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Treatment of Ambulatory Care Sensitive Conditions in the Emergency Department: What do Patients Expect?

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Abstract

Objectives: Determine if patients presenting to an Emergency Department (ED) expect to receive preventive care which is equivalent to that which they would receive from a Primary Care Clinic (PCC).

Methods: We performed a cross-sectional analysis of 326 adults with a preexisting Ambulatory Care Sensitive Condition (ACSC) who presented to an urban, academic ED. Participants were administered a 22-item survey regarding their expectations from treatment of their ACSCs in the ED. We calculated summary statistics and performed a multiple logistic regression analysis on the data.

Results: Overall, patients with ACSCs equated the opportunity to obtain preventive care from the ED with that they could obtain from a PCC (OR 0.877; 95% CI 0.553-1.390; p=0.69). Men (OR 1.728; 95% CI 1.055-2.830), non-Caucasians (OR 2.058; 95% CI 1.240-3.414), those who visited the ED during a weekday (OR 1.703; 95% CI 1.051, 2.760) and those who considered the ED to be their Medical Home (MH) (OR 2.0; 95% CI 1.19-3.38) were more likely to hold this belief.

Conclusions: Patients with preexisting ACSCs considered the ED to be an appropriate place at which to seek preventive care. Emergency Departments in selected venues should expand their services to include delivery of preventive care.

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Introduction

The idea for our study came from the experience of one of our authors (SHS) with a nurse practitioner-run Emergency Department Follow-up Office (EDFO) at an urban, academic Emergency Department (ED) in the 1980s [1]. The role of that EDFO in supporting patient care and addressing provider concerns seemed indispensible to the practice of Emergency Medicine (EM) in an academic, urban environment. Indeed, our author's follow up office to this day continues to meet the needs and expectations of patients and ED clinicians alike, providing post discharge care for over 30 years [1]. But the fact is, EDFOs were then and continue to be, a rarity.

Emergency Physicians (EPs) take pride in the fact that they will see "Anyone, Anything, Anytime."[2] This includes innumerable anxious and worried patients who seek treatment for countless symptoms and diseases which are often the result of Ambulatory Care-Sensitive Conditions (ACSCs). Indeed, one learns over a career of practice, that Emergency Medicine (EM) is not a series of dramatic resuscitations; rather, it is for the most part the care of ordinary people with ordinary problems who choose the ED when they need help, and it is they who define our specialty [2,3]. Unfortunately, follow-up arrangements for ED patients are often sorely lacking and many return to the ED for further care [4-7]. The arrangements made for follow-up of discharged ED patients vary tremendously between institutions and are typically left up to individual EDs. In some venues, the reality is that these arrangements are gestures only [3,4].

Ambulatory care-sensitive conditions are defined as those which are treatable in a community-based healthcare setting and as those for which hospital admission could be prevented by interventions in primary care (PC) [8,9]. They are conditions for which the benefit of treatment comes from longitudinal care as opposed to episodic care [8,9]. The benefit from treatment of these illnesses is manifest over a lifetime and the impact of a single intervention in the ED does not typically affect outcomes [10-14].

Ragin, et al, found that many patients consider the ED to be their first choice of healthcare venue in which to seek treatment of ACSCs and ACSC-related disease rather than a place of last resort [3]. Rising, et al, found that 70% of people in a sample of ED patients who returned to the ED after an index visit had the option of seeing their Primary Care Physicians (PCPs) but chose the ED instead [5]. Marco, et al, found that 73% of ED patients had PCPs but only 31% of those with PCPs had contacted them prior to coming to the ED and 14% had been referred to the ED by their PCP [15]. Reasons given by patients for choosing the ED over other ambulatory care settings included convenience, preference for the ED over other venues, a belief that they have an emergency condition, navigation issues, economic factors, problems with access to PC, efforts to get an entire work-up completed in a single visit, and a preference for hospital-based care [3,15-18]. Unbeknownst to them is that the healthcare benefit they seek is unavailable from the ED [3,10,14,19,20].

