



COMPLETED GRANT SYNOPSIS

Promoting Pharmacy Services through Development of an Academic / Community Pharmacy Cooperative Targeting High-Risk Cardiovascular Patients

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Objectives

As clinical pharmacy services in the community setting grow, the need for physician awareness, acceptance, and patient referral is needed. Cardiovascular risk reduction services are highly needed in the southeastern United States geographic region. The ability of community pharmacists to impact cardiovascular risk reduction through improved detection as well as patient education is one that warrants notice and participation of physician groups via patient referral. The purpose of this study was to assess impact of community pharmacist's clinical pharmacy services on physician acceptance and referral to community pharmacies, detection of cardiovascular disease in patients, change in patient health knowledge, and patient satisfaction and willingness to pay for the service.

Methods

Design	<ul style="list-style-type: none"> Prospective, proof of concept, pilot study: 2 community pharmacies (with existing cardiovascular risk reduction services), 10 physician practices (with patients most common to the pharmacies). Patient enrollment was targeted to those with risk factors for peripheral arterial disease (PAD), a marker for coronary arterial disease (age>50, tobacco abuse, diabetes, and hypertension). Detection of PAD can be done by an ankle-brachial index (ABI) test. The full program consisted of an ABI test, 1 face to face educational visit, and 2 telephone follow-ups. The ABI test and first visit was conducted at 1 of 4 outreach events at a community pharmacy. Patient educational visits consisted of comprehensive medication review and assessment of barriers to adherence. In patients with risk factors for cardiovascular disease, targeted education was conducted for diabetes, hypertension, and tobacco abuse. Telephone follow-up addressed strategies and education conducted at first visit. These were done by faculty and student pharmacists. After completion of the program, patients were referred to community pharmacy for continued follow-up. Student pharmacists were trained about comprehensive cardiovascular risk reduction and in the performance of the ankle-brachial index (ABI) test by faculty. Patients were recruited for the 4 outreach events and the program by community pharmacists. Physician practices were visited and detailed about community pharmacists and the program by faculty. Direct referrals were solicited. Physician practices were surveyed before and after the program to evaluate perceptions of clinical pharmacy services and willingness to refer. Patients were surveyed during their first visit to evaluate satisfaction with the program and willingness to pay for the ABI plus full program or ABI alone. The full program (4 outreach dates plus 2 telephone follow-ups) was conducted twice over 2 years.
Study endpoints	<ul style="list-style-type: none"> Physician referral of patients to outreach Change in physician referral of patients to community pharmacy for clinical services Change in physician knowledge and willingness to refer to community pharmacies Change in patient health-related knowledge following interventions Patient satisfaction with program and willingness to pay

Results

- There were 3 physician referrals for the 8 outreach days.
- There was no change in referral of patients to community pharmacies for clinical services.

- There was a significant difference in physicians' willingness to refer to community pharmacies following the outreach programs and presentation of data after the second year. (p=0.02)
- 57 patients were consented and enrolled into the full program. Of patients completing 1 or 2 follow-ups, an increase in patient health-related knowledge was documented in 48% of patients with medication-related non-adherence, 55% of diabetics, 50% of patients with hypertension, and 14% of those who abused tobacco.
- Of 57 patients with risk factors, the ABI test yielded positive or borderline results in 21% of patients (3 positive and 9 borderline). Notably, younger patients and those on fewer numbers of chronic medications were more likely to be positive or borderline.
- Of 26 patients surveyed, the majority were highly satisfied with the program and 62% stated they were willing to pay \$50 for the ABI screening alone.

Conclusion

The findings from this pilot program evaluating the impact of clinical pharmacy services in cardiovascular risk reduction through increased detection, education, and physician marketing can serve as a basis for a program to bolster referrals to community pharmacies. Though an increase in physician referrals did not occur during this time period, a change in willingness to refer following presentation of data and success with patient care was observed. As more efforts are directed into physician awareness with corresponding supporting data, an increase in direct referrals would be expected. This study also shows the value of cardiovascular risk screening in addition to patient education in a community setting. A targeted outreach on select days with a corresponding fee for service for patients may be an option for community pharmacies who wish to complete such a program independently or in cooperation with an academic institution.