

Adult health checkup

Update on the Preventive Care Checklist Form[®]

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Abstract

Objective To describe updates to the Preventive Care Checklist Form[®] to help family physicians stay up to date with current preventive health care recommendations.

Quality of evidence The Ovid MEDLINE database was searched using specified key words and other terms relevant to the periodic health examination. Secondary sources, such as the Canadian Task Force on Preventive Health Care, the Public Health Agency of Canada, the Trip database, and the Canadian Medical Association Infobase, were also searched. Recommendations for preventive health care for average-risk adults were reviewed. Strong and weak recommendations are presented on the form in bold and italic text, respectively.

Main message Updates were made to the form based on the Canadian Task Force on Preventive Health Care recommendations on screening for obesity (2015), cervical cancer (2013), depression (2013), osteoporosis (2013), hypertension (2012), diabetes (2012, 2013), and breast cancer (2011). Updates were made based on recommendations from other Canadian organizations on screening for HIV (2013), screening for sexually transmitted infections (2013), immunizations (2012 to 2014), screening for dyslipidemia (2012), fertility counseling for women (2011, 2012), and screening for colorectal cancer (2010). Some previous recommendations were removed and others lacking evidence were not included.

Conclusion The Preventive Care Checklist Form has been updated with current recommendations to enable family physicians to provide comprehensive, evidence-based care to patients during periodic health examinations.

EDITOR'S KEY POINTS

- The Preventive Care Checklist Form[®] enables family physicians to provide current preventive health care recommendations during periodic health examinations of asymptomatic average-risk adults.
- Updated recommendations are from the Canadian Task Force on Preventive Health Care or other large Canadian organizations from 2010 to 2015. Updates are included for immunizations and screening for cancers, chronic diseases, and sexually transmitted infections.



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The Preventive Care Checklist (PCC) Form[®] is an evidence-based tool used to screen average-risk adults at the periodic health examination.¹ Forms for men and women summarize history taking, physical examination maneuvers, counseling, investigations, and immunizations relevant to preventive health care.* The PCC Form is endorsed by the College of Family Physicians of Canada and was last updated in 2010. Recommendations from the Canadian Task Force on Preventive Health Care (CTFPHC) and other large Canadian organizations are included. The PCC Form was validated in a randomized controlled trial that showed use of the form led to a 22.8% absolute increase ($P=.0001$) and 46.6% relative increase in the delivery of preventive health services.² To remain relevant, routine updates with evidence-based recommendations for preventive health care in average-risk adults are required.

While substantial amounts of new evidence continue to emerge, delays exist in translating evidence to guidelines. The CTFPHC cannot review all pertinent preventive health maneuvers and newly emerging evidence; for this reason, practitioners are encouraged to use their own clinical judgment in deciding

*The **Preventive Care Checklist Forms** for men and women, as well as explanations for these forms, are available at www.cfp.ca. Go to the full text of the article online, then click on **CFPlus** in the menu at the top right-hand side of the page.

what is best for individual patients while using the PCC Form as a guide. Evidence-based updates are used as a reminder that increased screening does not equate with improved outcomes. Again, clinical judgment is required to balance further screening with the ability to manage symptomatic patients or established diseases.

Quality of evidence

Methods. An Ovid MEDLINE search was conducted using the following terms: *mass screening, preventive medicine, adult complete health assessment, screening guidelines, physical examination, primary prevention and public health, guidelines (as topic), diagnosis, practice guidelines (as topic), evidence based practice, risk factors, risk assessment, and health education.* To identify potentially missed articles, a secondary search was performed with approximately 40 other relevant search terms.