The ED is not philosophically or administratively configured to treat ACSCs nor is it designed to serve as a traditional medical home (MH) [21-24]. In fact, overly aggressive treatment of ACSCs in the ED can be harmful [14,25]. Emergency Physicians (EPs) are not versed in the nuances of providing longitudinal care and the necessary resources are not in place. However, interventions to discourage patients from choosing the ED can do harm by leading those who have legitimate emergencies to avoid the ED for fear of consequence [16]. Furthermore, when our patients select the ED for treatment of ACSCs, we must support their choice in keeping with the Prudent Layperson concept [20,26-28].

Based on our observations and review of the literature which indicate that many patients hold an expectation of receiving the same healthcare benefit from treatment of ACSCs in the ED as they would obtain from a PC clinic, and to address the possible need for EM to expand its role in American healthcare to meet that expectation, we designed an investigation learn if that expectation is true.

Methods

Study design and setting

Our Research Question was: "Should Emergency Medicine expand its scope of practice to include a system which provides Emergency Department-based delivery of Primary Care (PC)?" We addressed that question with a descriptive study. We performed a cross-sectional analysis using a survey instrument and enrolled patients at an urban, academic ED and Chest Pain Center who sought treatment for ACSCs. The IRB at our institution designated this work as continuous quality improvement and issued an exemption.

Selection of participants

Adult patients (>= 18yrs old) in our urban, academic ED were approached at the bedside and asked if they would be willing to participate in a research study concerning the expansion of emergency services to better meet their needs. Those deemed able to participate (alert, cooperative, able to converse without difficulty) who gave positive responses were read an information sheet about the study and provided verbal consent. No patient identifiers were recorded. All participants were assured that they would remain anonymous and that their participation would not affect their treatment in the ED.

Data collection instrument (DCI)

Consenting patients were administered a 22-item survey (Appendix I). Information collected included demographics, payor classification, presentation to the ED by EMS, having an ACSC, presence of cardiovascular risk factors, reason for visit, convenience issues (4 items), and having a PCP. Important assumptions were made regarding two items:

1) "Preventive care" item: "Where do you believe that you receive the best treatment to prevent heart attacks, strokes, kidney failure and cancer?" Responses: "Emergency Department" or "Primary Care Clinic". This was our dependent variable and was assumed to represent the patient's perception of where they received the greatest healthcare benefit from treatment of an ACSC.

2) "Medical Home" item: Do you consider the Emergency Department to be the place you turn to when you need a doctor?" Responses: "Yes" or "No". This item was assumed to reflect the patient's belief that the ED was their MH.

Surveys were administered by student teams and all responses were entered into REDCap (Research Data Capture, ©Vanderbilt University) via tablet computers. No identifying information was recorded. All participation in the study was voluntary and anonymous.

Measurements

The study was conducted from June 1st through August 6th, 2017. We collected a convenience sample of patients during times when medical students on a summer research elective were available. Medical students were trained on the administration of the survey and rehearsed its presentation within their group to standardize its delivery. A 1-week practice period in the ED preceded actual data collection. Care was taken to ensure that patients fully understood the questions being asked. All data was collected at the time of survey administration. Sample size was guided by a general rule of thumb stating that 10 participants should be included per key survey item [29]. One subject was excluded because of missing data on the race variable and another patient had an invalid age entered, so their age was imputed to be the mean of the ACSC subgroup. SAS, Cary, NC, version 9.4 was used to produce summary statistics and perform logistic regression analysis.

The primary outcome was addressed through a logistic regression model of selected predictor variables against the dependent variable representing the patient's belief of where they received the best preventive care for ACSCs (ED versus a PC clinic). Secondary outcomes were based on patient demographics, payor classifications, day of week variable (weekday vs weekend) and the Medical Home item. Payor classifications were further simplified to categories of patients with insurance vs. those with Medicaid or Self-pay. We made the assumption that the payor classifications of Self Pay (those with no insurance) and Medicaid were financially equivalent as in our community those patients find it equally difficult to obtain scheduled PC. Our goal was to detect a difference in where patients perceived they received the best preventive care for treatment of ACSCs and to identify characteristics of patients more likely to consider the ED to be that place.

