Primary Care in the Emergency Department – An Untapped Resource for Public Health Research and Innovation

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ABSTRACT

With rising patient volumes and increasingly complex cases, the specialty of emergency medicine faces a growing array of challenges. Efforts have been made to improve patient throughput, yet little attention has been directed to the increasing amount of primary care delivered in emergency departments (EDs) for chronic disease states such as hypertension and diabetes. Management of chronic medical conditions is traditionally seen as beyond the purview of the ED, and emergency physicians tend to defer critical aspects of related patient care to other components of the healthcare continuum. As a result, vulnerable patients are often forced to navigate exceedingly complex and fragmented systems of care with little guidance, which often leads to inadequate treatment and exposure to increased risk for development of potentially avoidable complications. As evidenced by our experience with hypertension in an under resourced community, there is a crucial need for emergency physicians to espouse their role as providers of healthcare across the acuity spectrum and lead the way in defining regionally relevant solutions to better manage patients with chronic medical problems.

Keywords: Chronic illness, coordination of care, emergency medicine, healthcare reform, hypertension

Atención Primaria en el Departamento de Emergencias – Un Recurso Sin Explotar para la Investigación y la Innovación en el Campo de la Salud Pública

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RESUMEN

El volumen cada vez más alto de pacientes y la complejidad cada vez mayor de los casos, hacen que la especialidad de medicina de emergencia enfrente un número creciente de desafíos. Se han realizado esfuerzos por mejorar la eficiencia en término del número de pacientes a ser atendidos. El tratamiento de condiciones médicas crónicas se concibe tradicionalmente como algo que se halla fuera del ámbito del DE, y los médicos de urgencias tienden a diferir los aspectos críticos relacionados con la atención del paciente, desplazándolos a otros componentes del continuo de la atención a la salud. Como resultado, los pacientes vulnerables a menudo se ven obligados a navegar en sistemas sumamente complejos y fragmentados del cuidado de la salud, con poca orientación, lo que a menudo conduce a un tratamiento inadecuado, así como a un mayor riesgo de que se desarrollen complicaciones potencialmente evitables. Como lo demuestra nuestra experiencia con la hipertensión en una comunidad de bajos recursos, hay una necesidad crucial de que los médicos de emergencia abracen su papel como proveedores de cuidados de la salud en todo el espectro de precisión del estado del paciente, y asuman el liderazgo en cuanto a definir soluciones regionalmente pertinentes para mejorar el tratamiento de los pacientes con problemas médicos crónicos.

Palabras claves: Enfermedad crónica, coordinación de cuidados, medicina de emergencia, reforma de la atención a la salud, hipertensión

West Indian Med J 2014; 63 (3): 234

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DOI: 10.7727/wimj.2013.332

INTRODUCTION

The specialty of Emergency Medicine finds itself at a crossroads. For years, accident and emergency departments (EDs) have served a dichotomous role, functioning as the principal location for the injured and acutely ill while providing a safety net for those without access to primary care. Over the past ten years, the proportion of care provided by EDs has drastically increased in both of these areas. As the healthcare landscape further evolves, the ED will play an increasing role in the care continuum. Research is sorely needed to evaluate the effectiveness and feasibility of different strategies to manage aspects of chronic disease in the ED (1).

Emergency departments and primary care

The Research and Development (RAND) Corporation recently published a comprehensive report addressing the changing role of EDs in the healthcare system in the United States of America [USA] (1). This report describes the rise of both acute and non-acute ED visits and the escalating practice intensity employed during these visits. Between 1997 and 2007, ED visits increased by nearly twice the expected rate based on population growth estimates; a finding that was mainly driven by an increase in visits by Medicaid insured adults (2). At the same time, there has been a dramatic rise in the proportion of patients referred to the ED by primary care providers, who cite difficulties completing a complex work-up in the outpatient setting. This trend has led to a dramatic increase in hospital admissions from the ED. In the interval from 2003 to 2009, the proportion of emergent hospital admissions from the ED increased from 60% to 69%, while the proportion of direct admissions from a primary care clinic decreased from 32% to 23% (1).

