

Improving prevention in primary care

Evaluating the sustainability of outreach facilitation

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ABSTRACT

OBJECTIVE To assess the extent to which advances in preventive care delivery, achieved in primary care practices through outreach facilitation, could be sustained over time after purposefully redirecting the focus of practice physicians and staff away from prevention and toward a new content area in need of improvement—chronic illness management.

DESIGN Before-and-after study.

SETTING Primary care networks and family health networks in Ontario.

PARTICIPANTS A volunteer sample of 30 primary care practices recruited from 99 eligible sites.

INTERVENTION Outreach visits directed at modifying physician behaviour were delivered by trained nurse facilitators using practice-tailored systems strategies. For the first 12 months, the intervention focused on improving delivery of preventive care, after which facilitation of chronic illness management was introduced for another 3 to 9 months.

MAIN OUTCOME MEASURES Changes in practices' performance rates for selected preventive maneuvers (according to recommendations of the Canadian Task Force on Preventive Health Care) between baseline and follow-up, conducted 3 to 9 months after the end of the prevention intervention, measured from chart reviews for those maneuvers likely to be recorded and from telephone interviews with patients for lifestyle counseling.

RESULTS Four of the 30 practices dropped out of the study. In the remaining practices, at the postintervention follow-up, there was an increase in the delivery of the appropriate grade A (19.3%, 95% confidence interval [CI] 10.4% to 28.3%) and B (9.3%, 95% CI 5.4% to 13.2%) maneuvers, accompanied by a reduction in inappropriate grade D maneuvers (-15.9%, 95% CI -22.1% to -9.6%), for an absolute improvement of 12% ($P < .0001$) in the overall preventive care performance, as determined by a chart audit. We found no changes in the provision of lifestyle counseling maneuvers measured from telephone interviews with patients (1.3%, 95% CI 1.0% to 3.7%).

CONCLUSION The tailored, multifaceted intervention delivered by nurse facilitators was effective in producing significant improvements in preventive care performance that extended beyond the prevention intervention period.

EDITOR'S KEY POINTS

- Outreach facilitation is an effective method of implementing best practice in preventive care delivery in primary care, but are the improvements sustainable, particularly with the many competing demands of clinical practice?
- In this study, set in 2 primary care practice models, after 12 months of outreach facilitation that focused on preventive care, the researchers purposefully redirected the attention of staff and physicians away from prevention and toward chronic illness management.
- The researchers found that there was significant improvement in the delivery of preventive care, even after the 3- to 9-month period of redirected care focus. It is not known how long these results will be sustained.

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Améliorer la prévention dans les soins primaires

Évaluation de la persistance des effets de la facilitation de proximité

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RÉSUMÉ

OBJECTIF Déterminer pendant combien de temps persiste l'amélioration des soins de prévention obtenue par des interventions facilitatrices de proximité dans des établissements de soins primaires après qu'on ait intentionnellement redirigé l'attention des médecins et du personnel vers un autre domaine nécessitant amélioration: le traitement des maladies chroniques.

TYPE D'ÉTUDE Étude avant-après.

CONTEXTE Réseaux de soins primaires et de santé familiale en Ontario.

PARTICIPANTS Échantillon volontaire de 30 établissements de soins primaires recrutés parmi 99 sites admissibles.

INTERVENTION Des infirmières facilitatrices entraînées ont effectué des visites de proximité visant à modifier le comportement des médecins à l'aide de stratégies adaptées à chaque mode de pratique. Les interventions des 12 premiers mois portaient sur l'amélioration des soins préventifs, alors que pendant les 3-9 mois suivants, elles ont porté plutôt sur le traitement des maladies chroniques.