The databases of the CTFPHC and other Canadian medical organizations were reviewed for new guidelines. These included the Public Health Agency of Canada (PHAC), the National Advisory Committee on Immunization (NACI), and the Canadian Cardiovascular Society (CCS). The Trip database and Canadian Medical Association Infobase were searched to ensure relevant articles were not missed. The search was completed in December 2013 and all articles were limited to Canadian guidelines published in 2010 or later. An additional update was performed in February 2015 on new recommendations from the CTFPHC only. Provincial and international guidelines were not included, as the PCC Form is a Canada-wide tool. A guideline was excluded if it was not relevant to the preventive care visit, if it did not have a clear study design or screening question identified, if it was based on opinion alone, or if there was already a CTFPHC guideline on the topic with more robust data. There were some topics on which 2 national bodies had published guidelines. In all circumstances, if a CTFPHC guideline was written on that topic, it was prioritized. The additional guideline was also included if it was from an important and well-known source.

Results. Updates were made to the form based on the CTFPHC recommendations on screening for obesity, cervical cancer, depression, osteoporosis, hypertension, diabetes, and breast cancer. Updates were made based on recommendations from other Canadian organizations on screening for HIV, screening for sexually transmitted infections, immunizations, screening for dyslipidemia, fertility counseling in women, and screening for colorectal cancer (**Table 1**).³⁻³⁰

The CTFPHC has changed the use of strong or weak recommendations based on whether the evidence is of high, moderate, low, or very low quality. Recommendations from the CTFPHC were bolded on the form if based on a strong recommendation and

italicized if based on a weak recommendation. The previous classification of grade A or B recommendation, with bold or italicized text, respectively, remained on this form if no new updates were identified. Levels of evidence were not included for non-CTFPHC guidelines, but the reader is encouraged to refer to the original publications for this information.

Main message

New recommendations

Screening for HIV (2013): The PHAC has new guidelines to screen for HIV.²² It recommends the consideration of an HIV test as part of periodic routine medical care. All individuals who are or who have been sexually active and who have never been tested for HIV should be offered an HIV test. Testing should also be performed more frequently in those who have risk factors for HIV and in persons who request testing (see the guideline for a complete list²²). This guideline is not intended to supersede provincial guidelines.

Fertility counseling for women (2011, 2012): The Society of Obstetricians and Gynaecologists of Canada recommends physicians counsel women in their 20s and 30s about age-related infertility.⁵ There is a statistically significant reduction in reproductive success in women in their late 30s and 40s, with the exception of those who use egg donation. Another guideline reiterated that there is a statistically significant decline in fertility and fecundity after 32 years of age. Counseling that artificial reproductive therapy cannot guarantee a live birth or compensate for age-related decline in fertility was recommended.⁶ Recommendations for men were not included, as advanced paternal age had conflicting evidence with smaller risks.⁵

Updated recommendations from the CTFPHC

Obesity in adults (2015): The CTFPHC recommends measuring height and weight and calculating body mass index (BMI) in healthy adults.⁸ Adults of normal weight should not receive interventions to prevent weight gain. Adults who are overweight or obese ($25 \text{ kg/m}^2 \leq \text{BMI} < 40 \text{ kg/m}^2$), especially if they are at high risk of diabetes, should be offered structured behavioural interventions aimed at weight loss. Pharmacologic interventions aimed at weight loss are not recommended, as adverse effects are a concern.

Screening for cervical cancer (2013): No routine cervical cancer screening is recommended for women 24 years of age or younger owing to the very low incidence of cervical cancer in this age group and no evidence that early screening will prevent death from cervical cancer at older ages.¹¹ Screening in this age group often leads to higher rates of follow-up testing, including unnecessary cervical biopsies. For women aged 25 to 69 years, routine screening should occur every 3 years if

Table 1. Recommendations included in the 2015 Preventive Care Checklist Form[®]