While the RAND report highlights the evolving relationship between emergency medicine and primary care, patients have also self-selected the ED as a site for their chronic medical needs. In many countries, EDs are required by governmental statute to evaluate and stabilize all patients, regardless of ability to pay. This has led to increased use of EDs for non-urgent care and the growth of their role as a societal safety net. However, recent data from the US National Hospital Ambulatory Medical Care Survey indicated that ED utilization for non-urgent care is not limited to the uninsured, with equivalent rates across the spectrum of insurance status (2). Lack of access to primary care is identified as a major driver of ED use for non-urgent conditions in both insured and uninsured patients (3, 4). Not surprisingly, patients who utilize the ED for primary management of chronic medical conditions such as hypertension and diabetes have worse blood pressure (5) and blood glucose (6) control than the general population.

With challenge comes opportunity

There are myriad challenges to effective management of chronic medical conditions from the ED setting. These can be broadly categorized into provider, patient and system barriers. Providers often cite time constraints, lack of perceived follow-up and uncertainty as to the validity of ED diagnoses of chronic disease. Emergency physicians do not perceive their role as one of providing primary care and often are not familiar with the medications used. A survey of ED directors found that the main barriers to providing preventive health services in the ED are financial and time constraints (7). In addition, emergency physicians cite the perceived lack of follow-up as a reason not to provide active surveillance for chronic diseases (8). However, even with readily identifiable chronic disorders such as hypertension, emergency physicians are reticent to prescribe antihypertensive therapy and vastly overestimate their own referral practices for outpatient follow-up (9, 10).

Patient factors which are associated with increased ED utilization for non-urgent care include inadequate health literacy (11), advanced age, female gender, poverty and minority race (12). After discharge from the ED, patients face substantial barriers in obtaining appropriate follow-up care. Less than half of those who are referred from the ED attend their follow-up visit (13). This problem is exacerbated among the uninsured and those with public insurance (4).

Emergency department primary care interventions ranging from HIV screening to administration of pneumococcal vaccine have been proposed (14), but adoption of any specific practice will have to overcome a number of system-level barriers. Foremost among these is the cost associated with better preventative and primary care, particularly the increase in outpatient clinic capacity that would be needed. However, in a fragmented healthcare system, the financial benefit of preventive care is not directly realized by the ED and, from the perspective of an independent cost centre, contributing the capital to enhancing outpatient follow-up may not be worth the investment. This is exacerbated by the frequent lack of communication between emergency physicians and other components of the healthcare system, especially primary care providers (15). Consequently, there is an absence of true accountability at the system level and a unified approach to management of the acute, subacute and chronic phases of patient care is often lacking. The net effect encourages continued use of the ED rather than outpatient clinics and reinforces the zero-sum game that comes with delivery of primary care in the highest price setting.

While daunting to consider, these challenges do create opportunity for innovation and process improvement. As shown in the Table, efforts focussed on specific aspects within each respective barrier would be needed to derive a workable model. Although we provide some perspective on a few areas to target, needs will clearly differ by location and potential "solutions" will need to be developed with a regional context in mind.

Our experience

In response to the overwhelming community need, we have developed a comprehensive research programme that seeks

Table: Opportunities for improving primary care in the Emergency Department

Barriers	Potential innovations
	Provider based
Time constraints	– Use of multidisciplinary discharge teams – Innovative use of computer technology – More streamlined and accurate approach to medication reconciliation
Diagnosis	– Establish accuracy of routine screening efforts – Determine feasibility of broader screening initiatives – Conduct risk stratification and long term outcome studies for patients with established, yet poorly controlled chronic diseases
Responsibility for follow-up	– Accountability through system-wide coordination of care – Integration of electronic medical records across care settings
Cultural	– Educate providers across the care continuum – Encourage paradigm shift from urgent to non-urgent care practices
	Patient based
Preferential use of the emergency department	– Conduct qualitative research – Compare utilization patterns among divergent socio-economic and sociodemographic groups
Access to primary care	– Facilitate communication and access – Provide educational interventions – Adopt transitional care models
	System based
Resource utilization	– Develop sustainable payment models to encourage primary care activities – Establish open access clinics for those with non-urgent issues related to chronic disease – Adopt pricing structure in the ED that is more consistent with current outpatient reimbursement models for routine primary care activities
Disconnect between emergency department	– Integrate communication systems and primary care providers – Share access to electronic medical records – Use health navigators to improve outpatient follow-up

