Screening for Depression in Primary Care: Updated Recommendations from the Canadian Task Force on Preventive Health Care

Harriet L. MacMillan, MD, MSc, FRCPC
Professor of Psychiatry & Behavioural Neurosciences, & Pediatrics,
McMaster University
Offord Centre for Child Studies
Patterson Building, Chedoke Site, Hamilton Health Sciences
1200 Main St. West
Hamilton, Ontario L8N 3Z5

Christopher J.S. Patterson, MD, FRCPC
Professor, Division of Geriatric Medicine, Department of Medicine,
R.S. McLaughlin Centre for Research and Education in Aging and Health,
McMaster University

C. Nadine Wathen, M.A.
Coordinator, Canadian Task Force on Preventive Health Care
100 Collip Circle, Suite 117
London, Ontario, N6G 4X8

with

The Canadian Task Force on Preventive Health Care
100 Collip Circle, Suite 117
London, Ontario N6G 4X8
Tel: 519-858-5181 x22084 Fax: 519-858-5112
ctf@ctfphc.org
(address for correspondence)

Update

July 2004

Depression is a common condition frequently encountered in primary care settings. It is associated with serious impairment including increased risk of death from suicide. Effective pharmacologic and psychotherapeutic interventions exist for treating depression. Previously, the Canadian Task Force on Preventive Health Care (CTFPHC) addressed the question of whether screening for depression in asymptomatic individuals is warranted in periodic health assessments (Feightner, 1994). Based on a literature review that extended up until May 1993, the CTFPHC concluded in 1994 that there was fair evidence to exclude screening for depression in the primary care setting (D Recommendation). The trials available at that time did not demonstrate that the use of screening instruments improved the detection rate or management of depression. Primary care practitioners were advised to be aware of the possibility of depression, particularly in high-risk groups such as those with a family history of depression.

Recently, a systematic review to determine whether routine screening for depression improves detection, treatment and outcome was conducted by the Research Triangle Institute-University of North Carolina Evidence-Based Practice Center from the Agency for Healthcare Research and Quality at the request of the U.S. Preventive Services Task Force (USPSTF) (Pignone et al., 2002; 2002). This rigorous, systematic overview provided the basis for a review of evidence by the CTFPHC in updating the recommendation regarding screening for depression. A summary of the methods and results of this systematic review are outlined below. Since the searches did not include information beyond August 2001, additional searches for this CTFPHC update were conducted prior to preparing the recommendations that follow the summary of evidence. The overall body of evidence was reviewed using the methods of the CTFPHC (see Appendix 1).

First, however, an update of information about the epidemiology of depression based on Canadian studies is summarized.

Burden of Suffering

The 1994-95 National Population Health Survey, a Canadian longitudinal study that included household residents in all provinces gives a one-year prevalence rate for major depressive disorder of approximately 6% among Canadians 18 years of age and older (Beaudet, 1996). Depression was higher among females compared to males, and declined for both sexes among the elderly. Data from a province-wide Canadian community-based survey revealed a six-month prevalence of depression in children six to 16 years of 5.9%. (Fleming and Offord, 1990). There are certain subgroups of the Canadian population that may experience increased risk of depression. The

2000/01 Canadian Community Health Survey showed that Aboriginal people living off-reserve were 1.5 times more likely to have experienced an episode of depression in the previous year, after controlling for socioeconomic status (Statistics Canada, 2001).

The prevalence of major depression in Canadian primary care settings is unknown, however the USPSTF systematic review cites a report (Department of Health and Human Services, 1993) indicating that the point prevalence ranges between 4.8% and 8.6% (Pignone et al., 2002; Depression Guideline Panel, 1993).

Potential Benefits of Screening

Screening for depression among adults in primary care improves detection of depressed patients, and treatment of depression in these patients improves health outcomes.

Potential Harms of Screening

Some patients with "false-positive" results on screening may be exposed to further diagnostic investigation that proves unnecessary. This may be associated with increased distress but there is no information available about this theoretical risk. However, some false positive results may be due to chronic dysthymia, and this information may be useful to clinicians.

Summary of USPSTF Systematic Review on Screening for Depression

Three main issues were examined in this review in relation to depression among primary care populations: 1) the accuracy of screening instruments; 2) the effectiveness of treatment; and 3) the overarching question on which the review was based - "whether screening for depression in primary care settings affects recognition, treatment, and clinical outcomes" of depressed patients (Pignone et al., 2002, pg. 766).

