

# The Effects of Case Management on Frequent Emergency Department Users

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## **Abstract**

The purpose of this research is to demonstrate the negative effects of emergency department frequent users and to introduce a utilization approach called case management, in order to help alleviate the growing costs of uncompensated physician care and emergency department overcrowding. The research is supported by case studies, personal interviews with case managers of Cape Fear Valley Health Systems, Southeastern Health, WakeMed, and various other hospitals in the state of North Carolina, as well as scholarly studies provided on the Internet. The results indicate that hospitals throughout North Carolina are facing emergency department frequent user issues and that case management is an effective method to curb costs.

## **Introduction**

Health care costs in the United States continue to rise due to increases in provider fees, cost of medical technology, wastage, unhealthy lifestyles, aging populations, and taxes (Aetna, 2012). It is estimated that health care spending will reach \$4.8 trillion by 2021 and will comprise nearly 20% of the nation's GDP (Aetna). As a result, several solutions have been proposed to counteract the growing trend and stabilize costs. One of these solutions includes limiting the number of frequent users of the emergency department (ED). The American College of Emergency Physicians estimates that "...frequent users make up between 4.5 and 8 percent of all emergency patients and are responsible for 21 to 28 percent of all emergency department visits" ("Frequent Users of the ER," 2013). Case management, a utilization approach, provides an effective solution to help alleviate this problem.

## **Emergency Medical Treatment and Active Labor Act**

A factor contributing to the phenomenon of frequent ED users is a legal provision that states that hospitals cannot refuse to see a patient for an emergency medical

condition or an examination. According to a legal expert on the Emergency Medical Treatment and Active Labor Act (EMTALA),

Any patient who ‘comes to the emergency department’ requesting ‘examination or treatment for a medical condition’ must be provided with ‘an appropriate medical screening examination’ to determine if he is suffering from an ‘emergency medical condition.’ If he is, then the hospital is obligated either to provide him with treatment until he is stable or transfer him to another hospital in conformance with the statute’s directives. (Fosmire, 2009)

Thus, the hospital’s ED is legally obligated to provide services to a patient if he or she is requesting examination or treatment for a medical condition. As noted by the American Academy of Emergency Medicine, failure to abide by EMTALA’s provisions results in “strict penalties including fines and exclusion from the Medicare program for violations of the Act” (“EMTALA,” 2015).

### **Costs Associated with EMTALA**

Due to their legal obligations to see all ED users, hospitals incur significant expenses in time and opportunity costs. The American College of Emergency Physicians reports that

[e]mergency care in America is just 2 percent (\$47.3 billion) of all U.S. medical costs, and the emergency care costs of EMTALA (excludes hospital inpatient and other) have been estimated to be \$4.2 billion. EMTALA’s effect on the nation’s emergency care system itself is huge with direct costs for uncompensated care to physicians [of] about \$4.2 billion. (“EMTALA Fact Sheet,” n.d.)

Physicians are forced to provide charity care to these frequent users and are therefore uncompensated for their efforts. Furthermore, excessive frequent users promote ED overcrowding, which forces some critically ill patients to be seen elsewhere. According to Dr. Barry Gustin (2010), a Fellow of the American Academy of Emergency Medicine, “inappropriate extensions of the law have created the undesirable evolution where an ED is required to accept all stable patients, contributing to ED overcrowding. This causes critically ill patients to be legally prevented from receiving care at the most appropriate facility.”

### **Case Management**

With the increasing utilization and costs associated with the ED, a utilization method called case management (CM) offers a workable solution to lower, or at least stabilize, costs. The Commission for Case Manager Certification defines CM as

a collaborative process that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet the client’s health and

human service needs. It is characterized by advocacy, communication, and resource management and promotes quality and cost-effective interventions and outcomes. (“Definition and Philosophy,” n.d.)

CM offers collaborations between various parties (physicians, case managers, social services, etc.) to appropriately aid the patient in treatment, while seeking quality and cost-effective alternative methods of care.