to address the spectrum of hypertension-related illness, from asymptomatic elevations in blood pressure to acute, target-organ complications such as heart failure and stroke. Chronic hypertension has several characteristics that make it an ideal target for such an initiative from the ED (16). Firstly, blood pressures are measured routinely for almost every ED patient, thus a screening system is already in place. Secondly, left under- or untreated, hypertension can have severe consequences, including life-threatening cardiovascular and cerebrovascular diseases, making the case for action especially compelling. Thirdly, the complications of hypertension are largely avoidable through blood pressure control using low cost, widely available, safe and effective medications.

Our approach starts with risk stratification and a specific focus on identification of subclinical target-organ damage among those with uncontrolled blood pressure that would otherwise go unnoticed until potentially irreversible consequences develop. To that end, we have found that over 90% of our ED patients with uncontrolled hypertension have early asymptomatic hypertensive heart disease (17). As a result, we developed intensified efforts to improve methods of referral and patient education. Our educational interventions include communications technology using computer kiosks and mobile phone text messaging to inform patients about their disease and motivate them to obtain proper care. We also conduct clinical trials looking at a variety of interventions ranging from more intensive blood pressure goals to novel adjunct modalities such as vitamin D in patients that we follow longitudinally in an outpatient clinic run by our research team.

In addition to our ongoing initiatives, the concept of transitional care is an evolving area that is of particular interest to our research team. Transitional care is a modality within which barriers to effective disease self-management can be identified and addressed. This approach has been adopted successfully for patients discharged from hospitals, and has been shown to reduce re-admission rates (18). While understudied in the ED, efforts to define optimal transitional care practices could dramatically alter perspectives on the relationship between EDs and primary care. To that end, we have developed a model of transitional care from the ED that

would utilize an open access, nurse-practitioner run clinic to facilitate the care of patients with hypertension. This clinic would not serve as an ultimate destination for chronic disease management, but instead would function as a location for improved health navigation and patient activation, where issues such as inadequate health literacy and poor disease-specific knowledge can be addressed. We hope to initiate this project in the spring of 2014.

Future directions

Despite the enormous opportunity that exists, we know very little about the optimal means of provision of chronic care in the ED. In the specific case of hypertension, the American College of Emergency Physicians' most recent clinical policy reflects this uncertainty, stating that it cannot recommend for or against any medical intervention for hypertension in the ED, beyond referral to primary care (19). Emergency physicians have the potential to drastically improve patients' lives by diagnosing, evaluating, treating and referring for follow-up the many patients with chronic, uncontrolled conditions who come through our doors. Beyond simply acting as an entry point to primary care, emergency physicians can provide the first crucial steps in managing these conditions, and coordinate follow-up care with outpatient clinics. An ED visit may act as a "sentinel event" and has the potential to effect long-term changes in patient behaviour (20).

CONCLUSIONS

Emergency physicians have embraced the gatekeeper role for patients admitted to the hospital. Beyond this, our specialty has led the way in reducing preventable admissions through increased use of observation units. The challenge for the future lies in developing a similar model for management of chronic conditions in the outpatient setting. The transitional care model may be a way to replicate the success of the observation unit in expanding the scope of emergency physician practice. The ED will play a crucial role in overcoming the future challenges facing the healthcare industry in the USA and beyond. However, to achieve success, further research into the feasibility and effectiveness of differing strategies to manage aspects of chronic illness in the ED is desperately needed.

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