

Periodic preventive health visits: a more appropriate approach to delivering preventive services

From the Canadian Task Force on Preventive Health Care

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The annual checkup is a long-established tradition in North America. Typically this visit entails a review of the patient's health history, medications, allergies, and organ systems, as well as a "complete" physical examination that is sometimes followed by laboratory testing and discussion of health risks, lifestyle behaviour, and social situation. These visits consume substantial time and resources. Whether or not they provide health benefits that justify this effort has been much debated.¹⁻⁶

The Canadian Task Force on the Periodic Health Examination, established in 1976, was one of the first groups to use systematic methods to assess what services should be included in periodic health examinations. The first report recommended abandoning the annual checkup⁷ and replacing it with age-specific "health protection packages" that focused on the identification and early management of potentially preventable conditions. The role of the physical examination in preventive care was de-emphasized in favour of activities such as risk factor assessment.

More recently, the College of Family Physicians of Canada in association with Choosing Wisely Canada similarly recommended that family physicians not do annual physical examinations but instead provide periodic preventive health checks.⁸

Review of the evidence

Investigators have studied the value of general health checks in primary care using large randomized controlled trials (RCTs) since the 1960s and none has shown clear benefit. A 2012 Cochrane systematic review assessed 14 trials, which included 182 880 patients. Patients who received general health checks did not have reduced total mortality (9 trials, N=155 899; risk ratio [RR] of 0.99, 95% CI 0.95 to 1.03), cardiovascular mortality (8 trials, N=152 435; RR=1.03, 95% CI 0.91 to 1.17), or cancer mortality (8 trials, N=139 290; RR=1.01, 95% CI 0.92 to 1.12).⁹

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Several trials reported that general health checks increased the number of people identified as having cardiovascular risk factors (eg, hypertension, elevated cholesterol) and total diagnoses compared with usual care. Other outcomes, such as hospitalization, visit frequency, specialist referrals, number of diagnostic procedures, medication prescriptions, and self-reported health and disability were assessed in some trials, but not consistently and rigorously enough to draw clear conclusions. Most trials were completed before the availability of effective treatment of cardiovascular risk or cancer screening and treatment—raising the hypothesis that general health checks might be more beneficial in the current era. One large community-based trial¹⁰ commenced enrolment in 1999 and reported results after publication of the Cochrane review.⁹ That trial compared 11 626 patients who were randomized to receive screening for ischemic cardiovascular disease risk factors, lifestyle counseling, and modern disease management with 47 987 control patients. Intervention participants received 2 to 4 assessments in the first 5 years of the trial, depending on risk status. After 10 years, there were no differences between groups in total mortality or mortality from ischemic heart disease or stroke.

Concerns have been raised that the Cochrane review focused only on mortality, that it did not capture other potential benefits of general health checks, and that a number of included trials were conducted in settings or populations not typical of general practice.⁶ A subsequent systematic review of 4 RCTs done only in general practice reported that general health checks appeared to improve surrogate outcomes (cholesterol, blood pressure, and body mass index) but found an increase in cardiovascular mortality in the intervention groups.¹¹ Overall, evidence suggests that benefits from health checks are seen in surrogate outcomes in the general adult population.

Evidence for regular, focused prevention, on the other hand, does appear to provide benefit. A meta-analysis of 19 trials of preventive primary care interventions among people older than age 65 found a 17% reduction in mortality and a 23% increase in their likelihood of living independently in the community.¹² A more recent RCT in primary care also found a decrease in 8-year mortality and improved adherence to preventive care recommendations in people older than age 65 who received

a health risk assessment and intervention from primary care practitioners and counseling from primary care nurses over the 2-year intervention period.¹³

Overdiagnosis and overttesting are concerns in all preventive and screening activities aimed at asymptomatic people, particularly when any benefits are small or speculative.¹⁴ Annual physical examinations might increase the likelihood of finding conditions of uncertain clinical importance. Although investigation and treatment of incidentally discovered abnormalities can be beneficial, this must be weighed against the potential harms of labeling, false-positive findings, and complications from follow-up testing and unnecessary treatment. Only recently have screening trials attempted to measure the cost or harms of false-positive diagnoses or unnecessary treatment.

A way forward

Present evidence suggests that the most appropriate approach to the delivery of preventive services is to adopt periodic preventive health visits instead of providing annual checkups. The concepts and principles of the Patient's Medical Home present a model for the development and implementation of organizational approaches to these visits.¹⁵ Visit intervals depend on the age, sex, and health conditions of the individual; and, because there are differences in practice settings and resource availability across Canada, the actual practice-based strategies can vary. However, any organizational approaches should support several key concepts found to be important in the delivery of preventive health services.

First, preventive health service delivery should support the development and maintenance of the core ideas of the patient-physician relationship³⁻⁶ as part of providing continuity of care and the shared experience that develops over time by assisting patients through their health events.

Second, physicians must consider the balance between the potential harms and benefits of screening interventions. In some circumstances where there is strong evidence that the desirable effects of the screening intervention outweigh the harms, physicians can be confident that most patients would be best served by following the recommendations (eg, immunization, smoking cessation counseling, and screening for cervical cancer). In other circumstances, the benefits of screening might be less clear because of the trade-off between benefits and harms such as false-positive findings or overdiagnosis (eg, screening mammography for breast cancer and prostate-specific antigen testing for prostate cancer). In these situations organizational approaches should support shared decision making between the health practitioner and the patient with the recognition that individual patient preferences and values could shift the balance for or against any preventive screening intervention.¹⁶

Given that the length of the average visit in family practice is insufficient to cover all potentially relevant issues, we must develop methods to deliver these services more effectively. Several approaches have been tried. In 2008 the United Kingdom established a preventive program in which all citizens aged 40 to 74 received a free health check every 5 years that centred on screening for cardiovascular risk factors. Unsurprisingly, people with cardiovascular risk factors were discovered and treated,¹⁷ but the benefit of that discovery remains unclear.¹⁸

A second approach is to have a prevention facilitator or practitioner embedded in primary care practices.^{19,20} The BETTER (Building on Existing Tools to Improve Chronic Disease Prevention and Screening in Primary Care) trial introduced a practice-level intervention with a prevention facilitator and a patient-level intervention with a prevention practitioner (designated nurse practitioner or nurse in the practice) who had a 1-hour patient visit and developed a tailored prevention prescription. The authors found that having a prevention practitioner in the practice resulted in improved delivery of preventive services at a reasonable cost (\$26.43 [95% CI \$16 to \$44] per additional preventive action met).¹⁹

A third approach to consider is a patient Web-based wellness portal linked to the electronic medical record. Nagykalda et al²¹ conducted a cluster randomized trial of a wellness portal in 8 practices and 422 adults. Using the portal increased patient activation and perception of patient-centredness and resulted in portal users receiving more recommended preventive services.

A way forward would be for provinces to provide funding through a billing code or direct funding of prevention practitioners as part of health teams to improve delivery of preventive services. Development of a Canadian patient portal might also enhance delivery.

Conclusion

The traditional annual physical examination of asymptomatic adults is not supported by evidence of effectiveness and might result in harm. It should not be a regular activity. There is better value in a periodic (ie, according to risks and specific test intervals) preventive visit with a primary care health professional (eg, family physician, nurse practitioner, nurse) to provide preventive counseling, immunization, and known effective screening tests. It appears that this approach is particularly useful for people older than 65 years of age. The delivery of preventive services in primary care requires new funding from the health care system, which could come from repurposed billing for annual physical examinations. 🌿

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Competing interests

None declared

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