TOPIC	RECOMMENDATION	CHANGES TO THE PREVENTIVE CARE CHECKLIST FORM	SOURCE OF RECOMMENDATION	LEVEL OF EVIDENCE
Lifestyle and habits				
Poverty screening ^{3,4}	No validated screening question Evidence that poverty is a social determinant of health	<i>Income below poverty line</i> was changed to <i>poverty</i>	PHAC (2003)	NA
Family planning for women ^{5,6}	Counsel in 20s to 30s about age-related infertility; about declining reproductive success in late 30s to 40s; and that ART cannot compensate for age-related decline	Details added to explanation page	SOGC (2011, 2012)	NA
Functional inquiry				
Depression ⁷	Do not routinely screen for depression if no past history or asymptomatic	The depression screening was removed	CTFPHC (2013)	Weak recommendation, very low-quality evidence
Education and counseling				
Obesity ⁸	<ol style="list-style-type: none"> Record height, weight, and BMI at all appropriate visits BMI of ≥ 25 kg/m² but < 40 kg/m²: offer structured behavioural interventions aimed at weight loss BMI of 30–39 kg/m² or high risk of diabetes: offer structured behavioural interventions aimed at weight loss 	<i>Height, weight, and BMI</i> were bolded <i>Obesity (BMI ≥ 30)</i> changed to <i>overweight or obese</i> Added <i>offer behavioural interventions aimed at weight loss</i>	CTFPHC (2015)	<ol style="list-style-type: none"> Strong recommendation, very low-quality evidence Weak recommendation, moderate-quality evidence Strong recommendation, moderate-quality evidence
Physical examination				
BP ^{9,10}	<ol style="list-style-type: none"> Measure BP at all appropriate health care visits according to the techniques described by CHEP Target BP $< 140/90$ mm Hg in most; $< 130/80$ mm Hg in those with diabetes; systolic BP < 150 mm Hg if age ≥ 80 y with isolated systolic hypertension 	<i>BP</i> was bolded Targets were added to the explanation page	CTFPHC (2013), CHEP (2013)*	<ol style="list-style-type: none"> Strong recommendation, moderate-quality evidence NA
Cervical cancer in women ¹¹	<ol style="list-style-type: none"> Screen with Papanicolaou tests if ever sexually active and age 25–69 y, every 3 y Stop screening at age 70 y if 3 normal Pap test results obtained within the previous 10 y 	<i>Pap</i> was bolded Age and frequency of screening was updated	CTFPHC (2013)	<ol style="list-style-type: none"> Weak recommendation, moderate-quality evidence if aged 25–29 y; strong recommendation, high-quality evidence if aged 30–69 y Weak recommendation, low-quality evidence
Breast cancer in women ¹²	<ol style="list-style-type: none"> Screen with mammography every 2–3 y if aged 50–74 y Do not routinely screen those aged 40–49 y Do not screen with magnetic resonance imaging Do not perform clinical breast examination Advise patients not to perform self breast examination 	<i>Breast examination</i> was removed from the physical examination Age and frequency for mammogram were updated	CTFPHC (2011)	<ol style="list-style-type: none"> Weak recommendation, moderate-quality evidence if aged 50–69 y; low-quality evidence if aged 70–74 y Weak recommendation, moderate-quality evidence Weak recommendation, no evidence Weak recommendation, low-quality evidence Weak recommendation, moderate-quality evidence
Physical examination maneuvers ¹³	Evidence exists for BP, BMI, and Pap tests among asymptomatic adults	Physical examination section is left blank, with the exception of maneuvers with evidence for their use	Veterans Affairs Evidence-based Synthesis Program (2011)	NA

