

Pay-for-performance incentives for preventive care

Views of family physicians before and after participation in a reminder and recall project (P-PROMPT)

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Abstract

Objective The Provider and Patient Reminders in Ontario: Multi-Strategy Prevention Tools (P-PROMPT) project was designed to increase the rates of delivery of 4 targeted preventive care services to eligible patients in primary care network and family health network practices eligible for pay-for-performance incentives.

Design Self-administered fax-back surveys completed before and after participation in the P-PROMPT project.

Setting Southwestern Ontario.

Participants A total of 246 physicians from 24 primary care network or family health network practices across 110 different sites.

Interventions The P-PROMPT project provided several tools and services, including physician and patient reminders, office management tools, and administrative database integration.

Main outcome measures Physicians' views about the delivery of preventive health services and pay-for-performance incentives before and after participation in the P-PROMPT project.

Results The preintervention survey was completed by 86.2% (212 of 246) of physicians and the postintervention survey was completed by 53.3% (131 of 246) of physicians; 46.7% (114 of 246) of the physicians completed both surveys. Overall, 80.5% of physicians indicated that the P-PROMPT project was useful (scores of 5 or higher on a 7-point Likert scale). Patient reminder letters (89.1%), physician approval lists of eligible patients (75.6%), administrative assistance with management fees (79.8%), and annual bonus calculations (75.2%) were rated as the most useful features of the program. Compared with the preintervention survey, there were statistically significant increases in the mean agreement scores that the established target levels and bonuses provided appropriate financial incentive to substantially increase the uptake of mammography ($P=.012$) and Papanicolaou tests ($P=.003$) but not to increase uptake of annual influenza vaccination or childhood immunizations. There were statistically significant changes in the mean ratings of relying on an opportunistic approach ($P<.001$), increased agreement about the effectiveness of the current approach to delivery of preventive care ($P<.001$), and increased use of preventive management fees to recall patients ($P<.001$).

Conclusion The preventive care management program and P-PROMPT were viewed favourably by most respondents and were perceived to be useful in improving delivery of preventive health care services.

EDITOR'S KEY POINTS

- Despite substantial evidence supporting preventive health services, the delivery rates of these services in Canada continue to be lower than recommended. The P-PROMPT project was developed to advance primary health care delivery in Ontario by leveraging the newly created models of care, the preventive care management program, and the existing evidence around effectiveness of recall and reminder systems to increase delivery of preventive care services.
- This article compares attitudes, experiences, and self-reported strategies around preventive care delivery before and after physicians participated in P-PROMPT.
- While physicians participating in P-PROMPT expressed strong agreement with the importance of the 4 services targeted by the preventive care management program and agreed that financial bonuses served as an incentive to increase the delivery of targeted services to their eligible patients, the administrative complexity of efficiently delivering these services was seen to be a considerable barrier.

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Mesures incitatives de rémunération pour la prestation de soins préventifs

Opinion de médecins de famille avant et après qu'ils aient participé à un projet utilisant des rappels et des aide-mémoire (P-PROMPT)

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Résumé

Objectif Le projet *Provider and Patient Reminders in Ontario : Multi-Strategy Prevention Tools* (P-Prompt) a été créé pour augmenter le taux de prestation d'une sélection de 4 services de soins préventifs dans des réseaux d'établissements de soins primaires et de santé familiale admissibles à des mesures financières incitatives.

Type d'étude Enquêtes auto-administrées et retournées par télécopieur, remplies avant et après avoir participé au projet P-Prompt.

Contexte Le sud-ouest de l'Ontario.

Participants Un total de 246 médecins de 24 réseaux de soins primaires ou établissements de santé familiale dans 100 lieux différents.

Interventions Le projet P-Prompt a fourni plusieurs outils et services, y compris des rappels à l'intention des médecins et des patients, des outils de gestion de bureau et l'intégration de bases de données administratives.

Principaux paramètres à l'étude Opinion des médecins sur la prestation des services de santé préventifs et sur les mesures financières incitatives, avant et après avoir participé au projet P-Prompt.

