

1 Periodic Health Assessment Screening and Role of Family Physician

Comment [Z1]: The title is not clear and I suggest title modification needed

2 3 **Abstract:**

Comment [Z2]: Abstract part is not full (Contain introduction, objective, methods and conclusion)

4 A family physician is a physician who has completed postgraduate study in family
5 medicine. In the public sector, a medical officer is a generalist with no
6 postgraduate training. The periodic health assessment has its roots at least as far
7 back as the industrial revolution, when employers paid for annual physicals to
8 keep their workers healthy. The technique is now included into the work of
9 primary care physicians and is still practiced across multiple countries but it may
10 be named with a different name such as Periodic health examination (PHE). The
11 PHE provides an opportunity to implement evidence-based preventative
12 measures, educate patients on lifestyle concerns, update vaccines, and, most
13 significantly, detect risk factors and diagnoses by updating the patient's
14 cumulative profile.). In low-risk patients, however, treatment may not be
15 essential every year. There's serious question about the value of Periodic health
16 assessment/examination. **In this article we'll be reviewing the PHE, it's value and**
17 **the role of physician in it.**

Comment [Z3]: Objective not SMART

18 **Introduction:**

19 **The periodic health examination (PHE) has its roots at least as far back as the**
20 **industrial revolution, when employers paid for annual physicals to keep their**
21 **workers healthy. The technique is now included into the work of primary care**
22 **physicians and is still practised across Canada. Various terms are used to describe**
23 **it (e.g., annual health examination, periodic health visit). Some nations, such as**
24 **the United Kingdom and Germany, support PHEs for otherwise healthy people**
25 **aged 40–75 years, claiming that these individuals have a rising burden of lifestyle**
26 **and chronic illnesses that might be treated with PHEs. Patients in Canada,**
27 **however, may be confused by the continued diversity in practise, with a tendency**
28 **toward lowering or abolishing the use of PHEs in adults. [1]**

Comment [Z4]: Long statement; re write

29 By convention, the phrase "family doctor" should be used to mean the following:
30 A family physician, a general practitioner, or a medical officer are all examples of
31 medical officers. A family physician is a physician who has completed
32 postgraduate study in family medicine. In the public sector, a medical officer is a

33 generalist with no postgraduate training. A qualified private practitioner with no
34 postgraduate training is known as a general practitioner. [2]

35 According to the study, almost 58 percent of patients dying of coronary heart
36 disease had their fatal condition discovered as a consequence of participation in
37 periodic health checkups, and similar programmes found only half of the patients
38 dying of cancer. The impact of such initiatives would be significant if we assumed
39 that we could completely stop or treat these conditions once they were
40 identified. Periodic health examinations, on the other hand, may plainly fail to
41 discover a significant share of even dangerous disorders. Although it could be
42 argued that the programme participants described here did not have their
43 periodic health examinations at frequent enough intervals, it should be noted that
44 a randomised trial found that chest X-rays taken as frequently as every six months
45 to detect pre-symptomatic lung cancer had no discernible effect on mortality. [3]

46 Doctors used to be generalist practitioners in the past. However, technical and
47 scientific advancements have opened up intriguing possibilities in medicine during
48 the last fifty years. The division of medicine into subspecialties has resulted in
49 breakthroughs in disease knowledge. The generalist way of practise declined,
50 while subspecialists focused in hospitals achieved dramatic improvements in
51 particular organs, systems, or illnesses, the performance of specialised
52 operations, or the use of expensive and advanced technology. The American
53 Academy of General Practice (AAGP) was founded in 1947 in the United States to
54 represent the shrinking number of general practitioners. Following then, a series
55 of events prepared the way for family medicine to be recognized as a professional
56 specialty with accreditation and board certification. [2]

57 IMS Health presented a statistical overview of the top ten reasons patients
58 contact family doctors and other specialists in Canada in 2009. The "general
59 medical exam," with 10.5 million visits each year, came in second only to
60 appointments for hypertension. Assuming fee-for-service compensation and the
61 fact that a routine medical examination (also known as an annual physical or a
62 periodic health examination [PHE]) takes twice as long as a regular appointment,
63 this translates to approximately 21.4 million appointments per year at a cost of \$2
64 billion in consultation fees alone. [4]

Comment [Z5]: Study conducted where, references?

