Emergency Department Overcrowding Project

Roosevelt University
Institute for Metropolitan Affairs

April, 1992

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April 9, 1992

Mr. James Lutz
Chairman of the Board
Washington Square Health Foundation
875 North Michigan Avenue
Suite 3516
Chicago, Illinois 60611

Dear Mr. Lutz:

Hospital emergency department overcrowding is a problem afflicting most major cities in the United States. While the problem is widespread -- and the subject of extensive news coverage -- relatively little attention has been focused on solutions.

The Emergency Department Overcrowding Project was intended to examine the causes of this critical problem and to develop new approaches for reducing it.

In addition to providing solutions for the alleviation of emergency department overcrowding in Chicago, the report includes a matrix of strategies that should have broad applicability as a planning tool. This may represent the first attempt nationally to systematically lay out approaches to address the overcrowding problem.

The Institute for Metropolitan Affairs appreciates the financial support of the Washington Square Health Foundation in conducting the project. Mr. John C. York, Washington Square Health Foundation, Inc. Treasurer and Finance Committee Chairman is to be commended for initially raising this issue for the Foundation's consideration. The comments of Angelo Creticos, M.D., Vice Chairman and Grant Committee Chairman of the Washington Square Health Foundation, Inc. and Howard Nochumson, Executive Director, were valuable as the project progressed.

Sincerely,

Thomas J. Klutznick
Chairman

Richard M. Krieg
Executive Director

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The Institute is interested in periodically expanding the "Strategies for Decreasing Inappropriate Emergency Department Use" matrix located in the appendix of this report. Individuals wishing to make contributions in this area are especially encouraged to contact the Institute.

Executive Summary

The Emergency Department Overcrowding Project was made possible by a grant from the Washington Square Health Foundation. The project was designed to define the overcrowding problem, sort out its causes and develop new approaches to reduce it.

The project attempted to shed new light on the causes of emergency department (ED) overcrowding in Chicago. It was found that the causes of ED overcrowding cluster within four major categories: [1] overall cutbacks in human services; [2] primary health care issues; [3] individual hospital staffed bed availability and bed control issues which impinge on emergency department patient transfer capacity; and [4] trauma, which is also mentioned because violence in major cities is on the rise. When EDs and intensive care beds are overcrowded, trauma victims sometimes suffer by having to wait or to be rerouted to a hospital further away. Each of these four determinants were considered in developing integrated recommendations.

The project culminated in some new strategies to avert ED overcrowding. Through a variety of information sources, including a local emergency department survey and interviews with practitioners, a matrix of strategies for the reduction of inappropriate emergency room use was developed. This may represent the first attempt nationally to systematically lay out approaches to address emergency department overcrowding.

The strategies that make the most sense for metropolitan Chicago are highlighted in the report. The first local strategy involves getting all hospitals up to a minimal level of proficiency in terms of handling ED patient volume. Many hospitals now do this through triaging of walk-ins by nurses or specially trained staff that assign acuity levels to patients and shunt them to an appropriate level of care, fast tracking to an acute care clinic connected to the ED and appropriate staffing to separate this "traffic" from the rest of the patients. The IMA recommends these approaches as the very minimum for hospital EDs with a high volume of walk-in, low acuity patients.

Other discrete program alternatives are discussed in the report. They include the creation of observation bed areas within EDs to hold patients up to 24 hours who may not need to be admitted or who require stabilization and assessment before admission; separate entry, triage and holding areas for chronic patients (e.g. HIV, skilled nursing care) who enter the hospital for work-up of an acute episode or for observation; nurse and administrative based bed control mechanisms; special discharge lounges to move patients waiting for physicians, medications or final

orders out of their beds more quickly; physician based bed control systems; and "code bypass", a quick and effective hospital-wide communication system that puts all units, their respective administrators, nurses and physicians on notice that the institution is on the verge of ambulance bypass.

While some local hospitals have begun to implement these types of systems, and some have operated them for years, a broader effort in the area of referral and case management is necessary. Chicago area EDs should develop an expanded capacity to connect at risk families or those without regular primary care providers to community systems of health care for long term support. Methods to accomplish this are spelled out in the report.

Another strategy discussed to resolve the acute, walk-in type of ED overcrowding is the preventive identification, through community agencies, of families at risk or those with no regular source of health care. These individuals should be provided with education and referral into the health care system. Again, a case manager or linkage coordinator (nurse, social worker or community advocate, depending upon the need and staffing at the site), would explain the importance of receiving regular, continuous care. Patients would be referred to a community provider for a specific appointment, and follow-up would be provided.

A more intensive, but very effective, application of community based case management is an outstationing model. Nurses or nurse practitioners associated with hospitals or community health centers, can provide health assessments and triage at a community based non-health agency such as Families With A Future, the Chicago Housing Authority, Senior Housing, Parent-Child Centers, multipurpose social agency settings or any area of high traffic.

The IMA strongly recommends the implementation of a specific pilot project designed to relieve overcrowding and to test new approaches. Individual communities should be targeted to develop a thorough needs assessment leading to a comprehensive ED overcrowding action plan. Unless approached on this basis, the attempt to relieve overcrowding will continue to occur on a scattershot basis. A pilot project would enable the development of a multi-agency, community-wide plan that could assess new procedures and the resource requirements of approaches to reduce overcrowding.

With available data from the EMS system, one or two hospital clusters within Chicago would be named. These facilities would be located in communities where overcrowding is a problem. The precise geographic areas which they collectively serve would be identified. Within the framework of a community-wide planning strategy, primary care providers and other

organizations with a community orientation would join with hospitals to form a consortium. The overall plan would include community education. With technical assistance, a community specific analysis of the causes of overcrowding and a planning process would be instituted.

Finally, the pilot would be coordinated with the joint City of Chicago -- Cook County Ambulatory Care Council, which is developing a comprehensive primary health care plan for Cook County.

Introduction

Health care in our nation is in crisis. Lack of access for the poor, the aging population, epidemics of drug abuse and AIDS, the present recession and continuing cost inflation in medical treatment require that we rethink the way health care is delivered and financed in the United States. While the current national dialogue on health system financing is encouraging, local health care delivery often suffers from organizational and management problems. Solutions to these problems should be tailored to individual communities.

A pivotal point in the present health care system is the hospital emergency department (ED). Emergency departments, particularly in public hospitals, mirror societal ills (1). There, the homeless, drug users, the poor, the old and victims of violence all come to receive health care. The care provided often is low acuity care, routine diagnostic and treatment procedures that could have been dispensed elsewhere. Coupled with bona fide emergency medical cases, hospital emergency departments can overload with patients. A domino effect can occur across an entire city or one of its sections. A series of hospitals may go on "bypass" where paramedics are instructed to detour around these facilities, traveling to more distant hospitals with the capacity to provide emergency patient care and acute care follow-up.

A flood of reports and studies have, in fact, documented overcrowding in urban hospital emergency departments across the country (2). During the 1980s, there was significant positive change in the quality of emergency medicine as well as in the growth of emergency departments in large urban hospitals (3). The *Annals of Emergency Medicine* reported that in this same decade, 75% of hospitals experienced an increase in the absolute number of patients presenting to emergency departments for care and an increase in the number of patients

hospitalized through the ED (4). Parallel to this increase in activity, hospital closures and a national nursing shortage were contributing to a bed deficit in many regions that is illustrated most clearly by the present ED crisis (5).

The American College of Emergency Room Physicians reported that 80% of the hospitals responding to a survey by the Massachusetts Hospital Association in 1988 experienced ED overload based on lack of available inpatient beds; 15% of the hospitals indicated that this occurred on a daily basis (6). The *Journal of The American Medical Association* states that 38% of surveyed hospitals reported that overcrowding sometimes required them to hold admitted patients in the emergency department for over 24 hours until beds in appropriate care units became available (7).

The New York State Health Department conducted a one-day survey of all New York City EDs to determine the extent of overcrowding. They found that 30% of ED patients were awaiting admission; of those waiting, more than half had been detained for more than 8 hours; 81% of these were medical-surgical patients, med-surg occupancy was 95.4% city-wide (8). These findings present a picture of a system in gridlock and this situation, to greater or lesser degree, can be documented across the country (6,8).

Chicago mimics the national problem. A survey conducted by the Illinois Department of Public Health found that the majority of hospitals investigated had or were having difficulties with overcrowding in their EDs, and over 70% went on bypass at least four times during the year (9). Similarly, a recent survey of eleven hospital emergency departments conducted by the Institute for Metropolitan Affairs found that all but one had increased their ED visits. (The one that did not report an increase had instituted a "fast track" for low acuity problems) (10). These hospitals also reported a general increase in acuity levels of presenting patients.

Also vital to understanding Chicago's ED problems is the closure of fourteen hospitals over the past five years. The majority of these hospitals were located in low income communities and served minority constituencies. Insufficient and slow Medicaid reimbursement and a greater volume of uncompensated care, coupled with spiraling health care costs, signaled the demise of these inner city institutions. In January, 1990, thirteen Chicago hospital emergency departments went on bypass. In February of the same year, a three week old infant died allegedly as a result of delayed care because no critical care pediatric beds were available at applicable tertiary care institutions (11).

