

Get PHED Up!!

A Student Initiative to Provide Preventive Healthcare Information to Emergency Department Patients

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PREVENTIVE HEALTHCARE in the emergency department (ED) is a relatively new area of interest, necessitated by the decrease in the number of available ED beds along with a rising number of uninsured patients and visits to the ED. A large percentage of patients admitted to the ED, moreover, are there because of preventable, lifestyle-related problems.

Many emergency medicine physicians feel that using the ED for preventive health education would fragment comprehensive patient care¹ or would not be beneficial.² However, studies have shown that this practice can lower Medicaid-related expenditures,³ increase awareness of insurance programs for children,⁴ and even reduce the spread of sexually transmitted diseases.⁵ One hour of intervention in the ED has been shown to significantly reduce the 2 million ED visits and 460,000 hospitalizations resulting from asthma every year.⁶ This evidence indicates the multiple potential benefits of providing preventive healthcare in such a setting. Such an approach to emergency medicine is another step toward "providing unconditional comfort and care."⁷

In this study, we assess the efficacy of using medical students to educate ED patients about the preventive healthcare options available in the community; we also investigate the core demographics of patients utilizing the ED during the course of the study and the availability to them of other healthcare options. Through funding from the North Carolina Albert Schweitzer Foundation, a program entitled "Get PHED Up!!-Preventive Healthcare in the Emergency Department" was created. Originally designed to disseminate information about breast cancer, the program was developed and is run by volunteer medical students, who thus gain exposure to preventive health in the emergency medicine setting early in their medical education. The project also addresses many of the focus areas and goals of *Healthy People*

2010, a program in which emergency medicine has a deep and vested interest.

Materials and Methods

All study protocols were reviewed and approved by the University Medical Center Institutional Review Board.

Setting: This prospective study was conducted at Pitt County Memorial Hospital, a university affiliated hospital ED, which is a Level 1 Trauma Center with an approved Emergency Medicine residency program and an annual ED census of 55,000 patients. For the study, manila envelopes were assembled containing a variety of preventive healthcare information for patients. Each packet included contact information for local agencies handling topics including but not limited to cancer, hypertension and heart disease, substance abuse, domestic violence, and bicycle helmets. There was also information from the local organ procurement agency and a smoking cessation program. In addition, women received a self-breast exam shower card and information from the hospital's breast cancer awareness program.

Population: The study was carried out over a seven-month period and consisted of a convenience sample of English speaking patients over the age of 30 presenting to the ED of a university-affiliated teaching hospital. Trauma, critically ill, heavily intoxicated, and mentally impaired patients were not included in the study. The medical students obtained written consent from all subjects for participation in the study. Patients were assigned to one of two groups based on their month of birth; those born in even months received the packet of information along with counseling by

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Table 1. Demographics of enrolled subjects receiving pamphlet and counseling compared to those receiving pamphlet alone

	Pamphlet + counseling (n=168)	Pamphlet alone (n=118)
Mean age	45.5 years	44.4 years
Gender		
Male	51%	44 %
Female	49%	56%
Race		
African American	51%	50%
White	45%	47%
% Smokers	37%	43%
% Alcohol consumption	55.7%	44.3%
Organ donors	48.1%	51.9%
Referred to ED	32.1%	28.2%
Health insurance	77.4%	72%
Primary care MD	72%	70%
ED as main source of healthcare	27.5%	37%
Mean ED visits last year	2.6	2.1
Yearly mammogram	50%	50%

a medical student. Counseling consisted of reading over the handout with the patient, expressing the importance of preventive health care, and answering any questions the patient might have about the included topics. Those born in odd months received the packet of information alone.

Measures: A short questionnaire with demographic information was completed on each patient, regardless of group. Information obtained included age, race, insurance status, employment, income, education, marital status, up-to-date phone numbers (work and home), internet access, and ED waiting room time.