Relevant articles were identified by searching the MEDLINE database from January 1994 to August 2001 in addition to the Cochrane database on depression and through contacts with experts. The authors performed a meta-analysis in determining the screening effects on clinical outcomes in adults.

Results of Effects of Screening for Depression in Adults

The systematic review authors determined that several screening instruments exist to effectively detect depression in adults, including older adults[1]; generally sensitivity ranged from 80% to 90% and specificity from 70% to 85% with commonly used cut-points in primary care (Mulrow et al., 1995). It was noted that asking two questions about mood and loss of interest in usual activities may be as effective as longer or more elaborate measures (Whooley et al., 1997). The review authors estimated that, given a prevalence of major depression between 5% and 15%, the probability of depression after a positive screening test (positive predictive value) would be 25% to 50%. This means that more than half of those who screen positive will in fact not have major depression, although the positive screening result may indicate minor depression or dysthymia. The negative predictive value ranges from 88-95%.

In terms of the second issue, effectiveness of treatment, the authors concluded that effective treatments for depressive illness in primary care are available. These include antidepressant medications and psychotherapeutic interventions. A recently published systematic review of antidepressants in primary care (MacGillivray et al., 2003) not included in the US review, indicates that "[a]lthough there are limited high quality data, available evidence shows that the most commonly prescribed classes of antidepressants in primary care (selective serotonin reuptake inhibitors and tricyclics) are equally effective in the short term for primary care patients, but the literature has many gaps." (p. 1019). However, compared to tricyclics, selective serotonin reuptake inhibitors are better tolerated. In terms of psychotherapeutic interventions, those with greater structure to their treatments are generally more effective in reducing depressive symptoms. Compared to pharmacologic interventions, psychotherapeutic interventions are much more time intensive.

Since the review of evidence for the overarching question about screening is central to any recommendation about screening for depression, this information will be described in more detail.

Fourteen randomized trials that examined the effect of routine screening of adult patients for depression in primary care settings were identified in the systematic review. Descriptions of these studies including their quality ratings appear in the comprehensive review by Pignone et al. (2002; available: www.ahrq.gov/clinic/uspstfix.htm) and in an article summarizing these findings (Pignone et al., 2002). Briefly, the main outcomes assessed included differences in detection rates of

[1] Twelve screening studies were conducted specifically in older adults (Pignone et al., 2002, p. 25-26). Screening is equally effective in this group, with instruments designed specifically for older adults appearing to be more accurate than general population instruments.

depression by providers, proportion of depressed patients referred for treatment, and clinical outcomes of depression. In eight of these studies, feedback of screening results to the clinicians was the sole intervention, while the remaining studies examined feedback combined with treatment advice or other interventions for patients or clinicians. The authors concluded that routine screening for depression with feedback improved the recognition of depressive illness (especially major depression) two to threefold compared to usual care. Trials assessing the effect of screening and feedback on treatment rates showed mixed results. Among four trials rated as fair to good quality that used feedback alone, no significant effect on treatment rates was observed. However, four of five trials that combined feedback and treatment advice or other systems supports showed higher treatment rates in the intervention group compared with the "usual care" group. Of particular note, all three trials that compared the effects of an integrated screening and management program with "usual care" showed improvement in depressive symptoms. These trials included access to case management or mental health care as part of the system of care.

Since many trials that did not find a statistically significant different in outcomes did not have sufficient power to rule out clinically important differences, the authors performed a meta-analysis with those trials that had sufficient data. Subjects in the intervention group had a summary relative risk for remaining depressed of 0.87 (confidence interval 0.79 to 0.95) compared to those in the usual care group. The authors concluded that screening for depression and feedback is associated with a 13% reduction in relative risk and a 9% absolute risk reduction in proportion of patients with persistent depression, compared to those with no screening.