According to national experience, ED overcrowding has multiple causes and is far reaching in scope. The determinants of overcrowding range from a lack of accessible primary care services to an increase in trauma injuries. The factors that give rise to emergency health problems are complex at every level and require more detailed study.

The Emergency Department Overcrowding Project was made possible by a grant from the Washington Square Health Foundation. The project was launched in order to further define the problem, sort out the causes of emergency department overcrowding and develop new approaches to reduce it. This is a difficult task since, as the IMA discovered, hospitals approach emergency medical care on a highly individualized basis. Health care providers vary with respect to their willingness to assume risk, their creativity and their ability to manage programs. Likewise, there is substantial variation at the community level in terms of the capacity of alternative providers to treat those who present for care in hospital emergency departments as well as in patterns of morbidity among community residents.

In order to accomplish its mission, the project, through a variety of information sources, produced a matrix of strategies for the reduction of inappropriate emergency room use. We believe that this new tool is the first attempt nationally to systematically lay out approaches to address the problem. The strategies matrix lists a large number of interventions aimed at reducing overcrowding and then attempts to sketch some of the benefits, costs and risks inherent in each approach. It is meant to be used by planners, researchers and practitioners in order to develop customized strategies to address ED overcrowding. It is hoped that, over time, many of the vacant cells in the matrix will be filled in.

This report culminates in some new strategies to prevent ED overcrowding. A discrete pilot project is recommended and important research to further define and solve the problem is suggested. Unfortunately, although raw data exists, efforts by the Chicago Department of Health, the Metropolitan Chicago Healthcare Council and others to conduct adequate policy research has been limited. The financial resources necessary to mount this type of minimal research effort has been lacking. It is essential that new projects be established to test how to resolve problems in emergency medical and trauma care in the most cost effective manner. These projects should be guided by research and evaluation using data, much of which is readily available.

The Institute for Metropolitan Affairs appreciated the important contributions of Mary Driscoll and Leatrice Berman, project consultants. Lynn Marie Russell and

James Simmons, IMA senior staff associates, were instrumental to project success. Special thanks go to hospital emergency department nurse coordinators who gave their time and talent to the project. Ellen Holmes, IMA administrative secretary, contributed to manuscript preparation and Roosevelt's Mike Jaros designed the report. Christine Kosmos, Chicago Development of Health, provided assistance during early project development.

Causes of Emergency Department Overcrowding

For clarity, the causes of ED overcrowding are divided into four major categories: [1] cutbacks in human services; [2] primary health care issues; [3] bed capacity and bed control which have affected health status community, welfare and health service capacity; and [4] trauma, which is also mentioned here because violence in major cities is on the rise. When EDs and intensive care beds are overcrowded, trauma victims sometimes suffer by having to wait or to be rerouted to a hospital further away. Each of these four determinants must be considered in order to develop integrated recommendations to relieve ED overcrowding.

Human Service Factors

The 1980s were characterized by federal government retrenchment in the area of health and social service programs. Government programs that benefitted the poor, especially the working poor, were effectively reduced. Although a broad range of programs fell into this category, the Medicaid, family planning, nutrition, mental health, Social Security and Medicare programs were most affected. Diminished federal assistance negatively impacted ambulatory health centers and other clinics. Many hospitals and clinic sites were closed during this period, leaving diminished outpatient care, particularly in communities most at risk for health problems. From a historical perspective, the rise in ED visits and in patient acuity is not surprising. It will now take some work at the local, state and national levels to reverse the trend.

Primary Health Care

Adequate primary care services are lacking in many communities. Public health departments are overburdened and underfunded, community health centers are in short supply and the number of private physicians accepting Medicaid payments is decreasing. The number of uninsured and underinsured Americans is estimated at 40 million and growing. Millions of Americans have no regular source of health care. The Chicago and Cook County Health Care Summit estimated that there is an annual shortage of two million primary care visits in metropolitan Chicago.

When citizens need health care but have no where to go there is still the time honored "emergency room." The emergency department is the place where help is available and payment not immediately asked for. It is convenient, it is open after school, after work and no appointment is necessary. It is accessible to everyone in ways that most primary health care services are not.

Literature reviews and interviews conducted through this project verified that it is problematic to assume that lower acuity cases which present in emergency departments are indeed "non-urgent". Medication refills, information, work-ups for flu and infections of all kinds, need to be seen when and where people are motivated to seek care, so that conditions do not worsen (12,13). People can best receive primary health care in their communities, and EDs should remain as backup to a system of community health care. They should also serve as referral sources until it is demonstrated that capacity and accessibility to quality community health services exist. Until this happens, it is the IMA's position that the delivery of primary care will -- and should-- continue to be an important function of the ED.

The present lack of primary care can lead to delaying treatment and consequently to a sicker population. Hospital admissions from the ED have increased from 30% to 40%. In a recent series of articles in the *Chicago Tribune*, the ED is described as seeing sick people who perhaps could have been helped earlier in the development of their condition in a community setting. Availability and use of primary care as an alternative to the ED is, in the long run, one of the many prevention strategies applicable to reducing ED overcrowding. However, there is no doubt that people coming to the emergency room are sicker for a variety of reasons and present with true emergency situations.

HIV infections, medical problems related to substance abuse, violence related injuries, ailments of an expanding elderly population and the physical health problems of the deinstitutionalized mentally ill will continue to impact emergency department use.

Staffed Bed Capacity and Bed Control

Deficits in staffed beds and the inadequate use of existing bed capacity is a pressing problem confronting the ED today. As the increased rate of hospital admissions from the ED suggest, patients first seen in the ED often require acute inpatient care. A substance abuser appearing in the ED may suffer from a host of medical problems requiring inpatient treatment. Deficits in community services also might prescribe hospitalization. The lack of suitable long-term care for the elderly results in many stabilization admissions. Even if the demand for ED

services were decreased through expanded community ambulatory care capacity, the availability of staffed beds within a hospital can serve as a throttle in producing or reducing ED overcrowding.

In some parts of the country and some institutions, there has been an overall increase in hospital admissions. Despite reduced length of stay, inpatient occupancy has reached a plateau or has increased in many facilities. Hospital closures coupled with a highly regulated inpatient census can lead to a lack of available beds. The nursing shortage has stimulated a focus on "staffed" bed capacity independent of licensed or actual bed count. In Chicago, "staffed" bed occupancy, at 70% metropolitan-wide, is going up slightly as the number of staffed beds decrease and patient days increase.

In an effort to remain solvent and to contain costs during the current recession, many hospitals are regulating average daily census at 90% or higher. Studies have indicated that when the occupancy rate exceeds 85%, the flexibility needed to accommodate admissions from the ED is severely diminished (15). Subsequently, patients may be held over in some EDs for as long as two days (IMA meeting of Chicago ED nurse coordinators, October 21, 1991).

It is important to point out that hospital bed capacity needs are extremely difficult to assess. Little is known at the metropolitan level regarding how hospitals regulate their own beds for elective and emergency admissions as well as the movement in and out of intensive care units. To a large extent, it is not known how overbedded or underbedded the local health care system is. After leaving an era appropriately concerned with excess capacity in overall bed supply, policy makers and health planners have failed to adequately evaluate available data and to focus on the maldistribution of beds. Insufficient work has been done, for example, on the adequacy of Chicago's specialty care capacity for psychiatric, substance abusing patients as well as pediatric, adult and neonatal patients.

The lack of regionalized planning for bed utilization and the maldistribution of hospital beds are factors to be considered in any serious attempt to correct ED problems. Internal hospital bed planning must also be examined.

Trauma

Trauma centers have been hard hit by rising health care costs, and the increase in violent crime in low income communities. Much of the trauma care delivered is uncompensated, and regions are struggling to keep their trauma networks afloat. In the Chicago area, four hospitals have dropped out of the trauma network in recent years, leaving a substantial gap in Level 1 trauma care on the south side of the city. Fledgling legislation to relieve faltering trauma systems has been

introduced at the federal level, but with insufficient funding to make a difference. Until measures are taken to bolster financially ailing trauma centers, they will continue to close.

At the same time, violent crimes of every type are on the rise in large cities. During the last year in Chicago, unprecedented surges were recorded in the number of deaths and injuries attributable to violent crimes (15). On the first day of the new year, the *Chicago Tribune* reported that the city had sustained a record 921 homicides in 1991; "and for every homicide, there were 16 other shootings, 10 stabbings and 19 attacks with clubs or bats."

The necessity for trauma care will increase over the foreseeable future. Some of the deep-seated problems reflected in trauma injury figures are historical and generally acknowledged, such as poverty, racism and the lack of education. More recently recognized is the significance of unemployment and widespread drug abuse. Another type of trauma, accidents, is also on the increase. Alcohol and other substance abuse contribute significantly in this arena as well. The solution to these problems are societal and beyond the scope of this report. However, it is important not to lose sight of these larger public health and primary prevention issues and how they impact on any health care delivery system.