### **Past Studies of the Effect of CM on ED**

As detailed in *The Journal of Emergency Medicine*, physicians Gayathri S. Kumar and Robin Klein (2013) retrieved and summarized past studies of the effect of CM on EDs dating from 1990 to April 2010. They described the objectives of their study as follows: “We reviewed the available literature focusing on the impact of CM interventions on ED utilization, cost, disposition, and psychosocial variables in frequent ED users” (Kumar & Klein, 2013).

Kumar and Klein (2013) used the Medical Subject Headings (MeSH) database to find 12 studies on the effect of CM on ED frequent users:

Of the 12 studies included, two were randomized control trials, eight were pre- and post-intervention studies using historical controls, and two employed age-matched controls. Taken together, these studies included a total of 960 participants in CM interventions. The average age was 43.7 years, with 56% being male among the nine studies reporting genders. All the studies addressed all adult frequent utilizers of the ED, yet the studied populations were diverse and included insured and uninsured patients, homeless patients, employed and unemployed patients, patients with and without primary care physicians, and patients with psychiatric disorders and substance abuse disorders.

The ED frequent users came from diverse backgrounds and had differing health statuses. These case managers separated the participants into the following groups: pre-intervention, post-intervention, and control (Kumar & Klein, 2013).

The studies showed mixed results; however, the majority of the studies reported a reduction in ED use with CM intervention. The authors of the meta-analysis report that “[a]mong the 11 studies reporting ED use outcomes, eight reported reduction in ED use, two studies reported no significant reduction, and one study reported an increase in ED use” (Kumar & Klein, 2013). The reports indicate that CM intervention has a positive impact on ED frequent users. More specifically, the unemployed and homeless were reported to have a reduction in ED visits:

In a prospective pre- and post-intervention analysis using a predominately unemployed (100%), homeless (67%) population, CM intervention led to a 40% reduction in ED visits. Similarly, in a population of uninsured patients, Shah et al. [R. Shah, C. Chen, S. O’Rourke, M. Lee, S.A. Mohanty, & J. Abraham. (2011). Evaluation of care management for the uninsured. *Med Care*, 49(2), pp. 166–171] showed a 32% reduction in ED attendance after enrollment in a CM program. (Kumar & Klein, 2013)

These studies indicate that the majority of the ED frequent users responded positively to CM intervention. The authors conclude the following from their meta-analysis:

Patients who were more actively engaged with the services arranged by case managers were significantly less likely to have subsequent ED visits compared to less active patients [R. Shah, C. Chen, S. O'Rourke, M. Lee, S.A. Mohanty, & J. Abraham. (2011). Evaluation of care management for the uninsured. *Med Care*, 49(2), pp. 166–171]. In this same study, significantly lower ED utilization rates were seen in patients who had graduated from a CM program (i.e., when a case manager felt that the patient understood how to make appointments, receive medications, and follow-up on goals). (Kumar & Klein, 2013)

Thus the programs were successful in reducing ED visits—provided that the patients followed the directions and were actively engaged (Kumar & Klein, 2013).

In another study, detailed in the *Journal of the American Board of Family Medicine*, researchers conducted a one-year research experiment on 255 low-income, uninsured patients who visited the emergency room six or more times in the previous year (Crane, Collins, Hall, Rochester, & Patch, 2011). The given method for the research is as follows:

We identified a cohort of 255 low-income, uninsured patients who had used in-patient or emergency department services more than 6 times in the previous 12 months. Between July 2010 and June 2011 we enrolled 36 of these high-risk patients to participate in a twice-weekly drop-in group medical appointment staffed by an interdisciplinary team of a family physician, behavioral health professional, and nurse case manager. The team provided 705 patient visits in a group setting (a total of 108 group sessions) and 652 case manager phone calls. The average number of clients per drop-in group medical appointment was 6.5. (Crane et al., 2011)

Thus, the sample patient population represents common ED frequent users. The team that conducted the experiment broke the CM intervention into four components: drop-in group medical appointment (DIGMA); direct telephone access to a registered nurse case manager; small group “life skills and support” sessions with the care manager; and short, individual sessions after the group medical visit (Crane et al., 2011).