Résultats L'enquête pré-intervention a été remplie par 86,2% des médecins (212 sur 246) et l'enquête post-intervention, par 53,3% d'entre eux (131 sur 246); 47,7% des médecins (114 sur 246) ont répondu aux deux enquêtes. Dans l'ensemble, 80,5% des médecins ont indiqué que le projet P-Prompt était utile (scores de 5 ou plus sur une échelle de type Likert à 7 points). Les caractéristiques du programme jugées les plus utiles étaient les lettres de rappel aux patients (89,1%), les listes de patients admissibles approuvées par le médecin (75,6%) et le calcul des primes annuelles (75,2%). Par rapport à l'enquête pré-intervention, il y avait une augmentation significative des scores moyens quant à l'opinion que les niveaux de cible établis et les primes constituaient des mesures incitatives appropriées pour augmenter considérablement les mammographies ($P=,012$) et les tests de Papanicolaou ($P=,001$) mais non pour augmenter la vaccination annuelle contre l'influenza ni l'immunisation des enfants. On a observé des changements statistiquement significatifs dans les scores moyens des éléments suivants: s'en remettre à une approche opportuniste ($P=,001$), un accord plus prononcé au sujet de l'efficacité de l'approche actuelle en matière de prestation de soins préventifs ($P<,001$), et une utilisation accrue de frais de gestion préventifs pour le rappel aux patients ($P<,001$).

Conclusion La plupart des répondants avaient une opinion favorable sur le programme de gestion des soins préventifs et le P-Prompt, et les croyaient utiles pour augmenter la prestation des services de soins de santé préventifs.

POINTS DE REPÈRE DU RÉDACTEUR

- Malgré les nombreuses données en faveur des services de santé préventifs, le taux de prestation de ce type de services demeure inférieur à ce qui est recommandé au Canada. Le projet P-Prompt a été mis au point pour améliorer la prestation des soins de santé primaires en Ontario en faisant fond sur les modèles de soins nouvellement créé sur, sur le programme de gestion des soins primaires et sur les données qui indiquent que les systèmes de rappel et d'aide-mémoire sont utiles pour augmenter la prestation des services de soins préventifs.
- Cet article compare les attitudes, expériences et stratégies des médecins, avant et après qu'ils aient participé au projet P-Prompt.
- Même si les médecins qui ont participé au P-Prompt se sont dits fortement d'accord avec l'importance des 4 services ciblés par le programme de gestion des soins préventifs et estimaient que les mesures financières étaient utiles pour augmenter la prestation de ces services aux patients admissibles, ils considéraient que la complexité administrative requise pour la prestation efficace de ces services constituait un obstacle considérable.

Cet article a fait l'objet d'une révision par des pairs.
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Despite substantial evidence supporting the use of preventive health services, the delivery rates for these services by health care providers in Ontario¹ and elsewhere in Canada² continue to be lower than recommended. The preventive care management program, an integral part of Ontario's primary care renewal, directly supports physicians in their efforts to increase the delivery of preventive services to eligible patients through the provision of progressive annual performance bonus payments that depend on the achievement of predetermined targets. In 2006, the following 4 preventive care services, based on grade A and B recommendations of the Canadian Task Force on Preventive Health Care,³ were included in the program: annual autumn influenza vaccination for patients older than 65 years of age; biennial Papanicolaou tests for women aged 35 to 70; biennial mammography for women aged 50 to 70; and completion of 5 immunizations for children before 2 years of age.