While trauma injury is increasing, it is still a small, but vital, percentage of all ED care. When ED overcrowding exists, it can influence trauma care by closing the doors of the emergency room to those most immediately in need. Trauma injury, by definition, is critical and EDs must remain open to those in serious danger either from acute illness or injury.

Major Findings

A summary of principal findings as to the nature and scope of ED overcrowding follows. These results were based on an extensive literature review, interviews with physicians and nurses from 11 emergency departments in Chicago and a survey of emergency department nurse coordinators from these facilities. Each of the eleven hospitals that contributed have significant ambulance bypass histories. This collective information verified that the following points are crucial for any discussion of the ED overcrowding dilemma:

1. ***ED overcrowding is strongly influenced by the existing gap between demand for acute care, inpatient services and existing bed capacity and/or effective bed control within institutions. It will be prevented by formulating strategies to add and/or use capacity more effectively. The literature is very consistent on this point and discussions with local ED nurse clinical managers and physicians from community hospitals reaffirmed that overcrowding has more to do with adequate bed capacity for sick patients requiring hospital admission than non-urgent primary care patient loads.***

To understand the ED, one has to look first at the overburdened inpatient setting -- greater demand for care than capacity can absorb particularly in areas where hospital closures have occurred or higher risk populations reside. This situation places pressure on both general as well as critical care beds. Actual bed capacity in many institutions is lower than licensed beds as a result of staff shortages (e.g. nurses) and other factors. Deficits in staffed critical care beds, lack of availability of nursing home and chronic care beds and specific-use allocation of beds within institutional settings often restrict the flexibility needed to decompress inpatient settings. This can be exacerbated by lack of timely discharge of hospital inpatients and the prompt reporting of vacated beds (16).

Although the overcrowding phenomenon was first noticed and may be most acute in New York City, reports from Massachusetts, California and other urban areas in the U.S. and Canada point out that there often are simply too many sick and injured patients and too few inpatient beds. Local nurse clinical managers and physicians interviewed through the project did not hesitate to state that the problems they face have more to do with adequate bed capacity and bed control mechanisms within their hospitals than the numbers of non-urgent patients seeking primary care within their emergency departments.

2. ***Acuity levels in EDs are rising as a result of the delays in care caused by inadequate primary care systems and primary disease prevention strategies within our health system and also by the very nature of modern epidemics which create the need for urgent care. Emergency medicine physicians and nurses report patients are typically more sick.***

Literature reviewed and conversations with emergency room personnel indicate that typically 30% to 40% of patients admitted to hospitals are admitted via the emergency room. At the Arizona Health Sciences Center, a 283-bed teaching institution located in an urban area where approximately 48% of the insured

public is enrolled in health maintenance organizations and where there are many competing urgent care centers and hospital emergency departments, it was found that 27% of inpatients were admitted through the emergency department.

Ten percent of records of all ED visits during a four week period were randomly selected for review to look at acuity levels and waiting times in the emergency department. Eleven percent of visits were admitted as inpatients, only 6% presented with life-threatening conditions or cardiac arrest; however, 60% of those sampled needed major care and only 34% of cases required minor care, a combination of least urgent, minimal and minor care (17). As a standard of comparison, the plan for Provident Hospital has estimated that 17% of its ED visits will result in admission.

Recent studies in California have assessed acuity levels and the impact of overcrowding by surveying those patients who have left emergency departments without being treated (7). These studies have found that 46% of those who left were judged to need immediate medical attention; 29% required treatment within 48 hours and 11% were hospitalized within one week. In a follow-up survey conducted by a Chicago community hospital of those who had left their emergency department unseen, 95% of those who left needed some care and only 5-6% of those surveyed did not remember their health problem as being that important.

Northwestern Memorial Hospital nurses reported that only 15-20% of their ED load is triaged to an existing 4-bed fast track unit. Interviews with emergency department physician chiefs at Children's Memorial Hospital disclosed that historically 60% of cases coming into the emergency department were considered non-urgent; however, non-urgent cases have decreased in the last several years as a proportion of total volume; currently, at least 50% of families who report to the CMH emergency department present with children having problems requiring some immediate attention. It is recognized that as a specialty hospital, Children's Memorial's ED is a site that will draw acute problems from across the city.

Higher acuity levels reported from a children's hospital may also point to the greater need for readily available, on the spot care for children. While mothers or fathers may delay the receipt of their own health care, if they believe their children to be sick, they do not want to wait. This is a topic warranting further research and investigation. The results could yield important information about perception of need, patient behavior, actual availability of care and what is required with respect to patient education.

Respondents contacted through the project verified that both overall acuity in EDs and the role of the ED as a source of care for not necessarily urgent but definitely sick individuals has increased in the last ten years. This has occurred despite great hopes in the early 1980's that build-ups in ambulatory care capacity would reduce the role of the ED as a provider of ambulatory care (7,13).

3. ***Linkage with Primary Care for follow-up and development of primary care capacity is a critical strategy in preventing unnecessary use of emergency departments and in fostering early detection and treatment of disease to reduce ED use and hospitalizations.***

Two California public hospitals reported that unmet need rather than inappropriate use resulted in emergency room visits for non-urgent care. Harbor-UCLA Medical Center in Torrance, California found that almost half of the patients who left the emergency department without being treated either could not afford care or knew of nowhere else to go. San Francisco General Hospital reported that 17% of those who left could not gain access to a physician's care within the next week (7).

CRG Corporation, consulting on behalf of the Robert Wood Johnson Foundation, looked at ED overcrowding in Chicago. They reported that although access to urgent care within the hospital setting is crucial in meeting immediate needs for care, emergency and urgent care cases should be formally linked for follow-up to the primary care system. Linking with primary sources of care for Medicaid and uninsured patients was of particular concern. Furthermore, they suggested that new programs should be developed which include joint staffing of hospital-based urgent care programs (hospital and a primary care provider) in order to make referral relationships legitimate and clear to the patient; "hospital EDs and primary care providers should be linked through a direct business relation which is clear to the patient" (18).

Both literature reviews and interviews conducted through the project portray the ED as seeing sicker people who perhaps could have been helped earlier in the development of their condition in the community setting, either in a doctor's office or neighborhood clinic. Availability and use of primary care as an alternative to the emergency department is, in the long run, one of the many prevention strategies to be used to reduce emergency department overcrowding.

Primary care capacity building is obviously a major issue, apart from ED linkage. The need to build this capacity is demonstrated by the role EDs continue to play and the continuous pressure many hospitals, public health departments and neighborhood health centers experience when patient demand cannot be met.

4. ***Literature reviewed and personal interviews indicate that acuity levels and patient use of emergency departments are rising in communities where there are available primary care and urgent care alternatives. From this, it is clear that even in an ideal health care delivery system, the emergency department will continue to play an important role as a first line portal of entry.***

A survey at Children's Memorial Hospital in Chicago concluded that 89% to 95% of those who use the emergency department have a primary physician. Again, Children's Memorial, as a specialty institution, could be expected to rank high on this measure. However, the preponderance of patients with other sources of care may also be a product of the confidence family members have in their own physicians, the availability of evening and weekend hours offered by community providers and the fact that the ED has some very special attributes as a source of care. An important editorial in the *Journal of the American Medical Association* stated:

> Future efforts to redirect walk-in patients away from hospital emergency departments must address the prevailing mix of barriers and incentives that lead many patients to the emergency department triage desk. What to us seems wasteful or inappropriate use of the emergency department may actually be quite rational when viewed from the perspective of the (low income) patient. Hospital emergency departments are always open . . . a significant advantage to those who cannot afford to forgo a day's wages. In contrast to outpatient clinics, which may require physician referral or an appointment scheduled weeks or even months in advance, a visit to the emergency department requires no prior arrangements. Co-payments at the door are rarely requested and never required. Ancillary support--such as that given by laboratory, radiology department and social workers -- is available on site. Perhaps most important, prescriptions written in public hospital emergency departments can generally be filled at the hospital's outpatient pharmacy at far less cost to the patient than prescriptions written by private physicians or community clinics. Any combination of these factors may be a strong incentive to using an emergency department even when primary care is available elsewhere. When neighborhood clinics are inadequate, overburdened or nonexistent, the flow of inappropriate visitors to hospital emergency departments should come as no surprise.

For all patients, rich and poor alike, EDs can be viewed as appropriate and efficient places to go for on the spot, quick and higher levels of care than one might be accustomed to receiving in their physician's office or local clinic. Specifically, if one is not sure what's wrong, EDs can handle ailments from

simple to complex. Americans are conditioned to go to EDs, not doctor's offices, for lacerations, sprains, sport injuries and other problems. If access to a certain level of technology is needed, not all primary care sites are equipped with special radiology, laboratory support, nor are all primary care physicians comfortable with diagnosing specialty medical or surgical problems even as simple as the suturing of lacerations.

Under the most ideal system, it is estimated that 15-20% of emergency visits would still consist of non-urgent, convenience care. Admittedly, the U.S. requires much realignment and building of the primary care system to foster improved primary care utilization. However, the ED will remain a critical point open all hours of the day when people can appropriately receive triage, treatment and entry into the system.