PRINCIPAUX PARAMÈTRES ÉTUDIÉS Taux de changement de la performance des établissements pour certaines pratiques préventives (selon les recommandations du Groupe d'Étude Canadien sur les Soins de Santé Préventifs) entre les données basales et le suivi effectué entre 3 et 9 mois après la fin des interventions de prévention, mesuré à partir de revues de dossiers dans le cas des interventions susceptibles d'être enregistrées et d'entrevues téléphoniques avec des patients pour les conseils sur le mode de vie.

RÉSULTATS Sur les 30 établissements recrutés, 4 ont abandonné l'étude. Dans ceux qui restent, on a observé au suivi post-intervention une augmentation de l'utilisation d'interventions appropriées de type A (19.3%, intervalle de confiance [IC] à 95% 10.4 à 28.3%) et B (9.3%, IC à 95% 5.4 à 13.2%), accompagnée d'une réduction des interventions inappropriées de type D (-15.9%, IC à 95% -22.1 à -9.6%), soit une amélioration absolue de la performance globale en soins préventifs de 12% ($P < 0.0001$), tel que déterminé par une vérification des dossiers. Aucun changement n'a été observé dans la dispensation des conseils sur le mode de vie d'après les entrevues téléphoniques avec les patients (1.2%, IC à 95% 1.0-3.7%).

CONCLUSION Les multiples aspects de l'intervention adaptée des infirmières facilitatrices ont été efficaces pour induire une amélioration significative de la performance en soins préventifs, laquelle s'est prolongée au-delà de la période d'intervention.

POINTS DE REPÈRE DU RÉDACTEUR

- La facilitation de proximité est efficace pour améliorer la dispensation des soins préventifs dans les soins primaires, mais ces changements sont-ils durables, compte tenu notamment des multiples exigences de la pratique clinique?
- Dans cette étude portant sur 2 modèles d'établissements de soins primaires, après 12 mois de facilitation de proximité axée sur les soins préventifs, les chercheurs ont intentionnellement redirigé l'attention du personnel et des médecins vers le traitement des maladies chroniques plutôt que sur la prévention.
- Une amélioration significative de la dispensation des soins préventifs a été observée, même après 3-9 mois d'interventions portant sur un autre sujet. On ignore combien de temps ces résultats dureront.

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Outreach facilitation is one of the most effective methods of implementing best practices in delivery of preventive health services in primary care.¹⁻³ It employs individuals with a nursing background who provide prevention performance feedback to a practice, build consensus on improvement goals, and, through regular visits, support the practice by following a systems strategy tailored to that practice. We previously demonstrated, in a randomized trial within community-based family practices in Ontario, that outreach facilitation leads to substantial improvements in physician practice patterns and preventive care performance.⁴ Furthermore, in a recent economic evaluation, we demonstrated substantial net savings as a result of reducing inappropriate practice behaviour and increasing appropriate preventive screening.⁵

The sustainability of the improved care has been pursued in several studies, but only a few investigations of office-system interventions have been subjected to long-term analysis. Varying degrees of sustainability were observed as early as 6 months and as late as 5 years after the end of the interventions⁶⁻¹⁰ and were attributed to factors such as practice-individualized approaches (allowing for integration of change within day-to-day routines of the practice), provision of feedback, and physicians' preventive care philosophy. In many cases, sustainability of initial success depended on continued assistance.¹¹⁻¹³ An important concern about the postintervention maintenance of preventive care, which was not addressed in these investigations, is the effect of multiple competing demands, which often divert practitioners' time and energy away from prevention and toward other activities. The goal of the present investigation was therefore to directly examine this possibility by first implementing preventive care strategies and then engaging the practices in a distractor activity. In particular, we assessed the extent to which gains in preventive performance achieved

through outreach facilitation could be maintained after a period of time when the focus and attention of the practice physicians and staff members were purposefully redirected away from preventive care and toward chronic illness care.

METHODS

Study design

We conducted a before-and-after study to gauge the sustainability of an outreach facilitation program. The progress of the study is shown in **Figure 1**. The unit of intervention and analysis was the primary care practice and the units of observation for outcome assessment were obtained from medical charts and telephone interviews with patients. The study was approved by the Ottawa Hospital Research Ethics Board.