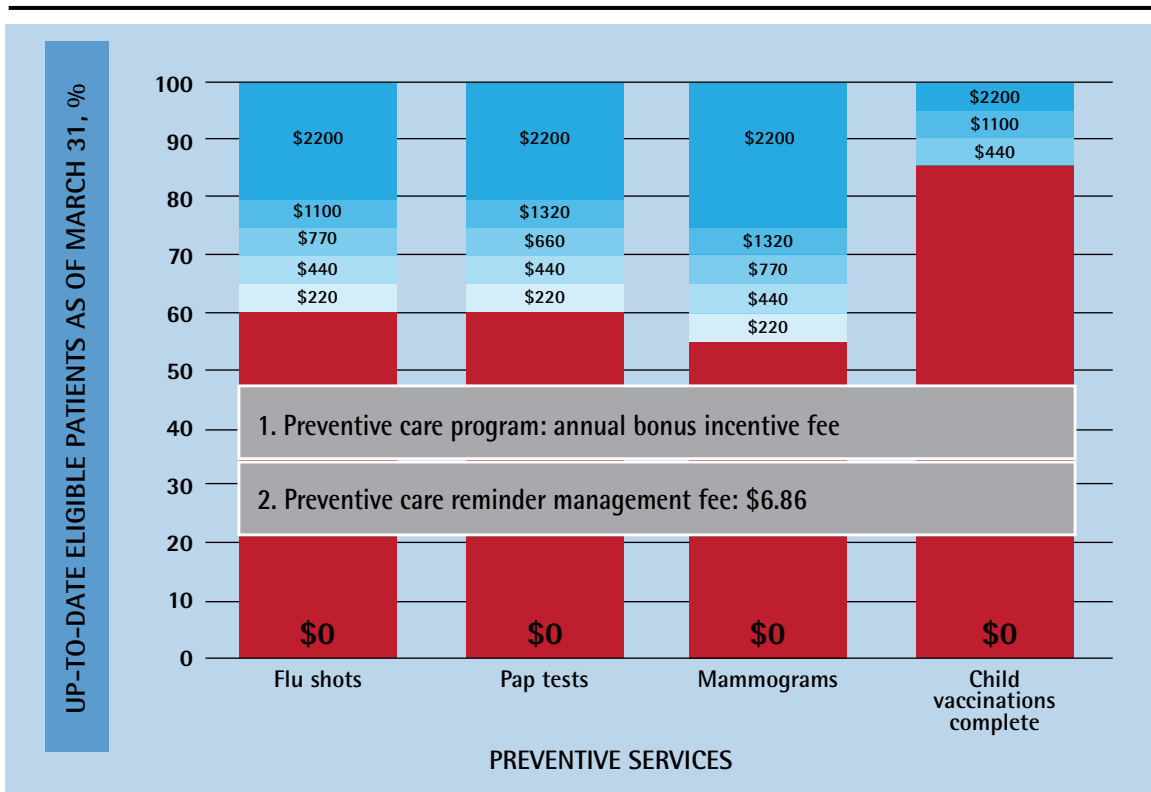
This program is available to physicians who practise in new rostered care models of primary health care delivery in Ontario, primary care networks and family health networks. Both models also include additional management fees to facilitate the recall of patients to receive these services. The key elements of

the preventive care management program are shown in **Figure 1**.

The Provider and Patient Reminders in Ontario: Multi-Strategy Prevention Tools (P-PROMPT) project was developed as a 2-year, large-scale demonstration project to advance primary health care delivery in Ontario by leveraging the newly created models of care, the preventive care management program, and the existing evidence around effectiveness of recall and reminder systems⁴⁻⁷ to increase the delivery of preventive care services to eligible patients. The project was intended to implement a reminder and recall strategy, together with a multisource data acquisition and integration component, to increase the delivery of targeted preventive care services to eligible patients. The key features and services offered by P-PROMPT are shown in **Box 1**.

In order to examine physicians' views about the delivery of preventive health services and pay-for-performance incentives, we administered a survey at the outset of the project and another toward its conclusion. The purpose of this study was to compare attitudes and self-reported strategies around preventive care delivery before and after the physicians participated in P-PROMPT, as well as to explore physicians' experiences with the preventive care management program and the P-PROMPT project.

Figure 1. The preventive care management program



Box 1. Key features and services offered by P-PROMPT

Features and services offered by P-PROMPT include the following:

- sending patient reminder letters to those on proposed lists of overdue patients
- obtaining and integrating updated data from the Ministry of Health and Long-Term Care, CytoBase,* and the Ontario Breast Screening Program
- listing all due and overdue patients on the website or on paper lists
- providing Web or paper forms to permanently record ineligibilities
- providing Web or paper forms to record current services done
- providing lists of patients for whom \$6.86 maintenance fees are billable
- providing a statement of annual preventive care bonus codes billable

P-PROMPT—Provider and Patient Reminders in Ontario: Multi-Strategy Prevention Tools.

*Computerized medical record of Papanicolaou tests performed on patients in the Province of Ontario.