Many reports discuss the desirability of developing primary care walk-in capacity for evenings, nights and weekends. Perhaps it is more efficient to build this aspect of primary care capability adjacent to the hospital ED and thereafter linked to systems of primary care for ongoing and routine provision of service. Further study regarding the cost effectiveness and feasibility of various alternatives is essential.

5. ***Despite recent improvement, there is a general nursing shortage, including local shortages of skilled intensive care nurses. This restricts both hospital and ambulatory care capacity. The nursing shortage not only affects service capacity, but also patient education which ultimately influences service utilization.***

In 1986, The American Organization of Nurse Executives released a survey showing that the average vacancy rate for full-time RN positions was 13.6% and climbing. This rate was even higher in inner city hospitals and nursing homes (19). Significantly, this comes at a time when more nurses are working than ever before.

The demand for highly complex technological care has increased the demand for more and better educated nurses. Related rising health care costs have probably resulted in quicker and sicker patient discharges, with a consequent demand for home care by nurses. In school districts such as Chicago, where nurses could clearly have an impact on prevention and education, one RN school nurse is assigned to four or more schools. Ambulatory health centers and public health departments cannot fill their nursing vacancies. Demand exceeds supply at every level of the system.

The availability of alternative career paths for women, generally low compensation and inflexible working conditions are some of reasons for fewer entrants into the profession. Salaries for nurses remain below those of other female professionals, and nurses should not expect their wages to rise substantially as a result of many years of experience.

There has been, until recently, a lack of positive outcomes by nurses in the political arena in most states. In Illinois, nursing has lagged behind other professions in the area of third party reimbursement for services as well as behind nurses in other parts of the country. Illinois is the minority of states that do not directly reimburse nurse practitioners or allow them to prescribe pharmaceuticals. Until this situation changes, nursing will not be able to reach its full potential. Health care delivery systems cannot operate without nurses. However, maximum use of nursing staff awaits further modification in their responsibilities and prerogatives. In particular, nurses afford a resource pool to be applied to referrals, triaging and expanded primary care capacity pertinent to ED misuse.

Strategies to Relieve Overcrowding

The Emergency Department Overcrowding Project was aimed at developing realistic approaches to address ED overcrowding. Specific strategies and recommendations follow. They can be employed jointly or separately, depending upon the need of the particular institution or community. The strategies listed are further described in the matrix appended to this report. The recommendations, which emanate from the matrix, are considered to be the most feasible approaches based on information uncovered to date. The last recommendation listed is a systems approach to planning which will lend itself to demonstration projects in specific communities and which make full use of project findings. Community groups, institutions, public agencies and others are encouraged to employ this report and to make use of the matrix, to assist in solving ED overcrowding issues. Policy institutions and foundations can address the issues raised in the report by initiating projects for demonstration purposes.

In order to permit maximum comprehensiveness and flexibility, strategies have been grouped into the following categories:

- Primary prevention of disease and injury
- Community and general education with respect to appropriate use of the emergency room
- Effective organization of the emergency department to triage cases, and to dispense care as efficiently as possible
- Linkage of emergency departments to primary care systems to prevent subsequent non-urgent care and inappropriate facility use
- Development of primary care capacity within the community setting
- Development/reorganization of hospital capacity and effective use of available beds
- Policy changes that make the above program strategies financially possible
- Examination of nursing prerogatives and more effective policies to recruit and retain nurses

Although lack of critical care and bed capacity are often specified as major causes, strategies to cope with overcrowding are not adequately dealt with in the literature. Discrete interventions such as computer systems to identify empty beds within hospital systems to Medicaid enrollment programs to make emergency care services financially viable can be found (1). However, insights on broader strategies were much more likely to emerge from discussions with emergency department directors, physicians and nurses. The best of these ideas are incorporated in the "Recommendations" section of this report.

On the issue of limiting the role of the ED as a source of non-urgent primary care, the literature supports aggressive triaging, development of hospital-based fast track and urgi-care centers, linkage and referral to community providers (3,20). As a result of the IMA investigation, there is a need for health care providers to offer incentives for medical and nursing staffs to initiate change. The "buy-in" of medical and nursing staff can determine success or failure of the strategies contained in this report.

Recommendations

As stated earlier, factors underlying ED overcrowding can be roughly grouped into the following categories: [1] a rise in poverty that accompanied federal program retrenchment; [2] the demand for primary health care services; [3] the discrepancy between bed capacity and demand; and [4] the increasing number of uncompensated trauma cases and the closing of trauma centers. Each of the following recommendations to relieve ED overcrowding attend to one or more factors contained within these categories.

Triage, Hospital Based "Fast Track/Walk-In" Units and Primary Care Linkage

To the extent that the primary care system is inadequate or poorly coordinated, the need for the ED continuing as a source of acute, walk-in services remains. As stated elsewhere in this report, the ED is a time honored place where people in need of health care present when other resources have failed them. This use of the ED as an ambulatory care site engenders the type of overcrowding that ties up staff, equipment, rooms and ED beds. Primary care overcrowding of EDs results in unnecessarily long waits. This is caused by a higher volume of walk-ins than an ED staffing pattern can handle, and by the fact that the ED setting, by design, assigns higher priority to more acute cases. The ED is not configured for optimal response to health problems that could be handled in a community outpatient setting.

Other problems exist. Within the ED, for example, physicians needed to discharge patients may not be available at the time that the discharge is needed. Time may be lost because a senior resident is not available and the attending staff cannot get the patient moved (for example) until the afternoon of a morning ED admission. A patient may present with "chest pain" and staff may not be equipped (or may not have the time) to make a definitive diagnosis. With a senior physician present, it might be determined that the chest pain was not of cardiac origin and that the patient should not be transferred an intensive care unit.

Hospitals have begun to handle patient volume more efficiently through: triaging of walk-ins by nurses or specially trained staff that assigns acuity levels to patients and shunts them to an appropriate level of care; fast tracking to an acute care clinic connected to the ED; and appropriate staffing to separate this "traffic" from the rest of the patients.

The IMA recommends these approaches as the very minimum for hospital EDs with a high volume of walk-in, low acuity patients. Although some local hospitals currently utilize this type of approach, a closer look at all Chicago hospitals is necessary. Different implementation models, financial incentives for or against fast tracking and incentives for staff to operate in this type of setting must be better understood before wholesale implementation occurs.

Fast Track, Linkage, Case Management Plan

While some local hospitals have begun to implement these systems, and some have operated them for years, a broader effort in the area of referral and case management is necessary. Local EDs should develop an expanded capacity to refer at risk families or those without regular primary care providers to community systems of health care for long term support. Hospital EDs can link with primary care providers and social service agencies in their communities and establish concrete referral relationships. Using a case manager or linkage coordinator, patients seen in the emergency department can be educated about appropriate use of the ED, the importance of a regular provider of care and be given a specific follow-up appointment at a community care site.

Patients can be reminded of the appointment by card or phone and via case-management or linkage to ambulatory care settings in the community. This must be coordinated and incentives provided for all service delivery components. This "fast track, linkage, case management plan" is the IMA's recommendation to maximize the role of the ED as a respondent to the ever growing need for primary care.

Incentives are necessary to achieve this. In order to embrace the above plan as viable and cost effective, hospital EDs will have to be compensated for their part in the provision of basic health care. It is recommended that if hospital EDs are willing to set up the "fast track, linkage, case management" model, they then should be compensated as "federally qualified look alike health centers" or reimbursed at full cost utilizing comprehensive hospital outpatient rates.

Hospitals also need to appropriately staff and not tie up trained ED personnel in the provision of primary health care. Services for the uninsured should be subsidized by special state/federal pilot programs. This would provide the necessary incentives for hospitals to allow their EDs to take a comprehensive approach towards defining their function as primary care providers. While Illinois' state fiscal picture is grim, this is the very time to experiment with new approaches holding the prospect to lower costs and improve efficiency (22).

Linkage and Exchange of Staff with Community Health Centers

The ED serves an important function by being available to deliver health services when and where people are motivated to seek them. Recommendations have been made for demonstration projects in which hospitals and primary care centers link and jointly staff ED walk-in/fast track units (11). The presence of primary care center physicians and nurses clearly conveys the message to ED users that they could have received their care "down the street" and begins to transfer allegiance on the part of the patient to the primary care provider to which he/she will be referred. This recommendation is innovative and sound, but not as easily attainable. It is far more limiting than a community wide coordination of ED and primary care services for referral and follow-up. However, the IMA supports this type of demonstration for effective primary care linkage.

Likewise, new arrangements may be possible with managed care plans. For example, it might be possible for a managed care plan to triage patients only at night for a prescribed geographic area. If the visit resulted in a hospital admission the following morning, records could be transferred.