Selection and recruitment of practices

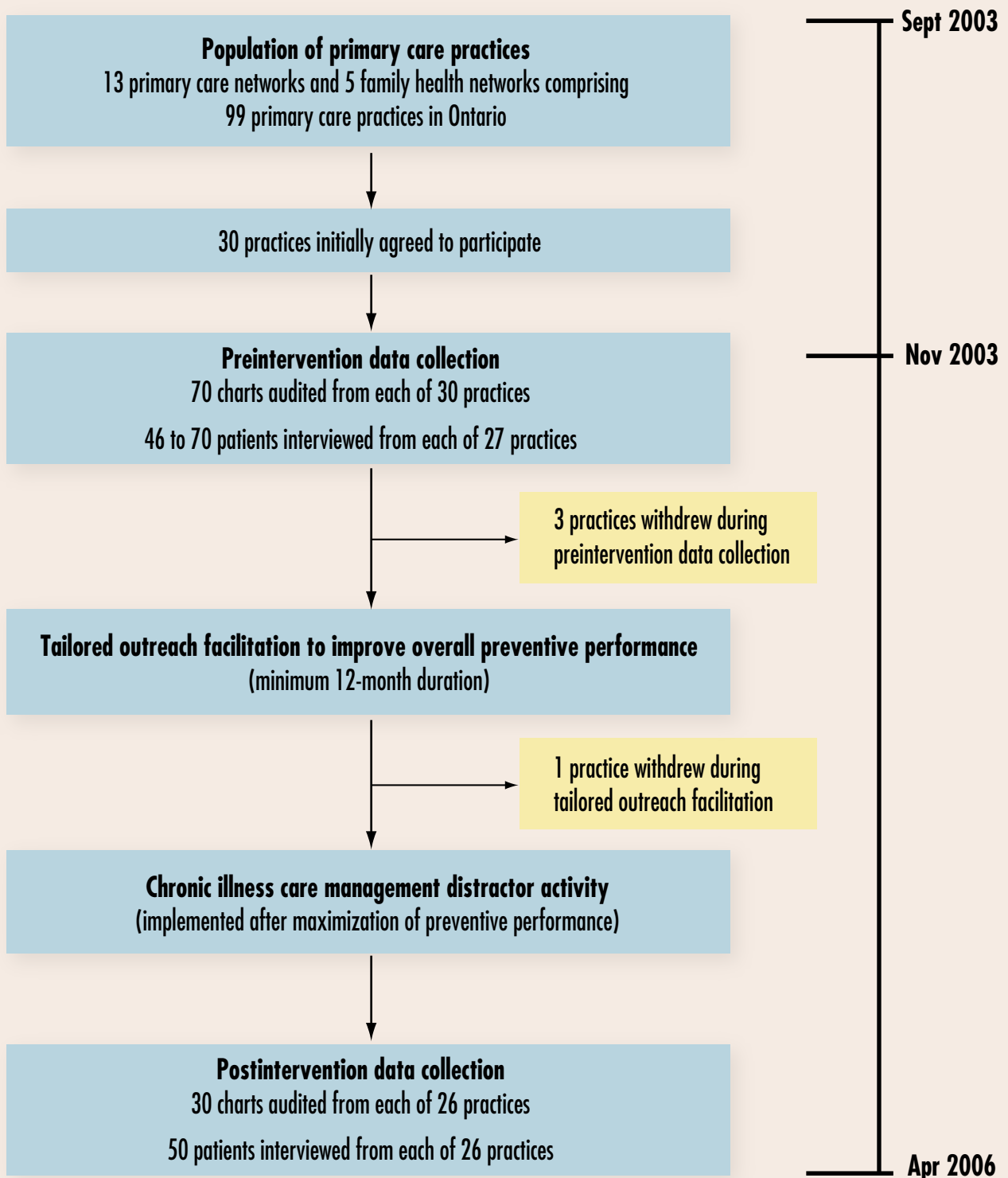
The intervention involved primary care network (PCN) and family health network (FHN) practices in Ontario, which are 2 of the newer models of primary health care delivery in Ontario. Primary care networks were introduced in May 1998 and served as pilot sites for the FHNs, which were introduced in March 2001. Both models are characterized by patient rostering (with an average roster size of approximately 1500 patients per physician), capitation payment structure with added incentives for prevention and other targeted services, provision of after-hours service and teletriage, and support for information technology. Of the 30 recruited practices, 25 (83%) were from established PCNs that had existed for about 4 to 5 years at the time of the study, protecting the study against the confounding effects of transitioning into a new model of care. Solo practitioners and those who practised in groups of up to 10 were considered eligible to participate in the trial. Practices with more than 10 physicians or with an academic affiliation were excluded owing to their size and resulting complexity. We recruited practices by repeated mailings followed, when necessary, by a telephone call from a physician recruiter or principal investigator until the required number of practices provided informed consent to participate in the study. The recruitment process lasted from September 2003 to May 2004.

