Changing practice patterns as a result of implementing the Agency for Health Care Policy and Research guideline in 20 primary care clinics

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Introduction
Project QUIT (Quality in Tobacco Control) examines the implementation of the Agency for Health Care Policy and Research (AHCPR) guideline on smoking cessation at Allina Health System (AHS). As this is an ongoing project, the data presented is preliminary. It has been established that the identification of smokers and brief advice to quit constitute an effective smoking cessation intervention for patient populations. Currently, providers around the country only follow guideline recommendations to identify patients' tobacco use status and to provide brief advice to quit between 40–60% of the time.

AHS is the largest healthcare system in Minnesota and consists of an administrative unit, the “health plan” and a care-oriented “delivery” arm. AHS's health plan (Medica Health Plans) currently enrolls approximately 1.1 million individuals and entails a network of more than 9000 providers. On its “delivery side” Allina includes 20 owned or managed hospitals, and a large group practice consisting of 57 mostly primary care clinics, in addition to home healthcare services, nursing homes, transportation services, and other business units. These delivery sites contract with a multitude of payers including AHS's own health plans. The project provided all materials prepared and distributed by the AHCPR administrator. The training consisted of interactive presentations on the AHCPR guideline by health educators, using mostly pharmacotherapeutic treatment options by providers, and receipt of additional referral or other information. Before randomisation of the clinics, approximately 600 patients from each clinic filled out brief exit surveys assessing among others these outcomes variables (baseline). A second round of similar exit surveys was completed by approximately 1200 patients from each clinic after the conclusion of the “guideline implementation intervention”. An additional mail survey is currently underway for smokers who self-identified as tobacco users at the time of the follow-up exit survey, approximately six months ago. The focus of this survey is current tobacco use. In addition, we are in the process of completing the abstraction of 50 patient records (25 smokers and 25 non-smokers) from each clinic to determine the degree to which clinics are documenting AHCPR guideline intervention steps. Qualitative interviews with administrators and providers concerning the experience with this project and guideline implementation are scheduled to be completed by May 1998. Mixed model analyses of variance will be used, with clinics serving as the unit of analysis to determine outcome difference between the study groups.

Methods
The objectives of our ongoing project are twofold: (a) to determine if clinic practice patterns change as a result of an intervention aiming to implement the AHCPR guideline on smoking cessation, and (b) to determine if patients seen in clinics exposed to this intervention are more likely to quit smoking. The preliminary data associated with the first objective are presented here.

Sample
This study was launched within AHS’s group practice organisation, the Allina Medical Group (AMG). The AMG is a young (less than three years) organisation consisting of multi-speciality clinics in urban and rural areas. We employed a quasi-experimental research design, randomly assigning 10 clinics to a group in which the guideline was implemented immediately, and 10 clinics to a group in which implementation was delayed. Entry criteria for a clinic included a minimum patient volume of 500 patients a month. The need for 20 clinics with approximately 1200 respondents each was determined by power calculations so that a 5% difference in quit rates between our study conditions would be detectable with an 80% likelihood.

Data Collection and Outcomes
Three surveys were or are going to be used to collect our main outcome information. Measures include questions on identification of “tobacco use status”, receipt of “advice to quit” for identified smokers, discussion of pharmacotherapeutic treatment options by providers, and receipt of additional referral or other information. Before randomisation of the clinics, approximately 600 patients from each clinic filled out brief exit surveys assessing among others these outcomes variables (baseline). A second round of similar exit surveys was completed by approximately 1200 patients from each clinic after the conclusion of the “guideline implementation intervention”. An additional mail survey is currently underway for smokers who self-identified as tobacco users at the time of the follow-up exit survey, approximately six months ago. The focus of this survey is current tobacco use. In addition, we are in the process of completing the abstraction of 50 patient records (25 smokers and 25 non-smokers) from each clinic to determine the degree to which clinics are documenting AHCPR guideline intervention steps. Qualitative interviews with administrators and providers concerning the experience with this project and guideline implementation are scheduled to be completed by May 1998. Mixed model analyses of variance will be used, with clinics serving as the unit of analysis to determine outcome difference between the study groups.