Community-Based Case Management and Health Stations

Another strategy to resolve the acute, walk-in type of ED overcrowding is the preventive identification, through community agencies, of families at risk or those with no regular source of health care. These individuals should be provided with education and referral into the health care system. Again, a case manager or linkage coordinator (nurse, social worker or community advocate, depending upon the need and staffing at the site), would explain the importance of receiving regular, continuous care. Patients would be referred to a community provider for a specific appointment, and follow up would be provided. Suitable community agencies include WIC sites, schools, Head Start offices and Public Aid sites. Ideally, this approach should be tried in communities that have high ED usage for low or moderate acuity problems. Data are needed to identify these communities and then should be made available to community agencies, public health departments, health planners and policy makers interested in the issue.

Outstationing

A more intensive, but very effective, application of community based case management is an outstationing model. Nurses or nurse practitioners connected to hospitals or community health centers can provide health assessments and triage at a community based non-health agency such as Families With A Future, the Chicago Housing Authority, Senior Housing, Parent-Child Centers, multipurpose social agency settings or any area of high patient traffic. Nurses would assist the community in health promotion endeavors and dispense needed

hands-on care. After the initial encounter with the nurse, clients are referred into a regular source of primary care; i.e., a physician's office, public health clinic or community health center. These sources are responsible for the ongoing primary care, and should be linked to 24-hour call capability.

Disease-Specific Case Management

A variant of outstationing would involve the identification of specific health care problems that appear in the emergency department on a frequent basis. Responses (e.g. treatment, prevention, education) internal to both the ED and alternative providers would be organized around the disease in question. This would include chronic diseases of an episodic nature such as asthma and sickle cell disease with pain crisis. Families having a member with such an ailment would be counseled regarding optimal use of the health care delivery system, including ED use when appropriate. However, every attempt would be made to coordinate with non-ED providers to handle this episodic care in the most effective manner.

Community Education

Another general approach, best characterized as a media education approach, would promote in a mass way -- through radio, TV, billboards, newspapers, and community outreach -- the importance of acquiring a consistent source of health care and using the ED appropriately. This campaign could also be integrated to a hotline referral for sources of primary care. The IMA recommends this approach in conjunction with the other strategies mentioned. On its own, media communication of this nature is potentially risky. Unless there are real, alternative sources of health care, a message discouraging use of the ED can potentially restrict access. However, this type of campaign, in combination with a total community approach, can be effective and rewarding. Different forms of and locations for community education are outlined in more detail in the matrix for use by planning groups concerned with overuse of EDs.

Provider education is another important piece of a community education strategy. The message must be echoed and given credibility by health care and other human service providers in the community. For this to happen effectively, these groups must be educated by their professional societies, governmental agencies or community organizations about the issues, proposed strategies, and their responsibility in conveying the message. Here, again, incentives will be important in getting providers to buy into an overall strategy that may include: private M.D.s sharing a 24-hour answering service call; changing office hours; and/or linking to an overall network for case take on/management and referral.

Primary Care Capacity Approaches

In order to organize effective linkage and referrals between hospital EDs, community ambulatory care and community agencies, community primary care capacity must be examined. This strategy was a major focus of the Chicago and Cook County Health Care Summit. Efforts are currently underway from many paths, the foremost being the Cook County/Chicago Department of Health Ambulatory Care Council, to examine the question of quality primary care capacity in metropolitan Chicago. As the issue of ED overcrowding becomes focused around a specific set of institutions and communities, it is recommended that the council review appropriate linkages of ED services to primary care providers.

Nurse Managed Primary Health Care Center

The University of Illinois at Chicago College of Nursing and the Institute for Metropolitan Affairs are pilot testing a nursing center model on Chicago's west side in conjunction with the Midwest Community Council. The proposed facility, located in East Garfield Park, will examine the roles nurses can play in providing affordable primary health care to low income city residents.

The facility is intended to offer a set of functions that have a unique bearing on reducing ED overcrowding. The nurse center model will incorporate a highly developed patient referral system that can expedite the movement of low acuity cases from the ED to appropriate and available community care sites. The nursing center also holds the promise of identifying and mediating the needs of families at risk. With a strong predilection towards health promotion and education, the center will also contribute to "front end" reduction of ED low acuity cases.

Bed Capacity and Control

This report confirms that the problem of bed capacity and inventory/control mechanisms governing the admission of patients continues to be a large problem in many institutions. Analyzing the adequacy of bed capacity in specific geographic or medical specialty areas should be one of the first items on the agenda to reduce ED overcrowding.

There has been a strong historical focus on bed supply and population-bed ratios. Small area analysis, however, must be used in examining the issue in the context of ED overload. For example, the Metropolitan Chicago Healthcare Council (MCHC) and the Illinois Hospital Association (IHA) have data on hospital utilization and ED overcrowding which could be used for targeted research in this

area. The IMA recommends that relevant organizations and committees look specifically at these data to define a study which would examine relationships between licensed beds, staffed beds, reported bed shortages, ambulance diversion and hospital bypass. The study would also investigate intra- and inter-hospital bed allocation mechanisms and their relationships to ED overcrowding. Secondly, restructuring hospital bed allocations in response to the stabilization admission needs of older adults and the general need for increased chronic care capacity should be explored. Further, the need for observation units in EDs to watch patients, up to 24 hours, who might not require admission but need stabilization and assessment, could have a substantial impact on hospital operating efficiency and ED overcrowding.

Discussions with nurse clinic managers assigned to the ED revealed that internal hospital procedures, policies pertinent to timely discharge, protocols for moving patients to and from general to intensive care beds, communication between ED units, general and critical care units to access available beds and physician roles in making rounds and writing discharge orders on a timely basis all appeared problematic and linked to overcrowding in the ED. Pilot projects must be considered to improve intra- and inter-hospital protocols to more effectively utilize existing capacity and to avert ED overcrowding.

The following specific ideas appeared to be most useful to incorporate within such a pilot project:

- Create ***observation bed areas*** within EDs to hold patients, up to 24 hours, who may not need to be admitted or require stabilization and assessment before admission.

- Consider separate entry ***triage and holding areas for chronic patients*** (HIV, nursing home) who enter the hospital for work-up of an acute episode or for observation. This mechanism separates these ambulance admissions or walk-ins from the trauma and non-urgent care; these populations have specific needs, multiple admissions/year and are often known to the institution and its physicians or reside in affiliated nursing homes or other skilled care facilities.

- ***Nurse and Administrative Based Bed Control Mechanisms.*** The efficacy of existing nursing and admitting office procedures for facilitating discharge of patients should be assessed. For example, there are a variety of systems that have been installed in hospitals to improve communication between ED nurses and critical care nurses in accessing critical care beds on a more timely basis. The continuing shortage of nurses has led to a lag

time in the reporting of empty beds and, consequently, programs such as a "Nurse Cop" have been instituted. Nurse Cop programs review all potential discharges and facilitate or lift barriers affecting discharge delays.

Special discharge lounges have been created to move patients waiting for physicians, medications or final orders out of their beds more quickly. The role of ED nurses has been expanded to complete and facilitate, on behalf of admitting physicians, the total pre-admission work-up of a patient in the ED, including advocating for quicker admission to inpatient units. These mechanisms contribute to patient satisfaction as well as timely admissions.

- ***Physician Run Bed Control Mechanisms*** Similar systems have been established utilizing physicians, often salaried by the institution, who police their peers on an interval basis (e.g. every 8 hours), to facilitate discharge of patients. In this analysis of bed control mechanisms, it was clear that physician managed and driven protocols would be most innovative in local hospitals and would, to some degree, immediately respond to problems in accessing available bed capacity. Nurses and admitting offices, after trying numerous systems, often feel helpless in influencing physicians in the discharge process.

  It became clear in interviews with community and teaching hospital emergency department nurses, that a recommended step in improving access to existing beds is to develop physician based systems for effective patient discharge. For example, Scarborough Hospital in Ontario reported the effective use of a physician managed admission system wherein a physician admits only by discharging his/her own patient or borrowing an assigned bed from a colleague (16).

  This represents an area for innovation which can have some immediate effects not only on ED overcrowding but on overall efficiency. It is recommended that demonstration projects be established to include a thorough review of existing institutional mechanisms. Ideally, it should include a focus group of physicians to identify the degree to which physician managed discharge routines might be helpful in beleaguered hospitals, often operating on the edge of bypass.

  For example, at Illinois Masonic Medical Center, committee meetings were established by the Medical Director involving all clinical services. Mandatory meetings were held every two weeks to conduct joint problem solving in areas that included bed control. Of great importance was the fact that feedback was made possible from the end point of patient

discharge back to the point of initial triage within the emergency department. Feedback on the status of patients admitted for inpatient care to those initially involved in ED triage decisions rarely occurs on a systematic basis.

- ***Code Bypass*** was another useful idea which emerged from discussions with hospital personnel. This includes the development of a quick and effective hospital-wide communication system that puts all units, their respective administrators, nurses and physicians on notice that the institution is on the verge of ambulance diversions or bypass. Although this mechanism will not always be useful when a hospital is truly overburdened -- and it is acknowledged that there needs to be sufficient notice to implement urgent procedures -- a number of contacts believed that this might be an effective method to elicit action among all hospital units to free general and critical care beds for ED patients. A Code Bypass, which alerts all units, would be a helpful communication device in support of the ED. Hospital staff should consider the efficacy of this option and design suitable protocols.