Intervention

Three nurses with master's degrees were employed as prevention facilitators. Following training, facilitators were each assigned up to 11 practices, according to geographic proximity to their residence. The facilitators attempted to visit the practices approximately every 3 to 4 weeks and delivered primarily 3 intervention strategies that we found to be particularly effective for improving

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Figure 1. Progress during study: *Because practices were recruited over time, actual dates of data collection, preventive health care intervention initiation, and implementation of the chronic illness care management distractor activity differed across practices.*



preventive care: audit and feedback, consensus building, and reminder systems (Table 1).¹⁰

Table 1. Outreach facilitation program activities and intervention strategies

ACTIVITIES AND INTERVENTION STRATEGIES	DESCRIPTION
Meet and greet	<ul style="list-style-type: none"> • Meeting with physicians and staff at the practice • Recording practice characteristics
Audit and feedback	<ul style="list-style-type: none"> • Presentation of baseline preventive performance results in relation to the performance of peer practices (anonymity ensured)
Consensus building	<ul style="list-style-type: none"> • Setting goals and desirable levels of preventive performance • Reviewing ways for integrating preventive care into routine practice using appropriate tools • Developing strategies to meet goals (ie, selection and adaptation of tools to meet practice needs)
Reminder systems	<ul style="list-style-type: none"> • Facilitating use of tailored reminder systems, such as prevention flow sheets, chart flags, sticker reminders, electronic reminders, and patient care records
Others (implemented as necessary)	<ul style="list-style-type: none"> • Opinion leaders and networking • Academic detailing and education materials • Patient-mediated activities • Patient education materials

The prevention facilitation phase lasted 12 months or until the facilitators felt that practices had maximized the improvement potential of preventive care delivery. It was followed by a distractor phase—chronic illness care management (CICM)—to redirect the focus of the physicians and staff members away from preventive care (Figure 2* presents a timeline of the intervention activities). This allowed for an assessment of the extent to which the increase in preventive care performance could be maintained over time in the face of competing demands placed on physicians. The CICM phase lasted between 3 and 9 months and was followed immediately by collection of the final outcome measures.

Collection of outcome data

Data on practice profiles and physician characteristics were collected by facilitators during the initial meetings with the practices.

Trained auditors collected indices of practices' preventive performance from chart reviews and telephone

interviews with patients conducted just before the prevention facilitation phase and immediately after the CICM distractor phase. No data of that nature were collected at the end of the prevention facilitation phase. Details about the data collection process are available.* In brief, we chose 26 preventive maneuvers from grades A, B, and D, as recommended by the Canadian Task Force on Preventive Health Care.¹⁴ We limited patient eligibility to age 17 and older. Standard instruments for both chart reviews and patient interviews were used, and confidentiality was ensured.

