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| <b>Title</b>     | <b>Population Screening for Primary Open-Angle Glaucoma</b>                                                                                                                                                                                              |
| <b>Agency</b>    | AETMIS, Agence d'évaluation des technologies et des modes d'intervention en santé<br>2021, avenue Union, bureau 10.083, Montréal, Québec H3A 2S9, Canada;<br>Tel: +1 514 873 2563, Fax: +1 514 873 1369; aetmis@aetmis.gouv.qc.ca, www.aetmis.gouv.qc.ca |
| <b>Reference</b> | 2007-10. ISBN 978-2-550-51116-8 (print).<br>www.aetmis.gouv.qc.ca/site/en_publications_2007.phtml                                                                                                                                                        |

## Aim

To update the information on glaucoma screening published 11 years ago by the Conseil d'évaluation des technologies de la santé (CETS), the predecessor of AETMIS.

## Conclusions and results

Glaucoma is an irreversible eye disease that can lead to blindness. The prevalence of primary open-angle glaucoma (POAG) among the population aged 40 years and older was 1.86% in the United States in 2000. Emergence of new diagnostic technologies has again raised the question of a population screening program for POAG.

New diagnostic techniques lead to earlier and more accurate detection of POAG-related structural and functional defects, but their sensitivity and specificity, taken in isolation, are insufficient for screening. Combinations of diagnostic tests could prove effective for target populations, but few studies have evaluated them. An economic assessment under way in the United Kingdom may shed new light on these aspects.

There is no evidence that screening asymptomatic people reduces the onset of severe complications or major visual impairment, and the criteria to support the introduction of a population screening program are not all met in the case of POAG.

Hence, AETMIS concludes that, presently, it is not justified to recommend introducing a population screening program for glaucoma in Québec. From a broader public health perspective of reducing preventable blindness and improving access to ophthalmology care, AETMIS finds that: 1) opportunistic screening activities are in place, lead to referrals to ophthalmologists, and absorb specialized resources; 2) the extent, effectiveness, and costs of opportunistic screening activities are not known; 3) some patients are at greater risk of a rapidly progressive form of glaucoma, but these risk factors are not fully known; 4) case-finding scenarios (opportunistic screening) targeting at-risk individuals and combining several diagnostic tests achieve good performance

in these groups. Some of these issues may be clarified by better understanding current opportunistic screening. Defining criteria for optometrists to refer suspected glaucoma cases to ophthalmologists would contribute to more effective followup and treatment for these patients; it is up to the two professional associations to determine those criteria. Moreover, a literature watch on the performance and cost effectiveness of glaucoma screening (especially studies assessing combinations of screening tests), along with analysis of the results of the UK assessment, should help identify promising avenues for screening at-risk groups. It would be appropriate to verify their applicability to the Québec context to formulate research priorities for Québec.

## Methods

Systematic literature review; HTA Database, MEDLINE, Cochrane Library 2007, Issue 3; interviews with ophthalmologists and optometrists associated to examination of data provided by Québec's Health Insurance Board.