- Finally, already in place are the ***telephone and computer linked inter-hospital communication systems*** which can quickly inventory actual bed capacity in a network of hospitals (and perhaps citywide) as part of regional EMS systems. A demonstration project should review the current status of these systems, their internal protocols, hardware and software requirements and their effectiveness in distributing the active patient load throughout the hospital system, particularly when institutions are nearing bypass status.

The process and outcome of shaping an effective institutional response system, so critical to ED functioning, can be facilitated through stipends and grants used as incentives to implement innovative approaches to bed control. Institutions, once engaged in the planning process, will be in the best position to determine the specific steps which can be taken.

As noted above, a major priority necessary for the prevention of ED overcrowding is measurement of actual deficiencies in the total staffed bed complement in given areas of the city. Improvements in hospital (internal and external) linkages can facilitate decompression of EDs and should be attempted. However, the literature suggests that many of geographic areas may need additional bed capacity.

In cities like New York, which have witnessed hospital downsizing over the past decade, there has been clear recognition that reconfiguration of institutional capacities to cope with psychiatric populations, aging populations, HIV, illicit drug use and violence often require increases in acute care capacity.

Intermittent reports in Chicago have focused on shortages in pediatric and neonatal intensive care beds. Perhaps, in specific pockets of need, building programs may be needed beyond those sometimes contemplated for Cook County Hospital and its satellites. Strategic planning to reduce ED overcrowding must incorporate an openness concerning the possibility that planning may reveal a stark need for new capacity in acute care, critical and chronic care beds.

Trauma

Well planned trauma systems protect all citizens in times of dire need for immediate high level medical care (21). Recommendations for the Chicago area trauma system need to focus on payment issues. For the moment, the regionalized system, albeit fragile, is still in place. Rather than needing more members, the present members within the system must be retained. Adequate reimbursement of these facilities is the most powerful tool for ensuring the survival of the trauma system.

The amount, method and linkage of payment to explicit expectations about service delivery will have important implications for safeguarding the regionalized trauma network. Legislative appropriations, both state and federal (either Medicaid or special grants), must reimburse the costs of care and the staff/equipment required for trauma readiness. These allocations should be tied (as they are, in part, today) to developing regionalized plans that include triaging, transport, telemetry and communications systems and there must be money allocated to pay for uncompensated hospital trauma care.

Planning, Research and Finance Strategies to Support Recommendations

Model Project: Community Planning/Needs Assessment.

As a vehicle for the implementation of the above strategies, the IMA recommends focusing on specific community areas. The intent would be to develop a needs assessment leading to an Emergency Department Overcrowding Action Plan.

With available data from the EMS system, one or two hospital clusters within Chicago would be targeted. These facilities would be located in communities where overcrowding is a problem. The specific geographic areas which they collectively serve would be identified. Within the framework of a community wide planning process, primary health care providers and other organizations with a community orientation would join with hospitals to form a consortium. With technical assistance, a community specific analysis of the causes of overcrowding and a planning process would be instituted.

This will be expedited by data drawn from the EMS system, hospital information and focus group or other group process methods to elicit a collective and comprehensive understanding of the determinants of overcrowding in each locale. A customized set of activities would be delineated using, in part, the compendium of strategies contained in this report. Specific projects can reduce ED overcrowding and lead to further understanding of the overcrowding problem.

Data particularly valuable to this preliminary needs assessment includes:

- Frequency of bypass, ambulance diversion and the reasons for diversion; retrospective or prospective analysis by hospital
- Patient origin data from relevant EDs
- Bed capacity and control measures already in place (to model improvements and remedies)
- Linkages already in place and existing inter-hospital and hospital -- primary health care center relationships
- ED patient risk profiles, e.g. acuity levels and presenting problems, age, admission rates and admissions to specific services; discharge status/diagnosis; routine source of care

A multi-foundation initiative might be considered in order to stimulate the project. Local consortia might compete for available funds.

Research

Embedded in this report are important research recommendations, explicit or implied. For example, mentioned is the need to develop and use local planning data; the need to develop a financial reimbursement plan for both ED and trauma services and the primary care -- ED linkage models.

Several other key research questions are implied in this report. It is recommended that study of these questions be both central to and integrated with local demonstration projects:

- What aspect of overcrowding stems from deficiencies in the supply of general or specialized critical care (e.g., pediatric intensive care) or chronic care beds?
- Are there clear geographic pockets of need for more primary health care?
- Is there an overall shortage of hospital beds, or a shortage in certain geographic areas? Although covered in the Health Care Summit, more detailed information is needed.
- Is there a significant difference in pediatric vs. adult acuity levels in EDs? In admissions?
- What hospitals have implemented physician managed admission and discharge systems? Why haven't more hospitals done so? What is the feasibility of alternative approaches and how can they be expedited within the hospital setting?
- Why haven't more hospitals implemented ED fast tracks to take care of non-urgent patient loads? What are the institutional administrative, staffing and financial incentives or disincentives for doing (or not doing) so?
- What is the feasibility of community providers being linked to 24-hour call capability? Could this be expected to make a difference in patient ED usage?
- What incentives are necessary for successful strategy implementation?

Financing

Support of publicly subsidized capital expansion projects to develop bed capacity and increase primary care in areas of high need may be required. This would take the form of government contracts or grants, public bond issues, and state and federal reimbursement schemes. Another goal would be to raise third party payments to approximate the actual cost of care. Special tax support through user or personal fees on alcohol, speeding tickets and steep drunk driving fines should be tied to increasing financial support for trauma.

National health reform or a national health insurance, tied to effective health planning, is the ultimate solution to funding and implementation of all the recommendations for health care reform. It is important that in the current fervor to articulate national reform plans, the issues of ED overcrowding and improved emergency medical care are not lost in the shuffle.

Strategies for Decreasing Inappropriate Emergency Department Use

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
PREVENTION AND COMMUNITY EDUCATION									Yes/No	
Education Campaign										
Content: When to use ED-911 system. Importance of having primary care provider. Referral resources for pc.	Mass Media pub. service announcements brochures; posters; Counseling @ pt. of service Training of providers Development of community referral list.	Focused, pertinent; necessary ground work for other stragegies; Community "penetration" can be effective with both grassroots and mass media effort working together. Provider outreach and training is required.	6-12 mos.	18-24 mos. +	Ongoing; required updating.	Intense effort requiring quick results is very $; slower penetration and demonstration of the community based model might be done in several communities for < $250,000.	High	Can create more demand than available capacity; overall should increase use of primary care.	Useful to change human behavior; work into scheme; agencies may not require.	
Targets: CDOH Clinics	All of the above	Needs to be linked to ED linkage coordinators and follow-up from ED; CDOH clients should carry identifiable clinic cards; Needs to have on call 24 hr. capability to assist patients in avoiding ED for non-urgent problems that can be taken care of morning after.								
Private Practitioners (free standing and in hospital)	Brochures, posters, one-on-one counseling. Training through mass mailings from Medical Society, IDPA and other.	Needs 24 hr. on call capability; see above.					Potentially low level of participation; outreach to private MDs is invariably less hands on.		Yes tied to reimbursement or licensure.	IDPA/insurance or state licensure for practice
WIC-Public Aid offices-FWF Headstarts	All of the above Contact Lead Agencies	Needs case management capabilities for referral to pc providers in a fashion like Medicaid Partnership.								
Schools LACs School Nurses and Clinics	Brochures and posters; Contact Board of Ed. to access schools; Contact LACs to speak @ meetings; Use LAC members to continue to promote idea among parents/students, train/orient nurses/clinics.	Tie to referral system.					Accessing schools and making this a priority for them = low feasibility. Not enough school nurses to make major difference.	Begins to foster linkage between schools and health sector/issues.		

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
Police Department DHS Dispatch operators/ personnel.	Training of police and DHS dispatch workers a priority. Training needs to focus on appropriate use but also on appropriate assessment of urgent, non-urgent and emergency.	Linked to specific referral protocol and available sites in each local community that can back up/ replace ED as the source of non-urgent care.					Difficult to train non-clinical police/dispatchers to appropriately triage. Primary care facilities may not be equipped to take people off street and provide intensive mental health support.			
Constituency Organizations: Community Organizations AARP League of Women Voters Churches	Local media materials and local outreach to groups/ chapters; Lend credibility to campaign by sponsoring/promoting; Train as to issue/remedy; Act as advocates and provide counseling and referrals.	Needs referral list/resources. These are powerful groups vis a vis local constituencies. Involvement is key.								
CHA	See schools (above), same strategies.	Needs linkage to case management on site or close ties to such agencies; Need linkage to outstationing (see below).								
Libraries, post office, grocery store, currency exchange, banks	Local media materials distributed	Broadest component of overall educational strategy with the greatest visibility.								
TV, Radio and Newspapers	Develop media partners who will contribute to effort & offer high volume of media time. Ad agencies approached to be partners as needed. Editorial boards contacted & editorials written; PSAs and news shorts are most effective.						ED issues make "good news"/commitments may be easy to get.		Partnership has to be declared for promotion of corporate image and allocation of funds to effort.	
Mandated 24 hr. call for primary physicians as condition of third party reimbursement (Medicaid & private)		Low to moderate.	12 mos. negotiation w/ 3rd parties	24 mos.	Ongoing w/ enforcement	Moderate for providers in solo practice	Resistance from Med. Society, MDs and 3rd parties; enforcement poses problems; achievement high as most MDs have arrangements.			