Results of Effects of Screening for Depression in Children and Adolescents

Despite increasing recognition that depression in children and youth is associated with major impairment, screening instruments for those less than 18 have undergone much less evaluation than instruments for use with adults. In their systematic review, Pignone and colleagues (2002) concluded that screening tools for depression in adolescents have sensitivity values ranging from 75% to 100% and specificity values from 70% to 90%, although these findings are based on fewer studies. Less data are available for use of screening instruments in children. In their review of treatment of depression in adolescents, they concluded that cognitive behaviour therapy and selective serotonin reuptake inhibitors appear to be effective, but it is not known whether these findings can be generalized to children or primary care settings. Tricyclic antidepressants were not effective for treatment of depression in either children or adolescents. The authors noted that the

comparative effectiveness of psychotherapy alone, pharmacotherapy alone or combination of treatments is unknown for children and adolescents. No studies were identified that examined treatment outcomes for children or adolescents screened for depression in primary care settings.

CTFPHC Literature Update

Since the USPSTF systematic review included articles up to August 2001, CTFPHC conducted additional searches as an update for research articles on screening for depression, and to obtain Canadian data on burden of suffering in the general population, as well as groups at risk. For research studies, a focussed literature search of MEDLINE and the Cochrane database was conducted from January 1, 2001 to September 1, 2002. The search was designed to find key new evidence only, rather than be comprehensive for all related material. For Canadian data on burden of suffering associated with depression, in addition to a MEDLINE search for epidemiologic studies, Statistics Canada was searched for results of key Canadian surveys. Details of these searches are available from the CTFPHC office.

For the burden of suffering update, studies were included if they were relevant to the general Canadian population or large subpopulations in Canada. For the studies addressing screening, only those studies that examined treatment outcomes for adults, children or adolescents identified by primary care clinicians through screening for depression were included.

Updated information about the epidemiology of depression in Canada has been included in the introduction above. The searches identified no new studies since the USPSTF systematic review that examine whether screening for depression in primary care settings affects outcomes of patients with depressive illness. Although there were several studies describing use of screening instruments in a variety of populations as well as outcomes of treatment trials, these did not address the overall question of effectiveness of screening for depression.

Recommendations by Others

The USPSTF recently recommended screening of adults for depression "in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and follow-up" (USPSTF, 2002, pg. 760). They gave this a B recommendation, which means that they found at least fair evidence for this maneuver.

Canadian Task Force Recommendations (See Table)

The CTFPHC concludes that there is fair evidence to recommend screening adults for depression in primary care settings since screening improves health outcomes when linked to effective follow-up and treatment* (**B recommendation**).

The CTFPHC concludes that there is insufficient evidence to recommend for or against screening adults for depression in primary care settings where effective follow-up and treatment* are not available (**I recommendation**).

The CTFPHC concludes that there is insufficient evidence to recommend for or against screening for depression among children or adolescents in primary settings (**I recommendation**).
* In the studies reviewed, "effective follow-up and treatment" referred to screening programs that were integrated with both feedback to the clinician regarding depression status, as well as a system for managing treatment (antidepressant medications and psychotherapeutic interventions). Trials that included access to case management or mental health care as part of the system of care were particularly effective in reducing depressive symptoms. Since integrated screening and feedback/treatment systems are not the norm in Canadian primary care practice, clinicians are encouraged to advocate for these.

Clinical Implications

There exist a number of screening tools available for use in primary care settings. Asking two simple questions regarding mood and anhedonia ("Over the past 2 weeks, have you felt down, depressed, or hopeless?" and "Over the past 2 weeks, have you felt little interest or pleasure in doing things?") may be as effective as longer instruments (Whooley et al., 1997). The authors of the US systematic review calculated that eleven patients with depression identified as a result of screening would need to be treated to produce one additional clinical remission to minimal symptomatology at 6 months. Assuming a 10% prevalence of treatment-responsive depression in primary care, 110 patients would need to be screened to produce this additional clinical remission (Pignone et al., 2002). Although the optimal interval for screening is unknown, the USPSTF recently stated that "recurrent screening may be most productive in patients with past history of depression, unexplained somatic symptoms, comorbid psychological conditions (e.g., panic disorder, generalized anxiety), substance abuse, or chronic pain." (USPSTF, 2002; p. 760-61). A positive screen must be followed by accurate diagnosis, effective treatment and follow-up to ensure

that the benefits of screening are realized. Canadian physicians are encouraged to advocate for implementation of systems to provide these services in primary care settings.