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TOPIC	RECOMMENDATION	CHANGES TO THE PREVENTIVE CARE CHECKLIST FORM	SOURCE OF RECOMMENDATION	LEVEL OF EVIDENCE
Laboratory tests and investigations				
Type 2 diabetes ¹⁴⁻¹⁸	<ol style="list-style-type: none"> 1. Screen every 1-5 y depending on risk determined using a calculator, other risk factors, or age ≥40 y 2. HbA_{1c} level is the preferred screening test (FPG level or OGTT are acceptable alternatives) 3. HbA_{1c} level of ≥6.5%, FPG level of ≥7 mmol/L, or 2-h plasma glucose level in an OGTT of ≥11.1 mmol/L are diagnostic 	<p>Fasting blood glucose was changed to A1c or FPG depending on individual risk</p> <p>Risk factors, diagnostic tests, and thresholds were updated</p>	CTFPHC (2012), CDA (2013)	<ol style="list-style-type: none"> 1. Weak recommendation, low-quality evidence 2. NA 3. NA
Dyslipidemia ^{19,20}	<ol style="list-style-type: none"> 1. Screen fasting lipid profile in men aged ≥40 y, women aged ≥50 y (or postmenopausal), or earlier if at increased risk 2. Screen with Framingham risk assessment every 3-5 y if 10-y risk is <5%, or every y if 10-y risk is ≥5%, until age 75 y 3. Framingham risk should be doubled if positive family history for premature cardiovascular disease 4. Discuss "cardiovascular age" 	<p>Age and screening frequency were added</p> <p>Testing and target details updated</p> <p>Alternate lipid markers and secondary testing are discussed</p>	CCS (2012)	NA
Colorectal cancer ²¹	<ol style="list-style-type: none"> 1. Screen with FIT or FOBT every 1-2 y, or flexible sigmoidoscopy every 10 y, if aged 50-75 y 2. Consider individualized opportunistic screening with FIT or FOBT, flexible sigmoidoscopy, or colonoscopy up to age 85 y 	<p>CTFPHC recommendations kept in forms[†]</p> <p>Details on CAG recommendations were updated</p>	CAG (2010)	NA
STIs ²²⁻²⁷	<ol style="list-style-type: none"> 1. Screen for STIs if risk factors are present 2. Screen for HIV if risk factors are present, patient was ever sexually active, or patient wants test 	<p>STIs were listed under laboratory tests and investigations</p> <p>Risk factors were updated</p> <p>Specific tests were updated</p>	PHAC (2013)	NA
Immunizations				
HPV vaccination ²⁸	<ol style="list-style-type: none"> 1. Recommended for women up to age 45 y even if already sexually active and regardless of past infection 2. Recommended for men up to age 26 y 3. Recommended for men who have sex with men 	<p>Updated HPV vaccine recommendations on forms for women and added to forms for men</p>	NACI (2012)	NA
Routine adult immunizations ^{29,30}	PHAC has updated its <i>Canadian Immunization Guide</i>	<p>Recommendations for routine adults were included</p>	PHAC (2012-2014)	NA

ART—artificial reproductive technology, BMI—body mass index, BP—blood pressure, CAG—Canadian Association of Gastroenterology, CCS—Canadian Cardiovascular Society, CDA—Canadian Diabetes Association, CHEP—Canadian Hypertension Education Program, CTFPHC—Canadian Task Force on Preventive Health Care, FIT—fecal immunochemical testing, FOBT—fecal occult blood testing, FPG—fasting plasma glucose, HbA_{1c}—hemoglobin A_{1c}, HPV—human papillomavirus, NA—not applicable, NACI—National Advisory Committee on Immunization, OGTT—oral glucose tolerance test, PHAC—Public Health Agency of Canada, SOGC—Society of Obstetricians and Gynaecologists of Canada, STI—sexually transmitted infection.

*At the time of publication, a more recent CHEP guideline has been published and is available on the CHEP website (<http://guidelines.hypertension.ca>).

[†]The CTFPHC updated the recommendations in 2016.

the woman had been sexually active. For women aged 70 years or older who have been adequately screened (3 successive negative Papanicolaou tests in the previous 10 years), routine screening may cease.

Osteoporosis (appraised guideline in 2013): The 2010 guideline from the Scientific Advisory Council of Osteoporosis Canada was appraised by the CTFPHC in 2013.³¹ The CTFPHC raised several issues with regard to this

guideline. The concerns related to the lack of description of handling of competing interests, the methods used in the creation of the guideline, and the low levels of evidence for recommendations on exercise, calcium, and vitamin D as therapeutic interventions.³² Given the importance of osteoporosis and resulting fractures, the CTFPHC suggests this guideline might still be used, but cautions the application of recommendations with a low level of evidence.