Intervention
The intervention to facilitate implementation of the guideline in the clinics targeted a number of salient issues associated with practice pattern change: clinical education, administrative support from the “system” level, performance feedback, and providing incentives. We identified clinical “champions” (mostly physicians) as well as administrative “champions” in all clinics. Clinical education was provided onsite to physicians and clinic staff during times requested by the clinic administrator. The training consisted of interactive presentations on the AHCPR guideline by health educators, using mostly materials prepared and distributed by the agency. The project provided all materials...
requested by clinic staff to help with the identification, advice, pharmaceutical support, and follow-up needs of clinic patients. For example, stamps, stickers, or reprinted clinic intake forms were provided as designed by staff from each individual clinic to assist with identification and documentation of patients’ tobacco use status. In addition, intervention coordinators were available for consultations and “troubleshooting” during guideline implementation. One-time feedback at the beginning of the implementation phase was provided to all clinics by abstracting patient records of 10 patients recently seen in the clinics. Feedback consisted of abstraction results on “tobacco use status documented” and “physician advice to quit smoking documented”. Free transdermal nicotine replacement therapy (patch) was provided to the clinics to distribute free of charge to interested patients (simulating open-access to pharmacotherapy treatment options). Moderate monetary awards were available for conducting follow-up visits with interested patients.

Results
Preliminary results on some outcome variables are available. At baseline we found that 20% of patients in participating clinics self-identified as current smokers, 61% were women, and 40% had a high-school diploma or less education. Sixty-three per cent of self-identified smokers reported that they smoked within 30 minutes of waking up. Of all self-identified smokers, 35% reported wanting to quit smoking within the next 30 days, with an additional 40% desiring to quit within the next six months. At baseline, intervention and control clinics assessed smoking status 60.8% (SD 11.9%) and 55.4% (SD 11.4%) of the time, respectively. Advice to quit at baseline was provided in 52.3% (SD 6.6%) of immediate intervention clinics and in 52.5% (SD 7.6%) of delayed intervention clinics.

At follow up, preliminary analyses revealed that immediate intervention and delayed intervention clinics assessed smoking status 60.4% and 41.2% of the time. Advice in immediate intervention clinics was provided 52.1% of the time compared with 41.3% in the delayed intervention clinics. Further analyses, including significance testing, are pending. Complete results from this study will be reported at a later time.

Discussion
The intervention described here can be considered to be of low intensity. This approach was chosen to test currently considered models of organisational implementation strategies to improve clinical quality. It is likely that the overall effect of the intervention on practice pattern change appears to have been modest.

A number of study limitations should be noted. We observed a wide variation at baseline in clinics’ likelihood of identifying tobacco use status and providing advice to quit. This wide variation impedes our ability to detect statistically significant differences between the study conditions in our two practice pattern outcome variables.

Although the interventions described here mirrored current organisational strategies to improve clinical quality, the intensity of the intervention might be too weak. Other investigators describe far more intensive interventions to change clinic practice around preventative care.3 These have focused on building a quality improvement infrastructure in participating clinics consisting of stable cross-functional teams using continuous strategies and methods to improve “clinic systems”.1 The costs of these intervention approaches are high, considering the time it takes to build functional teams and to train team members adequately. Most clinics participating in the project described here had no such quality improvement infrastructure.

This project has already raised awareness that current organisational investment strategies to improve clinical quality in primary care might need to be reviewed in the light of these findings. In addition, facilitating clinics’ abilities to build a sufficient quality infrastructure, and analysing clinical quality issues from the perspective of the clinic as a system,7 incentives should be put in place to induce providers’ and clinics’ motivation to achieve clinical quality targets. AHS is currently considering incentives, including monetary rewards, to facilitate the achievement of clinical quality targets.

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