kim H, Kwon SW, Ahn YM, Jeon HJ, Park S, Hong JP. Implementation and outcomes of suicide-prevention strategies by restricting access to lethal suicide methods in Korea. *J Public Health Policy*. 2018 Nov 26.
[PubMed: PM30478435](#)
22. McCourt AD, Vernick JS, Betz ME, Brandspigel S, Runyan CW. Temporary transfer of firearms from the home to prevent suicide: legal obstacles and recommendations. *JAMA Intern Med*. 2017;177(1):96-101.
[PubMed: PM27842186](#)
23. Mann JJ, Michel CA. Prevention of firearm suicide in the United States: what works and what is possible. *Am J Psychiatry*. 2016;173(10):969-979.
[PubMed: PM27444796](#)
24. Marino E, Wolsko C, Keys SG, Pennavarria L. A culture gap in the United States: implications for policy on limiting access to firearms for suicidal persons. *J Public Health Policy*. 2016;37(Suppl 1):110-121.
[PubMed: PM27638246](#)
25. New Zealand Ministry of Health. A rapid review of the suicide prevention literature. 2016:
<https://www.health.govt.nz/system/files/documents/pages/rapid-review-suicide-prevention-literature-dec16.docx>. Accessed 2019 Jan 10.

26. Barber CW, Miller MJ. Reducing a suicidal person's access to lethal means of suicide: a research agenda. *Am J Prev Med.* 2014;47(3 Suppl 2):S264-272.
[PubMed: PM25145749](#)
27. Hirji M, Wilson M, Yacoub K, Bhuiya A. Rapid synthesis: identifying suicide-prevention interventions. Hamilton (ON): McMaster Health Forum. 2014:
<https://www.mcmasterforum.org/docs/default-source/product-documents/rapid-responses/identifying-suicide-prevention-interventions.pdf?sfvrsn=2>. Accessed 2019 Jan 10.
28. McGinty EE, Webster DW, Barry CL. Gun policy and serious mental illness: priorities for future research and policy. *Psychiatr Serv.* 2014;65(1):50-58. |
[PubMed: PM23852317](#)