



- Title** **Implantable Cardiac Defibrillators for Primary Prevention of Sudden Cardiac Death in High Risk Patients: A Meta-Analysis of Clinical Efficacy, and a Review of Cost Effectiveness and Psychosocial Issues**
- Agency** **CADTH, Canadian Agency for Drugs and Technologies in Health**
Suite 600, 865 Carling Ave, Ottawa, Ontario K1S 5S8, Canada;
Tel: +1 613 226 2553, Fax: +1 613 226 5392; publications@cadth.ca, www.cadth.ca
- Reference** **CADTH Technology Report, Issue 81. March 2007. ISBN 1-897257-66-X (print)**

Aim

To inform healthcare decision makers and others involved in planning and delivering implantable cardiac defibrillator (ICD) services about evidence on the clinical and cost effectiveness of ICD therapy compared to conventional treatment in primary prevention of sudden cardiac death and to examine the ethical and psychosocial issues related to its use.

Conclusions and results

Implantable cardiac defibrillators (ICDs), with optimal pharmacologic therapy, significantly reduce sudden cardiac death (SCD) and all-cause death in patients at high risk. ICDs are effective in reducing SCD in patients with ischemic and non-ischemic heart disease. ICD therapy is expensive, but some reviewed studies showed that ICDs are cost effective if the willingness to pay is 50 000 Canadian dollars per quality-adjusted life-year (QALY). More study with a broader target population is warranted. Poor psychosocial outcomes in ICD patients may occur as a result of their underlying cardiac condition, rather than as a direct response to ICDs.

Recommendations

Not applicable.

Methods

Randomized controlled trials (RCTs) reporting clinical outcomes for ICDs in primary prevention were systematically reviewed. Psychosocial and ethical issues, and the cost effectiveness of ICD treatment, were examined, and a budget impact analysis was performed.