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
ACCESS AND LINKAGE TO PRIMARY CARE STRATEGIES										
Case Management Strategy										
Targets: **CDOH clinics and NHCs** **WIC-Public Aid offices-FWFs Headstarts** **CHAs** **Community Agents**	Social and public health agencies identify people without usual source of care/or need of primary care; directly make appointments/advocate until clients are connected to primary source.	High to moderate Volume of people affected needs to be great enough to yield impact. Needs to be tied to referral or hotline. Service capacity has to be available.	2-6 mos. after orientation	24 mos.	Ongoing	Cents	Providers must create partnerships. Linking medical and social organizations can be tough and labor intensive. Very feasible, however. Capacity shortages can compound linkage.			
Medicaid Partnership Strategy	Reimbursements-linked enrollment of Medicaid eligibles into a linked case management primary care system with assigned primary care providers who function as gatekeepers.	Unknown Objective is to reduce ED use, increase primary care use, decrease admissions and overall reduced health care costs.	12 mos.	24 mos.++	Ongoing after demonstrated effectiveness.	Costly upfront; may be offset by long term cost savings.	High with commitment of all participants; ambitious networking required.	Creates an effective ambulatory care system and achieves sensitivity among health providers and payors.	Yes, staff or health financing tied in.	Medicaid waivers required.
Community Advocacy Strategy	Trains and utilizes community lay workers to act as casefinders and managers (see above).	Needs linkage to strong case management strategy (see above).								
Outstationing of Health Providers ***Targets:*** **FWFs** **CHA** **Senior Housing and congregate living**	Nurse practitioners set up health assess./triage capacity in high traffic/high need areas. Provide health promotion/ prevention services. Provides immediate "hands-on" care for very high risk population; facilitates effective referral with transfer of records; takes burden of appointment making and linkage off of social service case managers/outreach workers. Provides risk assessment, walk-in capacity and direct linkage after appropriate triage in very high risk populations (same as above).	High Needs connection to specific primary care providers.	6-12 mos. based on space, linkage issues, recruitment	18-24 mos.	ongoing	Moderate	High; some political barriers exist related to confusing this as an alternative to comprehensive primary care as opposed to merely a linkage strategy.	Provides immunization, lead testing and other public health initiatives to a population at risk.		Practice act of mid-level nurse providers may need to be re-examined.

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
Mobile Units	Mobile van equipped by City or County providing immediate "hands on" care for high risk populations or at times of epidemic conditions, such as flu outbreaks. Provide linkage and referral into primary care.	Moderate More effective at times of epidemic. Needs connection to local primary care providers.	24 mos.	Immediate	Ongoing	$	High	Same as outstationing		
Primary Care Hotline 24 Hr.	Neighborhood or region based hotlines with latest info. on available openings/capacity; referrals or switchhooks to primary care providers;update daily; appointment making on line can be centralized for all regional providers.	High. All targeted agencies would benefit.	8-12 mos.	Immediate	Ongoing	Moderate to $ depending on scope and technical sophistication.	Requires high level of cooperation, but feasibility is high.	Assists in developng identified regional service networks; up-to-date, dynamic database on capacity/needs/ shortages demand creates powerful planning database.	Natural incentives to expand market share by joining hotline; competitive pressures may require incentives.	
PRIMARY CARE CAPACITY DEVELOPMENT STRATEGIES										
Planning Regional	System wide; includes hospital and ambulatory primary care, much like perinatal network regionalization and goes beyond trauma care. Looks at bed and ambulance capacity, ED use and allocation of funds for additional services based on need.	High for all types of planning	1-3 mos to get groups together	Depends on level of implem.	Planning phase: 8 mos.	Cents	Regional planning is high profile; lage scale plans can run into political turf issues and require large scale capitalization for implementation.	More rational allocation of scant resources; paves the way for planning for a national health system.	Will need $ for implementation	Legislative mandate to set up system for ED (vs. trauma) planning would be helpful.
Intra-hospital	Planning within hospital to relieve overcrowding of ED; see section below on Hospital based ED/Ambulatory Care Strategies.						Easy to do, but could face opposition from under-utilized depts.			
Inter-hospital	Planning among hospitals; possible strategies suggest hotline to determine status of ED capacity at any given time, shared staff and continuing education.						Could be difficult, but feasible; in self interest of most hospitals; reps. come together in several forums on related issues.			
Community	Similar to regional, but defined area is a geographic community. All providers,hospital and primary care assess ED status and plan how to relieve overcrowding.	Community planning tied to regional authority or public health dept. is most realistic to relieve ED overcrowding.					Difficult, but possible. Faces problems similar to regional; overarching interests of "community good" unite and possible to define turf.	Community planning group would become Community Health Board.		

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
NHCs. FQHCSs enhanced by NHSC recruits	New starts identified in system-wide and community based planning. Expansion of existing centers based on need.	Need to reduce "contract buy-outs" of Corps MDs and extra incentives for least desirable areas. Need to encourage staying in corps practice site as career opportunity.	24-36 mos.	36-60 mos.	Ongoing	$ for new starts $ for better salaries and more clinicians	High with political commitment and $	Improving community based infrastructure for primary care upon which many other strategies depend. Can spark a great deal of innovation.	Yes, grants and reimbursements, incentives needed to improve effectiveness of Corps.	Legislation in force but more dollars required.
Public Sector Services	Increase productivity, recruit mid-level practitioners and more MDs; increase partnerships, contracts and affiliations for hospitalization; approve more starts for both comprehensive service and categorical (i.e. MCH stations, Family Planning, Healthy Kids) based on need in community.	Highly effective in meeting demand.	6 mos. +	12-24 mos.	Ongoing	$	Public sector "look alikes" (FQHC) eligible for Medicaid encounter rates.		Reimbursement & salaries	Need legislative and bond issue initiatives.
Private MDs delivering Charity Care	Allocation of free care slots to build additional capacity among existing practices; number of slots per practice is small and presumably affordable; collectively the capacity added is great.	Low Requires Medical Society push and major effort. Physicians not even adequately available to communities of greatest need.	12 mos.	36 mos.	Ongoing	Cheap	Low (see efficacy)		Yes Professional recognition; Malpractice caps	May require legislation for malpractice caps and reform of tort.
Urgi-centers	Evening and weekend hours offered at specific sites and/at times of known peak ED use. Used as a referral resource for overcrowding.	High Responds to need for after hours walk-in care.	6-12 mos.	Immediate	Ongoing	Moderate to $	High feasibility; attracts capital as is known to be profitable for some populations.	Free standing Urgi-centers not linked to comprehensive primary care may not deliver highest quality of continuous, comprehensive, preventive service.		
Mega-Clinics	High tech ambulatory diagnosis, surgical and day care or birthing center capacity which reduces demand for hospitalization and demand for care in general. Program components vary with community and respond to community based planning.	Unknown	36 mos.	immediate	ongoing	$	Varies depending on hospital competition, surplus and demand.	Could duplicate already existing secondary level service & make hospital even less competitive; this may be productive in long run, but would have certain short term negative, dislocation effects.		May require some regulatory/ licensure support.
Worksite Health Services (for non work-related problems)	Promote use of/develop worksite resources for walk-in, low acuity/ acute problems to reduce need for care after work. Couple with health promotion and education about appropriate use of Services and need for usual source of care.	Moderate-high Would respond to workers need to not leave work to seek primary care and thereby would reduce after hour demand.	6-24 mos.	24 mos.	Ongoing	$ for worksite starts would be specifically for small businesses; already available at large but perhaps not always used.	Non-stigmatize worksite as reliable source of care.	High feasibility, but workers may not wish to use employer-based programs or even take time off of assigned duties. Need also to change employer attitude about time off during day for primary care.	$ and regulation related to mandated health benefits for workers.	May require some regulatory support to make widespread. Would tie primary care to health promotion at worksite & develop convenient, accessible resource.