Screening for hypertension (2013): The CTFPHC recommends that blood pressure (BP) be measured at all appropriate health care visits according to the techniques described by the Canadian Hypertension Education Program (CHEP).^{9,10} For individuals found to have elevated BP, the CHEP criteria for assessment and diagnosis of hypertension should be used. The CHEP updates their recommendations annually, and at the time of publication of this article, a more recent guideline has been published. Please refer to the CHEP website for the most recent publication (<http://guidelines.hypertension.ca>).

Screening for type 2 diabetes (2012, 2013): The CTFPHC recommends using a validated risk calculator for diabetes, such as FINDRISC (Finnish Diabetes Risk Score) or CANRISK (Canadian Diabetes Risk Assessment Questionnaire).^{14,15} Adults with a low to moderate risk should not be screened for type 2 diabetes.¹⁶ Adults at high risk should be screened by measuring hemoglobin A_{1c} levels every 3 to 5 years, and adults at very high risk should be screened annually.

The Canadian Diabetes Association has also updated recommendations for screening for type 2 diabetes.^{17,18} These are included in the explanation section.*

Screening for breast cancer (2011): Women aged 50 to 74 years should be screened with mammography every 2 to 3 years, a lengthened interval from previous recommendations.¹² Screening every 2 to 3 years preserves the benefit of regular screening but reduces the adverse effects, inconvenience, and cost. Women aged 40 to 49 years should not routinely be screened with mammography because the false-positive rate of mammography is higher in this age group, leading to more follow-up testing including unnecessary biopsies. The CTFPHC did not previously have a recommendation for this age group. Screening using magnetic resonance imaging is not recommended owing to a lack of data. Clinical and self breast examinations are not recommended, as there is no evidence that either reduces mortality. Self breast examination leads to increased harm (more benign breast biopsies).

Updated recommendations from other large Canadian medical bodies where no CTFPHC recommendations exist

Screening for dyslipidemia from the CCS (2012): The CCS still recommends screening for dyslipidemia with a fasting lipid profile in men aged 40 years and older and women aged 50 years and older (or when postmenopausal, or earlier among certain ethnicities or those with certain medical conditions).¹⁹ Optional screening can be done by measuring apolipoprotein B levels or urine albumin-creatinine ratio. Screening and a Framingham risk assessment should be completed every 3 to 5 years (if 10-year risk is <5%) or yearly (if 10-year risk is ≥5%) up to 75 years of age. A risk assessment should be completed when a patient's risk status changes.

Younger patients with at least 1 risk factor might benefit from a risk assessment to motivate them to improve their lifestyles. Discussing a patient's "cardiovascular age" has also been shown to improve the likelihood that patients will reach targets.²⁰

The CCS also has updated treatment guidelines and targets. These have been included in the explanation section.*

Screening for sexually transmitted infections from PHAC (2011, 2013): The Canadian guidelines on sexually transmitted infections were updated by PHAC.²³⁻²⁵ Screening recommendations based on updated risk factors are included in the explanation section.* Recommendations on screening with molecular tests such as nucleic acid amplification testing and specimen collection sites have also been updated.²⁴⁻²⁷

Human papillomavirus vaccination from NACI (2012): Human papillomavirus vaccination is recommended for all adult women.²⁸ There is strong evidence up to age 45 years. Vaccination is recommended even in women who have had previous abnormal Pap test results, or who are already sexually active regardless of past infection, as they might not have been infected with all strains in the vaccine. The quadrivalent human papillomavirus vaccine is recommended in males aged 9 to 26 and men who have sex with men to prevent anal intraepithelial neoplasia, anal cancer, and anogenital warts.

Routine adult immunization recommendations from NACI (2012 to 2014): The *Canadian Immunization Guide* has been updated^{29,30} and routine adult immunization recommendations are included in the form and explanation section.* Recommended vaccinations for high-risk groups are not included.