DIGMAs, the first component of the CM intervention, were biweekly scheduled meetings between the patients and the care team. The purpose of a DIGMA was to allow the patients to speak with providers and case managers about any medical concerns they had:

These visits were scheduled twice a week [for one hour each time] and were held in a large room that could accommodate up to 20 persons. Patients would present in turn any medical, behavioral, or social issue they wished the group and the care team could address. (Crane et al., 2011)

These meetings allowed for a wide range of problematic areas to be addressed.

The second component to the CM intervention was direct telephone access to a registered nurse case manager: “Patients were given a cell phone number with direct access to the nurse case manager for any questions or problems Monday through Friday 8 a.m. to 5 p.m.” (Crane et al., 2011). The direct telephone access meant the patients would not visit the ED before speaking to a nurse case manager and discussing possible treatments and alternatives.

The third component to the CM intervention was small group “life skills and support” sessions with the case manager: “These also were scheduled twice a week [for one hour each time] for clients needing special assistance and support” (Crane et al., 2011). These meetings were conducted for patients who required special services.

The fourth and final component to the CM intervention was short, individual sessions after the group medical visit:

Patients who had additional issues that could not be appropriately addressed during the group session could have an individual session with one or more of the care team members including the physician, behavioral health professional, and/or the care manager from 1 p.m. to 1:30 p.m. (Crane et al., 2011)

These meetings allowed patients to voice their concerns after the DIGMA and to speak to any of the care team members for advice about their concerns.

The care team consisted of a variety of members, including “a family physician, a nurse care manager, and 2 behavioral health providers, only one of whom would attend a DIGMA at a time and all [of] whom ... had more than 20 years’ clinical experience” (Crane et al., 2011). The group collaborated extensively to discuss and plan meetings, schedule appointments, and maintain relations with specialists to ensure quality of care:

The team generally met before and after each group appointment to review individual patient care plans and discuss the evolving group process/culture. The behavioral health provider attending the meeting that day would summarize the group process in a secure e-mail to the other behavioral health specialist to maintain continuity from visit to visit. The group appointment included time for each patient to share issues with the group. As time allowed or if the clinical situation called for it, patients at times could also have short individual sessions with one or more members of the care team to discuss medical or behavioral health concerns. (Crane et al., 2011)

Thus, it can be stated that the study involved careful planning and coordination with the care team, the patients, and other specialists.

The results indicated that the CM approach utilized on ED frequent users in this case was an effective approach to dealing with the problem. The care team published the results of their research:

Emergency department use dropped from a rate of 0.58 per patient per month to 0.23 ( $P < .001$ ), and hospital charges dropped from \$1167 per patient per month to \$230 ( $P < .001$ ). Employment status increased from 4 to 14 among 36 patients enrolled. Total annualized cost of the program was \$66,000. (Crane et al., 2011)

The results indicate that the program had success in many areas. The DIGMA meetings helped address areas of concern to the patients, as “nearly every patient had experienced a number of barriers and frustrations in accessing medical care that the DIGMA team members seem to have successfully addressed” (Crane et al., 2011).

The care team made this conclusion:

Our experience with this group of patients is that their needs are diverse and complicated and that their paths to recovery can be equally complicated. Care management is a vital piece of the puzzle, pulling together community resources without which recovery would be impossible. The care manager is an experienced, calm, trusted professional patients can call when they are frightened or in crisis between groups visits, which is often the difference between going to the ED to seek immediate care or waiting a day or 2 until the next group visit. Successful case management also includes assisting with teaching some of these patients basic life skills, for example, not to find housing for them, but rather direct them where to go to get housing assistance. These small, positive steps are then shared with the group, which further reinforces a growing sense of confidence. (Crane et al., 2011)

The case managers developed solutions to deal with the patients’ diverse challenges (Crane et al., 2011).