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
HOSPITAL BASED ED AND AMBULATORY STRATEGIES										
Aggressive Non-MD triage at point of entry	RN, NP or PA greets at door, hx, checklist/vital signs taken to determine acuity as to need for fast track triage or referral.	High, directly attends to problem.	1-2 mos.	Immediate	Ongoing	Cents	High	Education of patient that ED is not appropriate for non-urgent care.		
Fast track Program Hospital Based Model	Develops adjacent place to see walk-in pts. triaged	Very effective: but must link to ongoing primary care.	4-6 mos.	Immediate	Ongoing	Moderate	High			
Joint Venture Model	Joint venture includes collaborative effort with a primary care provider who will either staff all or part of a program even if on hospital premises to ensure effective link to triage.	Immediate transition to primary care provider may produce better compliance and linkage.					Joint ventures may be hard to execute re: cooperation required; is difficult to pick a single primary care provider w/enough capacity.			
Low acuity cases referred to neighborhood provider		Delays receipt of care-high probability of non-compliance								
ED based linkage coordinator	Refers all ED visitors to primary care for ongoing follow-up. Requires resource inventory and aggressive follow-up/tracking.	Moderate: patient compliance may be low in keeping follow-up appointment, a lot of work may go into the referral process for potentially low yield.	1 mo.	Immediate	Ongoing	Cents	High	Primary care capacity is needed.		
Mobile Unit	Unit to locate EDs that need relief from non-emergency caseload to avert crisis overcrowding.	High, provides immediate short term relief, but by itself does not address system issues unless linked to referral into primary care.	3-6 mos.	Immediate	Ongoing or until system issues are addressed	Moderate to $	High, would give sponsors high visibility/good image	May install planning for overall system by providing short term relief. If not linked to increased use of primary care providers, increased benefits from having a continuous source (prevention of overcrowding and overall health status improvements) are reduced (same as above).		
Use of PPO/IPA Networks HMO facilities or Hospital Primary Care physicians	Networks of providers in vicinity can be approached through IPA/PPO org. to accommodate appointment availability for non-emergent ED walk-in pt. despite the fact that patient is not insured by Network plans. This plan "kicks in" in overcrowding conditions. Patients taken in special van/ shuttle.	Same as above. Should also be linked into referral for ongoing primary care. This will be more difficult to organize with multiple providers unless hotline available.	12 mos.	Immediate	Same as above	Cents to moderate	Low: hard to implement and requires high level of cooperation or high incentives.		Yes, from public sector or hospital	Needs state regulation from insurance authority or hospital may have to stipulate this as a requirement of staff privilege for primary care providers.

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
Ambulance Transport from ED	Patients being held in ED waiting for bed will be transported to nearest hospital bed available and appropriate to need.	Moderate to high	12 mos.	Immediate	Same as above	Moderate	High, requires coordinated system.	May lead to full utilization of resources, but does not relocate resources to areas of highest need.	Yes	May require legislation such as Perinatal rules and regulations or Trauma.
Separate Admitting/Holding Area for Chronically Ill (ambulatory & ambulance)	Triage out of ED chronically ill patient who needs hospitalization; triage out patients who need stabilization/education, i.e. elderly dehydrated, ill or with flu; alcoholics with DTs, HIV patients needing beds.	High	6 mos.	Immediate	Ongoing	Moderate (space planning/ reinovation)	High, may encounter space constraints in finding area for patient and ambulance entry.	Negative effects on consumers and providers, especially in community areas w/out adequate primary care providers. "Bad" calls on part of gatekeeper can lead to liability cases and ineffective delays in care.		
Insurance Mechanisms: Medicaid Private HMO/PPO	Prior authorization for ED use. High Copayments for ED use. For non-acute care. Membership education Prior stipulation of non-payment for ED use for identified conditions.	High	3 mos. 3 mos. 3 mos. 12 mos.	Immediate	Ongoing	Cents	High-already in effect in many health plans, but requires enrollment in primary care system like Medicaid partnership or HMO/PPO Providers and consumer caught in cross fire; providers will lobby vigorously against non-payment option.			
INSTITUTIONAL CAPACITY OPTIONS										
Expand chronic care beds adjacent or within hospital to provide chronic care capacity and free up acute care beds. Adjacent facility; Link with Nursing Home Relocation beds within hospital	Self-explanatory	High, if need for acute care beds is source of ED overcrowding	6-24 mos.	Immediate	Ongoing	$	Hospital politics, space constraints may make this a difficult but still feasible option. Working with a nonadjacent nursing home may not provide the required medical coverage and would be inconvient for MDs.	More rational use of resources/cost effective. Hospitals diversifying into a new line of business.	$ incentives/ grants would assist in making this change.	May need to comply with regulations on chronic care facilities or SNF if solution not within hospital.
Reallocate beds to High Need Inpatient Services		Moderate to high; patients admitted out of ED in a more timely manner	6 mos	Immediate	Ongoing	Variable, cost effective in long term	Political "turfism"	Staffing issues may necessitate retraining/recruitment of nurses.	Yes, may be needed for departments that lose beds.	
Expand ICU capacity		High	1-2 years	Immediate	Ongoing	$	Space constraints			
Computer linked assessment of Bed Availability	Centralized ED hotline in touch with available capacity and linked to 911 system.	High	6-12 mos.	Immediate	Ongoing	Moderate	Feasible, but requires cooperation and level of sophistication.	Efficient and appropriate use of excess capacity; full use of beds = more revenue. Does not assist in building capacity where needed. Raises nursing morale & enables higher quality of patient care.		

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
Nurse recruitment		High								
Physician Managed Admission System	MDs faciliate discharge or borrow bed if beds are available.	High	12 mos.	12 mos.	Ongoing	$	Can be done if commitment is in place; difficult to alter environment, working conditions and salaries to make hospital more attractive.			
Bed Control/Inventory Strategies Methods Admittance & Discharge Procedures Improved communications between ED nurses and critical care units;	Creates efficiencies by quicker	All these strategies have been tried and work differently in different hospitals depending on hospital "culture." Track record is mixed as most ED nurses seem unsatisfied with all of these as they put Admitting office or Nursing in middle of a physician driven problem.	3-6 mos.	Immediate	Ongoing	Cents	Feasible in all institutions but needs fit with organizational culture and history.		Would help	
Pre-admission work-up and bed acquisition by ED nurses	and coordinated pre-admission work-up and advocacy by ED nurse (as part of their established role) to access a bed.	However, many of these strategies work for periods of time and require periodic review or change.								
Nurse "COP" programs	Review all potential discharges & facilitate/lif barriers affecting discharge delays.									
Special discharge lounges	Move patients waiting for final discharge orders from rooms to special waiting areas.									
Code Bypass	Establish hospital wide communication system that puts all units on preventive notice that ED is approaching diversion/bypass status; beds need STAT clearance.	Might be a very effective way to elicit a coordinated, coooperative response throughout hospital; should be tested; Would boost morale of ED staff & resolve difficult communications. Very feasible and being tried in several hospitals.					Must be tested; organizational feasibility unknown.	Moral booster for ED staff; facilitates coordination of hospital systems & might lessen conflicts related to ED admission.	Morale booster for ED staff facilitates coordination of hospital systems and migh resolve intense conflict now related to ED admissions.	
Observation Beds in ED	Hold patients up to 24 hours who require observation/stabilization but do not necessarily require inpatient admission.					$	Space a potential barrier.			

Strategy	Description	Efficacy	Start-up	Impact	Duration	Expense	Organizational Feasibility	Byproducts	Incentives	Regulatory Issues
MAJOR FINANCE STRATEGIES										
Publically subsidized capital expansion projects	Develop contracts and grants to develop bed capacity where needed. Generate funds through public initiatives (bonds) or increased reimbursement schemes.	High, must be linked to system planning.	12-36 mos.	12-36 mos.	Ongoing	$	Requires public mandate tax support; competition will be high for dollars.	More rational/adequate distribution of capacity.	Inherent in plan	Legislation/referendums required. Legislation, referendum
User fees, special tax support	Beer taxes, speeding ticket revenue, etc.	High and educational message is clear.	12-24 mos.	Immediate	Ongoing	$	Governments may have other priorities for use of special fee/taxes, i.e. school, balancing existing budgets. Tax payers may disapprove.	Educational messages		Legislation
Financial Support for Trauma Care	Addresses all of ED use and overcrowding by granting funds to institutions to meet uneven obligations in trauma and general ED care.	High	12-24 mos.	12 mos.	Ongoing	$	Politically difficult to get such initiatives with tight budgets; other priorities for spending on the "table."	Makes a more rational system.		
Expand Medicaid to maximum allowable limits		Moderate, would reduce number of uninsured and in theory enable greater use of primary care; but insurance does not directly affect resource supply or human behavior.	3-12 mos.	Incremental	Ongoing; stop-gap until National Health Reform.	$, cost effective in long term given high risk nature of enrollees.	Unlikely that states will increase their budgets immediately; however, federal mandates are moving in this direction. Depends on state/federal politics and tight budgest and hospital lobby.	Provides overall access to primary care; removes financial barriers for some; stepping stone for national program; eases institutional burdens.		Legislation
National Health Reform or Universal Health Insurance		High, reduces known financial barriers to primary care which causes some ED use. (EDs are only care free at point of service offered by the private sector.) Needs adequate 24-hour availability/ access to care to be maximally effective.	5-8 years	Incremental	Ongoing	$, cost effective in long run; can foster use of less expensive, earlier and appropriate care. May not require substantial new allocations for health except for long term care, but would require reallocation of effort ($) to primary care and prevention, so that system is more balanced than at	"Looking better"	Multiple: More control over dollars; standardizing of benefits; fosters development adequate capacity if tied to community based planning; benefits high risk communities; alleviates disproportionate burden on inner city, rural & public hospitals as lifts major barriers to care.	Incentives for appropriate use must be structured into plan.	

FOOTNOTES

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