Comment [Z6]: First use full words

65 To make educated choices in the office environment and in the larger public, all
66 physicians should "know" their practise populations. A clinician, for example,
67 could be able to immediately assess rates of sickness, anthropometric
68 measurements of the population, individual- and population-level test findings,
69 trends, and a snapshot of therapy actions using a well-designed electronic
70 medical record. To identify and meet the group's requirements, effective
71 population-based chronic illness management programmes involve monitoring
72 and population health assessment techniques. Surveillance and epidemiologic
73 analytic techniques may be implemented in clinics to enhance practise, provide
74 clinical guidance, and improve the health of patients and the surrounding
75 community. [5]

76 According to growing data, general health checks, which cover both the standard
77 yearly physical exam and the periodic health visit, do not lower patient morbidity
78 and death and are an expensive procedure. Insurance companies and health-care
79 providers have questioned the value of yearly physical exams for healthy people,
80 opting instead for a more frequent health check. A physical examination is not
81 often included in a routine health visit, which focuses on preventative treatment.
82 A physician's judgement determines if a periodic health visit is necessary, and it is
83 customised to each patient's individual needs. The customary yearly physical
84 examination of asymptomatic persons, according to the Canadian Task Force for
85 Preventive Health Care, is not supported by evidence and may cause damage.
86 They explain that periodic preventative visits tailored to age, risk, and particular
87 test intervals may be more beneficial. [6-9]

Comment [Z7]: Long statement

88 **Value of Periodic health assessment:**

89 The PHE provides an opportunity to implement evidence-based preventative
90 measures, educate patients on lifestyle concerns, update vaccines, and, most
91 significantly, detect risk factors and diagnoses by updating the patient's
92 cumulative profile (i.e., patient history). In low-risk patients, however, treatment
93 may not be essential every year. The PHE might be used to help disadvantaged
94 groups who would otherwise be unable to attend on a regular basis. It might also
95 help with chronic illness management and deprescribing initiatives. The patient–
96 doctor interaction is increasingly being demonstrated to have an impact on health

97 outcomes. However, prolonged, relationship-based treatment may be only
98 achievable if other, unneeded visits are reduced. [1]

99 In the case of coronary disease, it has been consistently established that blood
100 pressure, serum cholesterol, exercise, cigarette usage, blood glucose, and a
101 variety of other variables all affect one's chance of suffering and dying from a
102 myocardial infarction. These statistical connections between 'predictors' and
103 eventual illness have sparked the development of 'anti-coronary clubs,' as well as
104 a slew of scientific and lay publications arguing for countrywide risk factor
105 modification programmes to prevent or postpone the onset of manifest coronary
106 disease. Such algorithms assume that statistical correlations imply causal linkages,
107 but investigations to resolve this crucial topic are only now beginning. However,
108 periodic health screening programmes based on these predictors can only be
109 beneficial if they can be blamed or 'explained' for a considerable fraction of
110 coronary heart disease. [3]

Comment [Z8]: Need references

111 **Question of Value of PHA/PHE:**

112 Those who already contact their family doctors on a regular basis, and even
113 patients who have four extended chronic-disease visits per year, are more likely
114 to book dedicated PHEs. There is no convincing evidence that scheduling a PHE
115 appointment instead of case-finding manoeuvres during routine visits leads to
116 improved health outcomes, or that people who participate in this yearly ritual are
117 healthier or have lower morbidity and death than those who do not. In reality,
118 there is enough data to suggest that many of the studies performed during the
119 PHE may be detrimental and not in the patient's best interests. Advocating for
120 patients involves avoiding needless medical procedures, and the CMA Code of
121 Ethics and the College of Family Physicians of Canada's four principles of family
122 medicine both highlight a duty for wise use of health-care resources. [4,
123 10,11]

124 Traditional fee-for-service approaches may lead to an overabundance of services,
125 such as routine health checkups. Because physicians must offer the service
126 directly in order to charge, quality of care may decrease in such models where
127 volume is rewarded and interprofessional team-based treatment is discouraged.
128 Capitation models, on the other hand, may contribute to under-provision of care,
129 particularly for patients with multiple comorbidities. This form of care offers

130 limited motivation for quality-based treatment in the absence of additional value-
131 based components to capitation models. Bundled care models can foster team-
132 based approaches, but greater patient volume expectations may raise the amount
133 and intensity of physician effort. The evidence for pay-for-performance models in
134 primary care is mixed, and there is presently no direct pay-for-performance
135 incentive for performing the periodic health visit [6,13-19]

Comment [Z9]: Ref 12

136 Preventive care services are more likely to occur during a dedicated visit, which is
137 one of the key justifications in favour of a PHE. With the computerization of
138 medical practises, scheduling required preventative care at proper intervals and
139 during regular visits should be simple. Electronic medical records are costing
140 taxpayers a significant amount of money, and the public is already demanding a
141 return on their investment. Every visit to an acute care facility should, in essence,
142 incorporate a component of preventative treatment. While physicians devote a
143 significant amount of time to PHEs, provincial governments are increasingly
144 relying on nurse practitioners, pharmacists, and other health professionals to
145 provide acute treatment to individuals who require it. Patients who might be
146 better treated by family physicians crowd emergency rooms, yet the majority of
147 these patients receive no preventative treatment. [4]