The physicians Gayathri S. Kumar and Robin Klein (2013) found in their research that patients with a high-level ED use (in high frequency ED users), as compared to low-level ED use (in high frequency ED users), continued to overuse the ED after completion of the CM programs: “CM may be less effective in patients with higher levels of ED use than patients with lower levels of ED use, as patients with higher levels of ED use may be more resistant to change” (Kumar & Klein, 2013). Thus, those among the high frequency ED users who use the ED most heavily have difficulty breaking past habits, despite the efforts of the CM programs. However, the studies conclude that these frequent users may need more rigorous CM programs and that a five-month follow-up on these patients may not have been sufficient for behavioral change (Kumar & Klein, 2013).

### **North Carolina Hospitals**

North Carolina has approximately 150 hospitals. Of these hospitals, five are nationally ranked and seventeen meet standards of excellence in North Carolina, according to *U.S. News and World Report* (“Best Hospitals,” 2015). Through personal communication, case managers of various hospitals provided information regarding frequent emergency department users while adhering to each hospital’s confidentiality guidelines. These communications reveal the burden of frequent emergency department users in the state of North Carolina.

### **Cape Fear Valley Health Systems**

In an email response, Cyndy Kern, MBA, CPHQ, FACHE, Director of Coordination of Care, revealed that in 2012 patients with 12 or more visits totaled 7,022 visits. Of these 7,022 visits, 107 patients had Champus/Tricare; 348 patients had commercial

insurance; 2,472 patients had Medicaid; 2,174 patients had Medicare; 343 patients had Medicare Advantage; and 1,578 patients had self-pay (Kern, personal communication, November 21, 2014).

### **WakeMed**

In a telephone conversation, Marylou Faucette, BSN, manager of case management at WakeMed, revealed that her department provides home health services for patients with Medicare and Medicaid in an effort to curtail costs, since providing treatment at a residence is more cost-effective than in an inpatient setting. Faucette also stated that WakeMed starts a 45-day process to see if uninsured patients are eligible for Medicaid. A considerable challenge for WakeMed's case management is dealing with patients who have been abandoned by their families due to increasing medical costs. Faucette stated that it is the hospital's duty to accommodate the patient until the courts determine who is legally responsible for the patient's medical costs.

Marylou Faucette also stated that WakeMed has a Rainbow Fund policy that provides free medications to immediate-need patients. In addition, WakeMed uses a \$4.00 medication list from Wal-Mart, Target, and Walgreens to offer cost-effective medication (Faucette, personal communication, November 20, 2014).

### **Southeastern Health**

In an email response, Southeastern Health's strategic analyst, David Lee, M.H.A, revealed, "During the last 12 months the highest number of visits by individual people were 159 and 144—these were patients receiving dialysis treatment" (Lee, 2014). Lee also detailed the top 30 principal diagnoses of those with 20 or more visits, some of which are renal analysis encounter (326), lumbago (48), headache (40), end stage renal disease (31), acute bronchitis (10), esophageal reflux, acute respiratory failure (7), alcohol abuse-unspecified (7), and painful respiration (7) (Lee, personal communication, October 10, 2014).

### **High Point Regional**

In a telephone conversation, retired ED case manager K. Chance stated that she used various strategies to offer alternatives to frequent ED users. She stated that some patients frequented the ED three to four times a week, and she suggested assisted living as an alternative. The retired ED case manager also stated that patients frequented the ED for dental problems, so she assisted the patients with allocating their budgets for dental insurance and/or other alternatives. She also stated that patients frequented the ED for asthma-related incidents, so she educated the patients and assisted them in taking preventative measures (Chance, K. personal communication, November 20, 2014).