All patients were called 1-3 months after their ED visit by one of the medical students. They were asked about their ED visit, if they remembered receiving the handout alone or if they received the handout and counseling. Then they were asked if they contacted any of the agencies on the handout, if they had decreased or stopped their smoking or alcohol consumption, had become an organ donor, had received a mammogram, and whether they thought it was beneficial to have a medical student counsel them. Patients who did not receive the counseling were asked if they would have liked to receive counseling. Three attempts were made to contact each patient. Patients not contacted were excluded from the study. Thus the data we used for our results is based on 286 patients we were able to contact for follow-up.

Data Analysis: The collected data were entered into an Excel spreadsheet by Microsoft and was analyzed with StatView statistical package (SAS, Inc). Descriptive statistics are reported.

Results

A total of 286 patients were enrolled, with 168 receiving medical student counseling along with the information packet, and 118 receiving the information packet alone. Demographic factors of the two groups along with health practices are compared in Table 1. The groups were similar with respect to age, race, organ donation, and the percentage having a primary care physician. The noncounseled group was predominantly female, while the counseled group was evenly split between males and females. The noncounseled group also contained more smokers and fewer alcohol consumers than the counseled group. Eighty-seven (30.4%) of the enrolled patients stated that they had been referred to the ED; 64 by a physician (73.6%), 22 by a nurse (25.3%) and 1 by EMS (1.1%), with similar referral rates between groups. The majority

of patients reported having health insurance (n=215; 75.2%), but the type of insurance (private, Medicaid, Medicare) was not specified. Eighty-nine patients (31.4%) stated that the ED was their main source for health care, although 204 (71.3%) had a PCP. In addition, the average number of ED visits within the past year for all patients was 2.5 (Range=1-50), with no difference noted between gender or race categories, or between the two groups.

With regard to preventive health issues, 105 (62.5%) of the patients who received counseling stated that they had one or more of the health conditions listed in the pamphlet.

Follow-up Information: A total of 180 subjects (101 counseled; 79 non-counseled) were successfully contacted for follow-up. Table 2 summarizes the percentage of patients in each group who reported that their ED visit had affected their behavior in some manner. Patients were more likely to have contacted a health agency or become an organ donor if they received medical student counseling while in the ED. The groups had similar incidences of passing on the information they received to family or friends. While both groups reported changes in smoking and alcohol consumption behaviors, the percentage of patients altering smoking behavior was slightly higher in the non-counseled group. When those who received the counseling were asked to rate the usefulness of the ED counseling on a scale of 1-10, the average rating was 8.6. Nearly two thirds (63.3%) of patients who did not receive counseling in the ED stated that they would have liked the opportunity to talk with someone about the information they had been given.

Discussion

Providing preventive healthcare information in the ED appears to be beneficial, regardless of the use of counseling. Both groups demonstrated positive changes in lifestyle habits or healthcare issues. However, of the patients who contacted the health agencies and patients who became organ donors, a significantly higher percentage was seen in those who received counseling. It was noted that there was a higher percentage of noncounseled patients who decreased or stopped smoking, yet this may be explained by the fact that there was a larger percentage of smokers at the beginning of the study in the noncounseled than the counseled group.

In addition to the obvious benefits of lifestyle changes, patients who received the counseling did not consider it to be a nuisance or intrusive, as evidenced by the average rating of 8.6 seen in the results. Also, the majority of those who did not receive counseling did express the desire to have someone discuss the information with them. Along with the statistical data of lifestyle changes, this shows that overall counseling is superior to simply giving out information.

Over a quarter of those patients enrolled in the study passed along the distributed information to family and friends, making the full impact immeasurable. For many, this may be their only interaction with the health care system. Therefore, this approach provides valuable information to a population that may not obtain it otherwise.