Outcome measures

The primary outcome measure was the change in the delivery of the recommended and nonrecommended preventive maneuvers from baseline (January 2004) to the end of the intervention period (December 2005), calculated as the number of appropriate preventive maneuvers completed plus the number of inappropriate maneuvers properly avoided, divided by the number of eligible preventive maneuvers, as determined from chart audit. The patient-level summary measures were aggregated for each practice to generate practice summary scores, which served as the basis for comparison of practice preventive performance at baseline and postintervention.

The secondary outcome measure was operationally defined in an identical manner, except it utilized the information from patient telephone interviews regarding practice preventive performance of maneuvers that focused on healthy lifestyle counseling.

In addition, secondary analyses were conducted on individual maneuvers to determine which were most affected by the intervention.

Sample size

We estimated that a sample size of 21 practices at each time point would have 80% power to detect a 10% mean difference between the prevention performance at preintervention baseline and after the intervention, at a .05 level of significance by a 2-tailed test. Previous similar research indicated that 30 charts and 50 patient interviews per practice at each data collection point were needed to adequately quantify a practice's preventive performance. However, to increase the credibility and strength of the preintervention audit and feedback component of the intervention, auditors and interviewers aimed to complete 70 chart reviews and 70 patient interviews per practice at preintervention baseline.

Statistical analyses

Invalid and illogical data were identified and rectified before all analyses. Descriptive statistics were generated for practice characteristics, as well as the means and 95% confidence intervals for all outcomes. Paired *t* tests were used to determine if preintervention and

*Figure 2 and details about the data collection process are available at www.cfp.ca. Go to the full text of this article on-line, then click on CFPlus in the menu at the top right-hand side of the page.



postintervention means differed significantly (2-tailed $\alpha=.05$). In cases where the normality assumption was violated, appropriate nonparametric tests were used: the Wilcoxon signed rank test, if the distribution of change scores was symmetric, or the sign test, which makes no distributional assumptions.¹⁵ All analyses were performed using SAS 9.1.¹⁶

RESULTS

From the 13 PCNs and 5 FHNs, which made up 99 primary care practice sites in Ontario, 30 practice sites with 58 physicians initially agreed to participate. Baseline practice characteristics are presented in **Table 2**. Most recruited practices were urban, solo, consisted of male physicians only, and had at least 1 full-time nurse on staff. A total of 63% of practices had electronic medical records. Most were using various kinds of reminder systems for preventive care. Particularly noteworthy was the high percentage of practices with personnel dedicated specifically to looking after prevention activities. Three of the 30 practices withdrew from the study during the baseline data collection phase and 1 during the intervention phase, citing lack of time as a main reason.

The mean proportions of eligible patients who received the preventive maneuvers, as determined by chart audit, are shown in **Table 3**. Significant improvement in performance at follow-up, conducted after the 3- to 9-month distraction period following the prevention intervention, was observed for both grade A (19.3%, 95% confidence interval [CI] 10.4% to 28.3%) and grade B (9.3%, 95% CI 5.4% to 13.2%) maneuvers, and consequently for grades A and B combined (12.3%, 95% CI 8.1% to 16.5%). In particular, colon cancer screening quadrupled ($P<.0001$), while visual acuity and hearing tests more than doubled in magnitude ($P<.01$). At the same time, the inappropriate grade D maneuver of urine dipstick testing for proteinuria significantly decreased by 15.9% (95% CI 9.6% to 22.1%). The simultaneous increase in the delivery of appropriate screening maneuvers and decrease in inappropriate maneuvers resulted in a 12% absolute improvement in the overall preventive care performance or composite primary outcome prevention index ($P<.0001$).

Table 4 presents the mean proportion of eligible patients who received preventive counseling on maneuvers related to healthy lifestyle as determined from telephone interviews with patients. The composite secondary outcome prevention index showed no significant differences in the overall performance related to provision of lifestyle counseling (1.3%, 95% CI -1.0% to 3.7%). Whether considering the appropriate (grade A and B) or inappropriate (grade D) health promotion counseling maneuvers, individually or in aggregate, no statistically significant mean increases were noted.