148 In all preventative and screening actions directed at asymptomatic patients,
149 overdiagnosis and overtesting are issues, especially when any benefits are minor
150 or hypothetical. Annual physical examinations may enhance the chances of
151 discovering disorders with unknown clinical significance. Although investigating
152 and treating incidentally identified anomalies can be useful, the risks of labelling,
153 false-positive findings, and problems from unneeded testing and treatment must
154 be considered. Screening trials have only lately attempted to quantify the cost or
155 consequences of false-positive diagnosis or unneeded therapy. [20,21]

156 **Role of family physician:**

157 Family medicine has evolved to its current form in the United States and the
158 United Kingdom during the 1950s and 1960s(Ref). During the last two decades, it
159 has gained traction across the Middle East, Africa, Latin America, and South
160 Asia(Ref).Family medicine is becoming more popular in India(ref). It has been
161 recognised that they may serve as the backbone of the health-care delivery

162 system and play a critical role in achieving the objectives of the National Rural
163 Health Mission, which will shortly become the National Health Mission. [2]

164 At its foundation, family medicine necessitates physicians serving as resources for
165 both their practise communities and their individual patients. The diagnosis and
166 treatment of all patients require an understanding of the biophysical medical
167 model of disease and sickness and how it affects people. However, the
168 individual's sickness experience is frequently influenced by larger causes. The
169 condition of health experienced by people of a community is determined by a
170 variety of factors, including income, culture, environment, genetics, education,
171 and general social structure, to mention a few. The impacted population may be
172 vastly different from, or even bigger than, the designated target of a clinic.
173 Identifying and modifying these characteristics can help all Canadians improve
174 their health, both in practise and in the broader community. [5]

175 In the following ways, family practise varies from other specialties: [2]

- 176 1. family physicians frequently deal with undifferentiated clinical issues, i.e.
177 problems that have not been assessed by any other physician before, and
178 they are frequently the initial point of contact
- 179 2. The prevalence of illness and clinical conditions in general practise differs
180 significantly from the prevalence of disease and clinical problems in a
181 hospital clinic or ward's designated group. Because the predictive value of
182 clinical data changes depending on the prevalence of a disease in a specific
183 population, the same symptom, sign, or test in family practise and hospital
184 practise will have different predictive values.
- 185 3. A family practitioner will often detect illness at an early stage, before the
186 entire clinical picture has emerged. Because clinical data's sensitivity and
187 specificity change depending on the stage of an illness, tests effective in
188 general/family practise may differ from those beneficial in hospital practise.

189 At each stage of development, interactions with the environment can alter
190 immediate and long-term health issues. As family doctors, it is critical that can
191 be performed treatments from a public health standpoint. These public health
192 efforts may be divided into key aspects in the Canadian context, as stated by the
193 Advisory Committee on Population Health and the National Advisory Committee
194 on SARS and Public Health. The benefits of incorporating public health

195 components into family medical practise are obvious: Successful treatments can
196 reduce sickness and damage, improving health while also saving taxpayers and
197 governments money. Health-protection, illness and injury prevention, and health
198 promotion interventions, as well as health evaluation and monitoring, can all be
199 produced. [5]

200 **Conclusion:**

201 There's many articles debating against the true benefit of periodic health
202 assessment as seen as waste of time of medical official and can lead sometimes to
203 over diagnosing and overtreating. And thus, many suggest that theses checkups
204 should be done for specific cases which have high-risks of developing a disease.
205 Because already patients who have chronic disease undergo regular checkups.