Acknowledgements:

The Task Force thanks Dr. Martha Donnelly, Department of Psychiatry, The University of British Columbia, Vancouver, BC and Dr. Nick Kates, Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, Ontario for reviewing a draft form of this manuscript. The views expressed in this report are those of the author and the Canadian Task Force and do not necessarily reflect the positions of reviewers.

References

Beaudet MP. Depression. Health Rep 1996; 7:11-24.

Depression Guideline Panel Depression in Primary Care; Volume 1. Detection and Diagnosis. . Clinical Practice Guideline No. 5. Rockville, MD: U.S. Department of Health and Human Services, 1993.

Feightner JW. Early detection of depression. In: Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa: Health Canada; 1994:450-454.

Fleming JE, Offord DR. Epidemiology of childhood depressive disorders: a critical review. J Am Acad Child Adolesc Psychiatry. 1990;29(4):571-80.

Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow CD, Teutsch SM, et al. Current methods of the U.S. Preventive Services Task Force. Am J Prev Med 2001;20(3S).

Katzelnick DJ, Simon GE, Pearson SD, Manning WG, Helstad CP, Henk HJ, et al. Randomized trial of a depression management program in high utilizers of medical care. Arch Fam Med 2000; 9: 345-51.

MacGillivray S, Arroll B, Hatcher S, Ogston S, Reid I, Sullivan F, Williams B, Crombie I. Efficacy and tolerability of selective serotonin reuptake inhibitors compared with tricyclic antidepressants in depression treated in primary care: systematic review and meta-analysis. BMJ 2003;326: 1014-1019.

Mulrow CD, Williams JW Jr, Gerety MB, Ramirez G, Montiel OM, Kerber C. Case-finding instruments for depression in primary care settings. Ann Intern Med. 1995 Jun 15;122(12):913-21.

Pignone M, Gaynes BN, Rushton JL, Burchell CM. Orleans CT, Mulrow CD, Lohr KN. Screening for depression in adults: a summary of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med. 2002; 136:765-76.

Pignone M, Gaynes BN, Rushton JL, Mulrow CD, Orleans CT, Whitener BL, et al. Screening for Depression. Systematic Evidence Review No. 6. Rockville, MD: Agency for Healthcare Research and Quality; 2002. URL. http://www.ahrq.gov/clinic/prev/deprsinv.htm

Rost K, Nutting P, Smith J, Werner J, Duan N. Improving depression outcomes in community primary care practice: a randomized trial of the QuEST intervention. Quality Enhancement by Strategic Teaming. J Gen Intern Med 2001; 16: 143-9.

Statistics Canada. Health of the off-reserve Aboriginal population: 2000/01. The Daily, August 27, 2002. Catalogue #11-001E. Ottawa: Statistics Canada. URL. http://www.statcan.ca/Daily/English/020827/d020827.pdf

US Preventive Services Task Force. Screening for depression: recommendations and rationale. Ann Intern Med 2002; 136: 760-764.

Wells KB, Sherbourne C, Schoenbaum M, Duan N, Meredith L, Unutzer J et al. Impact of disseminating quality improvement programs for depression in managed primary care: a randomized controlled trial. JAMA 2000; 283: 212-20.

Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression. Two questions are as good as many. J Gen Intern Med. 1997;12:439-445.

Recommendation Table: Screening for Depression

Maneuver	Effectiveness	Level of Evidence <refs>	Recommendation
Screening adults for depression in settings with integrated feedback and treatment systems*	There is evidence that screening improves the accuracy of identifying depressed patients. In those studies where an integrated system of screening and follow-up was available, there was improvement in depressive symptoms (Pignone et al., 2002)	Level I, good, fair <Pignone et al., 2002; Katzelnick et al., 2000; Rost et al., 2001, Wells et al., 2000>	The CTF concludes that there is fair evidence to recommend screening adults for depression in those primary care settings that have integrated programs for feedback to patients and access to case management or mental health care (**B Recommendation**)
Screening adults for depression in settings without integrated feedback and treatment systems*	There is evidence that screening improves the accuracy of identifying depressed patients. In those studies without integrated feedback and treatment systems, there were no improvements in depressive symptoms (Pignone et al., 2002).	Level I, good (systematic review of RCTs) < Pignone et al., 2002>	The CTFPHC concludes that there is insufficient evidence to recommend for or against screening adults for depression in primary care settings where effective follow-up and treatment* are not available (**I recommendation**).
Screening children and adolescents for depression	No studies were identified that examined treatment outcomes for children or adolescents screened for depression in primary care settings (Pignone et al., 2002.	Level I, good (systematic review of RCTs) <Pignone et al., 2002>	The CTF concludes that there is insufficient evidence to recommend for or against routine screening for depression among children or adolescents in primary settings (**I Recommendation**).