METHODS

All 246 physicians from 24 primary care network or family health network groups located in 110 different sites across southwestern Ontario who participated in the P-PROMPT project were eligible to participate in the surveys. The preintervention surveys were faxed to each participating physician followed by 1 reminder fax 3 weeks later. At the follow-up point 2 years later, physicians were faxed the same survey package, with 1 follow-up reminder fax sent 3 weeks later. Results of the baseline survey, as well as a more detailed description of the methods, have been previously published.⁸ The surveys asked about preventive care in general, the preventive care management program, and preventive care delivery strategies used. The postintervention survey repeated baseline questions and added questions about physicians' experiences with the P-PROMPT project.

The self-administered baseline survey comprised 18 questions, each scored on a 7-point Likert scale. Information was collected on preventive care maneuvers and physicians' opinions about prevention. Physician and practice characteristics, including sex, year of graduation from medical school, roster size, and urban versus rural practice, were also collected. The postintervention questionnaire contained the same 18 questions asked at baseline, as well as 13 additional questions about the usefulness of P-PROMPT tools and services. All questions were measured on a Likert scale ranging from 1 (not very useful or strongly disagree) to

7 (very useful or strongly agree). In the analysis of some questions, Likert scale ratings were grouped to determine physician agreement or assessment of usefulness: scores of 5 to 7 indicated agreement or usefulness and scores of 1 to 4 indicated disagreement, a lack of usefulness, or neutral views.

Data were analyzed with SPSS, version 14.0, using a significance level of .05 (2-sided) in all statistical tests. Univariate descriptive statistics, frequency distributions, and multivariate repeated ANOVA (analysis of variance) were used to describe the data and to examine potential correlates of practice or physician characteristics (ie, sex, year of graduation, urban vs rural setting, academic vs non-academic practice, Certification by the College of Family Physicians of Canada, and roster size) and attitudinal change. McNemar tests were used to compare the proportions of physicians agreeing with selected statements on the preintervention and postintervention surveys.

The study was approved by the Hamilton Health Sciences and Faculty of Health Sciences Research Ethics Board.

RESULTS

The preintervention survey was completed by 86.2% of physicians (212 of 246) and the postintervention survey was completed by 53.3% of physicians (131 of 246); 46.7% of physicians (115 of 246) completed both surveys. Among the physicians who participated in both surveys, 40.9% (47 of 115) were women, 7.0% (8 of 115) were in academic practices, 73.9% (85 of 115) were Certified by the College of Family Physicians of Canada, and 82.6% (95 of 115) were practising in urban areas. The median practice size was 1548 patients, and the median year of graduation from medical school was 1980.

In an effort to facilitate and increase the delivery rate of preventive care services to eligible patients, P-PROMPT offered several tools and services to participants in the project. These services included physician and patient reminders, office management tools, and administrative database integration. Assessment of these various tools and services in terms of mean scores of usefulness (scores of 5 to 7) by all physicians (n=131) who participated in the postintervention survey are presented in **Table 1**. The strongest support in terms of usefulness was for patient reminder letters (89.1% [115 of 129]), for the physician approval lists for those letters (75.6% [96 of 127]), and for assistance with calculations of management fees for reminder letters (79.8% [99 of 124]) and annual performance-based bonuses (75.2% [94 of 125]). A total of 80.5% (103 of 128) of respondents agreed that overall the P-PROMPT project was useful or very useful.

Table 1. Assessment of tools and services offered by P-PROMPT for all physicians completing the postintervention survey: $N = 131$.

P-PROMPT TOOL OR SERVICE	MEAN (SD) SCORE*	PROPORTION (N/N) [†] RATING TOOL OR SERVICE AS USEFUL*
Patient reminder letters	5.90 (1.09)	89.1 (115/129)
Assistance with management fee calculation	5.48 (1.53)	79.8 (99/124)
Assistance with annual bonus calculation	5.26 (1.67)	75.2 (94/125)
Approval lists for reminder letters	5.22 (1.38)	75.6 (96/127)
Paper-based patient tracking lists	4.78 (1.65)	64.0 (80/125)
Compatibility with electronic medical record	4.75 (1.80)	63.0 (68/108)
Web-based patient tracking lists	4.55 (2.00)	59.6 (65/109)
Compatibility with paper-based patient records	4.55 (1.72)	56.3 (58/103)
Overall assessment of P-PROMPT	5.49 (1.17)	80.5 (103/128)

P-PROMPT—Provider and Patient Reminders in Ontario: Multi-Strategy Prevention Tools.