206

207

208

209

210

211

212

213

214

215

216

217

218

219

220

221

222

223 **References:**

- 224 1. Ponka D. The periodic health examination in adults. CMAJ. 2014 Nov
225 4;186(16):1245. doi: 10.1503/cmaj.141125. Epub 2014 Oct 6. PMID:
226 25288315; PMCID: PMC4216260.
- 227 2. Kumar, Raman. (2013). Role of Family Physicians in Healthcare System.
- 228 3. Sackett DL. The family physician and the periodic health examination. Can
229 Fam Physician. 1972 Aug;18(8):61-5. PMID: 20468802; PMCID:
230 PMC2370517.
- 231 4. Howard-Tripp M. Should we abandon the periodic health examination?:
232 YES. Can Fam Physician. 2011 Feb;57(2):158-60. PMID: 21642713; PMCID:
233 PMC3038801.
- 234 5. Sikora C, Johnson D. The family physician and the public health perspective:
235 Opportunities for improved health of family practice patient populations.
236 Can Fam Physician. 2009 Nov;55(11):1061-3. PMID: 19910586; PMCID:
237 PMC2776787.
- 238 6. Saunders NR, Guan J, Fu L, Guo H, Wang X, Guttman A. Periodic health
239 visits by primary care practice model, a population-based study using
240 health administrative data. BMC Fam Pract. 2019 Mar 5;20(1):42. doi:
241 10.1186/s12875-019-0927-6. PMID: 30836945; PMCID: PMC6399901.
- 242 7. Krogsboll LT, Jorgensen KJ, Gronhoj Larsen C, Gotzsche PC. General health
243 checks in adults for reducing morbidity and mortality from disease.
244 Cochrane Database Syst Rev. 2012;10:CD009009.
- 245 8. Mehrotra A, Prochazka A. Improving value in health care--against the
246 annual physical. N Engl J Med. 2015;373(16):1485-1487. doi:
247 10.1056/NEJMp1507485.
- 248 9. Periodic health examinations: a rapid Econ Anal In. Toronto, ON: Health
249 Quality Ontario; 2013.
- 250 10. Agency for Healthcare Research and Quality . Guide to clinical preventive
251 services, 2010-2011. Recommendations of the US Preventive Services Task
252 Force. Rockville, MD: US Department of Health and Human Services; 2010.
253 Available from: www.ahrq.gov/clinic/pocketgd1011.

- 254 11. Canadian Medical Association . CMA code of ethics. Ottawa, ON: Canadian
255 Medical Association; 2004. [http://policybase.cma.ca/PolicyPDF/PD04-](http://policybase.cma.ca/PolicyPDF/PD04-06.pdf)
256 06.pdf. Accessed 2010 Dec 14.
- 257 12. College of Family Physicians of Canada . Four principles of family medicine.
258 Mississauga, ON: College of Family Physicians of Canada; 2010.
- 259 13. Birtwhistle R, Bell NR, Thombs BD, Grad R, Dickinson JA. Periodic preventive
260 health visits: a more appropriate approach to delivering preventive
261 services: from the Canadian task force on preventive health care. *Can Fam*
262 *Physician*. 2017;63(11):824–826.
- 263 14. Mattison CA, Wilson MG. Rapid synthesis: examining the effects of value-
264 based physician payment models. In. Hamilton: Macmaster health. Forum.
265 2017.
- 266 15. Friedberg MW, Chen PG, White C, Jung O, Raaen L, Hirshman S, Hoch E,
267 Stevens C, Ginsburg PB, Casalino LP, et al. Effects of health care payment
268 models on physician practice in the United States. *Rand Health Q*.
269 2015;5(1):8.
- 270 16. Chien AT, Dudley RA. Pay-for-performance in pediatrics: proceed with
271 caution. *Pediatrics*. 2007;120(1):186–188. doi: 10.1542/peds.2007-1158.
- 272 17. Freed GL, Uren RL. Pay-for-performance: an overview for pediatrics. *J*
273 *Pediatr*. 2006;149(1):120–124. doi: 10.1016/j.jpeds.2006.03.023.
- 274 18. Carter R, Riverin B, Levesque JF, Garipey G, Quesnel-Vallee A. The impact of
275 primary care reform on health system performance in Canada: a systematic
276 review. *BMC Health Serv Res*. 2016;16:324. doi: 10.1186/s12913-016-1571-
277 7.
- 278 19. Jaakkimainen RL, Barnsley J, Klein-Geltink J, Kopp A, Glazier RH. Did
279 changing primary care delivery models change performance? A population
280 based study using health administrative data. *BMC Fam Pract*. 2011;12:44.
281 doi: 10.1186/1471-2296-12-44.
- 282 20. Birtwhistle R, Bell NR, Thombs BD, Grad R, Dickinson JA. Periodic preventive
283 health visits: a more appropriate approach to delivering preventive
284 services: From the Canadian Task Force on Preventive Health Care. *Can Fam*
285 *Physician*. 2017 Nov;63(11):824-826. PMID: 29138150; PMCID:
286 PMC5685441.
- 287 21. Moynihan R, Doust J, Henry D. Preventing overdiagnosis: how to stop
288 harming the healthy. *BMJ*. 2012;344:e3502

Comment [Z10]: Not used in this manuscript

UNDER PEER REVIEW