### **Nash General Hospital**

In a telephone conversation, ED case manager Silver revealed that 80% of the ED patients have no form of payment. The ED case manager revealed that he is currently working on statistics and trends, and developing alternative forms of care (Silver, personal communication, November 19, 2014)

## Case Management Limitations

Despite the positive effects CM has on reducing ED visits by frequent users, the utilization approach has its disadvantages: CM cannot work effectively without the active participation of the patients and the case manager; CM costs can offset the hospital savings from the limited ED visits; and CM may have a reduced effect in patients with high-end frequency of visits (Kumar & Klein, 2013).

CM has to be a collaborative effort to be successful. The previously mentioned study by physicians Kumar and Klein (2013) indicates that “studies that describe case managers actively involved in identifying patients on the streets or in their homes, meeting with patients regularly, or accompanying them to their appointments, found significant reductions in ED utilization.” Thus, it can be stated that case managers need to be actively involved with their patients in order to have successful results—the more active they are, the better the results. However, case managers are not the only ones who have to be actively involved—the patients need to demonstrate involvement as well if they are to reduce ED overutilization. The same study indicates the following:

It is also likely that the greater level of involvement of participants in care management plans can contribute to improved ED outcomes. For example, in the study by Shah et al., case managers worked closely with patients in care navigation and connection with support services [citation omitted]. With time, case managers reduced their involvement and allowed participants to take a more active role in their own care. This gradual transition towards giving participants a sense of ownership in their own care may have facilitated adherence over time and ultimately, improvement in ED over-utilization. (Kumar & Klein, 2013)

The ultimate conclusion from this study is that case managers and patients must work together actively to make the utilization approach a successful method for reducing ED overutilization.

Physicians Gayathri S. Kumar and Robin Klein researched twelve studies in the previously mentioned systematic review of the impact of CM on ED from 1990 to April 2010. Only one of the studies incorporated CM costs with hospital savings (from reduction in ED visits due to CM), and the results indicated that the hospital savings are offset by CM costs (Kumar & Klein, 2013). The physicians concluded that the ED frequent users were sicker patients as compared to the general population and that they required additional services, which are associated with higher costs:

It is possible that the reduction in ED costs is counterbalanced by an increase in the cost of these programs. CM may improve cost-effectiveness but not necessarily cost savings among frequent users. It may be difficult to reduce costs significantly in this population as frequent users represent a sicker population with more social needs and may actually require additional services, which would be associated with additional costs. (Kumar & Klein, 2013)

Thus, the studies indicate that CM is a cost-effective method to reduce ED visits. Since only one study incorporated the CM cost with the hospital savings, it is difficult to formulate a definite conclusion about the overall cost savings (Kumar & Klein, 2013).



## Conclusion

As health care expenditures rise, new methods of curtailing the costs are necessary. One such method, case management, has proven to be effective in reducing ED overutilization in past case studies and, as revealed by case managers, in hospitals in North Carolina. Case management is defined as

a collaborative process that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet the client's health and human service needs. It is characterized by advocacy, communication, and resource management and promotes quality and cost-effective interventions and outcomes. ("Definition and Philosophy," n.d.)

## Implications

The main implications of this research were the following: personal communication with hospitals was constrained due to hospital confidentiality guidelines, and only a limited number of peer-reviewed articles on the subject are available as yet for meaningful analysis. The case managers could only reveal selected information to the public, and in some cases they had to relay the information request to the hierarchy, which hindered the process. The lack of peer-reviewed articles about case management of emergency department frequent users may be due to a variety of reasons, one of which, as indicated by the ED case manager at Nash General Hospital, is that the CM positions are in the process of being realized and developed. Future studies will be developed as more hospitals face the burdening costs of increased ED expenditures for frequent users.

## Suggestions

Hospitals should offer case management services to emergency department frequent users or develop specific positions such as emergency department case managers, in order to limit the number of visits. The frequent users are unaware of other resources, have no forms of payment, or perhaps are trying to receive controlled substances. Case management can help offer workable solutions or develop alternatives to care.

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