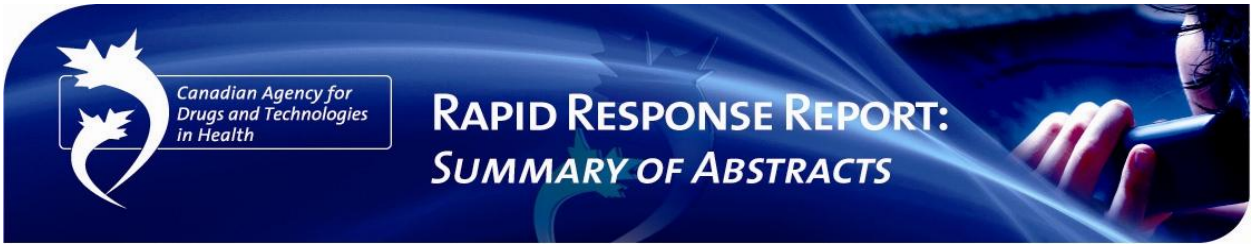

TITLE: Techniques to Improve the Use of Diagnostic Laboratory Test Ordering: Clinical Evidence

DATE: 12 March 2013

RESEARCH QUESTION

What are the techniques to improve physician ordering of diagnostic laboratory tests?

KEY MESSAGE

One health technology assessment, one systematic review, one randomized controlled trial, and three non-randomized studies were identified regarding techniques to improve physician ordering of diagnostic laboratory tests.

METHODS

A focused search (with main concepts appearing in title or major subject heading only) was conducted on key resources including PubMed, The Cochrane Library (2013, Issue 2), 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, 2010 and March 1, 2013. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

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

One health technology assessment, one systematic review, one randomized controlled trial, and three non-randomized studies were identified regarding techniques to improve physician ordering of diagnostic laboratory tests. No relevant evidence-based guidelines were identified. Additional references of potential interest are provided in the appendix.

This report was a partial update to "Diagnostic Test Ordering: Techniques to Improve Use" published in 2010 (http://www.cadth.ca/media/pdf/k0194_diagnostic_test_ordering_htis-1-5.pdf).

OVERALL SUMMARY OF FINDINGS

Three studies[1,2,4] examined the impact of computerized decision support systems (CDSS) on diagnostic test ordering. One HTA[1] studied the use of order communication systems with or without CDSS. The authors suggested that the addition of CDSS appeared to have a small impact on the ordering of diagnostic tests by physicians. The authors of a systematic review[2] concluded that the use of CDSS improved ordering behavior related to diagnostic lab tests in majority of the studies they identified. The results of a NRS[4] showed a statistically significant increase in the appropriate ordering of diagnostic tests after the implementation of a computer system and associated guidelines.

One RCT[3] compared immediate test ordering with watchful waiting, with or without a quality improvement strategy, before ordering blood tests in patients with unexplained complaints. The authors determined that watchful waiting was a feasible approach and the addition of the quality improvement strategy did not change the results.

The authors of one NRS[5] developed pathology-specific lab testing profiles to improve appropriate test ordering by physicians. After implementation of the profiles, the number of lab tests ordered decreased as compared to the previous year and physician compliance was improved. Another strategy used to reduce the number of diagnostic tests ordered was to give physicians a pocket size brochure listing the costs of diagnostic tests.[6] After the intervention, the mean cost per admitted patient decreased by 27%. The authors suggested this method may be useful to reduce both the number and cost of tests.

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Systematic Reviews and Meta-analyses

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Non-Randomized Studies

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Guidelines and Recommendations

No literature identified.

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APPENDIX – FURTHER INFORMATION:

Economic Studies

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