



TITLE: Using Cost and Peer Group Utilization Data to Change Physician Behaviour Regarding Diagnostic Test Ordering: Effectiveness

DATE: 19 January 2012

RESEARCH QUESTIONS

1. What is the effectiveness of sharing cost data to change physician behaviour regarding diagnostic test ordering?
2. What is the effectiveness of sharing peer group utilization data to change physician behaviour regarding diagnostic test ordering?
3. What is the comparative effectiveness of sharing cost data versus sharing peer group utilization data to change physician behaviour regarding diagnostic test ordering?

KEY MESSAGE

Limited evidence suggests that sharing cost data with physicians may reduce the number of diagnostic tests ordered resulting in cost savings; no information is available on the effectiveness of sharing peer group utilization data.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2011, Issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and abbreviated list of 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 and non-randomized studies. The search was limited to English language documents published between January 1, 2007 and January 13, 2012. Internet links were provided, where available.

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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 and non-randomized studies.

One systematic review and two non-randomized studies regarding the effectiveness of sharing cost data to change physician behavior regarding diagnostic test ordering were identified. No literature regarding the effectiveness of sharing peer group utilization data to change physician behavior regarding diagnostic test ordering was identified. Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Sood R, Sood A, Ghosh AK. Non-evidence-based variables affecting physicians' test-ordering tendencies: a systematic review. *Neth J Med*. 2007 May;65(5):167-77.
[PubMed: PM17519512](#)

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

2. Stuebing EA, Miner TJ. Surgical vampires and rising health care expenditure. Reducing the cost of daily phlebotomy. *Arch Surg*. 2011 [cited 2012 Jan 8];146(5):524-527. Available from: <http://archsurg.ama-assn.org/cgi/content/short/146/5/524>
3. Ellemdin S, Rheeder P, Soma P. Providing clinicians with information on laboratory test costs leads to reduction in hospital expenditure. *S Afr Med J*. 2011 [cited 2012 Jan 8];101:746-748. Available from: <http://www.ajol.info/index.php/samj/article/viewFile/70339/58671>

PREPARED BY:

Canadian Agency for Drugs and Technologies in Health

Tel: 1-866-898-8439

www.cadth.ca

APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-analyses – physician awareness of costs

4. Physician awareness of diagnostic and nondrug therapeutic costs: a systematic review. *Int J Tech Assess Health Care*. 2008 [cited 2012 Jan 8];24(2):158–165. Available from: http://www.uhn.on.ca/clinics_&_services/services/emergency_medicine/Res_docs/AllanLe_xchin.pdf
5. Roshanov PS, You JJ, Dhaliwal J, Koff D, Mackay JA, Weise-Kelly L, et al. Can computerized clinical decision support systems improve practitioners' diagnostic test ordering behavior? A decision-maker-researcher partnership systematic review. *Implement Sci*. 2011 [cited 2012 Jan 8];6:88. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3174115>
[PubMed: PM21824382](#)

Non-Randomized Studies – physician awareness of cost

6. Schilling UM. Cost awareness among Swedish physicians working at the emergency department. *Eur J Emerg Med*. 2009 Jun;16(3):131-4.
[PubMed: PM19282761](#)

Non-Randomized Studies – other interventions to change physician behaviour

7. Shalev V, Chodick G, Heymann AD. Format change of a laboratory test order form affects physician behavior. *Int J Med Inform*. 2009 Oct;78(10):639-44.
[PubMed: PM19556162](#)
8. Grassini M, Verna C, Battaglia E, Niola P, Navino M, Bassotti G. Education improves colonoscopy appropriateness. *Gastrointest Endosc*. 2008 Jan;67(1):88-93.
[PubMed: PM18028918](#)
9. Poley MJ, Edelenbos KI, Mosseveld M, van Wijk MA, de Bakker DH, van der Lei J, et al. Cost consequences of implementing an electronic decision support system for ordering laboratory tests in primary care: evidence from a controlled prospective study in the Netherlands. *Clin Chem*. 2007 Feb;53(2):213-9.
[PubMed: PM17185371](#)

Study Protocols

10. Trietsch J, van der WT, Verstappen W, Janknegt R, Muijers P, Winkens R, et al. A cluster randomized controlled trial aimed at implementation of local quality improvement collaboratives to improve prescribing and test ordering performance of general practitioners: study protocol. *Implement Sci*. 2009 [cited 2012 Jan 8];4:6. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656449>
[PubMed: PM19222840](#)