Table 2. Practice characteristics at baseline: $N=30$.

CHARACTERISTICS	ESTIMATE
Urban practices, %*	73.3
No. of physicians per practice	
• Proportion of practices with 1	70.0
• Proportion of practices with 2-4	20.0
• Proportion of practices with 5 or more	10.0
Physician sex	
• Practices with all male physicians, %	63.3
• Practices with all female physicians, %	20.0
• Practices with both male and female physicians, %	16.7
No. of years since graduation per physician, mean (SD) [†]	24.2 (7.4)
No. of appointment h/wk per physician, mean (SD) [†]	30.1 (8.1)
No. of patients booked per half-day per physician, mean (SD) [†]	19.1 (6.0)
No. of full-time equivalent nurses per practice	
• Proportion of practices with 0	24.1
• Proportion of practices with 1	51.7
• Proportion of practices with 2 or more	24.1
Practices using computers, %	
• For scheduling appointments	76.0
• For searching Internet for information	83.0
• Electronic medical records	63.0
Practices using patient reminder system for prevention, %	
• Personalized and hand-written	10.3
• Personalized and typed	20.0
• Nonpersonalized (eg, flyers)	3.4
• Form letters	27.6
• Telephone calls	58.6
Practices using reminder systems for prevention, %	
• Computer prompt at time of visit	50.0
• Stickers to flag patients at risk	30.0
• Stickers to flag specific chronic diseases	23.3
• Stickers to flag medications	23.3
Practices with personnel dedicated to the following prevention activities, %	
• Ordering patient education materials	70.0
• Coordination of prevention activities (eg, bulletin boards, newsletters)	50.0
• Patient reminder systems	50.0
• Teaching goal setting	23.3
• Patient care plans	23.3

SD—standard deviation.

*Urban status was derived using Statistics Canada's Postal Code Conversion File. An urban area has a minimum population concentration of 1000 persons and a population density of at least 400 persons per km².

[†]The practice estimate is the mean of its physicians' values.

Table 3. Preventive maneuvers performed before and after the intervention, as determined by chart audit

PREVENTIVE MANEUVER	MEAN % OF ELIGIBLE PATIENTS WITH MANEUVER PERFORMED			P VALUE
	PREINTERVENTION	POSTINTERVENTION	CHANGE (95% CONFIDENCE INTERVAL)*	
Grade A				
• Screening for colon cancer [†]	9.0	36.8	29.6 (19.2 to 40.0)	.0001
• Mammography	74.3	80.1	6.2 (−3.7 to 16.0)	.21
• Clinical breast examination	69.3	69.1	0.8 (−9.5 to 11.1)	.87
• Grade A overall	35.1	52.9	19.3 (10.4 to 28.3)	.0002
Grade B				
• Influenza vaccination	75.9	76.5	−0.1 (−8.1 to 7.9)	.98
• Visual acuity testing in elderly	21.6	48.0	28.0 (16.6 to 39.3)	.0001
• Clinical hearing examination	10.8	27.3	15.9 (5.8 to 26.0)	.003
• Papanicolaou smear	61.1	65.4	3.8 (−3.5 to 11.1)	1.000*
• Determination of rubella antibody titre	44.3	50.5	6.0 (−7.5 to 19.5)	.37
• Grade B overall	49.2	59.0	9.3 (5.4 to 13.2)	.0001
Grades A and B overall	44.8	56.9	12.3 (8.1 to 16.5)	.0001
Grade D				
• Urinalysis—urine dipstick for proteinuria	25.0	9.7	−15.9 (−22.1 to −9.6)	.0001
Composite preventive performance index	51.6	63.3	12.3 (9.0 to 15.6)	.0001

*The mean change score might not equal the difference between preintervention and postintervention means owing to withdrawals.