Analysis

Summary statistics were used to describe the patients who visited the ED after previous diagnosis of an ACSC. The relationship between these patients and their beliefs about the utility of the ED for treatment of ACSCs was further explored by creating a logistic regression model that adjusted for reason for ED visit (ACSC or non-ACSC), patient perception of the ED as their MH, trust of the EP over the PCP, demographics, payor type (as defined above) and whether the visit was on a weekend.

Results

Characteristics of study subjects

Our study enrolled 384 patients of whom 325 (85%) had an ACSC and comprised our sample for analysis (Table 1). Of those, 40% (131) presented for conditions directly related to an ACSC and 60% (194) did not; these constituted our major subgroups for analysis. Seventy-eight percent of our patients had PCPs and 72% were insured (other than Self-pay or Medicaid). Patients who indicated their payor classification to be Medicaid or no insurance made up 24% of those who presented for treatment of an ACSC and 31% of those who did not (p=0.2). The average age of our subjects was 49 (SD 17.8), 58% were female, 50% were Caucasian.

Main results

Overall 52% of people believed that the Emergency Department provided the best care for ACSCs. There was no difference in the proportions of patients with an ACSC (51%) versus those without an ACSC (52%) who believed the ED to provide the best preventive care (p=0.96). Fifty-six percent of patients in our sample acknowledged the ED to be their MH. Table 2 displays the odds ratios of the variables retained in our final model. The effect of coming to the ED because of an ACSC on the belief that the ED provided the best preventive care was not statistically significant (OR 1.11; 95% CI 0.68-1.81). Men were more likely than women (OR 1.72; 95% CI 1.05-2.81), non-Caucasians were more likely than Caucasians (OR 2.1; 95% CI 1.25-3.45), and those presenting on weekdays rather than on weekends (OR 1.69; 95% CI 1.04-2.75) were more likely to believe the ED provided better treatment for ACSCs. Those who considered the ED to be their MH were 2-fold more likely to believe the ED provided better care for ACSCs (OR 2.0; 95% CI 1.19-3.38).

Table 1: Demographic information of study participants.

	All N=325	ACSC Direct N=131	ACSC not Direct N=194
Age	49 (17.8)	51(17.5)	48(18.2)
Race			
White or Caucasian	49.9%	45.8%	52.6%
Other	50.2%	54.2%	47.4%
Gender			
Female	57.9%	62.6%	54.6%
Male	42.2%	37.4%	45.4%
Payor Type			
Medicaid or No Insurance	28.3%	24.4%	30.9%
Other	71.7%	75.6%	69.1%

Table 2: Odds ratios and 95% Wald Confidence Limits for the model with the variables that describe the reason of emergency room visit (ACSCDirect), whether they consider the emergency department as the place that you can turn to when a doctor is needed (medical home), if the emergency department doctors are the most trustworthy (trust), whether this is a weekend visit (weekend), payor type, sex, and race.

Variable (Referent)	Odds Ratio Estimate	95% Wald Confidence Limits	
ACSCDirect (No)	0.905	0.554	1.477
Medical Home (No)	2.002	1.186	3.378
Trust (No)	2.220	1.333	3.698
Weekend (Yes)	1.691	1.042	2.745
Payor (Other)	1.408	0.817	2.425
Sex (Female)	1.715	1.046	2.813
Race (White or Caucasian)	2.076	1.248	3.451

Discussion

In our data, patients with and without ACSCs did not differentiate between the care they received from the ED versus that which they could obtain from a PC setting for treatment of ACSCs. Furthermore, a majority of participants and a majority of those with ACSCs expressed the belief that the ED provided better treatment for ACSCs than a Primary Care Clinic (PCC). They

preferred the ED because of its convenience, responsiveness, and availability of services. That finding supports our observation that many of our patients are either unaware of or indifferent to the concept that the ED is not a place in which to seek treatment of ACSCs.