*Mean scores of responses on a 7-point Likert scale from 1 (not useful) to 7 (very useful).

[†]Not all physicians answered all questions.

*Useful was defined as a response of 5-7 on the 7-point Likert scale.

The physician responses to the postintervention survey reflected continued strong support for all 4 targeted preventive care services (results not shown), as well as agreement with the established target levels and bonuses to provide appropriate financial incentive to substantially increase the uptake of preventive services, including fecal occult blood testing (mean [SD] score of 4.71 [1.44]), which was introduced to the preventive care management program during the P-PROMPT project.

Between the preintervention and postintervention surveys, there was a statistically significant increase in mean agreement scores that the established target levels and bonuses provided appropriate financial incentive to substantially increase the uptake of Pap tests (from 4.28 to 4.85; $F_{1,113} = 9.27$, $P = .003$) and mammography screening (from 4.63 to 5.07; $F_{1,113} = 6.52$, $P = .012$), but not to increase annual influenza vaccination or childhood immunizations (Table 2).

Table 2. Preintervention and postintervention mean agreement scores assessing whether established target levels and bonuses provided appropriate financial incentive to substantially increase the uptake of services: The number of respondents ranged from 103 to 129.

PREVENTIVE SERVICE	PREINTERVENTION MEAN (SD) SCORE*	POSTINTERVENTION MEAN (SD) SCORE*	P VALUE
Pap test	4.28 (1.65)	4.85 (1.62)	.003
Mammography	4.63 (1.44)	5.07 (1.51)	.012
Annual influenza vaccine	4.71 (1.44)	5.05 (1.60)	.063
Childhood immunizations	4.76 (1.63)	4.89 (1.82)	.514
FOBT test	NA	4.71 (1.44)	NA

FOBT—fecal occult blood test, NA—not applicable.

*Mean scores of responses on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Both surveys also explored the views of physicians concerning preventive care in general and their own strategies for delivering preventive care services. The comparative responses in terms of mean scores are shown in Table 3. There were statistically significant changes in the mean ratings of relying on an opportunistic approach ($P < .001$), increased agreement with the effectiveness of the current approach to delivery of preventive care ($P < .001$), and increased use of preventive management fees to recall patients ($P < .001$). There was also a small, although statistically significant, change in agreement with the statement that care of acute medical problems is more effective than preventive care ($P = .002$).

While 57.4% (66 of 115) of physicians agreed in the preintervention survey with the statement that their current approach to delivery of preventive services was mainly opportunistic, only 36.5% (42 of 115) still agreed with this statement after participating in P-PROMPT (McNemar $\chi^2 = 12.02$, $P < .001$). Moreover, while only 27.8% (32 of 115) of physicians agreed at baseline with the statement that their current approach to the delivery of preventive services was very effective, 54.8% (63 of 115) agreed with this statement after participating in the project (McNemar $\chi^2 = 20.93$, $P < .001$).

We also conducted separate repeated-measures ANOVA tests to examine the effects of sex, year of graduation, urban versus rural setting, academic versus non-academic practice, Certification by the College of Family Physicians of Canada, and practice roster size on attitudinal change. We found no significant interaction effects between any of the variables examined.

Table 3. Preintervention and postintervention mean agreement scores assessing attitudes and self-reported strategies around preventive care delivery: The number of respondents ranged from 112 to 114.

STATEMENT	PREINTERVENTION MEAN (SD) SCORE*	POSTINTERVENTION MEAN (SD) SCORE*	P VALUE
My current approach to delivery of preventive care services is primarily opportunistic	4.51 (1.59)	3.73 (1.65)	<.001
My current approach to delivery of preventive care services is very effective	3.85 (1.24)	4.54 (1.26)	<.001
I frequently use the preventive management fee (\$6.86) to recall patients in my practice	2.09 (1.48)	3.20 (1.54)	<.001
In general, I think that care of acute medical problems is more effective than preventive care	2.73 (1.28)	3.15 (1.36)	.002
Preventive care programs, based on the current model of financial incentives, should be expanded to include additional preventive services	5.54 (1.39)	5.31 (1.42)	.078
Physicians are obligated to provide preventive services	5.74 (1.41)	5.92 (1.00)	.183
Preventive care issues should be considered at every patient visit	4.90 (1.61)	5.09 (1.35)	.228
Time spent on preventive care is not adequately reimbursed	6.08 (1.26)	5.97 (1.07)	.342
Preventive care programs, based on the current model of financial incentives, should be expanded to include management of selected chronic diseases	5.54 (1.39)	5.61 (1.27)	.539
Administration of the MOHLTC preventive care management program is cumbersome and time-consuming	5.64 (1.29)	5.58 (1.29)	.686

MOHLTC—Ministry of Health and Long-Term Care.