[†]Includes fecal occult blood test (grade A) or sigmoidoscopy (grade B).

[‡]Sign test performed owing to violation of normality and symmetric distribution assumptions.

DISCUSSION

We report that a 12-month, tailored, multifaceted intervention delivered by outreach facilitators was effective in producing longer-term improvements in the delivery of preventive care maneuvers, as measured by chart audit. These improvements, observed at the follow-up conducted after the 3- to 9-month distraction period following the prevention facilitation, are of the same magnitude as those reported immediately after the end of an 18-month intervention study by Lemelin et al,⁴ and are comparable to those reported in other studies that tested the long-term sustainability of office-systems interventions.^{7,17,18} The present study lends further credence to the potential of outreach facilitation to produce lasting changes in physician behaviour. In contrast to our main outcome results, there were no changes from baseline observed at the follow-up in the implementation of preventive maneuvers related to lifestyle counseling, assessed via telephone interviews with patients.

Our study has several strengths. It was conducted in community practices across Ontario and targeted a large number of preventive services simultaneously. The observed improvements in preventive care delivery occurred in a sample of practices whose baseline preventive performance was already quite high. By creating a distraction within the practices—the CICM phase—our

design addressed the concept of a permanent facilitation program, where the same facilitator works with a practice on a series of quality improvement initiatives. For example, once the facilitator and practice have addressed one content area (preventive medicine) they could change topic (chronic illness) and work together to improve clinical practice in a second area and so on. Finally, our main outcomes were obtained from chart reviews, which are considered more reliable and more accurate sources of data compared with physician or patient reports.¹⁹

Limitations

Our findings must be interpreted in the context of the study's limitations. The most important is the lack of a comparison or control group. Given that the study was conducted in the midst of primary care renewal, the observed rates might reflect concurrent trends toward improved delivery of clinical preventive services and not be directly attributable to the outreach facilitation intervention. For example, there is evidence suggesting that pay-for-performance and computerized decision systems can lead to improvements in the provision of preventive services.^{20,21} It is unlikely, however, that these factors affected our results, as the performance of those preventive maneuvers where performance bonuses were offered (mammography, Papanicolaou smears, and influenza vaccine) did not substantially improve. With

Table 4. Preventive maneuvers performed before and after the intervention, as determined by patient interviews

PREVENTIVE MANEUVER	MEAN % OF ELIGIBLE PATIENTS WITH MANEUVER PERFORMED			P VALUE
	PREINTERVENTION	POSTINTERVENTION	CHANGE (95% CONFIDENCE INTERVAL)*	
Grade A				
• Folic acid supplementation	57.4	54.3	-2.8 (-13.1 to 7.5)	.69
• Screening for history of tobacco use	81.1	80.8	0.1 (-3.7 to 4.0)	.94
• Smoking cessation counseling	84.0	73.2	-11.0 (-20.9 to -1.2)	.029
• Nicotine replacement therapy	36.3	37.1	0.2 (-10.5 to 11.0)	.96
• Noise exposure and prevention	6.7	7.6	0.9 (-1.0 to 2.8)	.34
• Grade A overall	47.4	46.9	-0.3 (-2.6 to 2.1)	.33
Grade B				
• Genetic screening (family history of colon cancer)	38.5	32.0	-7.7 (-24.5 to 9.1)	.35
• Screening for history of alcohol use	43.5	44.0	1.1 (-3.3 to 5.5)	.60
• Referral to smoking cessation program	47.7	47.2	-1.0 (-12.8 to 10.8)	.86
• Exercise or physical activity counseling	45.3	48.5	3.2 (-1.4 to 7.8)	.16
• Diet or nutrition counseling—decrease dietary fat, increase fibre and protein	62.2	65.5	3.4 (-1.4 to 8.3)	.16
• Sun-exposure counseling	37.6	42.5	5.1 (-1.2 to 11.3)	.11
• Cholesterol counseling	63.0	63.9	0.6 (-3.5 to 4.6)	.77
• Grade B overall	50.1	52.8	2.8 (-0.6 to 6.2)	.10
Grades A and B overall	49.3	51.0	1.8 (-0.8 to 4.4)	.16
Grade D				
• Breast self-examination recommendation	73.1	74.6	1.8 (-6.0 to 9.6)	.56†
• Prostate-specific antigen test	67.8	74.7	2.0 (-7.0 to 11.0)	.65
• Grade D overall	59.4	63.2	4.1 (-0.2 to 8.5)	.06
Other (not CTFPHC)				
• Bupropion recommendation (cigarette smokers)	27.9	23.6	-4.5 (-12.9 to 3.9)	.28
Composite preventive performance index	48.5	49.8	1.3 (-1.0 to 3.7)	.25