The question arises as to how the specialty of EM should react to these patients' expectations. Should we adopt them as our own? At present, we do not - we explain to them the importance of PC and refer them to PC clinics. And though many EDs have systems or navigators in place to guide patients to appropriate venues for follow-up, they often fail to comply [30-32]. Perhaps such a strategy fails to acknowledge our patients' vestment with the ED as their MH.

The importance of follow up after ED discharge is not a question. The lack of efficient follow-up for patients discharged from the ED leads to high revisit rates and increased costs of care [4]. Nearly two decades ago, the Society for Academic Emergency Medicine Public Health and Education Task Force (SAEM PHTF) specified conditions for which the ED could offer preventive care, at least 2 of which are ACSCs (hypertension screening and smoking cessation counseling) [33]. In a Medicare population alone, as many as 60% of Americans have at least one chronic condition and these findings are likely generalizable to larger numbers of patients [34].

Unfortunately, longitudinal management of ACSCs, prescription and adjustment of medications for the treatment of diabetes, hypertension, and hyperlipidemia, and seeing patients in follow-up for these conditions are currently considered beyond the scope of practice of most EPs. However, EPs are certainly capable of expanding their skills [35]. A subset of interested EPs, practicing in communities where a need exists, could obtain the necessary training to deliver ED-based PC.

If we keep the patients central to our systems of practice, perhaps, in selected venues, we should respond to their expectations by augmenting our services to include the ED-based delivery of PC to those who consider the ED to be their MH. Prior reports support future study of this concept [3,18,19,36]. Marco, et al, reported that "a widespread effort should be made to expand and vary hours during which PC is available" [15]. Capp, et al, stated that "It is unfortunate that the ED does not provide ongoing management of chronic disease and preventive care such as diabetic foot checks, Hb A1C checks, etc [17]." Janke, et al, reported that "EDs will need to evolve into outlets that service a wider range of health care needs rather than function in their current capacity, which is largely to address acute issues [18]." Ragin, et al, said that "Use of the ED is, for many people, an affirmative choice rather than a last resort" and that "Changes are needed in the healthcare system to address more effectively the current healthcare needs of distinct communities in the United States [3]." Finally, Usher-Pines, et al, reported that we "need evidence-based interventions for patients who come to the ED for non-urgent conditions" and that "Healthcare services should address the needs and concerns of the communities they serve [16]."

As previously mentioned, a model exists which meets the needs and expectations of patients seeking treatment of ACSCs in the ED: an Emergency Department Follow-up Office (EDFO) [1,37]. Existing EDFOs provide limited PC to patients with ACSCs after ED discharge, impart to them an understanding of the benefit of longitudinal care, and serve as a bridge to traditional PC. Many patients who prefer the ED appreciate the convenience and accessibility of an EDFO for a variety of reasons (trust in the ED, familiarity with the ED, family history of coming to the ED). Such patients may comply with ED-based longitudinal care despite their failure to comply with traditional primary care [1,37].

According to Mary Filer, RN, BSN, the ED Nurse Manager at Stony Brook University Hospital, their EDFO is an irreplaceable part of their landscape [37]. It is fully supported by the Department of Emergency Medicine, staffed by 4 ½ RNs, 3 ½ secretaries and has record-keeping and social services available. The EDFO at Stony Brook has been recognized as a Best Practice by the Agency for Healthcare Research and Quality (AHRQ) and has been included in the AHRQ's Urgent Matters toolkit [37]. The EDFO at Stony Brook has been described as "a safety net that diverts all aftercare issues away from ED staff" and is considered an important enough contributor to its clinical mission that all senior EM residents are required to spend 10 days working there [38].