* screening programs integrated with both feedback to the clinician regarding depression status, as well as a system for managing treatment (antidepressant medications and psychotherapeutic interventions). Trials that included access to case management or mental health care as part of the system of care were particularly effective in reducing depressive symptoms. Since integrated screening and feedback/treatment systems are not the norm in Canadian primary care practice, clinicians are encouraged to advocate for these.

Appendix 1: Methodology of the Canadian Task Force on Preventive Health Care

Critical appraisal

The Task Force reviewed 1) the initial analytic framework and key questions for the proposed review; 2) the subsequent draft(s) of the complete manuscript providing critical appraisal of the evidence prepared by the lead authors, including identification and double, independent critical appraisal of key studies or recent systematic reviews, and ratings of the quality of this evidence using the task force's established methodological hierarchy (sidebar); and 3) a summary of the evidence and proposed recommendations.

Consensus development

Evidence for this topic was presented by the lead author(s) and deliberated upon during task force meetings in May & October 2002, and February 2003. Expert panelists addressed critical issues, clarified ambiguous concepts and analyzed the synthesis of the evidence. At the end of this process, the specific clinical recommendations proposed by the lead author were discussed, as were issues related to clarification of the recommendations for clinical application and any gaps in evidence. The results of this process are reflected in the description of the decision criteria presented with the specific recommendations. The group and lead author(s) arrived at final decisions on recommendations unanimously.

Subsequent to the meetings, the lead authors revised the manuscript accordingly. After final revision, the Task Force sent the manuscript to two experts in the field (identified by Task Force members at the meeting). Feedback from these experts was incorporated into a subsequent draft of the manuscript.

Procedures to achieve adequate documentation, consistency, comprehensiveness, objectivity and adherence to the task force methodology were maintained at all stages during review development, the consensus process and beyond to ensure uniformity and impartiality throughout.

Levels of evidence

A. Research design rating:

I	Evidence from randomized controlled trial(s)
II-1	Evidence from controlled trial(s) without randomization
II-2	Evidence from cohort or case–control analytic studies, preferably from more than one centre or research group
II-3	Evidence from comparisons between times or places with or without the intervention; dramatic results from uncontrolled studies could be included here
III	Opinions of respected authorities, based on clinical experience; descriptive studies or reports of expert committees

B. Quality (internal validity) rating (see Harris et al., 2001):

Good	A study (including meta-analyses or systematic reviews) that meets all design- specific criteria* well.
Fair	A study (including meta-analyses or systematic reviews) that does not meet (or it is not clear that it meets) at least one design-specific criterion* but has no known "fatal flaw".
Poor	A study (including meta-analyses or systematic reviews) that has at least one design-specific* "fatal flaw", or an accumulation of lesser flaws to the extent that the results of the study are not deemed able to inform recommendations.

*General design specific criteria are outlined in Harris et al., 2001. Inclusion/exclusion criteria are detailed in the Methods section.

Recommendations Grades for Specific Clinical Preventive Actions

A	The CTF concludes that there is **good** evidence to recommend the clinical preventive action.
B	The CTF concludes that there is **fair** evidence to recommend the clinical preventive action.
C	The CTF concludes that the existing evidence is **conflicting** and does not allow making a recommendation for or against use of the clinical preventive action, however other factors may influence decision-making.
D	The CTF concludes that there is **fair** evidence to recommend against the clinical preventive action.
E	The CTF concludes that there is **good** evidence to recommend against the clinical preventive action.
I	The CTF concludes that there is **insufficient** evidence (in quantity and/or quality) to make a recommendation, however other factors may influence decision-making.

The CTF recognizes that in many cases patient specific factors need to be considered and discussed, such as the value the patient places on the clinical preventive action; its possible positive and negative outcomes; and the context and/or personal circumstances of the patient (medical and other). In certain circumstances where the evidence is complex, conflicting or insufficient, a more detailed discussion may be required.