CTFPHC—Canadian Task Force on Preventive Health Care.

*The mean change score might not equal the difference between preintervention and postintervention means owing to withdrawals.

†Sign test performed owing to violation of normality and symmetric distribution assumptions.

respect to computerization, even though 63% of participating practices had electronic medical records, they were not equipped with features to support comprehensive reminder systems at the time of the study. Another limitation has to do with the timing of publication of the CTFPHC's recommendation for colon cancer screening in 2001, just before our study. The performance of this preventive maneuver (colon cancer screening) showed the greatest improvement, which could be attributed to the "diffusion of innovation" of this new Canadian guideline.²² What makes this explanation unlikely, however, are the results of studies conducted after the publication of the guideline, which consistently demonstrated very low screening rates and lack of awareness among physicians of the efficacy of colorectal screening tests.²³⁻²⁷ Finally, it is possible that the several other improvement interventions, which were being conducted at the same

time as our study as part of primary care renewal, could have created a state of awareness that generally increased the preventive performance in the province. There are no published data at present to confirm this suspicion. Other limitations include using the same nurse facilitators to introduce practices to chronic illness management. The continued presence of the facilitator in the practices might have served as a reinforcer, helping to sustain the improved preventive performance rates. This intriguing possibility is a high priority for future research, as it is critical to determine just how much external facilitation is needed and how long it will take before practices can support and maintain effective prevention care delivery on their own.

The generalizability of our findings is limited by the study's focus on PCN and FHN practices only, which comprised about a third of practices in Ontario at the time of

the study. Comparing the study's physicians with Ontario FPs or GPs, using results from the 2004 National Physician Survey,²⁸ revealed that a higher percentage of our practices were solo (70% vs 34.7%), used electronic patient scheduling systems (76% vs 49.9%), had electronic medical records (63% vs 22.5%), and had Internet access (83% vs 60.7%). Furthermore, we only measured preventive performance at 2 points in time. The number of practices needed to detect changes at 3 points in time, with an adequate power, increases substantially and would have exceeded the financial resources for the project. Finally, although our results are encouraging, a 3- to 9-month follow-up after the end of the intervention period might not be enough to draw valid conclusions about the intervention's long-term effects. The lack of improvement in the delivery of preventive lifestyle counseling, observed on the basis of patient reports, could be a result of several factors, such as the already high preventive performance of participating practices at baseline and the well documented limitations of patient surveys.^{29,30}

Conclusion

The results of our study provide reason to be optimistic, as they suggest that sustainability of outreach facilitation beyond the end of an intervention is feasible in the volatile environment of a busy primary care practice. Also important, we were able to show improvements in delivery of preventive services despite the already high baseline proportions of patients appropriately serviced. More longitudinal research, with randomized controlled designs, should be conducted to support the validity and long-term efficiency of the outreach facilitation implementation. A follow-up study of our clinics would be desirable to explore the lifespan of the observed improvements.

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Contributors

Drs Hogg, Lemelin, Moroz, Soto, and Russell contributed to concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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