The EDFO at Jacobi Medical Center in the Bronx serves as a default PC clinic for many patients who find it convenient and accessible. For over 30 years it was operated by two experienced nurse practitioners, Pam Farrell, ARNP, and Marlene Glashen, ARNP, under the supervision of designated EM faculty [1]. Often patients would select the Jacobi EDFO for treatment of ACSCs because it was physically connected to and in close proximity to the ED. Patients from the ED could be brought directly there for introduction and, if necessary, be escorted back to the ED. "They knew where to find us." says Pam Farrell.

The long-term goal was to align patients with traditional PC; however, many who required simple ongoing care could be treated by the EDFO. Patients could be seen once or twice a week and followed for 3 months or longer until they established traditional PC. "We even had a little medical clinic seeing them for diabetes, hypertension, and adjusted their medications." says Pam Farrell. "We could take care of people on anticoagulation, adjusting their coumadin. There were a lot of walk-ins to the EDFO. They couldn't walk into their PCP's office, even if they just wanted a blood pressure check. Accessibility was a factor. We gave them a good experience [1]."

Typical functions of both these EDFOs include assurance of proper intervention for amended x-ray reports and abnormal laboratory results, following blood cultures, checking results of STD testing, and scheduling of follow-up with specialists and PCPs. They help patients obtain medications, provide financial and social assistance, contact the health department for reportable infections and animal bites, and make referrals for issues associated with domestic violence. They expedite outpatient care for those who must be seen quickly and try to speak with every patient who walked out of the ED without being seen or who signed out against medical advice. They review over 300 charts per day and spend extensive time educating patients. Their staff handles incoming patient inquiries and relieves EPs of the burden of telephone calls associated with the addressing of amended reports and positive blood cultures [1,37]. Anything from treatment to referral that was apropos to the patient's need for outpatient care could be addressed, and a plan made. "We filled the gap when they didn't have access or were new to the system, until they could see a clinic doctor. We were a safety net for the ED" says Marlene Glashen [1].

An EDFO represents a potential strategy to avoid repeated ED visits and prevent readmissions through improved quality of care [39,40]. More importantly, expeditious follow-up can

be life-saving to those who are failing their discharge planning, even if it results in hospital readmission [34]. It also has enormous value in improving patient satisfaction and preventing litigation.

Summary data from a Health Information Exchange (HIE) can assist in identifying patients who would benefit from ED-based delivery of PC by noting those who make frequent ED visits and visit multiple EDs in a single catchment area for treatment of ACSCs [41-45].

Not all EDs should provide aftercare services for ACSCs. However, our findings support the need for an ED-based system for delivery of limited PC in communities where significant numbers of patients vest their health with their local ED. Furthermore, we propose that a nurse practitioner-run EDFO, a model that has been successful at two major urban, academic EDs for over 30 years, is an effective way to meet this need.

Limitations

This data for this study was based on a convenience sample of patients who were enrolled only during times and days when student teams were available. There was an underrepresentation of patients who were seen between the hours of 11pm and 7am, an important time for patients who seek unscheduled care for ACSCs. Our assumptions regarding the "Preventive care" and "Medical Home" items on our DCI may be incorrect. We developed these items based on discussions between members of our writing group which included experienced EPs, clinical scientists, biostatisticians and medical students. The lack of patient input while developing these items limited our ability to obtain the information we sought, though our findings could be used to revise these items for future study. Our sample reflects selection bias, since it was comprised only of patients who were being seen in the ED and lacked the perspective of a comparable group of patients from a PC setting. Associations were noted between our "Trust" variable (intended to indicate the patient's confidence in the EP versus a PCP) and variables reflecting the convenience of coming to the ED and ability to obtain sophisticated diagnostic studies during an ED visit. In other words, we were unable to determine whether the patients' trust in the EP was due to the quality of medical practice by the EP or simply a consequence of the convenience and availability of physician services and diagnostic testing. Future study using a more perspicacious instrument might clarify that issue.