Poverty (2011): Poverty is a known social determinant of health, but methods to screen for it are lacking.³ A pilot study addressed the effectiveness of screening questions to identify patients in family practice living in poverty.⁴ Asking patients, "Do you ever have difficulty making ends meet at the end of the month?" was highly sensitive for predicting poverty but this has not been validated or endorsed by a national guideline at this time. *Income below the poverty line* was changed to *poverty* on the form.

Screening for colorectal cancer from the Canadian Association of Gastroenterology (2010): The CTFPHC did not update screening recommendations for colorectal cancer until 2016, after updates to the PCC Form were complete. The Canadian Association of Gastroenterology recommends those with no additional risk factors be screened between the ages of 50 and 75 years, and individual opportunistic screening could be considered up to age 85 years.²¹ Fecal immunochemical testing or high-sensitivity fecal occult blood testing is acceptable for programmatic screening every 1 to 2 years. Flexible sigmoidoscopy is also acceptable for programmatic screening

every 10 years. Fecal immunochemical testing, fecal occult blood testing, flexible sigmoidoscopy, and colonoscopy are all appropriate for individual opportunistic screening.

Deleted recommendations

Screening for depression from the CTFPHC (2013): Previously, routine screening for depression among adults in primary care settings was recommended by the CTFPHC. After another review, it is now recommended not to routinely screen for depression in adults owing to a lack of studies demonstrating a benefit of screening, and potential harms.⁷

Recommendations reviewed but not used to update the PCC Form

Screening for prostate cancer (2014): The CTFPHC continued to recommend not routinely screening for prostate cancer with the prostate-specific antigen test. For men younger than 55 years, there is a low incidence of disease, a low disease-related mortality rate, a lack of benefit from screening, and evidence of harm. For men aged 55 to 69 years, the risks and benefits of prostate-specific antigen screening and its consequences should be discussed with the patient. The CTFPHC makes its recommendation based on placing a lower value on the small and uncertain potential reduction in mortality and a higher relative value on the risk of false-positive results in this age group. For men aged 70 years and older, there is evidence of potential harms of screening and a lower life expectancy.³³

Physical activity from PHAC (2010): Updated physical activity guidelines were similar to the 1994 CTFPHC physical activity guidelines. Therefore, no changes were made.^{34,35}

Screening for lung cancer (2012): There is new evidence for the use of low-dose computed tomography to screen for lung cancer among high-risk patients.³⁶ The US Preventive Services Task Force recommends screening.³⁷ The CTFPHC plans to review this topic in 2016.

Screening for urinary incontinence from the Canadian Urological Association (2012): The Canadian Urological Association recommends screening for urinary incontinence in the elderly based on good-quality clinical studies.³⁸ As no screening question or method was identified, a recommendation was not included.

Discussion. Recommendations for preventive health care are constantly changing. The PCC Form provides family physicians with current preventive health care recommendations in the same checklist format that has been available since 2004. Most provinces in Canada have a billing code for a periodic health examination of adults, and the form can be easily integrated into electronic medical records.

Performing a complete physical examination for asymptomatic adults is controversial. A review article

investigated the evidence for physical examination maneuvers by reviewing the US Preventive Services Task Force recommendations and performing a search of the various components of the physical examination and their benefits.¹³ It concluded that the components of the physical examination recommended for the asymptomatic adult are BP, BMI, and Pap tests. However, in the PCC Form, the physical examination section was maintained, as this is often a requirement for provincial billing codes for the periodic health examination. Physicians should tailor bookings of periodic health examinations based on personal preference, keeping in mind that additional time is needed to perform and review preventive health care maneuvers, and might leave less time for other types of visits.

Conclusion

The PCC Form was updated with current evidence-based recommendations on the periodic health examination of asymptomatic average-risk adults. The form offers primary care physicians a guide to recommendations and an efficient way to deliver preventive services. 🌿

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Competing interests

None declared

Contributors

All authors contributed to the literature review and interpretation, and to preparing the manuscript for submission.

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