*Mean scores of responses on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

DISCUSSION

The P-PROMPT demonstration project was a multistrategy intervention designed to overcome some of the barriers that family physicians face in their delivery of preventive health services. While physicians participating in the project expressed strong agreement with the importance of the 4 services targeted by the preventive care management program and agreed that financial bonuses served as an incentive to increase the delivery of targeted services to their eligible patients, the administrative complexity involved in efficiently delivering these services was seen as a considerable barrier.

All of the services offered by P-PROMPT, including physician and patient reminders, were perceived by participating physicians to be useful to their practices. With the aid of P-PROMPT services, there was a statistically significant increase in agreement that the established target levels and bonuses provide appropriate financial incentive for them to increase the uptake of Pap tests and mammograms by their patients. Following P-PROMPT, there was a significant decrease in physicians describing their delivery of preventive health services as opportunistic and an increase in those describing their current approach to delivery as being very effective.

There have been several studies investigating primary care physicians' attitudes and practices related to preventive care service delivery. Several barriers have

been cited, including lack of time, lack of resources (eg, information technology, ancillary staff), and lack of knowledge of appropriate screening guidelines and management algorithms.⁹⁻¹¹ Facilitators to preventive care service delivery include anticipated rewards and incentives, delegation of tasks to practice assistants, availability and knowledge of screening and management guidelines, electronic medical records and computerized reminder systems, and perception of greater organizational commitment to quality.¹¹ The P-PROMPT project succeeded by explicitly addressing these barriers and capitalizing on facilitators associated with the introduction of the preventive care management program in Ontario.

Limitations and areas for further study


Despite the apparent successes of the P-PROMPT demonstration project, there are several limitations to consider. Participation in these surveys was high but incomplete, especially in the postintervention survey. Thus, the before-and-after comparisons could only reflect the views of those 47% of participating physicians who responded to both surveys. Second, P-PROMPT involved only physicians practising in rostered primary care models with a capitation-bonus payment model. Results cannot easily be generalized to physicians practising in nonrostered care models with fee-for-service payment. Finally, even before P-PROMPT, rates of service delivery for the 4 targeted preventive health services were considerably higher among the

participating physicians than across Ontario in general, thereby potentially limiting both the perceived and actual benefits that P-PROMPT could offer. Results from these 2 surveys, however, show that substantial improvement was achieved even among this selected group of physicians.

Our earlier reports indicated that reminder letters were considered by patients to be useful and that they appeared to influence patient decisions to undergo mammography and cervical cancer screening, as well as influenza vaccination.¹²⁻¹⁴ We have also shown that several provider characteristics, including Certification by the College of Family Physicians of Canada and practising in an urban area, were predictive of the success of a reminder letter campaign for influenza vaccination.¹⁵

Our current work examines the effects of the P-PROMPT project on the actual uptake of mammography and cervical cancer screening rates, including economic analyses, as well the expansion of the services offered by P-PROMPT both in terms of scope (additional preventive services and chronic disease management) and coverage (other types of family practices and wider implementation).

Conclusion

The comparative responses from the physician surveys administered before and after physician participation in the P-PROMPT project suggest that the tools and services offered by P-PROMPT were viewed favourably by physicians and were perceived as assisting them in decreasing the use of opportunistic preventive care strategies and increasing the likelihood of having an effective strategy to deliver preventive health services. The P-PROMPT project addressed several barriers to preventive health service delivery that have been identified by physician surveys in the past, including lack of time, resources, and organization. Programs such as P-PROMPT might help optimize the delivery of preventive care services and seems to be considered helpful and acceptable by physicians. 

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Contributors

All authors contributed to the concept and design of the study, analysis and interpretation of the data, and drafting and revising of the manuscript, and all authors approved the submitted manuscript.

Competing interests

None declared

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