Conclusions

Patients who visited our ED for treatment of ACSCs believed there was no difference between the type of preventive care they received from the ED compared to that which was available from a PC clinic. Further study of the idea that EM should broaden its scope of practice to include the delivery of PC in appropriate settings is supported by our findings. Emergency Departments in certain communities should augment their services to meet the needs of patients who, for various reasons, consider the ED to be their MH and otherwise do not receive longitudinal care. One means of accomplishing that is by creating an Emergency Department Follow-up Office, in which post-ED discharge clinical care is delivered by nurse practitioners, a model which has been successful in some EDs for over 30 years.

Conflict of interest statement

This study is free from associations with commercial and corporate interest. The authors do not have any intention of earning financial benefits from the submitted literary work.

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Appendix

ED TX OF ACSC Survey

Hello! My name is_____. I am a second year medical student helping to conduct a research project. We are conducting a survey in our Emergency Department to learn if we should expand our services in order to better meet our patients' needs. If you are willing to participate, we will ask you questions about the type of care you will receive in the Emergency Department as compared to the type of care available from a Primary Care clinic. Your participation is entirely voluntary and anonymous. No identifying information about you will be recorded. Would you like to proceed?

Thank you!

Weekend (Friday after 5PM until 6AM Monday morning)	o yes o No
During what time of day did you enroll this patient?	o 7AM-5PM (Business hours) o 5PM-11PM (Evening) o 11PM-7AM (Night people)
What is your age?	----------
What is your race? (Use patient's self-report)	o White or Caucasion o Black or African-American o Hispanic or Latino o Asian o Native Hawaiian or Other Pacific Islander o Amercan Indian or Alaskan Native
Sex	o Female o Male
Did you come in today by EMS?	o yes o No
Did you choose the Emergency Department (ED) because they will see you regardless of ability to pay?	o yes o No
What is your payor type? (Do you have insurance? If so , what type?. No insurance = "self-pay")	o No insurance (Self-pay) o Medicaid o Medicare o Medicaid and Medicare (Dual pay) o Commercial Insurance o Medicare and Supplemental o Military Insurance (Tricare)
Which of the following ambulatory care sensitive conditions (ACSC) do you have? Check as many as appropriate.	CANCER ☐ ASTHMA/EMPHYSEM ☐ A AUTOIMMUNE ☐ DISEASE ☐ Chronic kidney disease (CKD) ☐ Congestive Heart Failure (CHF) ☐ SICKLE CELL ANEMIA ☐ ARTHRITIS ☐ URI Symptoms ☐ UTI ☐ None of the above
Do you have any of the following five traditional risk factors for cardiovascular disease?	☐ HYPERTENSI ☐ ON DIABETES ☐ HYPERLIPIDEMIA (HIGH CHOLESTEROL OR ☐ TRIGLYCERIDE FAMILY HISTORY OF CAD ☐ TOBACCO USE ☐ None of the above
Does this patient have an ACSC? Click 'Yes' if patient had any positives in the last two items. (CHECK 'NO' IF "NONE OF THE ABOVE")	o yes o No
Is this visit directly related to an ACSC?	o yes o No

Do you expect that your medical problem can be completely managed during this visit?	o yes o No
What is the reason for your visit if not one of the above?	o chest pain o Skin rash or infection o Cut or contusion o Fracture or sprain (MSK) o Respiratory/URI/Pharyngitis o Toothache o Back pain o Headache o Abdominal pain o GU o other
Did you choose the Emergency Department because it's always open and you can be seen there anytime, day or night?	o yes o No
Did you choose the ED because you didn't need to make an appointment?	o yes o No
Do you have a regular doctor or clinic for Primary Care?	o yes o No
Did you come here because a doctor or clinic sent you to the Emergency Department?	o yes o No
Do you consider the Emergency Department to be the place you turn to when you need a doctor?	o yes o No
Did you choose the Emergency Department because you can get scans, special tests or surgery right away?	o yes o No
Did you choose the Emergency Department because you consider the doctors here to be the ones you trust the most?	o yes o No
Where do you believe that you receive the best treatment to prevent heart attacks, strokes, kidney failure and cancer?	Emergency Department Primary Care Clinic