This study also provided important information regarding demographics of the population utilizing the ED for non-urgent conditions, for example, using the ED as a primary care facility. Even though many leaders in EM state that there is no role for preventive services in the ED, the fact remains that the ED functions as a primary care provider for many patients. When asked about having a primary care provider, 28.6% stated that they did not, with 31.1% stating that they did consider the ED to be their main source of healthcare. Therefore, the EM setting offers an opportunity to provide such resources to patients who would otherwise not have access to them.

As well as offering a low-cost resource to the ED, this voluntary program has an obvious benefit for both patients and the students who participate. Preclinical medical students do not have many opportunities to interact with patients. These students are eager to have patient exposure, but are limited by schedules and by student-based clinic availability. This program allows students to speak with many patients in a real-life setting and is not restricted by office or clinic hours. They gain valuable experience in communication skills, talking about difficult or uncomfortable issues, they learn about preventive healthcare issues, and they become familiar with local agencies to which they can refer

Table 2: Summary of the percentage of patients in each group who have modified a behavior of interest

Behavior of interest	Pamphlet + counseling (n=101)	Pamphlet alone (n=79)
Contacted a health agency	6%	1.3%
Passed pamphlet to family/friend	27.7%	26.6%
Decreased smoking	48.6%	58.8%
Stopped smoking	8.3%	11%
Decreased alcohol consumption	2.8%	2.8%
Became an organ donor	4.2%	0%

patients during their clinical years. In addition, they are exposed to the practice of emergency medicine as a career choice, and they see that preventive health can be integrated into the practice of EM.

Finally, the 'Get PHED-Up!!' program can be duplicated at other medical schools under the guidance of one or two students and a faculty liaison. A website has been created, www.ecu.edu/org/getphedup, which provides complete details about the program and instructions for other schools to get one started. Sample documents (including a sample script, patient handout, and a tri-fold handout for recruitment) are provided, along with a Power Point presentation that can be used for student training and advertising. We encourage students to tailor the program to suit the needs of their patient population, and we hope that this program will stimulate research into the integration of preventive healthcare and emergency medicine and for student involvement in such activities. To date, this program has been duplicated or is in the planning stages at a number of medical schools across the country.

Limitations

There are several limitations to the current study. There may have been bias in the students' choice of patients with whom to speak. Each time students went to the ED to enroll patients, they printed a list of patients who were in the ED at that time, then went to rooms in no specific order, choosing patients who fit the age criteria. Since patients may be out of the ED receiving radiological studies or for other reasons, many patients were overlooked or not approached. When patients were approached, they were assigned a group based on the month of their birth. This is not a true randomization protocol, which is usually accomplished using a table of random numbers. Also, some questions were not asked by mistake and some patients refused to answer questions dealing with personal or private information. This could be alleviated with better training of medical students.

Upon callback, many patients had to be reminded about the study. Callbacks should have been completed within one month instead of the 1-3 months that we used. Finally, recall bias and self-reporting are always factors when questioning patients about behaviors, as there is no way to verify these answers.

Areas for future research

This study raises many important issues that warrant further investigation. Among these are physician awareness of local preventive healthcare agencies and the utility of providing this information to patients to evaluate their effectiveness in limiting return ED visits for preventable diseases. Another area of concern is the number of patients referred to the ED by primary care providers and how those numbers can be minimized to reduce ED overcrowding while still providing the best possible care to the patients. Although difficult to assess objectively, the added benefit to the students of allowing them to counsel on preventive health information should be examined. Finally, the impact of such

programs on public behavior such as organ donation, alcohol abuse, smoking, etc., needs to be studied longitudinally to determine if this is an effective means by which to reach the public health goals of the community.

Conclusion

Integrating medical students to provide preventive information in emergency settings taps a resource that benefits not only the patient, but also those who volunteer. Those patients who do receive counseling are more likely to improve their lifestyle habits, while medical students learn the value of patient education. The emergency department, being a source of primary care for numerous patients, is the appropriate place for a program like "Get PHED-up!!"

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